

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 /sip/ and then /fip/, 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[?] 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[?], taking risks, or keeping your head down. I[t]’s a lesson for me and i[?]’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 *grabØ* 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[n], 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[n]. 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 \emptyset looking at the dog. He \emptyset gon bite. He \emptyset a boy? . . . And *he’s* a boy? And they \emptyset 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 [mɒŋ?ki] . . . the snake is [sne:?k ɪz] trying to [tɹe:n?ɔ] eat the monkey [mɒŋ?ki].
- (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/?k/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: /gɑ:n/, /gəʊɪn/ and /gəʊɪŋ/? And that he can say /gɑ:n/ 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 [bə'nɑ:nə] (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

et al. (2005) demonstrated that caregiver talk 'gradually becomes more similar in character to that of the inter-adult mode as the children get older'. In other words, there are higher frequencies of the standard variant with caregivers in interaction with very young children, but these are replaced by increasing frequencies of the non-standard variant in line with community norms as the child gets older. The results in their study led them to conclude that 'CDS as a register cedes gradually to more mature styles after the age of 2;0' (2005: 201).

A number of gendered behaviours are noted in studies concerned with first language acquisition, with mothers using, for example, more affiliative speech (such as praise, approval and showing affection), and fathers using more assertive speech (such as general task-orientated talk and giving directions and suggestions) (e.g. Leaper et al. 1998). Differences are also found in comparing the gender of the child: mothers tend to use more supportive speech with their daughters than with their sons (Leaper et al. 1998). Gender differences are also found in variation in CDS. Foulkes et al.'s (2005) Tyneside data demonstrated lower rates of the local form /ʔt/ in CDS when compared to adult-to-adult speech, but a further comparison by gender showed that the starkest difference was with female caregivers, who used lower rates of the local forms in CDS compared to male caregivers. They also found a daughter/son differentiation: mothers used lower rates of the local form to girls than to boys (see also Johnson 2003).

Acquiring a language demands much more than knowledge of its words, sounds and sentences. It also requires knowledge of how to talk to varying addressees in diverse settings and on different topics, and how to be polite in different contexts. CDS is replete with signposts for how to do these things with language, from politeness routines (*what's the magic word?*) to how to greet an elder (*say 'good afternoon' to Mrs Smith*) (e.g. Anderson 1990; Gleason & Weintraub 1978) to how to (not) interrupt (e.g. Ervin-Tripp 1979). While this describes the multi-layered nature of language use well, it suggests that there are discrete voices for different situations, with respect to register and style. Moreover, it suggests that some of these rituals of life are overtly taught to the child, just as how to hold a knife and fork and how to tie shoelaces are taught. However, sociolinguistic research demonstrates much more fluid adjustments to a speaker's linguistic repertoire across a range of contexts of use, with subtle but systematic variation governed by a range of competing social constraints on use (e.g. Bell 1984). Crucially, caregivers are noted to manipulate this ability in CDS, moving from standard to local forms and back again according to the situational context in which they find themselves. Labov (2001: 437) states that this type of style-shifting in caregiver speech is one of the key criteria for children acquiring sociolinguistic norms, in that 'linguistic variation is

transmitted to children as stylistic differentiation on the formal/informal dimension [...] Formal speech variants are associated by children with instruction and punishment, informal speech with intimacy and fun'. In other words, caregivers in interaction with their child will use higher rates of the standard form in more formal situations, such as scolding, but use higher rates of the local form in less formal situations, such as play activities. Thus, children's 'grasp of style shifting experience is mediated through their parents' behaviour' (Labov 2013: 248).

