

Moving Beyond the Common Touchpoint

Discovering language with congenitally
deafblind people

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Thesis submitted for the degree of Doctor of Philosophy, University of Dundee

June 2010

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Acknowledgements

I would like to express my sincere thanks to Dr. Suzanne Zeedyk who has been a very enthusiastic and skilled supervisor during my time undertaking this research. She offered much valuable advice and, in addition, invited me to participate in other related projects which have greatly contributed to my thinking process.

This thesis would not have come about without the support of colleagues at Sense Scotland over years that I have worked there. Advice and guidance from Gill Morbey, Joyce Wilson and Dr. Stuart Aitken are all present one way or another in this thesis. I would also like to thank Dr. Joseph Gibson, David McCluskey, Jon Reid and Neil Gillson who contributed a great deal of time and energy as communication partners throughout this research and offered sound advice at all the right times. And thanks to the many support staff who participated in the group discussions at different times over the last few years.

Special thanks go to Ian Noble and Kim Watt, the colleagues I have worked most closely with in Sense Scotland. Ian, for the many hours of calm and wise support you have offered and Kim, in particular, for that tea bag which helped enormously in the early days of this research! Both of you have given constant encouragement over the years, not just relating to this research.

I have the great fortune to participate in two Deafblind International Communication Networks. It would be difficult to fully describe what I have learned from working with all of you. It has been an honour to join Marleen Janssen, Marlene Daelman, Inger Rødbroe, Anne Nafstad, Jacques Souriau, Flemming Ask Larsen, Ton Visser, Barbara Miles, Bernadette van den Tillaart and Gunnar Vege in a great many interesting discussions. Thank you all. This thesis has richly benefitted from all the ideas and inspiration you have given me.

Ideas from Gunnar Vege in particular are in this thesis whenever I talk about prioritising declarative functions of communication. I did not have a way of referencing the conversations we have had about this, but your ideas are there. Similarly, the sections where I write about representational and symbolic language have benefitted greatly from discussions with Steve Rose, a colleague from Sense.

I wish to offer a special thanks to Ken Murray who has offered real ale, computer support and encouragement just whenever it was needed - without hesitation. And thanks are due also to Steve Benson who is always there with wise and clever words...and lots of humour too when I needed that.

A special thank you is given to all the congenitally deafblind people I have met over the years. It is your stories that have informed the direction of this thesis. Learning is truly a two-way process and almost everything I have learned about deafblindness has come from all of you. Fiona, Patrick and Rachel in particular have let me join part of their lives for this research and I am extremely grateful to them, to their families and to their support staff. Thank you very much.

And finally, thanks to Caitlin, Lauren and Calum for being patient over the last two years in particular. This 'book', as we've been calling it, is finished and you'll soon get your uncle back! We will get to the top of Tinto very soon and that island pier will be jumped off many times!

Declaration

I hereby declare that I am the sole author of this thesis. I have, unless otherwise stated, consulted all of the references cited in the thesis. The work of which this thesis is a record was conducted by me and has not been previously accepted for a higher degree.

Paul Hart

July 5th 2010

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Summary

This thesis is about partnerships involving congenitally deafblind people journeying towards language. The focus will be on the first steps of that journey: how partnerships make initial moves away from the here-and-now. In order to understand how this happens in the tactile medium, this thesis will draw on Reddy's model (2003 and 2008) of the expanding awareness of the objects of the other's attention to analyse how both partners are able to share attention to self, what self does, what self perceives and finally what self remembers. Demonstrating that both partners can operate at each of these four stages in the tactile medium then allows me to focus particularly on the final stage, what self remembers, and ask: what happens within partnerships if either partner brings movements, gestures or signs that refer to people, objects, places or events not present? Do both partners come to comprehend and produce such referential movements, gestures and signs in forms perceivable by both? Such questions will be considered against the backdrop of the dialogical framework, since in any exploration of human interaction it makes no sense simply to consider it from one perspective. At all times throughout this thesis, the focus will be on partnership.

This thesis raises a number of practical recommendations about approaches and attitudes to be adopted by non-deafblind partners if language is going to be an outcome for their partnerships with congenitally deafblind people. But it will also conclude with a number of theoretical questions about how we define language in the first place.

Chapter 1

Moving beyond the common touchpoint

Introduction

Traditionally when thinking about communication and language development, we think of learning the language(s) used by others in the wider cultural community. So for example, in Scotland we may think about how young children make the journey to being a native English speaker. Or if the child is profoundly deaf and raised in a signing environment, we may think about how they journey towards British Sign Language (BSL). If we bear in mind that any person learning a language needs the perceptual abilities to perceive the language(s) around them and they need to learn from people who already are fluent in the language(s) (Vonen, 2006; Schjøll Brede, 2008), then a significant challenge arises for congenitally deafblind people (Hart, 2008a; Souriau, Rødbroe and Janssen, 2009). They do not have the perceptual abilities to acquire spoken or even visually signed languages, due to their hearing and visual impairments. Neither can they find communication partners

who are already fluent in tactile languages, because none truly exists.¹

(Vonen and Nafstad, 1999; Hart, 2008a)

This leaves an exciting question, which is at the heart of this thesis: **how do people journey towards a language that does not yet exist?** Exploring this question provides an opportunity to think differently about how languages might develop and about the roles played by both communication partners in this process. It also provides an opportunity to think differently about what we mean by language at all.

This thesis will focus on the first steps on this journey and will set out to discover paths that potentially lead to tactile languages. It is not a linguistic account of language development nor will it make bold claims about the discovery of fully developed tactile languages. Instead it will focus on one important function of language: the ability to make reference to displaced objects and events that are not present at that time (Goldin- Meadow, 2005; Davidson, 2003). In turn, this opens the way for journeys to where ‘new worlds beckon’, where conversation partners ‘have an endless array of things they could...talk about...’ (Zeedyk, 2006, p330). Indeed, the talk between such partners is most often not about the present but about ‘things external in space... (and) events distant in time’ (Reddy, 2003, p.398). Such journeys are the central focus of this thesis, with particular emphasis on what Vege

¹ It is true that some deaf sign language users who later lose their vision do use very complex and sophisticated tactile sign systems, but these are primarily based on adaptations of their first sign language as opposed to being fully tactile throughout its development.

(1999, p.192) describes as a 'co-created vocabulary of expressions referring to something beyond here and now – to our world of shared experiences'.

Ultimately, this thesis will explore a number of key questions, which together lead to a central hypothesis.

The core of these questions is: Can communication partnerships involving at least one congenitally deafblind person move away from the here-and-now by sharing attention to people, objects, places or events that are not present at that time?

Such journeys must start from a secure 'companion space' (Kugiumutzakis, 1998), the joint dyadic space (Rødbroe and Souriau, 2000) or 'primordial sharing situation' (Werner and Kaplan cited in Adamson and McArthur, 1995, p.206), where 'trust and respect for each other's perspective on the world is paramount' (Hart, 2008a). This already suggests that both partners in these communication partnerships have roles to play in learning about the other's perspective on the world. In this respect, this thesis will reject the mainstream epistemology in psychology and education, *monologism*, where individuals and societies are considered to be 'analytical primes'. This will be replaced with an epistemology of *dialogism*, where actions and interactions are taken 'in their contexts as basic units' (Linell, 1998, p.7). This means, rather than focusing the research effort on simply understanding either partner's individual development, I will instead focus on 'communicative meeting places' between congenitally deafblind and non-deafblind partners. In any analysis of interaction, communication or language between humans, it

makes no sense to simply view one side of the exchange without reference to the other (Linell, 1998 and 2009; Markova, 2006 and 2008; Reddy 2008).

I am especially drawn to Markova's view of dialogicality as 'the fundamental capacity of the human mind to conceive, create and communicate about social realities in terms of the Other' (Markova, 2003; 2006, p.125; 2008). One way to understand this conception, creation and communication about social realities in terms of the other is to explore how partners share attention to people, objects, places and events. This is not only true at the stage when partnerships are able to move away from the here-and-now, but is equally true during earlier communicative exchanges between partners, when it is traditionally thought that the focus is dyadic (Trevarthen, 1979; Schaffer, 1996; Bråten, 1998). This leads then to another key question of this thesis: Can these communication partnerships respond to and direct attention within the earliest dyadic communicative exchanges just as much as within later triadic communicative exchanges?

In exploring this question, it is important to state that both partners bring different gifts, different contributions and different perspectives on the world around them to their communicative meeting places. Sacks (1995, p.108) suggests 'when we open our eyes each morning, it is upon a world we have spent a lifetime learning to see'. For congenitally deafblind people, in contrast, when they stretch out their hands each morning, 'it is upon a world they have spent a lifetime learning to feel' (Hart, 2008a, p.66). All people will have different realities of the world, worlds that they have been constructing since

they were born. Our worlds, therefore, are mirror images of the ways in which they have been perceived and if touch is your pre-eminent source of contact with the outside world, then this thesis needs to explore not so much what shared attention, or what I might call ‘ a shared communicative landscape’, looks like (Hart, 2008a) but instead what it *feels* like.

What then does this tell us about the starting point for such early dyadic communication exchanges? Although vision and hearing may have become the primary vehicles for communication and language for non-deafblind partners, I will demonstrate that everyone is able already to perceive the world from the tactile perspective and indeed this lies at the root of developments for everyone. In contrast, fully congenitally deafblind people cannot perceive the world from either visual or auditory perspectives and it is primarily through touch that communication and language must happen for them. It is clear then, that non-deafblind partners must re-connect with the world experienced through the tactile medium and in this process both partners co-create a common touchpoint from where journeys start. This leads to a third key question: Can both partners respond to and direct attention to people, objects, places and events entirely within the tactile medium?

Clearly, in order to achieve real partnership, non-deafblind partners have to re-connect fully with an experience of the world from a tactile perspective but can this be achieved? I think it can, and first I take Markova’s suggestion that ‘to be self-conscious is to see oneself as an object, that is to see oneself as others do. But to see oneself through the eyes of the others, one must also be

able to take the attitude of the other' (Markova, 1982, p.154). Next I will take Reddy's suggestion (Reddy, 2003, p.399) that 'just as attention and objecthood are intimately and importantly related, so must also being an object and being attended to be intimately related. In fact, perceiving attention in others could emerge from the experience of being an object of attention...' Put together, these suggest non-deafblind partners must move away from 'seeing oneself through the eyes' of others towards instead appreciating what it must be like to be experienced 'as the undoubted object of another's attention' (Zeedyk, 2006, p.328) through their hands or fingers. In this way, for the non-deafblind partner, a more profound knowledge of conceiving, creating and communicating about the world from a tactile perspective, will emerge from first being experienced, entirely within the tactile medium, as an object (a tactile object) of a deafblind partner's attention.

The congenitally deafblind person is skilled at perceiving the world from a tactile perspective, whereas the non-deafblind partner is probably not. However, the non-deafblind partner is already skilled in at least one language whereas the congenitally deafblind person is not necessarily skilled in any. In terms of conceiving, creating and communicating about social realities in terms of the Other, it is clear then that both partners have something to learn from the other and this raises questions addressed to both. How can I learn to perceive the world from your perspective, especially if I have so little awareness already of your perspective? How can I learn aspects of your communication and language strategies that will help shape my experiences into communication and language strategies that we both understand?

A fuller exploration of these topics will lead in Chapter 2 to the adoption of Reddy's model, describing how partners expand their awareness of the objects of the other's attention (Reddy, 2003 and 2008) as a principal analytical tool. This model, which will be described in more detail in later chapters, takes us from those 'primordial sharing situations', those early dyadic interactions and establishes a journey that travels beyond the here-and-now. Firstly, both partners are able to respond to and direct attention to self, then to what self does, then to what self perceives and finally to what self remembers. As this expansion takes places, these partnerships develop jointly understood and jointly perceived ways of referring to 'past events and absent targets' (Reddy, 2003, p.399). Crucially, all of this can happen within the tactile medium, even for non-deafblind partners. It is important that I clearly demonstrate that non-deafblind partners can do this in the tactile medium. This is why, in Chapter 4, I first place the non-deafblind partner in the role of Other (traditionally the more competent other) but then, in Chapter 5, I reverse this so that the congenitally deafblind person is placed in the role of the more competent other. In terms of living within a tactile world, they are already more competent. This chapter will help determine if non-deafblind partners can also successfully operate at all four stages using the tactile medium. This reversal also gives us a novel, and very telling, insight into the process of language development.

At the fourth stage of this model, responding to and directing attention to what self remembers, I will demonstrate that it is at the level of the partnership that any movements, gestures or signs that refer to people, objects, places or

events not present, are dynamically altered both in terms of meaning and form, such that the partnership is able to move beyond their common touchpoint, out into the world.

This leads to the central hypothesis for this thesis:

Congenitally deafblind people and their non-deafblind communication partners can expand their awareness of the objects of each other's attention within the tactile medium. As they do this, movements, gestures or signs, introduced by either partner, are developed by the partnership such that they come to be perceived and understood by both. Such movements, gestures and signs then allow the partnership to move away from the here-and-now.

This is a radical hypothesis in terms of standard developmental literature because it places an *equal* importance on contributions from both partners, whereas traditional literature has placed primary importance on the contributions from the more competent other (the adult) as they lead the infant towards known language destinations. Theory and practice in the field of congenital deafblindness has largely followed standard developmental models, although in practice there have three major tendencies: 1) an emphasis on the need to introduce symbolic language systems designed and developed by non-deafblind partners; or 2) an emphasis on the need to create new languages around movements and gestures coming from the congenitally deafblind person; or 3) an emphasis on introducing wider 'cultural

languages' (e.g. sign languages used in the wider deaf community of a particular country). All three of these approaches suppose that one partner makes a significantly greater contribution than the other.

Schjøll Brede (2008, p.8) outlines that 'the path from prelinguistic non-directed expressions of emotions in a child with congenital deafblindness, through self-directed gestures of thoughts, to other-directed intentional one-word utterances' is to an extent already described in deafblind literature. Attention is also much described in deafblind literature (e.g. Schjøll Brede, 2008; Nafstad, 2008; Souriau, Rødbroe and Janssen, 2008) but primarily from the perspective of how the congenitally deafblind person attends to objects. It is true also that the transition to a cultural language is much written about (Souriau, 1990; Souriau, Rødbroe and Janssen, 2009) and indeed many practical examples are given on video. But there is little empirical research other than Schjøll Brede (2008) that determines how this journey to language happens.

This thesis clearly builds on the work done by others in the deafblind field but departs in two significant ways: 1) it aims to demonstrate how *both* congenitally deafblind and non-deafblind partners expand their awareness of attention in the tactile medium; and 2) it aims to demonstrate that if language is to be an outcome for partnerships involving congenitally deafblind people, *equal contributions must be made by both partners, deafblind and non-deafblind.*

A number of research questions then follow:

1. Can we obtain evidence that congenitally deafblind communication partners *respond to attention* a) to self; b) to what self does; c) to what self perceives; and d) to what remembers?
2. Can we obtain evidence that congenitally deafblind communication partners *direct the attention* of a non-deafblind communication partner a) to self; b) to what self does; c) to what self perceives; and d) to what remembers?
3. Can we obtain evidence that non-deafblind communication partners *respond to attention* a) to self; b) to what self does; c) to what self perceives; and d) to what remembers within the tactile medium?
4. Can we obtain evidence that non-deafblind communication partners *direct the attention* of a congenitally deafblind communication partner a) to self; b) to what self does; c) to what self perceives; and d) to what remembers within the tactile medium?
5. Do communication partnerships involving at least one congenitally deafblind person use movements, gestures and signs brought by the congenitally deafblind partner such that they come to be perceived and understood by both partners?
6. Do communication partnerships involving at least one congenitally deafblind person use movements, gestures and signs brought by the

non-deafblind partner such that they come to be perceived and understood by both partners?

These research questions highlight how central partnership is to this thesis. In an echo of Coles' view of culture (1998), throughout this thesis, partnership is considered a medium and not a variable in any journeys towards communication and language. We all learn language in social situations (Rosenthal Rollins, 1999; Trevarthen, 1979, 1980, 1998, 1999) and this is equally true of congenitally deafblind people (Hart, 2006; Nafstad and Rødbroe, 1999; Rødbroe and Souriau, 2000; Janssen, 2003).

At this point I wish to explore the nature of congenital deafblindness in order to give some background about the people who will feature in this thesis.

Congenital Deafblindness

There are various definitions of deafblindness from across the world (see Aitken, 2000; Swan, 2009; Videnscentret for Døvblindblevne, 2010; Sense, 2010; Deafblind Info, 2010), but throughout this thesis I will adopt the following:

Persons are regarded as deafblind if they have a severe degree of combined visual and auditory impairment resulting in problems of communication, information and mobility. (Deafblind Services Liaison Group, 1988)

This functional definition makes clear that it is issues around communication, information and mobility rather than any specific clinical ophthalmology or audiology assessments that define deafblindness or dual sensory impairment. (Deafblind Services Liaison Group, 1988; Aitken, 2000; Swan, 2009). It is true also that a person will be recognised as having a significant dual sensory impairment when the combination of the two impairments makes it difficult for the person to function fully as a deaf / hard of hearing person or a blind / partially sighted person (Swan, 2009). This has led the deafblind field to adopt the notion of $1+1=3$, making clear that deafblindness is not simply a case, for example, of being deaf plus being visually impaired or vice versa. People whose hearing is severely impaired often compensate by using their sight. People who are deafblind cannot easily compensate in this way even though most people who are deafblind will have some degree of residual hearing and / or vision (Aitken, 2000). It was this inability to sufficiently compensate using another sense that led practitioners in the UK and elsewhere in the early 1990s to use the single word 'deafblind' as opposed to the previously used conjoined word 'deaf-blind' in a bid to capture the unique nature of deafblindness – $1+1=3$ (Sense Scotland, 2010).

4 relatively distinct groups of deafblindness can be recognised:

- 1) Congenital or early onset hearing impairment and visual impairment.
- 2) Congenital or early onset visual impairment plus acquired hearing impairment.

- 3) Congenital or early onset hearing impairment plus acquired visual impairment.
- 4) Late onset hearing and visual impairments.

This thesis will focus on the first group: congenital deafblindness. Thus all of the people who feature in the studies (Chapters 4, 5 and 6) have had a significant hearing and visual impairment from birth. It is rare for a deafblind person to be both profoundly deaf and totally blind, yet most of the deafblind people who feature in this thesis are, and the two people who are at the centre of the study described in Chapter 6 are fully deafblind. I have consciously focused my research efforts around partnerships where one member is profoundly deafblind because this draws out even more sharply a range of issues that emerge from developments taking place within the tactile medium. Such issues will be highlighted throughout this thesis.

Communication Breakdowns

I have worked alongside congenitally deafblind people for more than 20 years and it is their experiences that have inspired this thesis. There are countless examples over all these years of communication breakdowns between congenitally deafblind people and their non-deafblind communication partners. Are such communication breakdowns inevitable for these communication partnerships? Or are there different ways partners should

engage with one another to make communication and language more likely to emerge within partnerships?

In order to give a flavour of what I mean by *communication breakdown*, I will now consider some examples of communication breakdowns with Fiona, who has been profoundly deafblind since birth due to Congenital Rubella Syndrome. These examples date from the 1990s when Fiona was in her mid-30s. (All are recorded in Sense Scotland file notes).

