1 Introduction

(1) Ella (3;11) and Louise
LOUISE: You've got to speak.
ELLA: But I can't see what I speak.
LOUISE: It's alright. You don't need to see what you speak. You just need to speak.

Language is uniquely human. We are the only species that has the ability to talk about the weather, what we will eat for dinner tonight, why we did not like the film we saw at the weekend. We also have the ability to talk about talk (1). One of the most intriguing aspects of language is that despite its highly complex nature, children learn to speak quickly, and apparently with little effort: within around four years, children are pretty much fluent in the language(s) to which they are exposed, moving from cooing and babbling to saying /sɪp/ and then /ʃɪp/, and from *push truck* to *teddy is pushing the truck*. The development of language is exemplified by Adam's rapid linguistic trajectory between the ages of two years, three months (2;3) to just over three years (Brown 1973) in (2):

(2) Big drum . . . I got horn . . . (2;3)
Now put boots on . . . What that paper clip doing? (2;5)
Where piece a paper go? . . . Rintintin don't fly Mummy. (2;7)
Show you something funny . . . Just like turtle make mud pie. (2;9)
Why you mixing baby chocolate? . . . We going turn light on so you can't see. (2;11)
I like to play with something else . . . I gonna make it like a rocket to blast off with . . . Press the button and catch it . . . Doggies like to climb up. (3;1)
Do you know the lights went off? . . . What happened to the bridge? . . . I dream sometimes . . . The sun is not too bright . . . I want to have some espresso. (3;2)
(Adapted from Pinker 1994: 269–270)

How children manage to achieve this remarkable feat is the focus of first language acquisition research. This field sets out to establish when and how a child learns to speak like the people round about them, and how the pathways

that a child takes on that linguistic journey can help us understand the mechanisms underlying such an impressive achievement.

In this quest to map out the development of language in these early years, researchers have largely concentrated on the acquisition of structures where there is one 'target' form in the ambient language that the child must master. Successful acquisition is measured in terms of when Adam stops saying *Rintintin don't fly Mummy* and *Where piece a paper go* and *I gonna make it like a rocket to blast off with*, and instead starts saying *Rintintin doesn't fly Mummy* and *Where did the piece of paper go*? and *I'm gonna make it like a rocket to blast off with*, just as his parents, siblings and other people round about him do.

Such a focus underlines a fundamental assumption in this research field: that in the ambient language to which a child is exposed, there is one way of forming present tense 3rd person singular question forms and future *going to*, and this is the 'target' that the child must acquire. While many structures in a given language are indeed *invariant* or *deterministic*, over the past sixty years, variationist sociolinguistics has demonstrated that many others are, in fact, *variable*, as demonstrated in (3)–(9):

(3) Kiddies *come* over . . . and they'm talking to the animals and that. And the animals *looks* down, you know. And there's a fantastic thing – animals and kiddies.
(Godfrey & Tagliamonte 1999: 89)

(4) *Du know*, sometimes *you* go in to a shop here, *du ken*.
(Smith & Durham 2011: 207)

(5) I *ain't* looked in the notes.
Pardon?
Haven't looked in the notes.
Well, you should do.
(Palacios Martínez 2010: 562)

(6) Because *he old. He's old*, that's why.
(Labov 1995: 33)

(7) I *was like*, 'Oh, that's really nice'. And Angela*'s just*, 'Did you do anything last night?' I *was like*, 'Yeah we went to Oscar's'
(Tagliamonte & Hudson 1999: 55)

(8) Tha[t] is wha[t] i[ʔ] means to lead. And I know this. Nobody ever changed things on the basis of consensus, or wan[t]ing to be liked, or no[ʔ], taking risks, or keeping your head down. I[t]'s a lesson for me and i[ʔ]'s a lesson for my par[t]y too.
(Adapted from Kirkham & Moore 2016: 98)

(9) We was walking down Micklegate and we *grabbed* him and *grab*Ø this lad as well.
(Tagliamonte & Temple 2005: 281)