This indicates that variation in CDS may be conditioned by the age and gender of the child and the context in which the utterance is taking place. Such adaptations may arise from the fact that caregivers take the role of 'teachers of language' seriously (Roberts 2002: 343), and as a result may be 'reluctant to speak dialect' to their children (De Vogelaer et al. 2017: 10). Our own research (Smith, Durham & Fortune 2007; Smith, Durham & Richards 2013) suggests that a straight 'no dialect' proviso in caregiver speech may be too blunt a characterisation. Specifically, our results showed that manipulations in CDS are influenced not only by social factors such as age, gender and style, but also by the linguistic variable itself. Some variables were adapted in CDS along the lines detailed, while others showed no such adaptation: caregivers mirrored the community's high rates of vernacular use. We suggested that only those variables that are above the level of consciousness in the speech community in question are adapted in CDS. This may be due to the fact that 'social evaluation is focused on relatively superficial aspects of linguistic structure' (Labov 2013: 249). Moreover, social evaluation of forms in CDS may be different for different social groups: Miller's (2015) study of *ain't*, using data from Brown's (1973) study of Adam, Eve and Sarah, shows that Sarah's parents use virtually no *ain't* in the recording sessions – only one token is found throughout the entire dataset – despite this variant being common in their adult-to-adult speech. This is just what we would expect to find if caregivers avoid vernacular forms in speech. However, in a larger sample of African-American and Caucasian working-class and middle-class speakers, she finds that Caucasian caregivers 'were altering their speech when speaking to their own children' but the African-American caregivers were not (Miller 2015: 108). A number of other studies suggest that not all caregivers in all communities avoid dialect forms. Examination of children's use of African-American English (AAE) forms at six time points from pre-kindergarten to mid-adolescence (e.g. Craig & Washington 2006; Van Hofwegen and Wolfram 2010, Van Hofwegen & Stob 2011; Renn 2010, 2015; Terry et al. 2010) showed that the highest levels of AAE forms were used by the youngest children (aged four), leading the researchers to conclude that the preschool years represent the 'optimal' AAE usage in

its most basilectal form. Crucially, there were statistically significant correlations with caregiver use across these forms, suggesting that caregivers, too, were using high rates of vernacular forms with these young children.

These studies raise a series of possible scenarios for variation in CDS, where age, gender, style and the linguistic system itself may influence the forms used. This (lack of) adaptation in CDS may have significant repercussions for the variable forms to which the child is exposed, and thus acquires, in these early years. It is to the children that we now turn.

Children and Language Variation: Social Constraints

Despite the fact that the body of research on the acquisition of variation is both relatively young and quite restricted, one of the first ever sociolinguistic studies of variation was conducted not with adults but with young children: Fischer's (1958) study of three- to ten-year-olds in a semi-rural village in New England, USA. This seminal study provides an excellent jumping-off point for subsequent research in the field of sociolinguistic development in young children.

Fischer's article begins with the observation that 'certain inconsistencies in the children's speech had attracted my attention, especially the variation between *-in* and *-ing*' (1958: 483). Fischer is referring to the most studied of all linguistic variables, (ING) variation as exemplified in (10), with examples repeated here in (16):

- (16) It's like of a guy or something[ɪ], right?
I go, 'what are you doing[n]?'

(Adapted from Tagliamonte 2011: 14)

In examining the data, one of the first findings that Fischer (1958: 483) records is that 'all of the twenty-four children, except three, used both forms to some extent at least. The three exceptions used only the *-ing* form, and since they were less loquacious than most of the other children, it is possible that a larger sample of their speech would have revealed the use of the other variant as well'. This is a first important finding from this first study on the acquisition of variation: children as young as three have both variants in their linguistic repertoire. Subsequent analyses show that in some cases children have both forms in their speech from the earliest stages (e.g. Roberts 1994; Patterson 1992; Foulkes et al. 2001), but other studies find they do not. Labov's (1989) study of three children in King of Prussia, Pennsylvania, showed that while his older siblings used both variants, the youngest child, four-year-old Andy, used the alveolar form categorically. Miller (2015) also finds in her analysis of *ain* ʔ in the speech of Sarah (from the Brown 1973 corpus) that *isn* ʔ is first produced at 2;10 by this young child but *ain* ʔ is not used until 4;1. In other words, Sarah starts with one variant and then only much later acquires the other variant.