Communication breakdown No.1

One hot and sunny Friday afternoon Fiona (fully deafblind) had been for a walk to the Park with Ian and Margaret. Once they had reached the Park, Ian and Fiona decided to sit down on the grass. Fiona took off her socks and shoes and lay back on the grass. Ian did likewise and helped her to touch his feet so that she could feel that they were both the same - enjoying the sunshine in their bare feet. About 20 minutes later, Fiona sat up and put on her socks and shoes. After Ian had done the same, they stood up and walked towards the exit of the Park. Before leaving the Park, however, they went into a café, where they had a coffee and a doughnut. Replenished, they then returned to Fiona's house where Ian said his goodbyes and left. Margaret also left soon after and it was a different group of staff who supported Fiona over the weekend.

On the Monday morning afterwards, when Paul was visiting Fiona's staff team on Monday morning, the staff outlined the 'strange behaviours' from Fiona

that had occurred since Friday evening. Repeatedly, she had gone to her room, put on her shoes and jacket and made her way to the front door. This seemed to the staff as if she was requesting a walk. They guided her out of the house, made their way to the bottom of the path, where she turned to her right (beside the street sign), sat on the ground, and took off her socks and shoes. The staff interpreted this as Fiona not wanting to go for a walk and, although confused by the apparent mixed message from Fiona, they helped her back into the house, where she immediately became distressed. On a number of occasions throughout the weekend, she had followed this sequence of events.

The staff supporting her over that weekend did not know about the walk to the Park in the lovely sunshine, where she and Ian had sat bare foot on the grass and then gone for a cake and coffee. All they saw were some 'strange behaviours', where it looked as if she was asking for a walk, but then constantly rejecting this as an option. When both parts of the story became available to the staff team (and this happened once Margaret had joined that Monday morning meeting), they could begin to understand Fiona's movements and gestures in a different way, albeit the elapsed time meant that these interpretations could not be tested. Was Fiona trying to direct attention to that event in her life? Was she asking not just for any walk, but to go back to that Park? Was she asking for Ian, or even just for the cake that came at the end of the walk? Or maybe she wasn't asking for anything at all, but simply wanted to tell somebody about the brilliant afternoon she had had with Ian.

Whatever it was she was trying to tell the staff team, we can see that one difficulty for staff is understanding or interpreting any of the movements and gestures that she uses and a consequent difficulty in moving away from the 'here-and-now'. Both Fiona and the staff team struggle to find (or understand) movements, gestures or signs that can help them talk about things not present (Ian, the Park, the cake, the sunshine, the brilliant time together). They are literally stuck in the here-and-now. This communication breakdown occurs at the level of the partnership.

Communication breakdown No. 2

On another occasion, when Paul hadn't known Fiona for long he thought he had agreed with her to give her a foot massage. This was an activity she enjoyed and indeed massages are common with congenitally deafblind people, perhaps because of the inherent tactile aspect. They had used her tactile day-planner in her room and together had placed a small bottle of massage oil onto the planner, indicating that her next activity was a massage. They left her room and headed up the corridor towards the Activity Room, where the massage would take place. En route, Fiona stopped outside the bathroom door and stood in front of it for around thirty seconds, at which point Paul gently touched her elbow and beckoned her forward as an indication to be head towards the Activity Room. Fiona took just two steps forward before returning to the bathroom door, this time placing her hand on the handle. She held her hand there for a few seconds before wiggling the handle up and down. She stepped back from the door and stood there. Paul again touched

her elbow. She took hold of the handle, opened the bathroom door and stepped into the middle of the room. Paul went towards her and signed 'MASSAGE' onto her arm and placed the small oil bottle into her hand. She immediately turned around and headed out the door and made her way back along the corridor towards the Activity Room.

At this point perhaps Paul could feel that he had communicated well with Fiona and despite the fact that she appeared to lose her way, had maybe even forgotten where she was supposed to be going, he had reminded her that massage was what they had agreed to.² Fiona made her way along the corridor but only until another staff member (Caroline) passed by on her left hand side. Fiona took hold of Caroline's arm and headed back towards the bathroom. She went straight into the bathroom this time and once inside she quickly took off her top. Caroline tried to help her back on with this, but Fiona was insistent that it stayed off and to confirm this, she also removed her trousers and then all her underwear. Within a few minutes, she became distressed and lay down on the bathroom floor. After 2-3 minutes, she rubbed her hand across her head, in a way that staff interpreted as the sign 'SHOWER', which Fiona had previously learned. Caroline helped her into the shower, where she stood under the water for around 15 minutes, came out, dried herself and then made her way along to the Activity Room.

² There are possible neurological conditions linked to Congenital Rubella Syndrome that could explain such memory loss, or lack of goal direction (Nicholas, 2000).

What does this story tell us about journeying away from the here-and-now? Let us imagine that even at the very point of agreeing to a massage (using a symbolic communication system invented by the staff team!) Fiona was already thinking of a shower, because she knew that the shower room was on the way to the Activity Room? If this was so, is there any evidence that she was trying to tell Paul that she wanted a shower. Certainly she uses a rub of her hand across her head, a sign that most staff would have recognised. However, it is not too difficult to imagine that she also uses hesitating outside the bathroom door, placing her hand on the handle, wiggling the handle up and down, standing in the middle of the bathroom, taking off her T-shirt. From Fiona's perspective, all of these movements and gestures might be reasonable ways of directing attention to the shower. Each of them is iconic, or in Burling's terms, highly motivated (Burling, 2005), if understood from a tactile perspective. Indeed her ability to try out different communicative strategies demonstrates considerable metacognitive skills on her part. Why should we expect her only to use one sign, when perhaps she has many? Certainly verbal language has many words to symbolise particular objects or events and we invoke them when we have been misunderstood by others. It is not Fiona herself who has the difficulty in moving away from the here-and-now, nor is it Paul or Caroline, even though they are too fixed on the idea that there is only sign for 'shower'. Instead, the breakdown in communication takes place at the level of partnership. There is no lack of ability to symbolically represent the activity, simply an inability to understand one another in this moment.

Communication breakdown No.3

This third story again involves Fiona and Paul. They had been in her room, participating in a massage / interaction session but then agreed, using an object of reference from her tactile wallplanner, to make a cup of coffee together. (This is an activity she had done many times with staff from her regular team, but not with Paul). Once in the kitchen, they took a cup out of the cupboard and then stood at the kitchen counter, just in front of the kettle with the cup placed on the worktop. Paul stood behind Fiona to guide her movements as they made the coffee together. At the start of this sequence, Paul signed 'MILK' to Fiona and she turned towards the fridge. They took out the milk carton out and returned to the kettle. Paul then signed 'SPOON' and together they opened the cutlery drawer and took out a spoon. Whilst holding the spoon, Fiona made a very slight turn to her left, away from the kettle and the cup. She also vocalised. Paul did not respond to these, but instead he encouraged Fiona to close the drawer and then together they stretched out to get the coffee jar to take its lid off. He signed 'COFFEE' and together they put some coffee into the cup.

At this point Paul realised the kettle had no water and he asked someone else to fill it, whilst Fiona and he carried on with the preparation. They took the milk carton lid off, poured some milk into the cup and as the lid was put back on, Fiona vocalised. She also turned again very slightly to the left, away from the kettle and cup. Paul was not fully aware of this (although it is clearly visible when you watch the video) and he took Fiona's hand to point towards the

fridge (as if saying 'let's return the milk'). As he did this, Fiona's outstretched arm and hand went towards a cupboard, which was slightly to the right above her head. Fiona opened this cupboard door and moved closer to it. She reached her hand inside and brought out a box of cereal. All the while, she was vocalising. Margaret, who was filming this interaction and who knew Fiona very well, suggested to Paul that she was either looking for the top she wears to have her drink or she wanted some cereal. She put down the cereal box and turned away from cupboard. Paul signed 'TOP' onto her front and they both swung fully round from the cupboard, to face another set of cupboards. (This is where her tops are kept.) Fiona stretched up to open the door of this cupboard and touched one of the tops. Paul helped her take it out of the cupboard and he then signed 'TAKE SEAT'. Fiona turned around and headed out of the kitchen. Paul followed her and together they found a seat at the table, where Fiona sat down while he helped put the top on her. She then waited for her drink.

In this story, it is clear from Fiona's responses that she understands some signs. For example, when Paul signed 'MILK' she turned towards the fridge. When he signed 'SEAT' she moved out of the kitchen towards the dining table. However, something else is apparent. Just as with the previous story about Fiona and the shower room, it seems clear that she had something else in her mind and was perhaps trying to direct Paul's attention to this. Let's imagine that she was saying 'Yes, I want a coffee but I want you to make it'.

Is there any evidence that Fiona was thinking this? Her vocalisations might have indicated some agitation at being involved in the coffee preparation, and the slight turns away to the left take her away from the kettle and towards the dining table. However, the clearest indication is when she reaches for the cupboard. Paul found out after this activity that Fiona always wears a top to drink her coffee and it is always the last thing she picks up before leaving the kitchen, so it is a clear marker that the coffee-making is at an end. Is she directing attention to her top, the final step in the coffee-making? In trying the first cupboard she comes to, either she is mistaken in thinking that her top was kept here, or she is directing attention to any cupboard in the hope that this 'confused' man who is with her will work out what she wants. Perhaps she is asking Paul to make the coffee and bring it to her.

Obviously, at the distance of all these years, it is entirely speculative to definitively interpret Fiona's actions. But for me, it is yet another story where the partnership could easily have been stuck in the 'here-and-now', were it not for the interjection of someone who knew Fiona better.

It is clear in all of these stories that non-deafblind communication partners are able to direct attention to absent targets. After all they already have language. But can they do this in the tactile medium? It is clear also that Fiona can direct attention to absent targets. However, at the level of the partnership, both partners struggle to be understood by each other and there are many movements and gestures that are not observed, not understood or not responded to. This does not imply that responsibility for the breakdown rests

exclusively with either of the partners. Instead it is a breakdown at the communicative meeting place between the two partners and it is these meeting places that need repaired, not individual members of the partnership.

How is this thesis laid out?

Dostoyevsky is supposed to have said that there are only two types of story that can be told – one is ‘a man goes on a journey’ and the other is a ‘stranger comes to town’. What stories can be told about people who are born deafblind? Are they strangers who have come into their partner’s life, someone who is very different. Someone not from ‘round these parts’ or someone for whom there are insurmountable barriers to communication and language? Someone who is forever stuck in the here-and-now? Or instead, can non-deafblind partners identify with the journey that a congenitally deafblind person has to travel. Indeed can the non-deafblind partner join the deafblind person on that journey, becoming a fellow traveller (Hart, 2006)?

There may have been historical challenges for congenitally deafblind people in learning a language, but no longer should we place the burden of responsibility solely on the deafblind person. It is always at the meeting place between individuals that solutions to communication breakdowns must be sought (Nafstad and Rødbroe, 1997 and 1999; Hart 2008a and 2008b) and it these meeting places that become the focus of attention for the rest of this thesis. However, there is also a clear recognition that this thesis will be read

by those who are themselves not congenitally deafblind. This is the reality and this is why I will address particular outcomes and conclusions at non-deafblind partners. It is their responsibility to begin the search for solutions to communication breakdowns, even if the answers will always be found within the partnership.

Chapter 2 will expand on the centrality of dialogicality and partnership within this thesis and will set my overall thinking within a larger historical and current practice context. Through a rejection of 'scaffolding metaphors' to describe developments, it will foreground the idea that the final destination for these partnerships is not the language of a supposedly more competent other. In looking more closely at the important role of touch within dyadic and triadic exchanges, I will draw upon literature from diverse but closely related sources: infant development, sensory impairment and evolutionary psychology. All of these discussions will lead towards a closer examination of Reddy's thinking around second person engagement and the infant's expanding awareness of the objects of the other's attention, and an outline of why I have adopted her approach as the primary analytical tool in this thesis. It affords the opportunity to explore the nature of genuine partnerships which must exist for new languages to emerge. These new languages will have elements of existing linguistic culture (signed and spoken), but they must reflect primarily a tactile perspective on the world.

Chapter 3 will explore the implications for research methods within the dialogical framework. It will then set out the methodologies that will be used

within this thesis to get to the heart of the 'communicative meeting places' between partners, as opposed to simply an individualistic consideration of how any one partner develops.

Chapter 4 will demonstrate that congenitally deafblind people can respond to and direct attention to a) self; b) what self does; c) what self perceives and d) what self remembers. As highlighted earlier in this chapter, in itself these results are not radical and contentious in the deafblind field, but if I am to tell the full story of how both partners journey together away from the here-and-now, it is important to lay out sufficient evidence that congenitally deafblind people can successfully operate at all four stages of Reddy's model. Not only does this provide the foundations for developing the type of language that allows them to move away from the 'here-and-now', but additionally it allows non-deafblind communication partners to recognise these abilities as the foundations for subsequent developments. Through this recognition, non-deafblind partners can understand what the process of attending 'feels' like from the perspective of a congenitally deafblind person and this helps them overcome the mismatch of modalities (Rattray, 2000) described in Chapter 2.

Chapter 5 is more radical with its focus on the non-deafblind partners and their ability to operate at all four stages of Reddy's model. It may appear self evident that they can already do this, given that they are all already language users. Nevertheless, if I am to avoid falling into the standard trap highlighted throughout this thesis, of imagining that the language destinations of non-deafblind people are paramount, then I must explore the non-deafblind

partner's expanding awareness of the objects of the congenitally deafblind person's attention, and how this is achieved within the *tactile medium*. Can they follow the deafblind person's attention? Can they direct attention using tactile means? Chapters 4 and 5 are complementary in this respect. They will tell separate sides of the same story, firstly from the perspective of congenitally deafblind partners and then non-deafblind partners.

Chapter 6 will demonstrate that in communicative meeting places between congenitally deafblind and non-deafblind partners, both of them learn from each other about how the other is using movements, gestures or signs to refer to people, objects, places or events. Sometimes it is the non-deafblind communication partner who brings conventional signs or non-conventional gestures and movements to the partnership and sometimes it is the congenitally deafblind person who brings non-conventional gestures and movements. This chapter aims to demonstrate that the principal developments take place at the level of the partnership. Indeed it is only at the level of the partnership that these movements, gestures and signs have any meaning at all and thus it is only at the level of the partnership that they can be understood. No matter who brings a movement, gesture or sign to the partnership, through a dynamic process that involves both partners, it comes to have meaning for both and comes to be perceivable by both. In order to understand something about this process, I will consider it from two different perspectives, but all the time it is one process that is being considered. I will first explore what the partnership does with movements, gestures or signs that the non-deafblind partner brings to the communicative meeting places. I will

then explore what the partnership does with movements, gestures or signs that the congenitally deafblind partner brings to the communicative meeting places.

Chapter 7 will summarise what can be learned from this thesis about communication and language development for partnerships involving congenitally deafblind people, as well as for communication and language development more widely. There will be a recognition that the data chapters are capturing traces of something which is vague (Linell, 1998) and potentially vulnerable, so it will set out some recommendations not only for future research, but for a range of practice attitudes and approaches that will truly help communities of communicative practice grow around individual deafblind people and, increasingly, groups of deafblind people.

Let us now move to chapter 2, where I will set this thesis against a more detailed theoretical backdrop that will clarify not only my central hypothesis but will make clear in what way this thesis makes a contribution to the field of communication and congenital deafblindness.

Chapter 2

Roles and relationships within the dialogical framework – what should partners bring to communicative meeting places?

Introduction

When communication partnerships involving congenitally deafblind people take their first steps together away from the here-and-now and start their journey towards language, this might suggest setting out on a journey to an unknown destination. Unknown, in as much as any tactile languages that emerge will neither be an existing world language nor a language with vision or hearing as its primary medium of expression or reception. But they will be languages, what Nafstad and Ask Larsen (2004) might affectionately term 'deafblindish'. Thus tactile languages will share many commonalities with all of the world's other languages and this fact suggests that perhaps the destination is not so unknown after all. So it is not the case that both partners step out completely into the unknown, but rather both bring attributes and aspects from their own different experiences of the world. This chapter, then, will explore what contributions should be brought by both partners to their communicative meeting places and what impact these have on the partnership's ability to take their first tentative, and vulnerable, steps away from the here-and-now? What roles should be played by both partners within

these partnerships, given that one, the non-deafblind partner, is already a language user and one, the congenitally deafblind partner, is expert on perceiving the world from a tactile perspective? Roles and relationships are the focus of this chapter.

I will expand on the central ideas around partnership outlined in the opening chapter and will clarify why this thesis is written against the backdrop of the dialogical framework. At the same time, I will also place this thesis within the wider context of the deafblind field in order to clarify both how it has grown out of historical trends but also how it grows out of and complements current approaches from across the world. This will include a consideration of literature from other diverse but closely related sources: infant development, sensory impairment and evolutionary psychology, in order that I provide a broad overview of where this thesis not only sits but also where it departs from others' thinking. I will review in particular 'scaffolding' metaphors that describe how developments take place but I will make clear that I am rejecting these because of their insistence that one partner is more competent than the other. All of these discussions will lead towards a closer examination of Reddy's thinking around second person engagement and her model of the expanding awareness of the objects of other's attention, and I will outline why I have adopted her approach as the primary analytical tool in this thesis.

Partnership and dialogicality – roles and relationships through the ages

Let me first expand on the dialogical framework and consider its emphasis at different periods in the history of deafblind education. Linell states that 'monologism assumes individuals and societies (cultures) to be analytical primes' whereas 'dialogism takes actions and interactions...in their contexts as basic units' (Linell, 1998, p.7). Both Linell (1998) and Markova (1982) provide historical overviews of these two traditions, with the fundamental differences between them being described through straightforward antinomies (Markova, 2008):

- monological v dialogical
- individualist v interactive
- Cartesian v Hegelian

The latter antinomy immediately raises questions about mind-body dualisms, which I will return to throughout this thesis, but for now it is enough to state that the nature of congenital deafblindness affords an opportunity for a rich exploration of that particular Descartes' legacy.

At the moment, I wish to focus one another of his legacies: monologism, which is undoubtedly the mainstream epistemology in psychology and education, even today, with its focus on individual competence (Linell, 1998,

p. 6). Monologicistic thinking would certainly have governed previous approaches in the field of deafblind education, whose history can be seen as occurring in 3 main periods: 1800-1950; 1950-1990; and 1990 to the present day (Enerstvedt, 1996; Dbl Communication Working Group, 1999). The first two periods in particular would have been dominated by monologicistic thinking.

In many ways the first period, 1800-1950 casts a shadow over deafblind education, even to the current day. There were a number of famous teaching successes, such as Helen Keller, Laura Bridgman, and Olga Skorokhodova who all developed language. Enerstvedt (1996) describes in more detail the intensive teaching approaches that were used and although I do not wish to minimise the skill and resourcefulness of the teachers involved at that time, a monologicistic account might imagine that it was only because of their teaching that developments took place at all. During this period language might have been seen as a skill that resided in the world and in the teacher. Teachers would have been drawn to what Freire (1971) later called the 'banking' metaphor of education which assumes that if a teacher makes sufficient 'deposits' in a child's mind, 'sooner or later these will accrue interest and the child will be able to make use of the intended skill' (Hart, 2006, p.264). Even today, many teachers and practitioners might imagine that their role is to bring *their* language or *their* symbolic communication systems to a deafblind person. This could lead to a subsequent rejection of the communicative and language possibilities that are literally at their fingertips and fully available to partnerships involving congenitally deafblind person. Such a one-sided view

of development does not make sense within any context, but least of all within the context of congenital deafblindness.