This type of variation is not a curiosity confined to speakers in some distant land but is, in fact, the norm that we hear around us every day, in African-American speakers in New York, politicians in London, grandmothers in Shetland.[1] As the 'goal in acquisition is mastery of the language in use around them' (Clark 2016: 18), it follows that mastery of the *variable* forms of language to which a child is exposed must also be integral to this goal. This very obvious statement raises a crucial point. Specifically, such variation is 'especially interesting from the perspective of acquisition because of the apparent challenge it presents to children' (Hudson Kam 2015: 907). The complexity of the task at hand is highlighted by a widespread alternation in the English-speaking world – and thus one that most children will hear in the ambient language – (ING) variation, where the speaker varies between velar/ŋ/and alveolar /n/ in unstressed syllables (Labov 1966) in (10):

(10) But this one— one girl, Sophie, she had like posters, you know. You put stuff— pictures up in your locker. It's like of a guy or something[ŋ], right? She had elephants up in her locker, like . . . oh, this is so funny! Kay, she had all these elephants. Elephants are cute. She had buttons and elephant shirts, everything[ŋ]. Pure elephants, right. And I go like, 'grow up!' I don't know, she just took it too far, okay? Anyway, uh one day we were looking[n] at National Geographic and we saw, uhm, I don't know, uh, elephants like being[n] whatever, stabbed and uh, I don't know what they were doing[n], just using[n] their bodies and all this stuff and my friend starts ripping[n] out the pages. She's laughing[n], right. And she's laughing[n]. I go, 'what are you doing[n]?' And then her . . . this is Sophie's locker right cross an— and then she starts shoving[n] the pictures in. I go, 'Andrea, don't, don't!'

(Adapted from Tagliamonte 2011:14)

Faced with such variation, a child must not only learn that certain (ING) forms can appear with /n /or /ŋ/, but also identify the social and linguistic factors that influence the choice of different forms in the variety to which they are exposed. On top of this, they have to extract probabilities from the speech stream across these different constraints (Labov 2001: 420). For example, they may have to work out that nouns and adjectives are more likely to appear with the velar variant, while progressives and gerunds appear with the alveolar variant (e.g. Houston 1985), and that in more formal contexts they should use more /ŋ/ (e.g. Labov 1966) but in more casual contexts they should use more /n/. To further add to this complexity, as the 'rules' of variation are probabilistic, 'no-one can predict with certainty whether an adult will use /n/ or /ŋ/ in any one case' (Labov 2001: 417). Acquiring a language is already a monumental feat, but throwing variation into the mix must surely make this task even more difficult.

[1] See Trudgill 2002:171

Despite this seemingly impossible task, 'when children acquire their mother tongues, they evidently acquire the local variants and the norms of their usage too' (Chambers 2003: 174). The result is that 'the vernacular that we speak, the first language that we have mastered perfectly, and use without doubt or hesitation – is our mother's vernacular' (Labov 2001: 307). The evidence for such statements is all around us: from Alya and Donovan in Louisiana (11), Stuart in Belfast (12), Hayley in Newcastle (13) and Kareem in Trinidad (14).

(11) Alya (3;4), Louisiana, USA (Green 2011)
ALYA: Baby ø looking at the dog. He ø gon bite. He ø a boy? . . . And *he's* a boy? And they ø brothers.

(12) Stuart (3;5), Belfast, UK (Henry 2016)
STUART: I *saw* Peter.
CAREGIVER: And who else?
STUART: Do you know Spiderman?
CAREGIVER: Uh-huh. Keep colouring. And who else?
STUART: I *seen* Superman in the playground.

(13) Hayley (4;0), Newcastle, UK (Docherty et al. 2002)
HAYLEY: A monkey [mʊŋʔki] . . . the snake is [sneːʔk ɪz] trying to [tɹeːnʔtə] eat the monkey [mʊŋʔki].

(14) Kareem (2;7–3;11), Trinidad (Youssef 1991)
KAREEM: Cos babooman *go* bite me . . . I *will* tell me Mummy and throw you away. I *gonna* carry you.