Song et al. (2015: 152) address the question of the sequence of learning of variants in the investigation of the speech of two-year-old American English-speaking children and their use of variable realisations of /t/ (unreleased stop, flap and glottal stop) in alveolar stop codas /t, d/. Specifically, ‘does the child start by producing a “canonical” form of a phoneme (e.g. /t/ with a clear closure and a release burst), only later learning to produce its other phonetic variants (e.g. unreleased stop, flap and glottal stop)? Or, does the child start by producing the appropriate phonetic variants in the appropriate contexts and only later learn that they are phonetic variants of the same phoneme?’ Their findings show that young children start with a canonical /t/ and only later start to use all three variants as per caregiver use.

Our own research (Smith et al. 2007, 2009, 2013) found that with some variables, both variants were used by each child, but in others, the younger speakers started with one variant only. These differences were dependent on the variable being acquired. Moreover, in the cases where one variant was acquired first, it was the standard variant. This is similar to Miller’s (2015) findings for Sarah, who started with the standard variant, but different to Labov’s (1989) findings for Andy, who started with the non-standard variant.

These studies show that a number of possibilities exist with respect to when the variant forms themselves are acquired. Some studies show that both/multiple variants exist in the linguistic repertoire of the child from the beginning, while others show that children start with one variant and then add to this in later development. To put it another way, the acquisition of variants may be either *sequential* or *simultaneous*. In addition, in the case of sequential acquisition, it is unclear which variable – the standard or non-standard – will be acquired first.

When Fischer (1958: 483) turns to the question of ‘current factors which lead a given child in given circumstances to produce one of the variants rather than another’, the question becomes even more complex. He finds that, just as with adult speech, gender, style and class govern the variation in the mouths of these young children.

Fischer notes that ‘a markedly greater number of girls used -ing more frequently, while more boys used more -in’, suggesting that ‘-ing is regarded as symbolizing female speakers and -in as symbolizing males’ (1958: 484). In other words, these very young children replicate the gender patterns found in adult data (e.g. Labov 1966). In Fischer’s study, all ages from three to ten are analysed together, but studies that examine more fine-grained age groups suggest that no such gender stratification is found in preschool children. For example, Patterson’s (1992) study of three age groups (four, six and eight years old), Roberts’ (1994) study of children aged between 3;2 and 4;11, and Foulkes et al.’s (2001) study of two- to four-year-old children did not find a statistically significant difference in use of variables across boys and girls. Our own

research also shows no gender effect (Smith et al. 2007, 2009, 2013). In fact, some studies show the opposite effect to what is predicted from adult speech, with boys using higher rates of the standard form when compared to girls (Roberts 1994). Roberts attributes these findings on (lack of) gender differences to the fact that 'girls have not yet responded linguistically' to the societal pressures manifest in issues of gender (Roberts 1994: 368). Once children have moved from home and caregivers to school and peers, they will then adopt the gendered patterns of use evident in adult speech. Input may also play a role: Labov (2001: 415) points out that women are most likely to be the primary model for early language acquisition; thus boys and girls would be exposed to the same pattern of use in these early years (see also Docherty et al. 2006). It follows that 'both boys and girls first learn "women's language" as their first language' (Lakoff 1973: 47).⁴

Moving from gender to class, Fischer (1958: 484) finds in his data a 'slight tendency for the -ing variant to be associated with higher socio-economic status', although this is not statistically significant. Subsequent studies in the acquisition of variation find class to be a stronger influencing factor, where 'the higher the position of the family background on the social scale, the more standard variables children produce' (Nardy et al. 2013: 8). In a large scale study of 185 French-speaking children aged 2;3 to 6;0, Chevrot et al. (2011) found that children from the higher socio-economic class had higher rates of variable liaisons – the standard form – compared to the children from the lower class. Moreover, these class differences increased through the age groups, with the biggest difference found among the six-year-olds. A further study of twenty-four kindergarten children (Martin 2005) showed a significant correlation between parent's occupation and use of variable liaisons. Díaz-Campos' (2005) study of thirty Venezuelan Spanish-speaking children aged between 3;6 and 5;11 in their use of intervocalic /d/ (e.g. [kantado] vs [kanta]) found that the children from a higher-class background produced intervocalic /d/ – the prestige variant – more often than those from a lower-class background. Thus, unlike gender, it appears that class differences arise early in acquisition, probably as a result of transmission from parent to child in the home environment (Nardy et al. 2013: 9).