Additionally, we should bear in mind that the foundations of language were likely to have been in place for all of these people, prior to becoming deafblind. Helen Keller, for example, became deafblind around the age of 18 months, due to meningitis. We now understand that a great many developments would have already taken place for her by that age. Indeed, overlooked in much of the literature on Keller is the relationship she had with a childhood friend (Keller, 2005). How many seeds for future developments would have been sown in these early playful interactions?

During the second period, 1950-1990, there would still have been a focus on teachers as the 'providers' of language (Hart, 2006), again a top-down monologicistic approach. As before, I have no wish to minimise the many innovations in theory and practice that came about during this time, particularly through an increasing emphasis on the importance of relationship, resonance, and co-active movement (McInnes and Treffry, 1982; Moray House, 1993; Van Dijk, 1989). Yet an over-reliance in practice on symbolic communicative systems, such as tactile calendars³, simply as a means of delivering messages, rather than as a means of engaging emotionally and

³ Tactile calendars would usually use objects of reference to symbolise specific activities to aid planning and review of a day's events. (For example, cup symbolises drink; shoes symbolise walk etc).

psychologically with their pupils (Rødbroe and Souriau, 2000), meant that linguistic competence was very rarely achieved (Souriau, 1990).

It would also have been the case that if communication and language failed to develop for an individual, then the responsibility for this would have been laid at the door of the deafblind person (Hart, 2006). This is a monologicistic assumption that sees individuals as entirely separate from each other and in my view, this leads to a consequent move away from the kinds of reflective practices that could help non-deafblind partners understand their impact on their partners' development and that sometimes this will be negative.

The dialogical framework, then, offers a more coherent backdrop against which to consider partnerships involving congenitally deafblind people, because in any analysis of interaction, communication or language between humans, it makes no sense to simply view one side of the exchange, without reference to the other (Linell, 1998; Markova, 2003, 2006 and 2008; Reddy, 2008). This is especially true if we take seriously Macmurray's view that the unit of personal existence is not the individual but two persons in personal relation (Macmurray, 1961), Brownell and Carriger's (1998) suggestion that social relationships are the contexts in which knowledge is formed and Meadows' view (1999) that cognitive abilities are not 'internal and individualistic' but built up in interactions with the world and people around you.

Rather than just see individuals, I subscribe to Linell's view that we should instead see 'individuals-in-dialogue-with-partners-and-contexts' (Linell, 1998,

p. 8). It is the meeting place between partners and the partnership's ability to move away from the here-and-now in which I am interested. Dialogism supports this by stressing the 'interactional and contextual features of human discourse, action and thinking' (Linell, 1998, p. 35).

In the current era, 1990 to the present day, there is a strong movement towards partnership models within the field of deafblindness. In recent publications, the dialogical approach is highlighted (Souriau et al, 2008, 2009; Schjøll Brede, 2008) and at conferences and courses it is frequently discussed (e.g. Dbl Communication Network conference *Co-creating Communication with Persons with Congenital Deafblindness*, October 8-11 2008, Leeds, UK; Dbl Communication Network conference *The Magic of Dialogue*, June 22-25 2010 Suresnes, Paris, France; course materials for Masters course in Communication and Congenital Deafblindness, University of Groningen, The Netherlands). Partnership models, although not always described as dialogical, have influenced the deafblind field since practitioners did begin to reflect on their role, asking if the apparent difficulties for congenitally deafblind people in acquiring language might have less to do with their dual sensory impairment and more to do with ineffective pedagogical methods (Nafstad and Rødbroe, 1997; Dbl Communication Working Group, 1999).

Practitioners looked closely at those early communicative exchanges in life when important developments take place (Nadel and Camaioni, 1993) and began to stress the value of replicating models of child and infant

development, with imitation in particular taking centre stage. This led to many new approaches with imitation as their starting point, such as Intensive Interaction (Nind & Hewitt, 1994, 2001; Caldwell, 2002, 2006), CONTACT (Janssen, Riksen-Walvaren, & van Dijk, 2003; Janssen, 2003; van den Tillaart, 2001), Co-creative Communication (Nafstad & Rødbroe, 1999) and Lee and MacWilliams' (1995 and 2002) focus on co-activity and resonance between two persons' movements.

Early Communicative Exchanges – dyadic interactions

What is it about early communicative exchanges, particularly those with imitation at their root, that is important for future developments? Elsewhere, I have outlined four functions of imitation (Hart, 2006). Firstly, it attracts attention. It can initiate intersubjective communication (Kugiumutzakis, 1998) and contribute to interpersonal togetherness (Heimann, 2002; Meltzoff & Moore, 1998; Nafstad & Rødbroe, 1997). Some of the exchanges, which will be discussed in Chapters 4 and 5, bear great similarities to the intersubjective exchanges between parents and infants described in the infant literature (Beebe, Jaffe, Feldstein, Mays, & Alson, 1985; Trevarthen, 1979, 1980, 1998; Tronick, Als, & Adamson, 1979; Meltzoff & Moore, 1998; Stern, 1985).

Secondly, imitation stimulates turn-taking, a quality central to parent–infant interactions (Stern, 1985; Stern, Jaffe, Beebe, & Bennett, 1974; Trevarthen, 1979, 1980) with synchrony and reciprocity of particular importance (Stern, 1985; Trevarthen, 1980).

Thirdly, imitation allows partners to recognise each other because interactive greeting and farewell rituals are built from patterns of imitative interaction (Nafstad & Rødbroe, 1999; Hart, 2001; Hart & Noble, 2002). Some examples can be seen in interactions reported in later chapters. For example, interactions between Rachel and Paul and between Fiona and her partners. This is strongly reminiscent of Meltzoff and Moore's experimental work in which very young infants bring back actions from previous meetings to check the identity of the person in front of them (Meltzoff, 2002).

Finally, imitation crafts morality in the sense that it makes clear that two separate individuals must find ways of relating to each other. Zeedyk (2006, p.332) suggests that 'imitation helps to create boundaries between self and other' and, interestingly for this thesis, she goes on to state that 'it is within the embodied process of interpersonal bartering that boundaries are constructed, and that trust (of self and other, and then later of other others in the world) is - or is not – manufactured'. Seen against the backdrop of partnership and dialogicality, this has particular relevance for this thesis. First imagine the difficulties congenitally deafblind babies may face from the moment of birth (Pease, 2000) when it is problematic for both infant and carer to achieve co-ordination of actions (Nafstad and Rødbroe, 1997). Their dual sensory impairment means they are unable to perceive the invitation offered by a protruding adult tongue or by an adult echoing their vocalisations (Hart, 2006). This leads to a 'mismatch between the immediate behaviour repertory of the congenitally deafblind child and the reactive behaviours of the adult partner' (Nafstad and Rødbroe, 1997, p165-66). If insufficient episodes of contingent

social interaction are then offered to a congenitally deafblind person throughout their life, it is not too difficult to suggest that for some deafblind people their life could resemble an on-going, continuous still-face situation (Murray & Trevarthen, 1985; Nadel, 2002; Tronick, Als, Adamson, Wise, & Brazelton, 1978) with all the negative consequences that then follow (Hart, 2006).

Next imagine that a deafblind person (and this could include adults) receives an imitative response from another person. In that moment, the deafblind person experiences themselves as an 'I'. But, more crucially, the partner experiences the deafblind person as a 'You'. And later I will explore more fully, using ideas from the philosopher, Martin Buber, what moral responsibilities this developing 'I-You' relationship brings for both partners, but especially the non-deafblind partner. This is perhaps the real power of imitation: it weaves its spell as powerfully on the non-deafblind partner as it does on the congenitally deafblind person (Heimann, 2002; Nadel, 2002; Trevarthen, 1980).

Infants engage in interactions with others from the very earliest moments in life (Rosenthal Rollins, 1999; Trevarthen, 1998). This capacity has been characterised as Primary Intersubjectivity (Trevarthen, 1979 and 1980; Schaffer, 1996). It is equally true that congenitally deafblind people are able to engage in such intersubjective interactions (Hart, 2006 and Rødbroe and Souriau, 2000). In partnerships with congenitally deafblind people, it is incumbent on partners to respond contingently to each other's actions in a

way that is perceivable by both, whether this is through touch, airflow, movement, vibration, smell or taste (Rødbroe and Souriau, 2000). It has been shown that it is the mismatch of communicative modalities that causes communication breakdowns in partnerships where two partners have different perceptual abilities, rather than the sensory impairment in itself (Bakeman and Adamson, 1984; Mohay, 1986; Rattray, 2000). This calls upon non-deafblind partners to make sure that they move towards the tactile modality in their interactions with deafblind people in these early communicative exchanges, thus creating *common touchpoints* (as opposed to viewpoints) from where journeys away from the here-and-now can start. In the subsequent studies reported in Chapters 4 and 5, it should be evident that dyadic interactions can take place within the tactile medium.

Expanding beyond this common touchpoint – triadic interactions

Hobson considers the kind of intersubjective engagement outlined in the previous section to be necessary for joint attention (Hobson, 2005). Adamson and McArthur (1995, p.207) suggest that these early communicative exchanges provide a fertile ground for the emergence of symbolic acts 'because the seeds of referential communication are sowed within the overlap between partners and shared events'. As partnerships build on their human need to share the objects of their attention with others (Bruner, 1995; McNeill, 2000; Dessinayake, 2000), characterised by some as secondary intersubjectivity (Trevarthen and Hubley, 1978; Trevarthen, 1998; Bråten and Trevarthen, 2007), their worlds expand 'without bounds as language draws distant and imaginary events near' (Adamson and McArthur, 1995, p. 205).

Reddy points out that the field of developmental psychology has come to think of joint attention as virtually synonymous with joint visual attention (Reddy, 2008), where both partners share attention to the same object or idea which is temporally and spatially distinct. The idea of spatial distinctness, in particular, suggests a major obstacle for congenitally deafblind people due to the limitations of the two distance senses, vision and hearing. There can be no pointing at an object spotted on a shelf, for example, with both partners subsequently using their vision to jointly attend to that object. Many think that

future interpersonal and language developments flow from such joint attention (Butterworth, 1995; Bruner, 1995; Hobson, 2005) so are such developments forever closed off to congenitally deafblind people? Not if we re-appraise attention at all its stages, and understand it from a tactile perspective. This will not only tell a richer story about attention (Reddy, 2008), but will outline key practical implications for both congenitally deafblind people and their non-deafblind partners. It will also point towards 'functional equivalence' in the tactile medium. Rieber-Mohn (2008), for example, suggests that 'body, hands and the placement of them in space as well as spontaneous emotional expressions...take on the same functions of vision, voice and pointing for achieving shared attention towards something in the world'. Such topics are the basis of the studies reported in Chapters 4, 5 and 6 and so will be considered more closely at that point.

Within the deafblind field, there have been many publications (Rødbroe and Souriau, 2000; Janssen, 2003; Vege et al, 2007) that all substantiate the claim that congenitally deafblind people should be able to move away from the here-and-now but there has not been much empirical research indicating how this might happen. Most recently, colleagues in Europe have produced a set of four theoretical and practical booklets (Rødbroe and Janssen, 2006; Janssen and Rødbroe, 2007; Souriau et al, 2008 and 2009) that outline a developmental process that starts with harmonious interactions (Janssen, 2003), firstly within dyadic relationships, then expanding to include objects and events in the external world, then onto tactile gestures emerging from bodily emotional experiences. These booklets investigate different theoretical

accounts as to how meaning can be co-created and shared from such tactile gestures and in the final booklet the challenge of exposure to wider cultural languages is explored. This thesis will demonstrate that whilst it is essential to incorporate movements and gestures that come from the deafblind person, this is not sufficient for language to emerge. It is also essential that non-deafblind partners bring their own cultural and linguistic experiences directly to any communicative meeting places.

Expansion in terms of ontogenetic development is, therefore, a key theme emerging in this thesis. One account in particular best captures that expansion for me - the approach developed by Reddy (2003 and 2008). I will consider Reddy's model in more detail later in this chapter. If, as the previous section highlighted, early dyadic exchanges must take place in the tactile medium, so it then ought to follow that subsequent developments allowing people to move from dyadic interactions out into the wider world (Reddy, 2008; Hobson, 2002; Trevarthen, 1980) also should be tactually based. In the subsequent studies it should be clear whether or not triadic interactions can take place within the tactile medium.

However, is it enough that both partners simply move towards a tactile perspective on the world? Will this allow developments to take place that allow the partnership to move away from the here-and-now? No, this is not sufficient. Although this provides a common starting point, more is needed. For example, a willingness in both partners to communicate in the tactile

medium and a willingness in both partners to respond to and use tactile movements, gestures and signs brought by each other.

Let me now look further at roles and relationships in other types of partnerships, starting with evidence emerging from deaf children learning a language for the first time.

Resilient language features in deaf children

If deaf children of hearing parents are raised in home situations where they cannot perceive the spoken language(s) around them and they are not exposed to sign languages, we might expect them either to fail to communicate or at most to communicate in non-language-like ways. Yet this is not the case. Deaf children develop natural gestures that perform language functions (Goldin-Meadow and Feldman, 1977; Goldin-Meadow and Mylander, 1983; Goldin-Meadow, 2005). Indeed it appears as if they do this by themselves, allowing Goldin-Meadow (2005) to suggest that some features of language are resilient and develop without outside influence. She goes on to suggest (2005, p218):

‘...the deaf children’s gestures are structured more like the spoken languages they cannot hear than like the gestures they can see. The lack of a usable language model does not prevent the human child from communicating with self and other, in the here-and-now and in the non-present...’

Although not aligning herself completely with Pinker's idea of a language instinct (Pinker, 1994), she is suggesting that certain aspects of language are so central to humans 'that their development is virtually guaranteed...' (Goldin-Meadow, p.220). In this respect, she suggests that language is innate. If I combine this view with evidence that a group of deaf Nicaraguan children developed a new fully-formed sign language over a 25 year period (Senghas et al, 2004; Morford and Kegl, 2000; Goldin-Meadow, 2005), I might also reach the conclusion that 'children naturally possess learning abilities capable of giving language its fundamental structure' (Senghas et al, 2004, p1). These learning abilities should be similarly available to congenitally deafblind people and thus they too could develop language without a model already in existence.

However, it is not that straightforward, because although children do not need a language model per se (Goldin-Meadow, 2005), other non-linguistic input (i.e. input other than language) is playing a role in the acquisition of language (Morford and Kegl, 2000). Similar non-linguistic input was likely also available to the deaf children in Goldin-Meadow's studies. They would not have been completely closed off from the world around them but rather many aspects of the wider culture would have been available to them. It is true that congenitally deafblind people are not completely closed off from the world either but, as we saw in Chapter 1, it is not an easy task to learn incidentally about the world around them and as reported earlier in this chapter, it is relatively easy for congenitally deafblind people to be unaware of social interactions taking place around them.

So non-deafblind partners may have to re-double their efforts to create certain circumstances, but what kind of non-linguistic input are we talking about?

Using the example of 'homesigns' used by the children in Nicaragua, Morford and Kegl (2000) highlight how such signs have developed within one family and used only by that family. When groups of deaf children came together, even though their homesign systems might have been different, language nevertheless grew out of these situations when the following circumstances were met:

- There were ample opportunities for shared communication.
- There were partners willing to communicate in a visuo-spatial modality.
- There were new communication demands associated with preferred accommodation to visually oriented deaf partners.
- There was a multiplicity of means of expression used.

It is especially interesting to note that the first generation of deaf Nicaraguan children who came together in the newly-formed schools for the Deaf, could certainly communicate with one another but the second generation of deaf children, exposed to older children communicating in a visuo-spatial modality, elevated their communication to a more complex level, indeed creating what linguists later called Nicaraguan Sign Language (Senghas et al, 2004; Morford and Kegl, 2000; Sacks, 1989; Pinker, 1994).

The relevance here for congenitally deafblind people and their non-deafblind partners is clear in three ways. Firstly, it points to the importance of achieving good early communicative exchanges, within the tactile medium, where the bedrock of further developments is secured. Secondly, movements and gestures frequently emerge from activities that congenitally deafblind people and their partners have participated in, so there needs to be ample opportunities for shared communication, with partners who are willing to communicate in the tactile modality (as opposed to the auditory or visuo-spatial modalities). Thirdly, if non-deafblind partners make sure that access to elements of the wider linguistic culture is readily available, but adapted to the tactile medium, all of this will lead to new communication demands associated with preferred accommodation to tactually oriented partners. In the studies of this thesis, I will demonstrate that when such circumstances are in place these do allow aspects of language to emerge.

The evolution of language in humans

I will now look back tens of thousands of years to ask: How did language emerge in the first place for the human species and does this give additional hints about ideal circumstances that will allow the flowering of language? Many linguists imagine that the earliest languages available to humans were gestural and signed languages, (Stokoe, 2000; Arbib, 2003; Corbalis, 2003). Stokoe (2000), for example, first outlines how an early ancestor of humans could have snatched something poisonous from a child's hand, whilst

accompanying this with a facial expression indicating alarm or anger. If, at a future time, a similar situation occurred but the mother was distant from the child, she could make a snatching or throwing gesture whilst displaying a similar alarmed face. The mother's actions are no longer instrumental, but entirely symbolic. Although Burling rejects the notion that visual gestures would have come first (Burling, 2005, p.123), he would agree in part with Stokoe because he too considers that gesture-calls must first have developed through the ritualisation of instrumental behaviour and thus 'they begin with the inherent iconicity of all instrumental actions' (Burling, 2005, p.91).

Burling (2005, p.88) provides an interesting account about why, within partnerships, it must have been comprehension of meaning that came before deliberate production. He suggests that 'no great gulf separates an animal that can follow another's gaze from one that can recognize that reaching for an object also suggests attention to it'. However, he goes on to point out that it is a much greater challenge to call another's attention to something. For him skilled comprehension must have been possible before deliberate production. Let me consider again Stokoe's earlier example, where the mother's actions move from instrumental to symbolic. The mother could in the first instance simply have been expressing her alarm at the dangerous situation that the child finds himself in. She does not need to be deliberately intending to communicate a message to her child, but nevertheless the child comprehends something. On subsequent occasions, the mother might know that she was being understood and so she deliberately sets out to produce a message for her child. It is true that it was the mother who first produced the gesture, but

crucially within the context of the partnership, it is the child who first comprehends meaning. There is an intriguing link here to Reddy (2008), who rejects the notion that communication must be private before it becomes public. Burling's viewpoint allows for actions which were not necessarily intentionally communicative in their first use, nevertheless still to be understood by another. So they are first public, before they have any chance to be private!

This comprehension / production discussion is immediately relevant for partnerships involving congenitally deafblind people. It is imperative that non-deafblind communication partners attempt to comprehend what their deafblind partners are trying to achieve with any instrumental actions (even if these are not intentionally communicative on the part of the deafblind person). Non-deafblind partners can follow the deafblind person's attention to objects and can first respond to any instrumental actions (for example, by giving a deafblind person the cup that they are reaching for) and then in time use these same movements, gestures or signs to refer to objects or events that the deafblind person is directing attention to. This would follow Burling's (2005 p.88) evolutionary notion that as people 'became better at figuring out the direction of another's attention, better at understanding the iconicity and indexicality of instrumental signs, and better at imitation, the time would finally come when one individual might benefit by helping another to understand'.

This links to the idea of donation (Bruner, 1978; Stokoe, 2000) where one partner deliberately makes the task of understanding easier for their partner.