The only reason we are able to tell that these children are from Louisiana, Belfast, Newcastle or Trinidad is that we hear in their speech the vernacular variations of those dialect areas. However, as with first language acquisition more generally, the fundamental question is *when* and *how* do they acquire the norms of vernacular use? When and how does Stuart 'know' that preterite *see* can be both *saw* and *seen*, but that preterite *go* cannot be *gone*? When and how does Alya 'know' that sometimes *be* is present in particular utterances, but at other times it is not? When does Hayley 'know' that she can say *mon*/ʔk/*ey* as well as *mon*/k/*ey*? And when and how does Kareem 'know' that you can use not one but three different ways to talk about the future: *go, will* and *gonna*? First language acquisition research tells us a lot about how and when children acquire copula *be*, irregular preterite forms, consonant clusters or tense marking, but it does so against the backdrop of attainment of deterministic forms. Sociolinguistic research tells us how adults of particular varieties vary with respect to such structures. What we know far less about is how these combine in the acquisition of variation at the very earliest stages. As variation is part and parcel of most language varieties, 'understanding how human learners cope

with deterministic and variable aspects of the language in their input is crucial if we are to understand the totality of humans' abilities to acquire language' (Hudson Kam 2015: 906).[2]

To address this important gap in knowledge, this book brings together these two different fields – first language acquisition and variationist sociolinguistics – in the analysis of variation at the very earliest stages. We build on our previous research (Smith, Durham & Fortune 2007, 2009; Smith, Durham & Richards 2013) through the analysis of everyday interaction among twenty-nine preschool children (aged 2;10 to 4;2) and their primary caregivers from a small community in Scotland. The variety spoken in this community is replete with variation, as demonstrated in the following interaction (15) between Luke and his caregiver, Molly.[3]

(15) Luke (3;5) and Molly

LUKE: Are we gan ower to Iona's?
MOLLY: Huh?
LUKE: Are we gan ower to Iona's?
MOLLY: We're gan to Iona's the day, aye.
LUKE: Am I gan ower to Iona's?
MOLLY: Here, come here then. Is it better on there? Mam'll have to put her ain on and all, see.
LUKE: Mum are we gan ower Iona's?
MOLLY: We're gan to Iona's this afternoon.
LUKE: We're gan to Iona's.
MOLLY: Uh-huh.
LUKE: Are we gan to Iona's?
MOLLY: Uh-huh.
LUKE: Are we?
MOLLY: Later on, aye.
LUKE: Say yes or no.
MOLLY: Aye, yes.
LUKE: No, say yes or no.
MOLLY: Yes. Fa was you playing with the day at playgroup like?

[2] Researchers in the field of first language acquisition have also worked on variation, but of a very particular type: irregular variation in artificial languages (e.g. Hudson Kam & Newport 2005). Results show that young children regularise the variable input to make it more systematic (e.g. Austin et al. 2006; Hudson Kam & Newport 2009). However, as Hudson Kam points out (2015), the variation that the participants were exposed to through the artificial language is very unlike the type that is clearly evident through sociolinguistic study, where a series of linguistic and social constraints interact in producing very structured variation. We return to this important point in Chapter 8.

[3] Unless noted, all examples come from the caregiver/child corpus described in more detail in Chapter 2. The first name in the pair in each example is the child and their age (in years and months) at the time of recording. The second name is the child's primary caregiver. All names are pseudonyms.

LUKE: Erm Iona and Marie.
MOLLY: Marie, was you playing with Marie as well, was you?
LUKE: Aye.
MOLLY: Aye, had you good fun?
LUKE: Aye.
MOLLY: Aye that's good.
LUKE: There's nae climbing frame.
MOLLY: Fit wye no?
LUKE: 'Cause there's nae.
MOLLY: No? How?
LUKE: Are we gan to Iona's?
MOLLY: Yes, later on. Listen.
LUKE: We are gan to Iona's?
MOLLY: Ah nae just now. Eh fit did ye hae for your snack?