Fischer (1958: 484) also investigates style-shifting. He examines the use of (ING) in the speech of one boy, who was 'obligingly talkative', across three different speech contexts from most to least informal: story construction, formal questionnaire and informal interview. This small-scale analysis was indicative, with results showing 'an almost exclusive use of -ing' in the most

⁴ A possible contradiction to these statements lies in the results from Foulkes et al. (2005), where they find that mothers use lower rates of the non-standard form with daughters than with sons. This difference in input is not matched in output, however (see Foulkes et al. 2001).

formal context to 'a predominance of -tn [sic] in the informal interviews'. Fischer does not tell us how old the boy was, but studies show that the emergence of adult-like patterns of style-shifting are in place at least at preadolescence (e.g. Hoyle & Adger 1998; Cheshire 1978, 1982; Purcell 1984; Terry & Renn 2009), with evidence of meta-awareness of informal and formal variants also attested (e.g. Reid 1978; Romaine 1978, 1984; Chevrot et al. 2000). The results for younger speakers with respect to style-shifting are more mixed. In their study of post-consonantal /r/ in French, Chevrot et al. (2000: 302) found 'stylistic adaptation' in ten- to twelve-year-olds but not in six- to seven-year-olds. Similarly, Kerswill & Williams' (2000) study of the new town of Milton Keynes found more systematic style-shifting in twelve-year-olds but not in eight- or four-year-olds. In contrast, Roberts (1994) found that between 3;2 and 4;11, children vary their use of the variable (ING) according to their interlocutor, selecting the standard variant more frequently when addressing an adult than when addressing another child. However, the fact that stylistic constraints on use were not consistent across the children in her sample leads her to remark that 'the acquisition of social constraints on variation has its beginnings in early childhood, but the bulk of this learning appears to take place after the age of four' (Roberts 1994: 177). Anderson's (1990) study found that the ability to vary speech in different roles increases from the age of four to the age of seven. Díaz-Campos (2001, 2005) also found that stylistic patterns may arise after the age of four: his Spanish-speaking children in Venezuela, aged from 4;6 to 5;11, modelled the adult patterns of style-shifting, but the younger speakers, aged from 3;6 to 4;6, did not. Patterson (1992) also found style-shifting in her four-year-old speakers, who used higher rates of the standard form in picture-naming tasks than in conversation. She suggests that they were able to do this because they learned to associate standard variants automatically and unconsciously with certain types of interactions within the family environment. In other words, this arose from the type of style-shifting in the speech of caregivers described by Labov (2001: 437).

Thus, some studies show that children below the age of ten do not style-shift, while others show that style-shifting may be evident from as young as four. These contradictory findings may be dependent on the linguistic variable under analysis. Roberts (1994), for example, finds style-shifting with (ING) variation but not with (-t,d) deletion. It may also be related to the input that children receive with respect to a particular variable. Our research on children aged 2;10 to 4;1 suggests that caregivers engage in systematic switching with some variables but not with others, and this in turn affects whether the child switches (Smith et al. 2007, 2009, 2013).