In subsequent data chapters, focus will be given to the distinction between comprehension and production of gestures (or as I will outline later, responding and directing in Reddy's terms (2003 and 2008) but still I should bear in mind Burling's view that at the dawn of language, it would have been the receiver and not the producer who 'would benefit by understanding the other's focus of attention, goals and motivated acts' (Burling, 2005 p.87).

I will return to Stokoe's notion that gestures could have been the root of early languages. He imagines a hand movement being able to depict things while at the same time duplicating features of actions done by or to such things. In other words, a gesture 'may express both noun-like and verb-like meanings and at the same time show them related' (Stokoe, 2000, p.388). For example, noun phrases 'represented by the symbolism, iconicity or pointing of the handshape' (p.396) can also incorporate adjectival modification depending on what the hand(s) did (e.g. the hands could represent picking up a 'small' jar with hands close together and a 'big' jar with hands further apart). Adverbial modifications could be expressed by the face, the body or the movement of the hands (e.g. if you mime beating an egg, your arm movements can express how fast you did this).

Although Stokoe believes 'all that was needed for the elaboration of the basic hand-movement structure into full blown syntax existed in the nature of vision' (p.394), his additional comment that language 'comes from the body' (p.394) suggests that it could happen tactually, without vision (Hart, 2008a). For example, with both of a communication partner's hands placed *under a*

congenitally deafblind person's hands, the partner could represent lifting a 'big' pot or a 'small' pot, depending on how wide the spread between both hands. With the communication partner's hands placed *on top of* the congenitally deafblind person's hands, the deafblind person could tell you that she beat an egg particularly fast or at a leisurely pace. All of this could be done entirely through her gestures and movements, perceived in the tactile medium.

This becomes clearer still if both partners possess the five cognitive tools that Burling suggests (2005, p.68) are available to people as they negotiate about language. He further suggests these must have been essential when language first emerged:

1. Partners share a rich conceptual understanding of the world.
2. Partners attend to the same objects.
3. Partners have an ability to imitate.
4. Partners have an ability to understand pointing gestures and gestures that resemble the objects they refer to.
5. Partners have an ability to understand that language is patterned in repetitive ways.

These cognitive tools strengthen the view that non-deafblind partners should move towards a tactile 'outfeel' (as opposed to outlook) on the world. This means that both partners, in sharing a similar perspective on the world, could

attend to the same objects, by responding to where someone else's attention is directed to (comprehension) as well as directing attention themselves (production). Partners follow the other's attention to objects and understand through movements and gestures what objects are being referred to. This, of course, would be done by directing attention to salient features of objects. For example, in trying to describe a tree, a partner can use movements and actions associated with the size and placement of branches. As partners begin to use movements and gestures in this way, there will be imitation of these movements and gestures, so that both partners come to not only understand what the other is referring to, but can themselves refer to it. In the subsequent studies, I will demonstrate that Burling's cognitive tools are indeed available to partnerships as they begin to move away from the here-and-now.

Roles and relationships within communication partnerships

Up until now, I have shown that dyadic and triadic communicative exchanges should take place in the tactile medium and I have considered also the kinds of circumstances that might allow language to emerge plus the cognitive tools that are available to partners. What then does all this mean in terms of roles and relationships with communicative partnerships involving congenitally deafblind people? Stressing the equality of both partners, where both make contributions to the development of new languages between them, means

that I can immediately reject three approaches that might still be seen in practice across the world (Hart, 2006).

Firstly, I can reject those approaches where practitioners set out to 'teach' various representational systems, before real trust is established between themselves and their deafblind communication partners. In essence, practitioners are trying to move away too quickly from the 'companion space'.

Secondly, I can reject those approaches which foreground imitative techniques in order to build up trust, relationship and achieve high levels of intersubjectivity but see this as the final destination, instead of simply being the starting point for the journey that might lead towards new, negotiated tactile languages. Thirdly, I can reject approaches where practitioners understand that primary intersubjectivity is the starting point, but once this is established they then consider that their role is to 'scaffold' learning (Wood, 1998) that can ultimately lead to their preferred language destination(s).

It is particularly tempting to consider 'scaffolding' as a worthy concept to describe the role of the non-deafblind partner in supporting language development. It is certainly a concept that is frequently referred to in the literature on deafblindness (Nafstad and Rødbroe, 1999; Janssen and Rødbroe, 2007). The 'scaffolding' concept draws heavily on Vygotsky's description of the ZPD, the Zone of Proximal Development, (Vygotsky, 1978; Schaffer, 1996; Open University, 1999). In my opinion, neither scaffolding nor the ZPD, despite the latter being 'a thoroughly dialogical phenomenon' (Linell, 2009b, p.86), are effective concepts to describe the non-deafblind partner's

role. This is because both place the non-deafblind partner in the role of teacher or guide and the deafblind partner in the role of learner. I wish to turn away from such models because I do not think they hold up when considering the reality of partnerships involving congenitally deafblind people (Hart, 2003), due to their focus on roles played by more competent others. Vygotsky (1978) suggests the ZPD is the gap between the actual and potential developmental levels of people and this gap is bridged with the help of more competent others. Rogoff et al (1998) describe this as 'guided participation', and Tharp and Gallimore (1998) suggest 'assisted performance'. Mercer (1995) highlights ways in which children are 'guided' to construct knowledge. In whatever way this learning process is described, there is an underlying assumption that the more competent other has an end-goal in mind and a general sense of guiding the learner towards a destination that is already known – their own culture and language. In the domain of language, that is not possible for partnerships involving congenitally deafblind people because, as previously highlighted, there is as yet no tactile languages anywhere in the world and thus no partners who are yet fluent in such languages.

Rogoff et al (1998) raise concerns that 'scaffolding' suggests a *specific path* that has to be followed. Given that no tactile languages yet exist in the world, it must surely be open to even more criticism when we consider the apparent barriers that exist for a congenitally deafblind person trying to learn a language for the first time. What *specific path* will lead to a tactile language? If we then bear in mind Vygotsky's view that instruction from more competent others is a central feature of the learning process within the ZPD, we could

ask: what exactly is it that non-deafblind communication partners should be more competent at? Simply being competent as a language user is not enough to forge a communicative connection with a congenitally deafblind person that leads to language. If this were so, there would be countless numbers of congenitally deafblind currently using language, and this is not the case.

Instead, when considering the creation of languages in a new modality, languages in the tactile medium, we can no longer focus on the congenitally deafblind partner as the only learner. The non-deafblind communication partner, traditionally seen as the more competent other, is just as much the learner in two different, but related, spheres:

- a) They are learning what it is to perceive the world primarily from the tactile perspective;
- b) They themselves are learning a new tactile language.

So a clearer model is required, one that will explain the relationship that exists between congenitally deafblind people and their non-deafblind partners.

Perhaps 'co-creative communication' is a good first candidate (Nafstad and Rødbroe, 1999). It is true that this draws on the concept of 'scaffolding', and this might strongly suggest that the non-deafblind partner is the more competent. However, the adjective 'co-creating' captures a sense that both partners are learning from and contributing to this process.

Rødbroe and Souriau (2000) suggest that one role for the non-deafblind partner is to discover and support new emerging competencies. This suggests that the deafblind person is the guide. They further suggest, in an echo of Bruner's suggestion that a teacher should 'lead by following' (Wood, 1998), that the partner should be sensitive to the contributions of the deafblind person, willing to both lead and be led. Trust is therefore a central theme in their stance, where teachers should allow and promote power to be shared between themselves and learners (Moll and Whitmore, 1998). Perhaps this is achieved through 'mutual adjustments in communication' that lead to bridging (Rogoff et al, 1998) or 'continual adjustments' in direct response to the learner (Tharp and Gallimore, 1998) all of which will mean that learners jointly structure activities (Brownell and Carriger, 1998). This all points towards a recognition of the active and equal roles taken by both partners in episodes of joint involvement (Schaffer, 1996) and leads to a more transactional view of the ZPD, indeed what Moll and Whitmore (1998) describe as a 'collective ZPD', where there is an interdependence of adults and children. All of this blurs the distinction between the roles played by deafblind people and their non-deafblind communication partners. If both have a learning role, then it follows that both have a teaching role.

The partnership model that underlies this thesis, and indeed the entire dialogical framework, would suggest that both partners bring their complete selves to communicative exchanges. Does this mean non-deafblind partners should bring their own languages even though those might be inaccessible to their deafblind partner? Does it mean tactile movements and gestures brought

by the deafblind person should be the sole basis for any subsequent languages that are developed? In answering these questions, we must heed Markova's warning not to subvert an individual's desire for agency, to be recognised as an individual, in our push to achieve intersubjectivity and negotiate meanings (Markova, 2008). To me, this suggests that it is appropriate for non-deafblind partners to bring their own linguistic and cultural experiences to communicative meeting places as long as these are adapted to the tactile medium, and to find creative ways of making sure that language, as a cultural tool available to humans, is brought to such meeting places. However, if that is all they bring it is going to be a one-sided affair because this minimises the contributions brought by the deafblind person. People, objects, places and events should not simply be understood and referred to through contributions brought by the non-deafblind partner, but equally understood and referred to through contributions brought by the deafblind partner.

We are venturing then towards the kind of double-sided ZPD described by Brown (2001), where in any interaction there is a ZPD for the deafblind partner and a parallel ZPD for the non-deafblind partner. One is learning and contributing just as equally as the other. The model I describe in this thesis is not about imposing language from outside, whichever partner attempts to impose it. Instead, it is about co-creating new languages in the tactile medium, languages that emerge from the contributions of both partners and are rooted in the cultural experiences of both partners.

Where does all this leave us with language for partnerships involving congenitally deafblind people?

Goldin-Meadow (2005) is right that there are some resilient *language-like* properties seen in the gestures of deaf children in her studies. They are resilient, in the sense that these properties may indeed have arisen from the children themselves. For example, gesture forms are stable and differentiated by noun, verb and adjective functions; consistent orderings of gestures within a sentence mark thematic roles; gesturing is used to talk about past and future events, as well as here-and-now requests and comments (Goldin-Meadow, 2005, p.186). But she would agree with many others (Bruner, 1978 and 1995; Wood, 1988; Schaffer, 1996; Burling, 2005; Vonen, 2006) that having other people around is both helpful and necessary for language to fully develop. The dialogical framework asks us to see the 'Other' and to move closer to that person's perspective on the world. Since the congenitally deafblind person cannot journey to the non-deafblind partner's perceptual perspective on the world, it is incumbent on the partner to move into the tactile world and that is why touch takes centre stage in this thesis. In using touch as a primary medium for interacting with the world, however, non-deafblind partners are simply re-engaging with a sense and a skill that they already possess.

This thesis rejects, certainly, any individualistic accounts of how language developments take place. As I highlighted earlier, it also rejects a) interactional accounts that place too great an emphasis on language acquisition without first co-constructing solid foundations of intersubjective trust; b) interactional accounts that see those foundations as the final destination; and c) interactional accounts that draw too heavily on 'scaffolding' metaphors, where one partner is seen as significantly more competent than the other. Ultimately, this thesis rejects any interactional accounts which see that any new tactile languages must grow solely from either the existing linguistic and cultural experiences of the non-deafblind partners or the movements and gestures of the deafblind partner.

Partnerships involving deafblind people can develop language but the starting place for any such languages must clearly be at a common touchpoint, one that lies within the perceptual experience of both partners. Both partners must develop a fluency in perceiving the world from a tactile perspective. Yet at the same time, they must bring their existing, and often very different, cultural and linguistic experiences to such communicative meeting places. For non-deafblind partners, this will mean bringing elements of any existing languages that they have, particularly tactile adaptations of visual sign languages, since these are closer to the experience of a congenitally deafblind person than spoken words can ever be. For congenitally deafblind partners it means bringing movements and gestures that emerge from participation in a wide range of activities.

Why use Reddy's model as the principal analytic tool?

By this point a number of questions have arisen for me. How can I explore the ways in which both partners develop fluency in perceiving the world from a tactile experience? How can I learn more about how both partners use their cultural and linguistic experiences as they refer to the world around them? Is there a model that will allow me to analyse how both partners learn from each other about how the other conceives, creates and communicates about their social reality? For me, one particular model does allow a full exploration of these partnerships and that is Reddy's model of how infants understanding of attention develops (Reddy 2003 and 2008). I have adapted this model so that it can be used as an analytical tool and this will be explained more fully in Chapter 3 but first I wish to explore why Reddy's model is especially attractive for this thesis. I will first explore some background to her overall thinking, before considering the model itself in more detail.

Reddy gives two fabulous examples, bumble bees that shouldn't fly and tuna fish that shouldn't swim, to illustrate a general point that science can arrive at some strange results if it sees an organism's capacities separately from the environment in which it functions. According to mathematical models, the bumble bee has too heavy a body and too tiny wings to be able to fly and similarly the tuna fish does not appear to have sufficient muscle power to propel it at the high swimming speeds it achieves. If science only considers

the bee or the tuna by themselves, their achievements look impossible, even fantastical. Yet understood within the context of the environments in which they live, their fantastic abilities are more easily understood. Both create vortices around them (the tuna fish by using its fin and the bee by using its wings) and they manoeuvre their bodies through these vortices to create forward motion. Their achievements can only be understood by embedding them into their environment. Reddy uses this as a starting point to explore why research into infant development must start by 're-embedding' infants into the world of people (Reddy, 2008, p.3). I would similarly suggest that in order to understand the communication and language development of congenitally deafblind people, we must first embed them also within the world of people, attempting to understand their development entirely within the context of partnerships. This in essence puts the same case as Linell (1998) that we should understand people in context. Thus overall, Reddy's thinking sits comfortably with the notion of dialogicality that colours this thesis.

In particular, Reddy (2008) explores the notion of second-person engagement within the context of apparent mind-body dualisms that continue to colour psychological approaches, whether this be an alleged gap that exists between one mind and another mind, or between mind and body. Either way, minds must be 'opaque and unperceivable' (Reddy, 2008 p.8). Philosophy and psychology have developed two mainstream bridges across this gap, what Reddy terms the first-person or third-person routes. In the former, an individual looks across the gap to another individual and recognises something similar to self. In the latter, when an individual looks across the

gap, he sees behaviours and actions in the other person which he interprets and continually re-interprets in order to hypothesise about the nature of minds. Whichever route is used, Reddy suggests they must involve mental representations, either coming from within the self (first person) or from observing (third person) which then develop through reference to the self (first person) or through testing out hypotheses (third person).

Reddy cites three reasons for her rejection of both these positions in favour of what she terms 'a second-person approach' (p.26). Firstly, this second person approach does not see a gap between minds at all. Next, it does not start with an 'assumption of singularity' and I will return to this idea shortly. Finally, a second person approach sees active emotional engagement between people as 'constituting – or creating – the minds that each comes to have' (Reddy, 2008, p.27).

This latter point is reminiscent of Buber's brilliant vision of 'stepping into relation' with other people, where both contribute to the full revelation of the other as a unique person (1996). He describes the primary word 'I-You' ⁴ as a way of capturing this relationship that exists between people, suggesting that

⁴ I have chosen to follow Kaufmann's (Buber, 1996) advice in writing 'I-You' instead of the more traditional translation 'I-Thou'. It might have led to some confusion in this part of my text if I had stuck to Friedman's use of 'I-Thou' (Friedman, 2002). Therefore, in this section only, when I quote from Friedman I will use 'I-You', but I do acknowledge that this is a mis-quoting from his publication. Elsewhere in this thesis I use 'I-Thou' if it is a direct quotation, for example from Meltzoff.

it can only ever be spoken with the whole being. In contrast the primary word 'I-It' can never be spoken with the whole being. He draws a distinction between the nature of these two types of relationships, and Friedman (2002, p.xii) suggests that for Buber 'I-You' is 'a relationship of openness, directness, mutuality and presence'.

This is undoubtedly a challenge for communication partners of congenitally deafblind people, because it calls for a re-appraisal of the role that is often played by people seen as the more competent communication partner.

Friedman argues that the 'I-You' relationship should not simply be seen as a dimension of the self 'but as the existential and ontological reality in which the self comes into being and through which it fulfils and authenticates itself' (Friedman, 2002, p.xv). Snow's thinking takes this even further when she describes a beautiful image of 'human life as if it were a thread floating between and connecting bodies – giving each body the capacity to be a person. Alone I am alive but not revealed or fulfilled. In relationship with one person I am able to become the qualities that the relationship allows for' (Snow, 2000, p.1). She goes on to suggest that 'when I come into relationship with two people I acquire the capacity to become more than twice of what I am with one person' and thus 'as an individual's relationships increase in number and diversity the possibilities for that person give great room for that person to both become themselves and draw forth new capacity in others'.

That sense of the authentic self being revealed by others is echoed also by Swinton and McIntosh (2000, p.1) who write that 'each person is responsible

for the texture of the life of the other' so it is really only by being willing to step into relation with others that aspects of both the real 'I' and the real 'other' can be revealed. All of this helps considerably in the rejection of 'singularity', as Reddy has suggested. None of us can truly be ourselves, except in direct relation with others. Although the 'Ego and Alter are mutually responsible for meaning-making' (Markova, 2006, p.127) this does not imply that they merge into one another. 'On the contrary, their subjectivities, rather than being stripped of their independence, are enriched in and through their interdependence...each subject actualizes his/her potential through interaction and communication' and this supports Zeedyk's (2006, p.327) view that 'subjective consciousness is inherently, organically, and ontologically intersubjective. I literally come to know myself – come to exist as the self that is myself – through your eyes'.

I wish now to return to the supposed mind-body gap. First, recall the advice Reddy was given by many theorists around her, that people's bodies but not their minds are visible. The partnerships at the centre of this thesis add a particularly rich source of evidence to support Reddy's arguments that the mind-body dualisms simply disintegrate. She highlights the supposed gap between 'first-person proprioceptive experiences of our own mental states and third-person perception of other people's behaviour' (Reddy, 2008, p.29) before suggesting that our perceptual experience of any event must always include our proprioceptive experience of it. She cites Lee's new term 'ex-proprioception' as a way of capturing 'this sense of the simultaneous awareness of self in relation to the world' (p.29) before calling for the invention

of a new word that can describe 'this simultaneous emotional/perception/proprioception' (p.30).

I am not going to suggest what this new word should be in this thesis, but I am going to suggest that congenitally deafblind people give a unique insight into this experience because we can see clearly that for them interaction with the world always involves perception and proprioception intertwined. For congenitally deafblind people, there can be no gap between an experience of the world and the experiencing of that experience.

Indeed, in the very earliest exchanges of infancy, perhaps it is already apparent that interactions are embodied, physical experiences. Nagy (2006) and Nagy and Molnar (1994 and 2004) have demonstrated that there are heart rate differences when infants either provoke or respond to imitation – this is a physical experience, felt by the infant. Reddy (2003) also highlights that being aware of attention to self is at first a 'felt' experience when she writes: 'the gap between the first-person tactile-kinaesthetic experience of the self and the third-person inference of the self as an object can...be bridged by acknowledging second-person relations in which the self is emotionally aware of being an object to others before it is an object to itself'. Significantly for the studies I will discuss in later chapters, Zeedyk (2006, p.328) suggests that this leads to a view of attention as an 'embodied, phenomenological experience' and this has obvious implications when thinking about deafblind people.

Rogoff et al (1998) suggest that 'infants who are in almost constant skin-to-skin contact with their mothers may manage effective communication through

tactile contact in squirming and postural changes'. Beebe et al (2003, p.780) write that 'all modalities speak the same language at birth...' and Bloeming Wolbrinck (cited in Schjøll Brede, 2008, p14) considers that 'the basis of all knowledge, including language and meaning-making are bodily experiences'. Both of these views, together with Burling's (2005) suggestion that meaning may be carried in various places throughout the body, open up exciting possibilities to further demolish the mind-body gap. Additionally it allows clarity in appreciating ways that both people within partnerships involving congenitally deafblind people can successfully understand one another.