At what age does Luke acquire two words for an affirmative in his dialect: standard *yes* and the local form *aye*? When does Luke first learn that *going* can be pronounced in three ways: /gɑːn/, /gəʊɪn/ and /gəʊɪŋ/? And that he can say /gɑːn/ at home but should say /gəʊɪn/, or even better /gəʊɪŋ/, at school? What age does Luke learn that his granny is likely to say *Had you good fun?* but his brother is more likely to say *Did you have good fun*? At what age does he learn that you can say *Was you playing with Marie* but not *Was they playing with Marie*? We have already pointed out the complicated nature of variation embedded within one example only, the (ING) variable. This short extract demonstrates that there are a multitude of variable forms that Luke has to deal with. In the process of acquisition, when and how does Luke and every other child acquire the complicated array of variable constraints on structured heterogeneity evidenced all around them? This is the question we set out to answer in the following pages.

The remainder of this chapter will provide an overview of research to date on the acquisition of variation. Chapter 2 concentrates on the methodology: the community from which the data are drawn, data collection issues and how the analyses will be conducted. In Chapter 3, we delve deeper into the data through a statistical analysis of key aspects of caregiver–child interaction, including the type and sheer amount of talk that goes on in these highly interactive data. Such an analysis allows for a picture to be created of the nature of the data on which the following more in-depth analyses are based. The subsequent four chapters concentrate on the variationist analyses of forms in both caregiver and child data. We divide these into different levels in the grammar: lexical (Chapter 4), lexical-phonological (Chapter 5), phonetic (Chapter 6) and morphosyntactic (Chapter 7). The discussion in Chapter 8 returns to the original research questions: when and how do children acquire the highly complex patterns of variation attested in adult speech?

Previous Research on the Acquisition of Sociolinguistic Variation

In a seminal study in first language acquisition research, Brown (1973) describes the stages that a child goes through in the development of syntax and morphology in the early years, moving from, for example, action + agent structures (*Daddy kiss*) in Stage 1 to use of contracted copulas and auxiliaries in Stage 4 (*he's coming*). The acquisition of phonological forms is equally well documented in the move from babbling to [nɑnɑ] and on to [/bəˈnɑːnə/] (e.g. Grunwell 1997). So, too, is the acquisition of lexis, with a rapid move from a handful of words to rapid multiples of words across a short time space of time (e.g. Nelson 1973). The extensive research that has been carried out on first language acquisition demonstrates that (1) it is very rapid, with the majority of sounds and structures acquired in the first four years of life; (2) it is very complete: we have an excellent command of our first language and we do not forget it in later years; (3) it does not need instruction in the way that learning the piano and doing long division do.

Where does variation sit in this developmental pathway? Is it, too, rapid, complete and in no need of instruction? While first language acquisition research demonstrates that the majority of the sounds and structures of a language are acquired in the first few years of life, it was previously thought that children acquired the rules of variation much later. Labov (1964: 91–3) proposed a number of possible stages in this process, including the following: acquisition of basic grammar, with the primary influence from parents up to five years of age; acquisition of vernacular in the age range five to twelve, with peers becoming the greatest influence; awareness of the social significance of a dialect in early adolescence; and stylistic variation in late adolescence, with a greater use of standard forms. These stages suggest that children first acquire the basics of language structure, and only much later, in adolescence, do they fully develop patterns of sociolinguistic variation as they move from the close confines of home and school to the wider linguistic world. In Labov's words (2013: 247), it is 'the product of the later acquisition of superposed dialects beyond the critical period'. In this way, the complexities of patterned variation are layered onto the foundational language structures in a sequential fashion. However, research over the last twenty years suggests that adult-like patterns of variation may be acquired much earlier, simultaneous with language acquisition more generally. Some studies have found that systematic patterns are acquired in the preadolescent years, i.e. ten to twelve years of age (e.g. Reid 1978; Renn & Terry 2009; Romaine 1984; Chevrot, Beaud & Varga 2000), and others in the first school years, i.e. six to eight years (e.g. Labov 1989; Patterson 1992). More recent research has provided some evidence that they are acquired even earlier, in tandem with the acquisition process more generally, with key variables developing around two to four years (e.g. Chevrot & Foulkes 2013;