Fischer (1958: 483) stated that his sample was 'divided into two equal age groups, aged 3–6 and 7–10'. He does not give a breakdown of the results across these two different age groups, and therefore it is not possible to tell whether the

patterns of use he finds overall apply to the younger as well as the older children. Nardy et al. (2013: 19) suggested that two different scenarios exist across these different age groups: in preschool, vernacular variants dominate; when a child enters school, the rate of standard variants may rise. (See also Craig and Washington, 2006; Van Hofwegen & Wolfram 2010.) These studies draw their comparisons across preschool and school-age children, but when we drill down to *within*-group comparison across preschoolers, further differences exist. Roberts (1994) found no difference in her three- and four-year-olds in rates of use of the vernacular variants, but Chabanal (2001) did in a longitudinal study of Pierre, who demonstrated a rise in use of deleted liquids (i.e. the vernacular variants) from the age of three to the age of four. Our own research (Smith et al. 2007, 2009, 2013) reveals two different patterns of use: a rise in vernacular use from younger to older children within the sample with some variables but no difference in use across the two different age groups with other variables; the line across age is flat.

Finally, although Fischer (1958: 488) did not investigate individual differences within his group of young speakers, he noted more generally that a 'variant which one man uses because he wants to seem dignified another man would reject because he did not want to seem stiff'. Whether speakers follow group norms in patterns of variation or do something quite different is well studied in adult data in variationist sociolinguistics (e.g. Guy 1980). Analyses of individual differences in young children is much sparser, but our own data (Smith et al. 2007, 2009, 2013) show that some children show 'rejection' of local variants when compared to their cohort, and so, too, do some caregivers.

The growing body of research on the social aspects of acquisition of variation leads Labov (2013) to refine his original stages (Labov 1964: 91–2). Specifically, children may acquire variation much younger than originally thought. In reviewing more recent research, he suggests the following Labov (2013: 249):

- (1) The acquisition of sociolinguistic variation begins fairly early in the third year.
- (2) Stylistic variation that reflects social variation found in the wider society is learned in parent-to-child interaction.
- (3) Social evaluation is focused on relatively superficial aspects of linguistic structure.
- (4) The style-shifting norms that parents convey to children are further evaluated by their intersection with patterns of social stratification in late adolescence.

Children and Language Variation: Linguistic Constraints

In addition to social constraints, Fischer (1958: 485) brings to the table linguistic context in the use of /ŋ/ or /n/, stating that a 'linguist might ask

whether there is any association between the suffix variants and specific verbs'. In addressing this question, he finds higher rates of the velar variant in lexis such as *criticising* and *correcting* than in lexis such as *chewing* and *hitting*. This leads him to conclude that although the 'corpus is not large enough to establish stable frequency indices for the suffixes of individual words [...], there is certainly a trend for markedly "formal" verbs to have the *-ing* suffix and markedly "informal verbs" to have the *-in* suffix'. Just as in adult speech, linguistic context is key in the acquisition of variation in child speech. For example, Roberts' (1994) study of (ING) in three- to four-year-olds in a Philadelphia kindergarten showed that 'children's closest replication of the adult (ing) production pattern was in the area of grammatical form. The children were most likely to use the [in] form in verbs and complements, less likely in gerunds acting as verbal adjectives, and least likely in nouns' (Roberts 1994: 166).

As already noted, complexity may also affect acquisition (Kerswill 1996: 199): variables with multiple conditioning effects may take longer to be learned. Chambers (1992) considered this issue in his study of six children from Canada acquiring a second dialect in the UK. He found that lexical replacements (e.g. *sidewalk* vs *pavement*) were acquired faster than phonetic or phonological rules, and further, with phonological variables, simple rules (e.g. T-voicing, as in bu[t]er) were acquired earlier and faster than complex rules (e.g. r-lessness, as in car [ka]). With regard to how first dialect acquisition might be affected by complexity, Roberts (1997) compared three variables in the speech of a subsample of the same three- to four-year-olds from Philadelphia. The first was the fronting and raising of the nucleus (aw), as in *crown*, *cow* and *south*, described as a 'simple phonetic variable' that the children had 'little difficulty' acquiring (Roberts 1997: 254). The second was the raising of the nucleus in checked long (eyC), as in *cake* and *rate*. As raising occurs only when a vowel is checked by a following consonant in the same word, this is more complex than the first variable. Four out of six children had acquired this variable. The third variable was the backing of long (ay0) before voiceless final obstruents, as in *fight*, *right*, *mice*, and this was the most complex of the three variables. The study found that 'the speakers' acquisition of this phoneme is not at all complete' (Roberts 1997: 257). Foulkes et al. (2001: 71), in their study of two- to four-year-olds in Newcastle, examined the acquisition of variable (t) across a range of environments that are 'particularly complex in adult speech'. They found that the 'children produce voiceless aspirated stops in word-initial position; a high proportion of voiceless pre-aspirated stops pre-pausally; and a range of variants in medial positions which are not found initially or pre-pausally, including a significant number of the salient local variants found in the adult community'. Thus, despite a great deal of complexity in use of this form, these preschoolers 'appear to have made good progress