I recall once, for example, observing how a two year-old boy (not deafblind) showed emotional expressions throughout his entire body. If he tasted a food that he did not like, then his whole body, from the tips of his toes to the top of his head demonstrated his disgust with a highly emotional shaking of his body. If he was particularly excited about something, again, the length of his body showed everyone else what he was feeling. Arguably, that capacity diminishes in most of us as words or signs take over, although there is a wealth of evidence that humans consistently use touch and movements to understand and express emotions (Hertenstein et al, 2009; Keltner, 2009; Field et al, 2008).

Such reactions remain strong in deafblind people, including deafblind adults. They do not seem to diminish to the same degree. We see Serge, for example, as he interacts with Anne and Inger in a game of clapping (Daelman et al, 1996). When his excitement grows, he moves the whole upper half of

his body and within a few minutes of this interaction starting, he is jumping up and down in a real outward display of emotion. On the same DVD, when Thomas gets excited as he touches the plastic tunnel that his teacher is inside, he shakes his entire body and viewers can read his high level of excitement. Caldwell (2006) too points out the physical changes that take place in communicative exchanges.

Such experiences of congenitally deafblind people help us understand even more clearly Reddy's criticism of the widely held view 'that there must be a separate object in mind which is shared by both partners for the sharing to be called genuinely communicative...or...genuinely jointly attentional...or...genuinely jointly intentional' (Reddy, 2008, p.86). Such a view implies that genuine communication always needs something separate which can be shared. But if we choose to accept any actions from a congenitally deafblind person, not simply as 'bodily and biological' but as 'mental actions directed to others or reactions to the mental actions of others' (Reddy, 2008, p.86) then we open up exciting possibilities for congenitally deafblind people and their partners. We can imagine a complete demolition of the supposed mind-body gap. We can begin to see that 'language' can rest within the action of an individual. No senders, receivers, codes or messages are needed. 'Words' can rest within the actions themselves, as we saw earlier in Stokoe's ideas. I will return to this idea also in Chapters 6 and 7 and ask what implications this has for how we define language in the first place.

I recall at the outset of this research project telling a friend, who is entirely unconnected with deafblindness, psychology or education, what the themes of my thesis would be. I suggested that a search was underway across the world for a natural tactile language – it would be the first discovery of a language in a new medium for tens of thousands of years! He looked perplexed for a short while and then said: “But surely not. Do such languages not currently exist? After all if a couple made love in the dark, skilled lovers could fully express what was in their mind and understand exactly what was in the mind of the other without uttering a single syllable!’ He was right, of course, and this brings me back full circle to the notion outlined in Chapter 1 (and earlier with Rogoff’s view): that for non-deafblind partners this is not entirely about learning something new, but is about re-connecting and bringing to the forefront of our minds skills that we already possess.

The tactile modality

Indeed touch is a sense that each of us is already more than familiar with. Touch is the earliest sense to develop and mature in the womb (Gallace and Spence, 2010) and even at 8 weeks a foetus will be sensitive to tactile stimulation (Nicholas, 2010). Touch is also the last sense to fade after hearing and vision fail us (Gallace and Spence, 2010; Nicholas, 2010). Touch is characterised ‘as humankind’s earliest form of communication’ (Gallace and Spence, 2010, p.253) and is our most fundamental means of contact with the outside world (Gallace and Spence, 2010; Nicholas, 2010). Indeed Nicholas

(2010, p.6) would suggest that touch is our only sense 'that enables us to modify and manipulate the world around us'.

In his Letter on the Blind, written in 1749, Diderot (cited in Paterson, 2007, p.1) wrote these wonderful words about the senses:

'And I found that of all the senses the eye was the most superficial, the ear the most haughty, smell the most voluptuous, taste the most superstitious and inconstant, touch the most profound and philosophical.'

This sits comfortably with Field's view that 'touch is not only basic to our species, but the key to it' (Field, 2001, p.57). Field is tackling the 'ocularcentric' view⁵ perhaps first created when Aristotle placed vision at the top of his list of the five senses with touch firmly at the bottom (Paterson, 2007). Field has done much to demonstrate that touch is a hugely impressive sense and contributes an enormous amount to anyone's understanding of their world, and for a congenitally deafblind person surely it must contribute yet more as I will outline throughout this thesis.

Our sense of touch is controlled by a network of nerve endings and touch receptors in the skin known as the somatosensory system. Unlike all other senses, touch corresponds to no one single organ (Nicholas, 2010; Paterson, 2007). Touch must make sense of multiple inputs concerning pressure, temperature, pain and movement. Four different types of receptors sense

⁵ This is a term coined by Jay and cited in Paterson (2007, p.6).

changes to the body: mechanoreceptors perceive pressure, vibrations and texture; thermoreceptors perceive sensations related to temperature; pain receptors (or nociceptors), as the name would suggest, perceive pain; and finally proprioceptors, found in tendons, muscles and joints, detect changes in muscle length and muscle tension (Hatwell et al, 2003).

To understand more of this complexity and to gain some impression about how stimuli are perceived by the body, I will focus more closely on the mechanoreceptors. There are four different types of mechanoreceptors all at different locations in the epidermis and dermis layers of the skin and they are found in different densities across the body. Two of these receptors, Meissner corpuscles and Pacinian corpuscles, have rapid adaptation which means they are active during initial contact with a stimulus, whereas the other two, Merkel disc receptors and Ruffini endings, have slow adaptation which means that they are active during the entire contact with a stimulus. The combination of rapid and slow adapting receptors means that the skin can detect when we first come into contact with a stimulus and how long that contact lasts. Meissner corpuscles perceive information about movements on the surface of the skin, Merkel disc receptors perceive information about shape and texture of stimuli and Pacinian corpuscles perceive temporal attributes of the stimulus (e.g. vibration) (Hatwell et al, 2003). Together, these receptors build a comprehensive picture of any stimulus that the body comes into contact with, and when working in conjunction with other receptors (e.g. thermoreceptors and proprioceptors) and indeed other senses such as the vestibular sense, any stimulus can be understood, both in terms of its own

characteristics and features but also how it interacts with the body and the wider world. So for example, if a cup of hot coffee is picked up, the body senses when contact with the cup is made, it senses the shape and texture of the cup, the warmth of the coffee, the amount of coffee that is in the cup if the liquid is gently swirled, the weight of the cup, where the cup is in relation to the rest of our bodies, the amount of effort we will require to lift the cup to our mouth and a lot more besides. And at the same time, receptors are also providing information about whether we are sitting, standing or gently walking back to our chair, what surfaces we are in contact with, what the weather is like in terms of temperature, wind or precipitation and much more. There is an astonishing amount of information that our somatosensory system constantly perceives. Some speculate about whether the somatosensory system is a unitary system (Gallace and Spence, 2010) or whether it consists of these separate parts. Whichever it is, it is true that all this information from multiple inputs comes together and the brain makes sense of it.

Such a description allows us to better understand the plea to re-consider the notion that touch provides information in a serial manner (Hatwell et al, 2003), in contrast to the view that vision, owing to the vast amount of information that can be perceived through peripheral vision, provides information in a parallel manner (Nicholas, 2010). Hatwell et al (2003) point out that when we explore a stimulus through touch, we can do this in any order and we can focus on particular parts, or gain an overall impression. In this respect it is similar to vision and differentiated from hearing.

In different parts of the body there will be a greater or less density of receptors, leading to a corresponding level of sensitivity in that body part. These receptors send information to the somatosensory cortex and this mapping of the body surfaces in the brain is the so-called homunculus (see Nicholas, 2010 for a more detailed consideration of this). Nicholas points out that a greater proportion of the somatosensory cortex is given over to the hands, but there is also a large density of receptors in the face, tongue and lips.

This leads to an interesting concept described by Hoffman et al (2004): a tactile fovea⁶. This borrows terminology from the notion of the retinal fovea, the central part of the macula where fine visual detail is captured. A tactile fovea would also allow fine detail to be perceived and the fingertips would be one such place on the human body. Therefore, it is no surprise that hands and fingertips are used by humans to pick up fine detail (e.g. Braille). In evolutionary terms, Kaas (2004) describes how cortical developments will have taken place to increase the areas that are directed to inputs from the digit tips. Hoffman et al (2004) consider such tactile fovea may have resulted from mechanosensory adaptations that would enhance active exploration and object recognition. This may have facilitated foraging, for example, or have allowed anthropoids to quickly discern the edibility of foodstuffs by evaluating them haptically. Such an ability is used even today as Nicholas (2010) points

⁶ This concept is also discussed in Paterson (2007).

out when he writes: 'when deciding which avocado needs eating first or is ripe enough, we are likely to explore and compare hardness using our hands'.

That latter example also lets us understand that hands have both a motor as well as sensory function (Hatwell et al, 2003, p.4). With particular relevance for congenitally deafblind people, Miles (1998) describes how hands can be sensory organs as well as tools. Kaas (1993, p. 509) has pointed out various specialisations that are found in higher primates as a result of this dual use: '...first in the peripheral input where there is an unusual emphasis on the use of the hand as a tactile organ, and then in the thalamus and cortex where more subdivisions of the brain are devoted to the somatosensory system. The elaborations and specializations seen in higher primates appear to relate largely to being able to identify and recognize objects and surfaces by touch. The specializations start in the skin of the hand, where large numbers of receptors are concentrated in the finger tips, which are used for active exploration. The process of object identification is aided by fine motor control of the hand and digits, and modifications in [the] motor cortex.'

What functions does the sense of touch serve? Paterson (2007, p.1) acknowledges that touch 'is a modality resulting from the combined information of innumerable receptors and nerve endings concerned with pressure, temperature, pain and movement'. But he acknowledges too that there is so much more to touch. He writes: 'It is a sense of communication. It is receptive, expressive, can communicate empathy. It can bring distant objects and people into proximity' (p.1). Gallace and Spence (2010) also

recognise that touch provides communication. Indeed they consider that physical contact 'can convey a vitality and immediacy at times more powerful than language' (Gallace and Spence, 2010, p.247). But they also suggest that touch governs emotional well-being. Nicholas agrees that touch plays an important role in 'eliciting and modulating human emotion' (Nicholas, 2010, p.17) and it is this aspect that I now wish to explore in more detail.

Interpersonal touch has a powerful role on people. Gallace and Spence (2010) describe a body of research that shows people are more likely to buy things if touched by the salesperson, are more likely to return money left in telephone boxes if the other person had touched them on the way out, give more favourable evaluations of libraries if the librarian touched them when returning their library card, will volunteer answers more readily in classrooms if the teacher had earlier placed a hand on their shoulder and many other positive outcomes. They also report that the 'simple act of touching a patient by a nurse on the day before a surgical operation can result in a decrease in the patient's level of stress'. Such positive health care outcomes sit alongside extensive research undertaken by Field and other colleagues who have described amongst other things the role of massage therapy in reducing pain in pregnant women (Field et al, 2008), touch therapy improving attentiveness and responsivity in autistic children (Field et al, 1997) and the positive outcomes of infant massage therapy for premature babies, cocaine-exposed babies and babies of depressed mothers (Field, 1995). Weller and Feldman (2003, p.780) additionally describe how maternal touch and contact has the potential 'to reverse some negative impacts of maternal separation...on the

infant's emotion regulation capacities'. They describe how this may be evident on the 'structural, neurochemical and behavioural levels' (Werner and Feldman, p.780). They also describe positive benefits, in terms of emotion regulation, stress reactivity and social and cognitive development, of so-called kangaroo care, where the infant and carer are in skin-to-skin contact. And the incorporation of touch into bedtime rituals for infants can have impacts on growth rates as well as other outcomes.

Why should all these alleged positive benefits accrue from touching? Is it because emotions are easily carried in the tactile modality? Hertenstein et al (2009) have demonstrated that touch can signal various emotions and be understood by the other: anger, fear, disgust, love, gratitude, sympathy, happiness and sadness. It is true that vision and hearing can also carry these same emotions but does touch carry more emotional significance? Gallace and Spence (2010, p.247) ask if it is because there are touch receptors that code for pleasant touch and give people a good feeling? That good feeling is then associated with particular places and we respond positively in those places. Or is it because social touching is congruent with other visual and auditory stimuli that are being given? Or is it because in certain situations touch releases oxytocins and other hormones (Gallace and Spence, 2010)? Gallace and Spence (2010, p.252) describe how tactile stimulation plays a role in interpersonal communication and in creating bonds between people but they argue that this is most 'probably occurring at a low level stage of information processing (i.e. mediated by hormones)'. There are no clear cut answers as yet to why touch has such a profound impact on humans but we

can be clear that it does have such an impact and it seems particularly well suited to carrying emotional messages.

What happens to the sense of touch for those born deafblind? Borchgrevink (2002) first outlines what happens to modality-specific cortical networks if a child is born deaf or blind and the network is not exposed to adequate stimulation before a critical age. The originally dedicated cortical area is used by adjacent functioning modalities. So for example, if a congenital cataract is not operated on before approximately 7 years, the child will never have vision. Similarly, a cochlear implant after 7 years for a child born deaf will mean the child remains deaf.

Studies now determine that in adults born deaf, visual stimulation activates auditory cortex areas and similarly, in adults born blind, auditory stimulation activates the visual cortex (Borchgrevink, 2002 ; Nicholas, 2004). Both Nicholas and Borchgrevink then highlight research findings that suggest tactile function is superior in congenitally deaf and blind subjects and congenitally blind subjects show 'visual cortex activation during tactile discrimination, even involving the primary visual cortex' (Borchgrevink, 2002). All of this leads Nicholas to ask a central question: 'Could it be that in the absence of competition from both visual and auditory inputs, the visual and auditory cortex become recruited for tactile and motion processing?'

Nicholas presents evidence from a variety of studies which begin to answer this question. With a focus first on working memory, which he defines as 'a cognitive system that allows us to actively maintain and manipulate informa-

tion in mind for short periods of time' (Nicholas, 2010, p.17), he describes the case of a woman with acquired deafblindness who had higher than average performance level in a tactile memory span test compared to performance on both visual and auditory memory span test (Nicholas, 2010).

He further writes that the structure of working memory for sign language is similar to working memory for spoken language and he uses this as evidence to suggest that there must largely be the same architecture across spoken and signed languages. Nicholas and Koppen (2007) showed that a deafblind person, again with acquired deafblindness, performed significantly better on a Tactile Form Recognition test and Nicholas concludes that 'a combined auditory and visual deprivation may alter the speed of response to tactile stimuli' (Nicholas, 2010, p.18). It seems that increased tactual experience leads to superior performance.

Much of the research reported by Nicholas has been undertaken with people with acquired deafblindness, but if current thinking around neuroplasticity is correct then we should imagine that people with congenital deafblindness will have significantly increased abilities to perceive detail in the world through the tactile modality. This strengthens the view that congenitally deafblind child should be given early exposure to tactile stimulation in order to 'prepare advanced irreversible somatosensory networks' (Borchgrevink, 2002, p.3) capable of communicating via the tactile modality. For many years the field of congenital deafblind education has been concerned with developing the kind of interactional patterns that have been described earlier in this chapter, and

characterised as evidence of primary intersubjectivity. So interactional games that occur in the tactile medium were analysed for the communicative patterns that were developing (and indeed this is the focus of this thesis). While this remains a valid outcome for partnerships, practitioners also need to be aware that at one and the same time, they are also helping develop neural networks that will lead to what Nicholas terms tactile cognition, 'the higher order processing and integration of tactile information through active touch'.

Nicholas (2010) cites Hertenstein's view that tactile communication occurs 'whenever there are systematic changes in another's perceptions, thoughts, feelings, and/or behaviour as a function of another's touch in relationship to the context in which it occurs'. The tactile modality is well equipped to handle communication and indeed language. Nicholas (2010) reports a study which found that tactile language activated the language systems as well as many higher-level systems of a postlingually deafblind subject. He concludes 'that tactile languages are equipped with the same expressive power that is inherent in spoken languages' (Nicholas, 2010, p.19).

Perhaps we can go further and imagine that tactile languages will be better equipped to deal with emotional aspects of interpersonal communication.

Gallace and Spence (2010, p.252) ask if one sensory modality could be more effective in 'activating emotional neural circuits that the others?' They provide their own answer by suggesting that 'touch as a function of its relevance for controlling basic body functions and its earlier development, might be the perfect candidate to play a more important role here'. Physical contact

between two communication partners will allow them to 'feel' the emotions of the other person more directly than might be possible via vision or hearing. If one partner touches the body part of the other with the same body part (e.g. hand to hand) then the sensation must feel the same for both. The touch receptors in my fingers, for example, would be activated if another person touches them with their fingers but at the same time the receptors in their fingers will also be activated. Does this mean that I feel the same sensation as them? Does the tickle they give onto my fingers produce the same set of sensations on me as it does on them? This returns us full circle to the disintegration of the mind-body gap. I literally feel what the other is feeling. I will return throughout this thesis to the notion that the tactile modality is ideally suited to exchanging emotional information, particularly when seen against the backdrop of direct second person engagement.

Expanding awareness of the objects of others' attention (Reddy)

I will now move more directly to Reddy's model of infants' expanding awareness of attention, as the dyad, of which they are part, moves its attention outwards to the wider world. There are many descriptions of this phenomenon: secondary intersubjectivity (Braten, 1998; Trevarthen & Hubley, 1978), triadic communication (Bakeman and Adamson, 1984; Hobson et al, 2004), joint attention (Bruner, 1995). Some see this as a Copernican shift that happens towards the end of the first year of life (Hobson, 2005). Reddy, on the other hand, suggests that the dyad has been looking outwards since much

earlier in an infant's life (Reddy, 2003 and 2008). She highlights a change in the nature of *what* is shared between people rather than *how* it is shared, arguing that throughout an infant's development there is an expanding awareness of the object of the other's attention which develops in four main stages: 1) attention to self; 2) to what self does; 3) to what self perceives; and finally 4) to what self remembers (Reddy, 2003). This final stage is the move away from the here-and-now. I have opted to use the version of this model that Reddy produced in 2003 rather than the more recent version from 2008, because the earlier version lists those four different stages (from self through to what self remembers) and such an expansion model is clear and readily understandable in practical terms. It also makes more explicit the move away from the here-and-now.

Table 1 overleaf presents Reddy's model. For the sake of clarity, I have added the headings *Self*, *What self does*, *What self perceives* and *What self remembers* into this table but these are taken directly from Reddy (2003).

Table 1: Expanding awareness of the objects of others' attention (taken from 'On being the object of attention: implications for self-other consciousness', TRENDS in Cognitive Sciences, Vol 7 No.9, September 2003)

Age	The object of the other's attention	Infant's response to other's attention	Infant's action upon other's attention
2-4	Self (Self)	Responds to other's gaze with self interest, pleasure, distress, ambivalence, indifference and co-ordinated expressions	Making 'utterances', 'calling' attention to self, seeking face-to-face engagement.
6-8	Frontal events and targets (What self perceives)?	Following other's gaze to frontal targets. Gaze alternation between target and attentive other person with interest, pleasure, anxiety, indifference	
7-10	Acts by self (What self does)	Responds to other's attention to acts by self with pleasure, interest, anxiety.	Repetition of acts that elicit laughter, attention, praise with gaze to others' faces.
9-11	Objects in hand (What self perceives)	Responding to other's gaze at objects in hand? (Evidence unclear).	Beginning of showing / giving objects in hand.
10-14	Distal targets (What self perceives)	Following other's gaze to non-frontal, distal targets.	Going across room to fetch objects to give. Pointing to distant objects.
15-20	Past events, absent targets (What self remembers)	Attending to others' reports of past events and absent targets? (Evidence unclear).	Discriminating absence of attention. Reference to past events.