Díaz-Campos 2005; Foulkes, Docherty & Watt 2005; Green 2011; Habib 2017; Kushartanti 2014; Lacoste & Green 2016; Roberts 1994; Smith et al. 2007, 2009, 2013). Such results have led Chambers (2003: 174) to suggest that 'there are no studies indicating a time gap between the acquisition of grammatical competence and the development of sociolinguistic competence'. The period from three to four years of age is 'a critical period for the acquisition of dialectal norms of the speech community, just as it is for language learning in general' (Roberts and Labov 1995: 110). As such, the acquisition of variation is an 'integral part of acquisition itself' (Roberts 2005: 154). At the same time, Kerswill (1996: 199) points out that 'exactly when a child acquires a feature of his or her first dialect depends on the linguistic level [and] the complexity of the conditioning' of the variable in question. This means that some variable rules will be acquired at the same time as categorical ones but, depending on their complexity, others may take longer to acquire. In addition to these linguistic considerations, Chevrot et al. (2000: 296) suggest that the age at which sociolinguistic patterns are acquired 'depends on the perceptual salience of the variants in question [. . .] and their sociolinguistic value in a given community'. Put simply, the linguistic and social correlates of a particular variable will have a significant effect on what is acquired when.

When we turn to the empirical evidence for these statements, we find that the question of what variation is acquired when is not straightforward. In what follows, we unpack the statements by reviewing some of the most important findings on the acquisition of variation. We note that a number of studies have been conducted with children ranging from six to fifteen years old in varieties of English and other languages (e.g. Macaulay 1977; Reid 1978; Martino 1982; Chevrot et al. 2000, 2011; Nardy 2008; Romaine 1984), but in line with the current study, we concentrate on studies conducted with preschool children up to approximately five years old.

Caregivers and Language Variation

Labov (2001: 437) observes that 'children begin their language development with the pattern transmitted to them by their female caretakers'. In doing so, they are said to 'replicate faithfully the form of the older generation's language, in all of its structural detail' (Labov 2007: 346). At the same time, 'in all speech communities there are probably special ways of talking to young children which differ more or less systematically from the more "normal" form of the language used in ordinary conversation among adults' (Ferguson 1977: 209). Child-directed speech (CDS) differs substantially from adult-to-adult speech, both in terms of *what* is talked about and *how* it is talked about. Some of the main characteristics of CDS are:

(1) concentration on the 'here and now' (e.g. Ferguson 1977)
(2) higher pitch and exaggerated intonation (e.g. Garnica 1977) and vowel lengthening (e.g. Albin & Echols 1996)

(3) slower rates of speech to children, with longer pauses between utterances (e.g. Broen 1972; Fernald & Simon 1984)
(4) shorter, simpler utterances (e.g. Phillips 1973; Sachs, Brown & Salerno 1976)
(5) lots of interrogatives (e.g. Corsaro 1979; Snow 1972)
(6) use of diminutives (e.g. 'doggy' and 'dolly') and reduplication ('ba-ba', 'da-da') (e.g Jurafsky 1996; Snow & Ferguson 1977; Gleason, Perlmann, Ely & Evans 1994)

As these characteristics demonstrate, caregivers modify their speech across structural, semantic and pragmatic levels of language in CDS, and it has been described as a 'simpler, cleaner corpus from which to learn language' (Snow 1995: 180).