in acquiring different variants for the different phonological contexts' (2001: 78).

Most of the studies discussed so far focus on phonetic variation. While 'studies focusing on the impact of non-categorical/variable input on the acquisition of grammatical morphology are rare' (Miller and Schmitt 2012: 225), a number of key findings can be gleaned from those that exist.

In one of the earliest studies of morphosyntactic variation in preschool children, Kovac and Adamson (1981) investigated the acquisition of finite *be* deletion (e.g. Labov 1969, 1972; Rickford et al. 1991), as in (17), in the speech of three-, five- and seven-year-olds in Washington, DC.

- (17) a. She \emptyset the first one started us off.
 b. Michael Washington \emptyset out there selling his rocks.
 c. Boot \emptyset always comin' over my house to eat, to ax for food.
 (Labov 1995: 30–31)

The presence or absence of *be* is conditioned by a series of highly complex social and linguistic constraints, including whether it occurs in copula (17a) or auxiliary (17c) contexts and whether the subject is a pronoun (17a) or noun (17b). In acquisition of these constraints, however, 'the situation is not as straightforward as it may appear' (Kovac & Adamson 1981: 406). In measuring the child data against adult norms, at age three, some of these constraints are reversed; even by age seven, the constraints were not fully acquired. For example, copula contexts – a disfavouring environment for deletion in adult speech – were deleted at higher rates than auxiliaries in the child data. Kovac and Adamson summed up these results thus: 'Children [...] may have the feature by age five, even though the various constraints on the behavior of that feature may not be in order until considerably later' (1981: 409).

Miller (2015) tackles another very widely studied linguistic variable in sociolinguistic research in varieties of English: use of *ain't* for copula (18a) and auxiliary (18b) *be*, *haven't* (18c), *didn't* (18d) and *don't* (18e).

- (18) a. And she's a real daddy's girl, you know what I mean? *Ain't* you darling?
Ain't she lovely. (Ryfa 2013: 78)
 b. I'm going out with my bird now, ain't I? (Cheshire 1981: 369)
 c. I *ain't* seen her. (Edwards 1993: 227)
 d. I *ain't* know you all didn't know each other. (Ash & Myhill 1986: 35)
 e. I *ain't* want some more. (Labov et al. 1968: ex 334)

In her study of the speech of Sarah (aged 2;3–5;1) from the Brown (1973) corpus, Miller found that use of *ain't* came late in acquisition for Sarah: while *isn't* was first produced at 2;10, *ain't* was not used until 4;1. Second, Sarah's use of *isn't* and *ain't* divided cleanly between contexts: *ain't* was used almost exclusively in declarative contexts (18c), while *isn't* was used in tag questions

(18b). The interesting point here is that these constraints look quite different from adult data, where *ain't* is often more common in interrogatives than declaratives (e.g. Cheshire 1981; Weldon 1995). Washington and Craig (2002) also found that four- to seven-year-old AAVE speakers had the same patterns – *ain't* in declaratives but not in tags, despite the fact that their caregivers differed across these constraints. In contrast, Miller's study of *ain't* in a larger corpus (Hall & Tirre 1979), which consisted of conversational interactions with thirty-nine children in the USA aged 4;6 to 5;0 from different socio-economic and ethnic backgrounds, showed that 'patterns in child production matched those found for their caregivers' across a series of linguistic constraints on use. This led Miller to conclude that these young children 'are well on their way to learning the distribution of variable forms in their particular dialect' (Miller 2015: 108).