There are two crucial aspects of Reddy's thinking that we must consider.

Firstly, she asks us to avoid a spotlight metaphor for attention and instead adopt a view of object engagement as the basis of attention, a view also

shared by Hobson (2005). Then she asks us to re-consider what could count as an object of attention: people, objects we are holding, objects that are part of our bodies, events in time, concepts and ideas etc. Indeed Reddy imagines that the expanding horizon of adult actions on the infant's own body 'must 'mark' the infant's body as separate entities (objects) and it must make the process of engagement instantly more complex and essentially triadic' (Reddy, 2008, p.117).

This has particular significance for congenitally deafblind people, since as we saw earlier, objects must be engaged with to be attended to at all and for congenitally deafblind people, this means we must move away from the idea that a common object of attention needs to be spatially distinct from both partners for it to be considered a 'third element' (Bates et al, 1976). On the video examples that will follow in Chapters 4, 5 and 6, there are numerous engagements directly onto parts of a deafblind person's body – this must also mark them as objects. For example, when Paul touches Fiona's toes this clearly marks them as a 'third element' (This is an example more fully discussed in Chapters 4 and 5).

However, broadening the concept of what might constitute an object is challenging in terms of making all objects accessible and perceivable to both members of a partnership. A colleague, Ian Noble who works for the organisation Sense Scotland, many years ago suggested that congenitally deafblind people must imagine that a race of super-human beings exists in their world. If, for example, a deafblind person throws away the spoon that

they were eating with, and the non-deafblind person simply picks this up and gives it back to them, this might appear miraculous - this spoon simply reappears out of nowhere! Such feats of magic could be daily occurrences in the world of a deafblind person, but only because one partner is living in a tactile world and the other is living in a visual world. However if we share the tactile elements of all objects, then such magic disappears! Again, I will return to some of the questions this raises in subsequent chapters.

Reddy further highlights a number of developmental shifts within each of the stages. She proposes developments both in the ability first to *respond to* attention and then to *direct attention*, but also in the *nature* of that attention. So for instance, in terms of responding to attention to what self perceives, one might first respond to attention to frontal events and targets, then objects being held and then over many months, this will develop to non-frontal and distal objects. Similarly, in directing attention to past events, at first the gap between the appearance of an object or an event and it then being referred to, may only be a few seconds but this gap will widen and develop to minutes, hours and days. This thesis will not consider in detail all of these developments within each stage but will instead provide evidence of each of the overall stages.

It is particularly the last stage in which I am interested, what self remembers, because this would be an indication that partnerships are able to move away from the here-and-now. I will nevertheless use Reddy's model as a way of exploring how congenitally deafblind and non-deafblind partners respond to

and direct attention at each of the four stages. This will chart how deafblind partners journey towards language (Chapter 4) and how non-deafblind partners journey towards a fuller understanding of the tactile perspective on the world (Chapter 5). Chapter 6 will consider how partnerships are able to confidently move away from the here-and-now together.

As an analytical tool, Reddy's model allows me to ask how individual partners can expand their awareness of the objects of the other's attention. Burling (2005, p.180) suggests that 'fluent understanding allowed fluent speaking to follow' and I wish to apply this equally to attention. If one partner becomes aware that the other is responding to their attention to an object (even self as the object), then it is more likely that they will subsequently direct attention to this object. I make no distinction here between the partners, since within the dialogical framework I am interested in how both partners respond to and direct attention at all four stages of Reddy's model. This is central to my dual use of Reddy's model, where firstly, in Chapter 4, the non-deafblind partner is seen in the role of the Other (traditionally the more competent language partner) and then, in Chapter 5, the congenitally deafblind person is seen in this role (as the more competent inhabitant of a tactile world). This allows me to demonstrate that both partners are able to respond to and direct attention in the tactile medium, all of which sits comfortably with Burling's notion that in early languages, comprehension must have come before production.

Conclusion

This chapter has explored the centrality of dialogicality and partnership within this thesis and has set my overall thinking within a larger historical and current practice context. This has allowed a fuller description of why a move towards a 'common touchpoint' is essential for partnerships involving congenitally deafblind people, if such partnerships are to successfully journey away from the here-and-now. This means that dyadic and triadic exchanges must take place in the tactile medium but this in itself would not be sufficient for partnerships to journey towards language. Specific circumstances must occur. Practitioners can draw upon lessons from infant development, deaf children learning a language and how languages may have developed in the first place for the human species. All of these suggest specific circumstances that will best allow language to flourish.

All of this leads to back to the central hypothesis set out in Chapter 1 that both partners must expand their awareness of the objects of the other's attention and this must happen in the tactile medium. As congenitally deafblind partners do this, they move towards the linguistic culture of their non-deafblind partners. As non-deafblind partners do this, they move towards a tactile perspective on the world. This means it is insufficient to simply adopt scaffolding metaphors for language development, because current world languages are not tactile. But equally, it is insufficient to adopt a stance I have

previously taken, where I misunderstood the challenge set by Nafstad and Rødbroe (1999) of absolute subjection of yourself to the deafblind person, and argued that language could only emerge from the movements and gestures brought by the deafblind person (Hart, 2006). In reality no fully congenitally deafblind I know already has language. I would now contend, instead, that a genuine partnership must exist in order for new languages to emerge. These new languages will have elements of existing linguistic culture (signed and spoken), but they must primarily reflect a tactile perspective on the world.

In the next chapter, I will explore the methodological implications that arise from attempting to closely examine partnerships and the roles played by both partners as they set out together on journeys away from the here-and-now.

Chapter 3

Understanding communicative meeting places - a review of research methods within the dialogical framework.

Introduction

Working within the dialogical framework leads to a number of implications in terms of research methods. Markova advises that researchers should have the problem they wish to consider as the starting point for any discussion about methods, as opposed to the other way around (Markova, 2009). This leads me to two questions:

1. Which research methods best allow a close examination of the communicative meeting places between congenitally deafblind and non-deafblind partners?
2. Which research methods allow a close examination of the communication relationships that are best understood by the people who are directly engaged in those relationships, as opposed to people who stand outside them?

If I am interested in potential referential movements, gestures and signs that emerge from communicative meeting places and these have come about through the efforts of at least two people in relationship with each other, it makes no sense to choose a methodology that lets me consider only one person's role. It especially makes no sense to simply quantify what is happening for the partners separately. So immediately I discount research methods that would tell me, for example, that deafblind partners have increased their level of intersubjectivity or that they have increased the number of signs that they use. That is not the focus of this thesis, although it could have been done (Hart 2001).

Instead it does make sense to focus the research efforts on the processes of the partnership itself. What better way to understand these partnerships than by rising to the challenges of direct second person engagement as described by Reddy: 'If knowledge comes from the relation we have to the thing we are seeking to know, and if a relation of engagement gives us more profoundly personal knowledge about other people, then psychology's traditional methods of detached observations and experimentation may be giving us very partial – and biased – answers to questions about interpersonal knowing'

(Reddy, 2008, p.33). Einstein and Infeld (1938/1961, pp.295-296), in thinking about their scientific endeavours, coined the notion of the 'field': 'A courageous scientific imagination was needed to realise fully that not the behaviour of bodies, but the behaviour of something between them, that is,

the field, may be essential for ordering and understanding events'. And it is this field, the communicative meeting places between both partners in which I am interested.

Ultimately in Chapter 6, these communicative meeting places will be the focus of analysis, so that I can understand them better, but in Chapters 4 and 5 I will try to gain some deeper understanding of what is happening for the congenitally deafblind person and for the non-deafblind partner respectively. I do this in the full knowledge that these individual approaches seem to run counter to arguments made in the previous paragraph. It seems to be an example of the paradox highlighted by Markova (2008) when she suggests that although researchers and professionals may adopt theories of communication based on reciprocity and mutuality, they may still 'typically code and quantify behaviours in isolation from each other'. However, I do not think this is an example of that paradox because at all times both partners are bound together, since I will explore both production and comprehension of gestures. The latter cannot come about without the former. In order to build a convincing picture about the competencies that congenitally deafblind partners have and to demonstrate that non-deafblind partners also possess significant skills, I have opted to analyse data from the perspective of both these participants separately. In this way, I aim to develop a rich picture, what Stake (1995) might call a 'thick description' of the learning and sharing that is happening for both partners in this process. It allows me to give precise answers to the research questions outlined in the opening chapter.

I have also taken into account Linell's concept of a 'communicative project' (Linell, 1998 and 2009), where he suggests a move away from simply considering each single utterance within an interaction as a single entity, instead understanding utterances as connected as part of an overall communicative project, focused on a particular outcome or goal.

Communicative projects can also be nested within larger projects. For example, during one communication session analysed for this thesis, Joe and Patrick negotiate about a cup of coffee whilst they are walking in the forest, which is itself part of a whole morning's activities they will undertake together. So the larger communicative project might be 'What will we do today?' One activity is a forest walk, so another communicative project might follow from someone asking 'Where will we walk next?' During the walk there is usually a coffee break so yet another communicative project will follow if someone asks 'When will we have our coffee?'

In terms of this thesis, the many communication sessions that took place over months (and were filmed) can themselves be understood as one large-scale communicative project between two partners, trying to learn more about each other. Linell (1998, p.231) suggests communicative projects will have 'past and future orientations' and this should be evident throughout these partnerships as they build on knowledge of each other's ways of referring to people, objects, places or events over the months they spend together. Given that my focus is on a larger scale communicative project, it means I will not get too concerned with establishing agreed meanings of movements, gestures

or signs in second-by-second interactions, but instead will attempt to trace meanings over longer time periods.

Both Linell (1998) and Markova (2009) call for sequential analysis in order to make sense of meaning and negotiation and to fully capture the context of interactions. Linell (1998, p.265-66) adds that 'many dialogists would undoubtedly argue that the nature of dialogue necessitates qualitative methods that attempt to account for the multi-faceted, dynamic and reflexive properties of specific discussions and their contexts' and so it is qualitative research methods that I have chosen for this thesis.

Stake (1995, p.37) outlines 3 major differences in where emphasis is placed using qualitative or quantitative methods:

1. The distinction between understanding and explanation as the purpose of enquiry
2. The distinction between a personal and an impersonal role for the researcher
3. The distinction between knowledge constructed and knowledge discovered.

I will certainly advocate a personal role for the researcher, but more of that later. For now, I wish to expand on Stake's first point above by highlighting his view that 'quantitative researchers have pressed for explanation and control' whereas 'qualitative researchers have pressed for understanding the complex

interrelationships amongst all that exists' (Stake, 1995, p.37). This is about the difference between searching for causes (quantitative) as opposed to searching for happenings (qualitative). This latter view leads me to adopt a generally phenomenological approach for this thesis. I am not setting out to explain all of the processes that allow communication to occur between congenitally deafblind people and their partners, but simply in the first instance to demonstrate that it does happen.

I am describing my approach as 'generally' phenomenological because I do not truly start from a 'pre-suppositionless' position (Moran, 2000). Instead, I start the thesis with a view that communication partnerships involving at least one congenitally deafblind person can move away from the here-and-now and both partners can expand their awareness of the objects of the other's attention within the tactile medium. So I am seeking evidence to substantiate this view but also in analysing the data, I am content if the evidence leads me in new directions that I had not planned. I will allow the issues to emerge and develop throughout the process. This gives me a greater understanding of not only the particular partnerships that I am exploring, but also better understanding of communication and language with congenitally deafblind people in general.

The particular cases that I outline later in this thesis are, thus, both intrinsic and instrumental (Stake, 1995). Intrinsic, in as much as I am studying each partnership to learn more about the partnership itself and this has immediate positive outcomes, especially for the deafblind person if partners learn more

effective ways to support them. This would additionally meet essential ethical criteria for conducting research with people who cannot directly consent to their participation. Instrumental, in as much as I wish to understand more about communication with other deafblind people and also more about communication with people who are not deafblind.

It is primarily videos of communication sessions involving congenitally deafblind and non-deafblind partners that form the data set for this thesis. I am aware of the many limitations of video in relation to understanding tactile communication (Gibson, 2005; Schjøll Brede, 2008), particularly the inability to capture the detail of the pressure or intensity of touch or to capture subtle movements and their impact on both partners. I am aware also of the difficulties expressed by Goode (1994) in trying to tell a story using formal language that involves people who themselves do not have formal language. This is doubly problematic given that I will supplement the story told in this thesis using these videos, since again they are accessible only through a perceptual medium that is unavailable to the congenitally deafblind people who feature in this thesis. Nevertheless, I concur with Gibson (2005) and Schjøll Brede (2008) that video offers an ideal data source for developing research around communicative partnerships because repeated observations allow close analysis of the subtle and complex interactions that take place between partners.

In an attempt to capture the richness of the interactions between people in order to answer the research questions, it is primarily narrative descriptions of

the communication sessions recorded to video that I will use (I will explain this more fully shortly). This fits with the approach outlined by Goode (1994) and supported by Gibson (2005), in attempting to capture the life experiences of deafblind people. It is within these narrative descriptions that the detail is found and it is these narrative descriptions that are my primary evidence. This raises a legitimate concern in relation to reliability: how do I know that what I am describing on the video is really what is happening? For example, if I suggest that the deafblind partner is using gesture X to mean she wants a drink, how reliable is my interpretation? One immediate answer could be that I cannot ever be certain that my interpretation is reliable.

Recalling Reddy's view that relations of engagement give us a deeper personal knowledge about other people (Reddy, 2008), then it is true that it is only through second-person engagement that we might grow to understand what is happening between the partners who feature in all the communication sessions analysed for this thesis. I have this image of a researcher trying to code pronoun use by watching videos of conversations between two people. This would be easy enough perhaps, but not if the researcher speaks only English and the video conversations are in Korean! To my mind, there is a similar dilemma with the video evidence that I have gathered. Unless, you are familiar with the tactile communication strategies that are used by particular deafblind people, then you cannot fully understand what is happening. The only way you can be familiar with their tactile communication is if you have been engaging directly with those deafblind people. This is not a methodological problem inherent to the use of any tactile communication

because for deaf sign language users who later adapt to tactile versions of these sign languages, signs will have stable and culturally understood meanings. Instead, it is related to the fact that the partnerships that feature in this thesis are at the early stages of development and any meanings emerging from movements, gestures and signs that they are using are often still being negotiated between them and thus might only be understood by the few partners involved.

In terms of reliability, it would have been possible to ask independent raters to watch the videos and code what they saw. I could have achieved a high correspondence between raters if I was interested in physical descriptions of what was happening (e.g. Fiona moves her head; she wiggles her toes; Rachel has lifted her arm; Paul has moved his right hand across the palm of Rachel etc). However, this would have contributed little to my understanding of any meaning-making that was taking place. Such methodological issues, related to agreeing that any movements or gestures are meaningful, are a principal outcome, but also a methodological challenge, of second person engagement – you have to be there to really understand what is going on, and to understand what any movements, gestures or signs might mean and then to bring in all the other contextual information that sheds light on a gesture being made at that point in time. Even then it is impossible to capture the full richness of what might be going on since video does not capture the subtle pressure that can happen as bodies come into contact with each other, nor feel the emotion that is released when partners come into contact. Such

points are relevant when analysing any interactions, not just those involving deafblind people.

In order to overcome the challenge of reliability, during the research project, I participated in regular video analysis sessions and discussions with each of the non-deafblind communication partners who feature on the Sense Scotland videos. This often took place in groups, but sometimes individually. This was in order to achieve a level of confidence that the coding was agreed between me, as the researcher, and the communication partners. However, this does not imply that I was looking for one, definitive static interpretation of what a movement, gesture or sign meant. This would make no sense to conclude such interpretations from any one session, because a different context on another day might mean that a different interpretation emerged (Linell, 1998). Nevertheless it is the case that with the sheer quantity of video footage I had available, over many months these groups could begin to see stable meanings emerging for some gestures. Of course, such meanings may continue to develop, but for given periods of time partners can say with some certainty that they think gesture X means something particular.

Each of these meetings was recorded. At these meetings, sometimes new information came to light that allowed a re-appraisal of what was happening on the videos and on occasion this led to a particular segment being coded differently. This process allowed important information to be included in the analysis of any situation, information that often resulted from the direct engagement of the communication partner in the communication situation that

was being viewed. It is also important to bear in mind that this process of regular discussion with the communication partners allowed not only the context of any given situation to be taken into account (e.g. what any gestures meant in the context of that day's walk in the forest), but also the ongoing context of a communication relationship built up over many weeks, months, or indeed years. So, for example, a communication partner could help me make sense of a movement being made by the deafblind person by suggesting this was related to a routine activity they do, or had first appeared in a previous session the week before. Without this detailed knowledge, it is difficult to fully appreciate the richness and significance of what was happening during the communication. However, it should be noted that the *final* narrative descriptions and coding of video segments, as they appear in Chapters 4, 5 and 6, were undertaken after all of the sessions had been filmed. Nevertheless, there was much discussion along the way with communication partners and key people.

Research methods for Studies 1 - 3

I will now describe in more detail the methodologies that are employed in the Studies 1 and 2, reported in Chapters 4 and 5 respectively. These two chapters in the main follow exactly the same format. Later in this chapter when I discuss the research methods for Study 1, these were virtually the same for Study 2 so I will not repeat them twice. Whereas, Study 1 focussed on the non-deafblind person in the role of the 'Other', traditionally seen as the

more competent partner, Study 2 reversed this so that the congenitally deafblind person was in this role. This meant in the operational definitions which are explored later in this chapter, I substituted *deafblind partner* for *non-deafblind partner* (and vice versa) at the relevant places. Otherwise, coding procedures remained the same.

Study 3, reported in Chapter 6, followed a different structure since its focus was the partnership itself, although it was the same data set of video recordings of each communication session that were used for analysis. I will not describe these research methods here but instead cover them more fully within Chapter 6 itself because the detail that emerges will make more sense to the reader if they are kept as an integral part of that chapter.

What communication sessions / videos were chosen for all studies?

I had 53 communication sessions between congenitally deafblind people and their non-deafblind partners available to me. All were recorded on video. Perhaps I should have taken more seriously Wolcott's advice that 'the critical task in qualitative research is not to accumulate all the data you can, but to "can" most of the data you accumulate' (cited in Stake, 1995, p.84) because in reality this gave me an overwhelming amount of data to analyse. At times this did slow down the research process and made choosing exemplary evidence more difficult than perhaps it ought to have been. Nevertheless these video recordings will continue to have a great many uses for many years to come,

for the congenitally deafblind people, for their communication partners and their families.