The importance of caregiver input is a key point of debate in acquisition research (e.g. Chomsky 1988; Tomasello 2003). More specifically, there is also debate on the effect of CDS, with some researchers advocating that the particular characteristics of CDS are important in aiding acquisition at these early stages, while others downplay its effects – the child will learn to speak regardless of whether CDS is employed or not (see summary in Pine 1994). Where *variation* is concerned, there is some evidence that a clearer link between caregiver input and child output may exist. Kerswill and Williams (2000) considered both caregiver and child speech in their study of forty-eight children in three age groups (four, eight and twelve years old) and their principal caregivers from Milton Keynes, a new town in the UK. They found that caregiver influence is much greater for four-year-olds than among older children (Kerswill & Williams 2000: 106), and for the former there is a statistically significant correlation between caregiver and child rates of use across a number of variants (see also Patterson 1992; Chevrot, Nardy & Barbu 2011). Caregiver influence goes beyond mere rates of use, and also involves constraints. As Foulkes et al. (2001: 81) point out, 'Patterns that are particular to the mothers' speech [. . .] appear to be acquired readily by the children'. Thus, where variation is concerned, there are no 'linguistic orphans, remote from the influence of their parents' (Labov 2001: 425), making our mother's vernacular key in the acquisition of variation. However, a paradox may exist in this potential link between variation in caregiver input and child output. Just as caregivers modify their speech in CDS, they may also modify their variable patterns of use, where it is claimed that 'many parents are reluctant to speak dialect to their (young) children, and prefer a standard-like variety, even if they would speak dialect towards each other' (De Vogelaer et al. 2017: 10). If this is the case, then the first thing we need to know in examining the acquisition of variation is what caregivers do in interaction with their children. We need to first have access to what Labov (2001: 416) refers to as the 'detailed template' of caregiver talk: do they use variable forms, and if so, in what way?

The 'reluctance to speak dialect' appears to apply in Roberts' (2002) findings from a pilot study of caregiver talk in Memphis, Tennessee. In a number of dialects in more southern areas of the United States, including Memphis, the pronunciation of (ay) in words such as *kite* and *right* is often realised as a long monophthong [a:] as opposed to the more standard variant [aɪ] found elsewhere. Roberts found that the caregivers in this study used higher rates of the standard diphthong [aɪ] when talking to their children, in comparison to when they are talking to another adult, where they would use more [a:]. She concluded that in doing this, the caregivers are 'taking their role as teachers of language seriously' (Roberts 2002: 343), in this case by 'teaching' their children the social rules of language use from the earliest stage of language development through decreased use of the socially non-sanctioned forms. In fact, one of the mothers was 'especially straightforward in using CDS to instruct her child in the pronunciation of new vocabulary containing long (ay)' (Roberts 2002: 342), which suggests that such adaptations in CDS were conducted at a conscious level.

Foulkes, Docherty, and Watt (1999, 2005) provide further support for the finding that local forms are used less in CDS. They investigated the speech of forty children aged two to four years and their caregivers in Tyneside, England, focusing on the realisations of word-medial intersonorant (t) (e.g. *better*) and word-final prevocalic (t) (e.g. *get off*), which is 'the locus of a particularly complex pattern of sociolinguistic and phonetic variation' in adult speech (Foulkes et al. 2005: 185). In Tyneside, [t] in these positions alternates with something akin to /ʔt/, and in fact is a stereotype of Newcastle and surrounding areas in this northeast corner of England. When they compared how caregivers talked to their children with how they talked to other adults, they found that caregivers used far lower rates of the local form in CDS when compared to general community norms. Instead, they favoured the more standard [t] in interaction with their child.

These studies are significant, as they provide the first demonstration that variation is also implicated in adaptations that take place in CDS, with lower rates of the local variants used. Further analysis shows that age, gender and stylistic factors may also be implicated in governing variation.

With respect to age, research in first language acquisition shows that CDS is time-bound: 'Adults streamline their delivery when they speak to young children, and they appear to do this more the younger the children, with the most careful delivery directed at children just starting to speak' (Clark 2016: 41). However, as the child's linguistic system matures, the caregiver decreases the use of features associated with CDS, such as vowel lengthening and exaggerated pitch (e.g. Huttenlocher et al. 2007; Kaye 1980; Phillips 1973). Sociolinguistic variation also reveals a time-bound adaptation in CDS. Foulkes