These results suggest that in some cases morphosyntactic variables may be acquired later than the phonetic variables. With regard to such findings, Miller and Schmitt (2012) proposed that 'the ambiguous nature (sometimes present and sometimes absent) of a form' affects the timeline of acquisition. In other words, where morphosyntax is concerned, if a form is variable, it will take longer to acquire than an invariant form. To explore this further, they compared two varieties of Spanish: Chilean and Mexican. Chilean Spanish has variable plural morphology (sometimes appearing with *-s* but sometimes not), and Mexican Spanish does not. They found that by the age of four, Mexican children were adult-like in their use of the plural marker in both the comprehension and production tasks. In contrast, it was not until the age of six that Chilean children were able to do the same. (See also Marrero and Aguirre 2003; Miller and Schmitt 2014; Johnson 2005). In explaining these results, Miller and Schmitt adapted Yang's (2002) variational model of language acquisition in their variability delay hypothesis, which states that variability in the input will delay comprehension of grammatical morphemes when the variability causes unreliability in the input (i.e. the input involves a zero form) and is constrained by linguistic factors (phonological, grammatical) and extra-linguistic factors (SES, age, sex) (Legate and Yang 2007). As such, morphosyntactic variables may be acquired later than categorical forms, largely due to the potentially ambiguous nature of variable input and the effect that it has on the child working out the rules of the grammar in the ambient language.

This suggests that there may be a delay with some morphosyntactic variables but not others. We note that the studies are of different types: some involve substitution of one form for another (e.g. *ain't* for *be*), while others involve what Labov (1995: 29) referred to as linguistic zeroes, 'the complete absence of linguistic material in a place we normally expect to hear something' (e.g. copula deletion). This, too, may play a part in what is acquired when.

So far we have treated the findings on social and linguistic constraints on acquisition as though they were separate entities. Studies of adult speech show, however, that variation arises from multiple, competing influences on variant choice. A key issue for acquisition is what types of constraints are acquired when. Labov's (1989) research on (ING) in three children aged four, six and seven in Philadelphia led him to suggest that social and stylistic constraints are acquired before articulatory and grammatical constraints. Patterson's (1992) study of the same variable supports this: the four-year-olds in her study demonstrated adult-like patterns of style-shifting but had not yet acquired the systematic patterns of use associated with grammatical class or discourse function. The older children in her sample (six- and eight-year-olds) had acquired both. In her study of preschool Dutch speakers, Cornips (2017) likewise found that grammatical constraints were acquired before social constraints. Youssef's (1991) longitudinal study of verbal marking in a child (aged 2;4 to 4;9) exposed to Trinidadian Creole and standard English suggests that social and linguistic constraints are acquired at the same time.

These studies suggest that there is a complicated interplay between social and linguistic constraints in the order of acquisition. The question of what types of constraint are acquired when is addressed head on in the study of yet another 'showcase variable' (Patrick 1999: 122), coronal stop deletion, or more commonly, (-t,d) deletion in word-final consonant clusters as in example (9) (e.g. Fasold 1972; Guy 1980; Tagliamonte & Temple 2005; Wolfram 1969). This variable has been studied extensively in adult and adolescent speech, with results indicating that it is 'omnipresent in a range of English speakers' (Guy 1980: 34). In fact, so prevalent is this variable that it has been described as 'a primitive of vernacular dialects in the sense that [it] recurs ubiquitously all over the world' (Chambers 2003: 265). Moreover, it is 'very stable and uniform with regard to its major constraints' (Guy 1980: 34), namely in following phonological segment and morphological class. This claim to universality of constraints, regardless of ethnicity, class, age or indeed any other sociolinguistic measure, finds widespread empirical support across a range of dialects (e.g. Guy 1980), although dialect-specific influences are also found (e.g. Patrick 1999; Tagliamonte & Temple 2005).