I used three sources of video evidence from communication sessions in these three studies:

- 1) 5 sessions feature a Norwegian deafblind woman, Ingerid and her communication partner, Gunnar Vege. In minutes and seconds, these sessions last 01:01, 01:10, 03:58, 04:25 and 01:11 respectively. Ingerid is fully deafblind. (Personal collection, although some are also on the DVD that accompanies Rødbroe and Janssen (2006) and Janssen and Rødbroe (2007).
- 2) 5 sessions that feature congenitally deafblind people supported by Sense Scotland, filmed between 1999 and 2006. This consists of 1 session lasting 03:26, featuring a young deafblind woman, Caroline and her communication partner, David. Caroline and David are involved in a music session. There are 4 videos of Fiona, one lasting 38:51 with Ian, where they are interacting together on the sofa and 3 sessions with Paul, lasting 37:46 (massage), 28:49 (Making a drink) and 11:02 (Process of agreeing where to have a massage) respectively. Fiona is fully deafblind. Caroline has limited residual hearing.
- 3) 43 sessions featuring two fully congenitally deafblind people supported by Sense Scotland filmed between 2007 and 2009. These were all filmed for the purposes of this thesis. In total there are 29 sessions with

Rachel, 10 sessions with Patrick and 4 sessions that feature both Rachel and Patrick. Both Rachel and Patrick are fully deafblind.

Permissions were sought and obtained to use all of these videos. Ethical approval was also obtained from The University of Dundee and Sense Scotland.

There are a number of reasons why I chose to use these particular video examples:

- a) All of the videos from sources 1 and 2 were originally shot prior to the researcher undertaking this thesis so they are not influenced by the thinking developed while undertaking the research. Thus, in outlining evidence at all four stages of Reddy's model of the expanding awareness of the objects of others' attention, there is a greater guarantee that such situations are natural and real and not manufactured to produce particular results. Videos from source 1 and 2 were used in Chapters 4 and 5.
- b) The videos from source 3 are primarily used in Chapter 6. However, given that the study reported in Chapter 6 will focus almost exclusively on movements, gestures and signs at Stage 4 of Reddy's model, I did also use these videos in Chapters 4 and 5, so that I could evidence Rachel and Patrick responding to and directing attention at the first three stages (self, what self does and what self perceives) of Reddy's model. I did this primarily to give a more rounded view of Rachel and

Patrick and to demonstrate that the Stage 4 gestures do not just sit 'out there' on their own, but that they have a developmental history.

- c) Some of the videos from source 1 are commercially available and will be familiar to readers from the deafblind field and the wider field of communication and disability. The Sense Scotland videos (all from Source 2 and many from Source 3) will also be familiar since many of them have been shown at international conferences. Readers can therefore compare their own analysis of these videos with that offered here and come to their own understanding of the theoretical model that is being presented. Building on the dialogical framework and the reliability discussions earlier, this ongoing dialogue with a wider community of practice will add even more knowledge to our understanding of communication within partnerships involving at least one congenitally deafblind person.

What did I do with the videos?

I transcribed and / or wrote out summary descriptions of the videos so that I could have a written description of what was happening on the videos in terms of actions taken by both partners. I used these written descriptions simply as an aide-memoir during the analysis process to enhance the video observations and to remind myself where particular actions / interactions could be found. The transcriptions did not follow the complexity and detail of other transcription systems which capture more of the exact interactions, the

focus of attention and the spatial use of signs and gestures (Ask Larsen, 2007; Schjøll Brede, 2008). Nor were these transcriptions for use in the thesis itself. (I have given one example in Appendix 1).

All of the communication sessions from sources 1 and 2 existed already on video and were stored within the Sense Scotland library or in the researcher's private collection. The researcher copied all of these full videos onto an Apple Mac computer, using iMovie software. The examples from source 3 were shot on mini-DV tapes from a camcorder. The researcher also copied all of these into iMovie. This meant in total that all 53 movies were stored in iMovie.

I did not use video recordings from every communication session as final evidence in the data chapters of this thesis. Appendix 2 lists each communication session that was available to me, including the length of the session in minutes and seconds and the date (if known). It then lists the reference number for the iMovie version of this session (stored on hard disk – see below for further information). It should be noted that these do not always follow the date order. This is because some videos became available to me after I had already stored one from a later date. Appendix 2 makes clear how the reference numbers relate to dates and it is always this unique reference number for each iMovie that is referred to in the later data chapters. Appendix 2 then provides a brief summary of what took place during each communication sessions before detailing if examples from this session are used as evidence in any of the Studies 1, 2 or 3 (and thus chapters 4, 5 or 6).

Analysis process for Studies 1 and 2

Here I will describe more fully what analysis took place for Study 1, reported in Chapter 4. The focus here was on the non-deafblind person in the role of 'Other'. Almost exactly the same process was followed for Study 2, reported in Chapter 5 but this time the congenitally deafblind partner was in the role of 'Other'.

I watched the video of each communication session many times, so that I became very familiar with the content. In watching these clips at this first stage of analysis, I was focusing on the movements, gestures and signs used by the congenitally deafblind person, noting these down (either as part of a full transcription or on a transcription sheet, even if these were not going to eventually form part of this thesis). In very broad terms, I was considering whether the deafblind person was using this movement, gesture or sign to respond to or direct attention and into which of Reddy's four stages would these movements, gestures or signs fit? At this stage, I was using the broad definitions offered by Reddy (See Table 1). So the videos themselves were the starting point for the analysis and as I was viewing them, I was asking myself: is this movement, gesture or sign about responding to or directing attention? Then asking myself a second question: is it about directing attention to self, what self is doing, what self is perceiving or what self remembers? This led to a great number of movements, gestures and signs being noted and being coded into the categories outlined by Reddy.

I then carried out a second stage of analysis, which tackled the videos from a different starting point. The starting point this time was Reddy's table itself. I had in mind one stage at a time (e.g. responding to attention to self) and because I knew the clips well, I could think of examples that would provide good evidence of that stage. I worked through each of the eight possible headings in this way, writing down the video number and time code on a sheet similar to the one in Table 2.

Table 2: Video analysis sheet No.1

Self		What the self does		What the self perceives		What the self remembers	
Responds	Directs	Responds	Directs	Responds	Directs	Responds	Directs

This meant going back through the videos, but all the time with a real focus on only one possible stage at any one time. This led to a particular familiarity with that stage and allowed me to develop strong ideas about what would constitute good evidence of, for example, responding to attention to self. By comparing different examples at this stage, I could see that some were much stronger than others. At this stage of analysis, I could also see that some stages had much more evidence. Finding good examples of all stages proved

difficult. This is connected directly to the nature of deafblindness, which I will reflect on in the discussions for Studies 1 and 2.

I then compared these two sets of analysis to discover not only clear examples of each stage, but also to amend the original definitions from Reddy, so that they take into account dual sensory impairment. For example, in responding to attention to self, Reddy describes how an infant 'responds to other's gaze with self interest, pleasure, distress, ambivalence, indifference and co-ordinated expressions'. Obviously, responding to gaze is problematic for any congenitally deafblind person without sufficient residual vision. I considered again each of the examples that I had from both analysis approaches, and I reconsidered what would count as evidence for each of the stages described by Reddy. This led me to develop a set of operational definitions. The ones shown here are for Study 1 (Chapter 4) and relate to the congenitally deafblind partner's expanding awareness of the objects of the non-deafblind partner's attention. Those for Study 2 (Chapter 5) describe the non-deafblind partner's expanding awareness of the objects of the deafblind partner's attention, but I will not detail all of them here because they simply exchange the words deafblind and non-deafblind. However, I do report the respective versions of these operational definitions in each of the two chapters in order to make clear for the reader how the analysis was completed.

Operational definitions

Attending to self

In these two sections, the deafblind person him/herself is the focus of attention for the non-deafblind partner.

1a) Responding to attention to self

Evidence that the deafblind person is responding to the communication partner's attention to him/her will be:

- I. The deafblind person responds by *displaying emotion or co-ordinating his /her expressions with* the partner (e.g. smiling, laughing, vocalising etc to show pleasure, distress, excitement);
- II. The deafblind person responds by *displaying interest* (e.g. stilling behaviour, moving towards the partner, moving body part that has been touched);
- III. The deafblind person responds by *displaying disinterest* (e.g. withdrawing or moving away from the partner).

1b) Directing attention to self

Evidence that the deafblind person is directing attention to him/herself will be:

- I. The deafblind person *makes an initial 'utterance'* (in any medium) that directs attention to self (e.g. wiggling toes, tapping pens, vocalising);
- II. The deafblind person directs attention back to self by *asking the partner to repeat or continue an action* that was directed to the deafblind person (e.g. blowing on him /her, tapping on his / her arm, leg, hand etc)
- III. The deafblind person *seeks engagement with* the partner (e.g. reaching out to the other person).

Attending to what self does

In these next two sections, actions by the deafblind person are the focus of attention for the non-deafblind partner.

2a) Responding to attention to what self does

Evidence that the deafblind person is responding to the partner's attention to what he/she is doing will be:

- I. The deafblind person responds by *displaying emotion* once they become aware of the partner's attention to their action (e.g. pleasure, distress, excitement);
- II. The deafblind person responds by *continuing what he/she was doing* after the partner has joined in with the action;
- III. The deafblind person responds by *stopping what he/she is doing*.

2b) Directing attention to what self does

Evidence that the deafblind person is directing attention to what he / she is doing will be:

- I. The deafblind person *repeats an act* (or a variation on the original act) *that elicited an emotional response* from the partner (e.g. laughter, praise etc);
- II. The deafblind person *repeats an act that elicited a co-ordinated action* from the partner;
- III. The deafblind person *initiates an action* while at the same time seeking engagement with the partner;
- IV. The deafblind person *continues an action* while inviting the partner or other person to join or view the action (e.g. looking towards someone to invite them to see what is happening).

Attending to what self perceives

In these two sections, objects/ people perceivable by the deafblind person are the focus of attention for the non-deafblind partner.

3a) Responding to attention to what self perceives

Evidence that the deafblind person is responding to the partner's attention to what he / she perceives will be:

- I. The deafblind person *follows the attention* of the partner to targets and *displays some emotion*;
- II. The deafblind person *follows the attention* of the partner to targets and *displays interest* such as explorative behaviour or moving towards the object / person / place;
- III. The deafblind person *follows the attention* of the partner to targets and *displays some disinterest* by withdrawing or moving away from the object / person / place.

3b) Directing attention to what self perceives

Evidence that the deafblind directs the partner's attention to what he / she perceives will be:

- I. The deafblind person *offers or gives an object* to the partner (e.g. lifts the object towards the partner);
- II. The deafblind person *takes an object* from the partner (e.g. takes a cup out of their hand);
- III. The deafblind person *points to or shows an object / person / place* to the partner (e.g. takes the partner's hand to touch the object);
- IV. The deafblind person *takes the partner to an object / person / place* (e.g. leads the partner to the kettle).

Attending to what self remembers

In these two sections, past events or absent targets are the focus of attention for the non-deafblind partner.

4a) Responding to attention to what self remembers

Evidence that the deafblind person is attending to the partner's reports of past events and absent targets will be:

- I. The deafblind person *uses or completes an action, gesture or sign* presented by the partner that originates in the past event that is being referred to;
- II. The deafblind person *prevents an activity happening* that has been referred to by the partner;
- III. The deafblind person *makes an appropriate response to a gesture or sign with a previously negotiated meaning* (e.g. stands up after a sign 'STAND' is given).

4b) Directing attention to what self remembers

Evidence that the deafblind person is making reference to a past event or object not present will be:

- I. The deafblind person *initiates an action, gesture or sign* that originates in the past event that is being referred to;
- II. The deafblind person *reminds the partner of the 'rules'* of an ongoing interactive sequence;
- III. The deafblind person *uses an action, gesture or sign* to refer to an object that is not seen, heard or felt;
- IV. The deafblind person *uses a gesture or sign that has an agreed negotiated meaning* with another person.

Before undertaking the final stage of analysis, coding against these operational definitions, I viewed some additional videos not directly related to this thesis (Daelman et al, 1996; Daelman et al, 1999a; Janssen and Rødbroe, 2007; Rødbroe and Janssen, 2006 and Souriau et al, 2008), in order to test out the operational definitions and to give greater clarity to my thinking. The video examples range from just a few minutes up to 30 minutes. They show examples of very young children, through teenagers, young adults and on to older adults. I did this to explore the full possibilities for this method of analysis across all age ranges. In Chapters 4 and 5, I occasionally refer to examples from these videos because they give particularly good illustrative evidence of specific sub-stages and I will make clear where I do this.

At the final stage of analysis for Study 1 (reported in Chapter 4) I was analysing using the operational definitions in order to:

- a) Demonstrate that congenitally deafblind partners can *respond to attention* a) to self; b) to what self does; c) to what self perceives; and d) to what remembers.

- b) Demonstrate that congenitally deafblind partners can *direct the attention* of a non-deafblind partner a) to self; b) to what self does; c) to what self perceives; and d) to what remembers.

This meant reconsidering all of the video fragments that I had previously noted, before deciding that they did or did not provide clear evidence of a particular stage and to satisfy myself that all the final examples met the criteria set by the new operational definitions. In the results section for both Studies 1 and 2, I decided to set out sufficient evidence for each of the four stages, rather than presenting equal numbers of examples under each of the sub-stages. This aim of this thesis is to demonstrate that both partners can operate at each of the four stages of Reddy's model and so it is sufficient to present overall evidence for each stage.

To make the data set more manageable, the editing and coding of the videos was done within each iMovie project. iMovie allows a continuous movie to be cut into as many segments as you wish. As I went through each iMovie project, if a particular segment was good evidence of a particular stage, I split the iMovie project at the start and end point of the segment and marked it with a title according to the following convention:

- If there was evidence of Rachel (RB) responding to attention to self (Stage 1 in Reddy's model) this was marked as 1RB(R). The '1' denotes that there was evidence of attention to self (Stage 1); the 'RB' denotes that the evidence pertained to Rachel (RB are her initials) and the '(R)' denotes that she was *responding* to attention to self.
- If there was evidence of Rachel directing attention to self (Stage 1) this was marked as 1RB(D).

- If there was evidence of Rachel responding to attention to what self does (Stage 2) this was marked as 2RB(R), with the '2' denoting that there was evidence of attention to what self does.
- If there was evidence of Rachel directing attention to what self does (Stage 2) this was marked as 2RB(D)

This was also done for stages 3 and 4 following the same convention.⁷ This led to each iMovie project having a series of smaller segments, some lasting a few seconds, some a few minutes, each with a title as noted above. There were some segments which had no interaction between partners that could be used as evidence of any of the four stages of responding to or directing attention and I marked such segments 'Spare'. I kept one full copy of each project on an external Hard Drive (HD1). On a separate external Hard Drive (HD2) I copied all the projects, but this time I deleted all the segments titled 'Spare', so all that was left on HD2 were examples of each stage for each iMovie project. This made it easier to work with the data and also to find relevant segments quickly. Each iMovie project had its own unique reference number (See Appendix 2) and now each segment within each project was given its own reference number. So on the tables that follow in the results

⁷ Examples at Stage 4 did have additional levels of analysis, but this will be discussed more fully in Chapter 6 as it relates to the partnership and also potential meanings of gestures that were being used to direct attention to past events or absent targets.

sections of chapters 4, 5 and 6, the reference numbers relate to the edited projects on HD2.

I will provide one full example here of how I worked out the reference numbers. The movie of Rachel shot on 26/7/07 with a camcorder mini-DV tape has 5 minutes, 8 seconds of total footage. This was copied into an iMovie project and once the analysis for this study had been completed, it had been edited into 12 segments, 7 of which had evidence for one of the four stages, and 5 of which were marked as 'Spare'. This was saved on HD1. When the project was copied onto HD2, all the 'Spare' segments were deleted leaving only 7 segments, which were given the letters a, b, c etc up to g. So the final reference for the first segment in this particular project is:

HD2/2RB/a/3RB(R) – this means the segment is stored on Hard Disk 2 (**HD2**). It is the second movie project on that Hard Disk relating to Rachel (**2RB**). It is the first segment of this movie (**a**) and it shows Rachel (**RB**) responding at stage 3 of Reddy's model, attention to what self perceives. Thus the full reference number is **3RB(R)**.

For the purposes of the results tables and narrative descriptions that follow in Chapters 4, 5 and 6, I will not provide the full code. All data subsequently reported in this thesis is stored on HD2 so there is no need to repeat that every time. The stage code, 3RB(R), is obvious since each table in the results sections of each study will only report results from one particular stage at a time. This will be clearly labelled at the top of each table. Thus I will only give the part of the code, 2RB/a that allows the particular segment to be located.

The same process was undertaken for Study 2, after I had reversed the Operational Definitions (i.e. placing the congenitally deafblind person in the role of Other and this meant swapping around *congenitally deafblind partner* with *non-deafblind partner*). When I started the analysis of the videos I used the versions on HD1 that had full copies of all iMovie projects, although they did now have the code titles from Study 1. I opted to do this, instead of returning to the original unmarked movies, because to do otherwise would have meant 2 sets of DVD descriptions and in later chapters it would be difficult to keep track of which DVD I was referring to. For example, which would have been the real 1RB, the one described in Chapter 4 or in Chapter 5? There was an obvious limitation to this choice of storing and editing DVDs, in as much as one segment essential for Chapter 5 may have overlapped with a segment already used in Chapter 4. I felt this did not create insurmountable difficulties. Where this did happen, I have opted to give a segment two titles, but in each of the two data chapters, it will only appear with the title relevant for that chapter. For example, if the segment I detailed earlier, HD2/2RB/a/3RB(R), was also a good example of the partner directing attention to what self perceives, then I would have added an additional title to that segment: 3PH(D). However, this title would only be used in Chapter 5, and the title relating to Rachel would only be used in Chapter 4.

Once all this analysis was complete and the results sections for Chapters 4 and 5 finalised, I brought at least 25% of the evidence for each Stage onto one final DVD and made this available to the examiners of this thesis. I have marked with an asterisk those examples that appear on the final DVD. This

entire process is reminiscent of Ellis' layered analysis (cited by Gibson, 2005) where he outlines a five stage process from unedited original recordings through to summary tapes of much shorter duration but which capture the key elements in your analysis or assessment. This DVD also acts as an additional response to criticisms about reliability because other viewers saw the evidence that I describe throughout this thesis⁸.

In the next chapter, I will report how I carried out Study 1, exploring the congenitally deafblind partner's expanding awareness of the objects of the non-deafblind partner's attention.

⁸ For further questions connected with this final DVD please contact Paul Hart at phart@sensescotland.org.uk

Chapter 4

Congenitally deafblind partners – expanding their awareness of the objects of their non-deafblind partner's attention.

Introduction

In this chapter I will demonstrate that congenitally deafblind people can operate at all four stages of Reddy's model: they can respond to and direct attention to a) self; b) what self does; c) what self perceives and d) what self remembers. Congenitally deafblind people are aware that self can be the focus of their communication partner's attention, that actions they perform can be the focus of attention, that objects and people in the wider world can be the focus, and indeed objects or events that are not even there at that moment can be the focus of another person's attention. As outlined earlier in this thesis, this means congenitally deafblind people are journeying towards the linguistic and cultural experiences of their non-deafblind partners. It is important to demonstrate that congenitally deafblind people can respond to and direct attention at all four stages of Reddy's model because this would demonstrate that the foundations are in place for developing the type of language that allows them to move away from the 'here-and-now', and this is

the principal aim of this thesis. Such a demonstration would also allow communication partners to recognise these skills and abilities.