Given the uniformity of results for adult data, researchers have turned to the intriguing question of how this showcase variable might emerge at the source, that is, in the speech of very young children acquiring this alternation. Specifically, Labov (1989: 96) observed that 'if we were to assume that this aspect of language learning were controlled by innate, universal principles, then we would expect to find the following order of acquisition': (a) articulatory constraints, (b) grammatical constraints, and (c) stylistic and social constraints. This finds empirical support in Roberts' (1994, 1997) data. She found that children as young as three years old had largely mastered the

phonological constraints on (-t,d) deletion as they replicated the Philadelphia adult pattern with respect to the following phonological segment: obstruent > liquid/glide > vowel > pause. Dialect-specific constraints attested in the speech of the caregivers in pause contexts were also in evidence in the children's speech, suggesting that input is extremely important in the acquisition of (-t,d) deletion across these different contexts of use. While the children had partly acquired the grammatical constraints, they had not acquired the social constraints on use according to addressee or play context. Roberts noted that 'such findings do not seem surprising if one assumes that social constraints are learned by interacting with a variety of people, in a variety of situations, speaking on a variety of topics. The opportunities for these types of interactions would naturally increase as one grew older' (Roberts 1994: 176). Our own research on the same variable (Smith et al. 2009) largely mirrored these results. We found that all children varied with respect to (-t,d) deletion, with replication of the articulatory constraints and partly successful acquisition of the grammatical constraints, but little or no acquisition of the social constraints.

In reviewing research in the acquisition of variation, we find that Fischer's 1958 study of young children has proven to be extremely insightful, with findings indicative of what was to be revealed in more recent decades in the acquisition of variation. What is clear in this subsequent research is that children acquire variation at a much younger age than was previously thought, although a number of key questions remain:

- (1) Does CDS differ from more general community norms across all linguistic variables or only some?
- (2) What effect does caregiver input have on child output?
- (3) What effect does age have on the acquisition of variation?
- (4) Are variants acquired by children sequentially or simultaneously? If the former, which variant is acquired first – the local or the standard form?
- (5) Are there individual differences in the acquisition of variation or do caregivers and children largely conform to group norms?
- (6) Beyond frequency, what effect does caregiver input have on constraints on use across a number of external and internal factors?
- (7) Are variable forms learned at the same time as categorical forms or is there a delay in acquiring these?
- (8) Is sociolinguistic competence acquired at the same time as grammatical competence?
- (9) Are all linguistic variables acquired at the same time and in the same way?

We are now in a position to investigate further the question of when and how children acquire the linguistic norms of their community through the analysis of twenty-nine caregiver/child pairs in daily interaction in a small community in north-east Scotland. We provide a unique perspective on the roots and

subsequent development of vernacular norms by comparing and contrasting the speech data of three key groups: the community, the caregivers and the children. The possibility of triangulating across these three data sources allows us to track the emergence of structured variation through access to the *process* (acquisition of variation) against the backdrop of the final *product* (variation in adult speech). Our innovative data collection methods have allowed us to obtain large amounts of highly vernacular data of language acquisition in progress, which decisively capture the diverse linguistic contexts of use that naturally arise between caregiver and child in everyday interaction. We have used these highly natural data to conduct detailed quantitative analyses of nineteen linguistic variables taken from different areas of grammar, including lexical, phonological and morphosyntactic variables. By analysing a wide range of variation across the twenty-nine caregiver/child pairs, we will be able to uncover which types of variation are acquired by the child at which developmental stage, as well as the effects of caregiver input on this process. This will shed light on a fundamental question in the study of language variation and change: when and how do children acquire the highly complex patterns of variation, both linguistic and sociolinguistic, widely attested in adult speech?