The evidence presented in this chapter will help build towards a more detailed exploration of partnerships, which will be explored in Chapter 6, because as outlined earlier in this thesis, there have been recognised barriers for such partnerships in developing language. However, as also outlined earlier, it is my contention that the reasons for this lie within the partnership due to the 'mismatch of modalities' (Rattray, 2000) and also attitudes and approaches adopted by non-deafblind partners. Thus demonstrating that congenitally deafblind people can operate at all four stages of Reddy's model would tell an important story. It would only be one half of the story though. It is just as important to demonstrate that non-deafblind partners can also operate at all four stages. It may appear self evident that they can already do this, given that all the communication partners discussed in this thesis are language users. Nevertheless if I am to avoid falling into the trap outlined in Chapter 2, of imagining that the language destinations of seeing-hearing people are paramount, then I must explore the non-deafblind partner's expanding awareness of the objects of the congenitally deafblind person's attention. How is this achieved within the tactile medium? Where is the deafblind person's attention? What is their focus of interest at this moment in time? And can the communication partner join them, using tactile means? These questions will be considered in Chapter 5. Chapters 4 and 5 tell separate sides of the same story, firstly from the perspective of congenitally deafblind partners and then the non-deafblind partners. Chapter 6 will then bring these

together, highlighting that effective communication partnerships can use movements, gestures and signs to move away from the 'here-and-now'.

At the end of this particular chapter I will discuss some key findings from this study and the implications that then arise for partnerships involving congenitally deafblind people. This will include a discussion not only on the skills and abilities of congenitally deafblind people, but attitudes and approaches that could usefully be adopted by non-deafblind partners.

In Chapter 3 I have already detailed the research methods that are employed in this study, explaining why these particular methods were used. Before moving to the results section, let me briefly summarise which sessions are used in this chapter:

- 1) 5 sessions with a fully deafblind woman, Ingerid and her communication partner, Gunnar Vege.
- 2) 1 session with a young deafblind woman, Caroline and her communication partner, David. Caroline has limited residual hearing
- 3) 4 sessions with a fully deafblind woman, Fiona. There is 1 session with Ian and 3 sessions with Paul.
- 4) 8 sessions with Rachel who is fully deafblind.
- 5) 4 sessions with Patrick who is fully deafblind.

(Appendix 2 lists which communication sessions appear in each study and associated chapter).

Results

At the final stage of the analysis in this study I was tackling these two aims:

1. To demonstrate that congenitally deafblind people can *respond to attention* a) to self; b) to what self does; c) to what self perceives; and d) to what remembers.
2. To demonstrate that congenitally deafblind people can *direct the attention* of a communication partner a) to self; b) to what self does; c) to what self perceives; and d) to what remembers.

There were many examples of each on the videos of communication sessions, but for the purposes of this thesis I have only described some of them here. I have chosen examples that best illustrate each stage and to try for a balance of examples across the range of videos that were available to me. As reported in Chapter 3, I will not necessarily present an equal number of examples in each sub-stage but instead I will present sufficient evidence that congenitally deafblind people can operate all four stages. The results will be reported under each of the four stages of Reddy's model, first how congenitally deafblind people responded to attention at this stage, and then how they directed attention. Each section is laid out as follows:

1. A statement of the operational definitions for this stage;
2. A summary table listing each piece of evidence that congenitally deafblind people can both respond to or direct attention at each of the four stages of Reddy's model;
3. Narrative descriptions of each piece of evidence, listed under each of the four stages. I have written these narrative descriptions so that they generally follow the order of each operational definition and all of its sub-stages, but in such a way as to tell an engaging story about how congenitally deafblind people attend at each of these stages. Within these narrative descriptions I will also begin to draw out general themes that will be more fully considered in the discussion section.

Attending to self

In these two sections, the deafblind person him/herself is the focus of attention for the non-deafblind partner.

1a) Responding to attention to self

Evidence that the deafblind person is responding to the partner's attention to him/her will be:

- I. The deafblind person responds by displaying emotion or co-ordinating his /her expressions with the partner (e.g. smiling, laughing, vocalising etc to show pleasure, distress, excitement);
- II. The deafblind person responds by displaying interest (e.g. stilling behaviour, moving towards the partner, moving body part that has been touched);
- III. The deafblind person responds by displaying disinterest (e.g. withdrawing or moving away from the partner).

Table 3: Summary of Evidence (Chapter 4 - Responding to attention to self)

(Those marked with an asterisk (*) are available on the DVD).

Fragment Example	Reference number	Responding to attention to self
		Sub-stage 1 – emotions and co-ordinated expressions
1*	2I+G/a *	Ingerid laughs when Gunnar blows raspberries onto her hand.
2	2I+G/c	Ingerid laughs when Gunnar presses his tongue into his cheek and she feels this with her fingers.
3	4FM/h	Fiona vocalises in response to massage.
		Sub-stage 2 – displaying interest
4	1FM/b	Fiona sits up, then stands up from the sofa after Ian has tapped her shoulder, gently pulled back a blanket and touched her hand.
5 *	1FM/s *	Fiona sits up when Ian touches her.
6	1FM/w	Fiona leans back when Ian touches her hand.
7 *	2FM/b *	Fiona lifts her foot after Paul has tapped it.
8	2FM/a	Fiona sits up after Paul has touched her knee.
9	4FM/a	Fiona pulls back the duvet cover and sits on the edge of her bed after Paul has tapped her bed.
10	3FM/a	Fiona jumps out from under her duvet when Paul taps it.
11	3FM/d	Fiona moves under the duvet whenever Paul taps on the outside.
12	10RB/d	Rachel reaches out with her hand to Jon who has gently stroked her arm.
13 *	11RB/d *	Paul makes contact with Rachel's arm and she reaches out to take hold of his hand.
		Sub-stage 3 – displaying disinterest
14	1FM/f	Fiona rejects Ian's touch.
15 *	2PT/b *	Patrick pushes Paul away after he has attempted to engage with him.
16	2FM/h	Fiona curls up after Paul has stopped touching her stomach for the third time.

Ingerid is sitting on Gunnar's lap and at first he is blowing raspberries onto her hand, then he moves his tongue inside his mouth so that his cheek moves in and out. Ingerid laughs each time he blows a raspberry (Ex.1) and she laughs also as she feels his cheek go in and out (Ex.2). Gunnar does these actions as a way of maintaining attention on Ingerid and her laughter is an emotional response to this. In this instance, it is evidently pleasurable to have attention paid to you. We can see real emotion too when Fiona's repeated vocalisations indicate her pleasure in having her arm massaged by Paul (Ex.3) and here her vocalisations are co-ordinated with the movements being made by Paul.

Sometimes, Fiona responds by displaying interest, such as the occasion when she is curled up on her sofa, and she first sits up, then stands up from the sofa (Ex.4) after Ian taps her shoulder and gently pulls back the blanket that was over her. Or later in this same session, when she is again curled up on the sofa, as Ian touches her, she immediately sits up (Ex. 5) then leans back into the chair (Ex.6) She has similar responses when Paul makes her the focus of his attention: she lifts her foot after Paul has tapped it (Ex.7); she sits up after Paul has gently touched her knee(Ex.8); she pulls back the duvet cover and sits on the edge of her bed after Paul has tapped her bed (Ex.9); on another occasion she jumps out from under her duvet (Ex.10) when Paul touches the top of the duvet. Later in that same sequence, she prefers to stay under the duvet, but each time Paul taps on the top of the duvet, she makes very slight movements under it (Ex.11). These are all responses to attention to the whole self, even though sometimes it is a touch to a particular part of the body that has drawn attention to self. So too are the occasions when

Rachel reaches out with her hand to touch Jon who has gently stroked her arm (Ex.12) or when she reaches out to take hold of Paul's hand (Ex.13) after he makes contact with her arm.

Attention to self is not always appreciated or accepted and sometimes the response is disinterest or even rejection. For example, Ian tries to take hold of Fiona's hand and although she holds it for a few seconds, she soon lets go and curls back into the sofa. However, the rejection is nevertheless an indication that she was aware of this attention being given to self. (Ex.14). This is also evident when Paul attempts to touch Patrick's hands to engage with him but Patrick responds by pushing Paul away (Ex.15).

There is an occasion when Fiona curls up in response to Paul's 'unsatisfactory' contributions in April 2000, when she has perhaps been thinking about a stomach massage and he concentrates on massaging feet (Ex.16). However, her curling up is an indication that she is aware of the attention he is giving her (or more correctly attention to a particular part of her body), but she is also aware that the attention to her is unsatisfactory and so she attempts to bring it to an end – that is her response to Paul's attention. Already, there are 'overlaps' between stages and I will return to a fuller discussion of the implications from this in Chapter 7.

1b) Directing attention to self

Evidence that the deafblind person is directing attention to him/herself will be:

- I. The deafblind person makes an initial 'utterance' (in any medium) that directs attention to self (e.g. wiggling toes, tapping pens, vocalising);
- II. The deafblind person directs attention back to self by asking the partner to repeat or continue an action that was directed to the deafblind person (e.g. blowing on him /her, tapping on his / her arm, leg, hand etc)
- III. The deafblind person seeks engagement with the partner (e.g. reaching out to the other person).

Table 4: Summary of Evidence (Chapter 4 - Directing attention to self)

(Those marked with an asterisk (*) are available on the DVD).

Fragment Example	Reference number	Directing attention to self
		Sub-stage 1 – initial utterances
17	1FM/q and r	Fiona holds out her hand and Ian gently blows on it.
18	2FM/a	Fiona lifts her foot into the air.
19 *	2FM/c *	Fiona vocalises when Paul gets distracted.
20	2FM/d	Fiona lifts her foot to attract Paul's attention.
21	2FM/e and f	Fiona places Paul's hand on her stomach.
22	2FM/i	Fiona wiggles the toes of her right foot.
23 *	2FM/j *	Fiona extends her right foot out from her body.
24	3FM/e	Fiona brings her hand out from under the duvet.
		Sub-stage 2 – asking partner to repeat or continue an action
25	4FM/i	Fiona moves Paul's hand with her leg.
26 *	2I+G/b *	Gunnar is blowing raspberries onto Ingerid's hand and he stops. A few seconds later Ingerid taps his cheek to start the game again.
		Sub-stage 3 – seeks engagement with the partner
27	10RB/l	Rachel reaches out to take hold of Jon's hand.

In the massage video with Fiona and Paul there is a moment when Paul gets distracted eventually losing all physical contact with her as he engages in a conversation with a colleague. Fiona calls attention back to herself through a vocalisation (Ex.19). This is an utterance designed to bring attention to her whole self, as is the occasion when she extends one hand from under the duvet (Ex.24). In the April 2000 massage with Paul, there is an intriguing

moment, around 9 minutes after a communication breakdown between Paul and Fiona. During this whole time, Fiona has been curled up on her chair, with Paul making gentle rhythmic tapping patterns onto her body, when tentatively she wiggles the toes on her right foot (Ex.22) and then suddenly brings her right foot out from under her body (Ex.23), as if to say 'Now, I'm ready to give you another chance'. Her foot is a direct invitation to Paul to interact with her and as such is clearly calling attention to self, albeit an aspect of self.

However, there are clearer occasions when she does direct attention to aspects of herself: she lifts her foot (Ex. 18 and 20), she takes hold of Paul's hand and places it on her stomach (Ex.21) and she holds out a hand towards Ian and he gently blows on it (Ex.17).

There is a lovely moment from the June 2001 video (Ex.25) when Paul and Fiona have eventually agreed to a foot and leg massage taking place in her room. She is resting on her chair, and Paul's hands are massaging her right leg, whereas previously he had been massaging her feet. She then runs her left foot down her right leg, until it makes contact with Paul's hands and her foot pushes Paul's hand towards her feet. She finishes this sequence by resting her left foot on Paul's knee. This is a good example of drawing attention not just to self, but to a particular part of self and is an invitation to the communication partner to repeat an action that was directed to an aspect of self. We also see Ingerid asking Gunnar to repeat actions, in the sequence when he is blowing raspberries onto Ingerid's hand. He pauses twice and Ingerid gently taps his face, inviting him to continue the action, and thus continue attending to her (Ex.26).

Rachel directs attention to herself, whilst at the same time seeking engagement with Jon, when she reaches out to take hold of his hand, inviting him to interact with her (Ex. 27).

Attending to what self does

In these next two sections, actions by the deafblind person are the focus of attention for the non-deafblind partner.

2a) Responding to attention to what self does

Evidence that the deafblind person is responding to the communication partner's attention to what he/she is doing will be:

- I. The deafblind person responds by displaying emotion once they become aware of the partner's attention to their action (e.g. pleasure, distress, excitement);
- II. The deafblind person responds by continuing what he/she was doing after the partner has joined in with the action;
- III. The deafblind person responds by stopping what he/she is doing.

Table 5: Summary of Evidence (Chapter 4 - Responding to attention to what self does)

(Those marked with an asterisk (*) are available on the DVD).

Fragment Example	Reference Number	Responding to attention to what self does
		Sub-stage 1 – displaying emotion
28 *	1I+G/d *	Ingerid laughs after Gunnar slaps her hand.
29	5I+G/b	Ingerid smiles and makes a vocalisation in response to Gunnar's hitting the wall.
30	1FM/s	Fiona smiles as she squeezes Ian's hand onto her cheek.
31	3FM/j	Fiona vocalises when Paul does not respond to her slight turns away from the worktop.
32	2FM/f	Fiona puts her R hand over her R eye and L hand over L ear, she vocalises, then slaps her ear with her L hand, then bows her head. (All in response to Paul not stroking her stomach).
		Sub-stage 2 – continuing the action
33 *	14RB/g *	Rachel continues finger rubbing once Paul joins her.
		Sub-stage 3 – stopping the action
34	12RB/x	Rachel 'listens' to Jon as he repeats the action she was doing, rubbing her hands together.
35 *	12RB/h *	Rachel stops swaying, slightly shakes her head and then pushes Jon's hand away.

Ingerid laughs when Gunnar slaps her hand (Ex.28) and she smiles and vocalises when Gunnar claps the wall (Ex.29). Both of these responses come after Ingerid has initiated the original action, so she becomes aware that Gunnar has attended to her action at the point when Gunnar repeats it. So she is responding to Gunnar's attention to what she has initially done. This is similar to the occasion when Fiona smiles as she takes hold of Ian's hand to

squeeze it into her own cheek (Ex.30). The fact that Ian joins in with this action makes Fiona aware that he is attending to her action – her smile indicates her enjoyment at this.

When Paul insists on continuing to make coffee with Fiona (April 2001), maybe she thinks that she has made her alternative view clear by turning slightly away from the worktop, and she shows her irritation through vocalisations (Ex.31). So she is responding to Paul's attention to what she was doing, albeit that Paul's response is not what she was looking for. (It will be clear from later discussion of this example that subsequent analysis of this communication session suggested that Fiona's action of turning away was an attempt to direct attention elsewhere).

Similarly, in the April 2000 massage session with Paul, Fiona has three times asked Paul to massage her stomach but she seems annoyed at Paul's attention to what she is doing (i.e. lifting her shirt) and at one point she puts her right hand over her right eye and left hand over her left ear, then vocalises, slaps her ear with her left hand and eventually bows her head. All these displays of emotion seem to be in response to Paul not following her actions (Ex.32).

There are occasions when deafblind people continue the action they were doing, once they become aware that the partner has joined this action. For example, Rachel continues rubbing her fingers once Paul joins her in doing this action (Ex.33). And there are occasions when deafblind people stop what they are doing once they become aware that the partner has paid attention to

their action. For example, Rachel has been rubbing her two hands together in a circular motion. Jon begins to imitate this action and Rachel stops what she was doing. However, she does place her hands on top of Jon's to 'listen', as it were, to Jon's repetition of her action. This is not an example of Rachel stopping the action as a way of saying 'don't join in with my action', but it is clearly her action that is the focus of attention at this moment (Ex.34).

However, there is another sequence from this same day, when she is swaying from side to side while sitting on a sofa. Her right hand is placed near her right ear and Jon brings his right hand to touch her hand and he starts to sway with the same movement as Rachel. He then tries to bring his hand underneath Rachel's. She stops swaying, slightly shakes her head and then pushes Jon's hand away. A few moments later she begins to sway again. This does seem like an occasion when she has stopped her actions because her partner has joined in (Ex.35).

2b) Directing attention to what self does

Evidence that the deafblind person is directing attention to what he / she is doing will be:

- I. The deafblind person repeats an act (or a variation on the original act) that elicited an emotional response from the partner (e.g. laughter, praise etc);
- II. The deafblind person repeats an act that elicited a co-ordinated action from the partner;
- III. The deafblind person initiates an action while at the same time seeking engagement with the partner;
- IV. The deafblind person continues an action while inviting the partner or other person to join or view the action (e.g. looking towards someone to invite them to see what is happening).

Table 6: Summary of Evidence (Chapter 4 - Directing attention to what self does)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference Number	Directing attention to what self does
		Sub-stage 1 – repeats an act that elicited emotional response
		No evidence presented. (This will be discussed shortly).
		Sub-stage 2 - repeats an act that elicited co-ordinated action
36	1I+G/a	At the outset Ingerid frequently shakes her hand and then Gunnar shakes his in response. (They are holding hands at the time).
37	1FM/x (y)	Fiona rubs her L hand across Ian's L hand to invite him to play the clapping game again.
38	3RB/m	Rachel wiggles her toes after each time Paul follow her action.
39 *	2FM/k *	Fiona alternates wiggling the toes of her right then left foot.
40	2FM/l	Fiona directs attention back to the wiggling of her toes.
		Sub-stage 3 – initiates an action while seeking engagement
41	1I+G/b	Ingerid starts a new movement of shaking the tips of Gunnar's fingers.
42	1I+G/c	Ingerid slaps Gunnar's palm with her palm.
43 *	1FM/z (aa) *	Fiona rubs Ian's hand vigorously with both of her hands
44	1FM/r (bb)	Fiona and Ian – squeezing Ian's hand against her face.
45	1FM/j and k	Fiona brings Ian's arm over her head, so that she is being hugged by him and she does this again about 30 seconds later, while at the same time stopping Ian's rhythmic tapping on her back, shoulder and arm.
		Sub-stage 4 – continues an action and invites partner to join
46	12RB/j	Jon is following Rachel's swaying action. Rachel stops for a moment, takes holds of Jon's hand and continues swaying.
47 *	15RB/p and r	Rachel takes Jon's hand and begins swaying again.

At the outset of the exchange between Ingerid and Gunnar they are holding hands by their fingertips. Ingerid frequently shakes her hand and fingers and

Gunnar then shakes his in response (Ex.36). Each time he does this, Ingerid repeats the shaking movement. It seems clear from the video that it is she who initiates this game and it is to her hand/finger-shaking that she is directing attention. She is repeating the actions that elicited a co-ordinated response from her partner. This is similar to the occasion when Fiona rubs her left hand across Ian's left hand (Ex.37). She is using her actions to invite Ian to re-start the clapping game that she had played a few seconds before.

Perhaps Ingerid and Fiona are trying to keep their actions at the centre of attention? Rachel does this also as she wiggles her toes and each time Paul follows her action (Ex.38). Fiona does this also with Paul (April 2000), but she alternates between wiggling her right toes and left toes as if she is encouraging Paul to keep 'up to speed' in how he gives the co-ordinated action (Ex.39). In the previous section (attention to self), I highlighted when Fiona first extends her right foot out from her body, that she is directing attention to self (Ex. 20), but as the video unfolds it becomes clearer with this alternation of which toe is being wiggled that she is now drawing attention to what she is doing with her foot. At one point, Paul attempts to bring her shoulder and head into the interaction by gently tapping them in succession, but she immediately directs attention back to the wiggling of her toes (Ex.40). So this is no longer attention to self, but what self is doing – wiggling her toes.

Later in the sequence with Ingerid and Gunnar playing with hands, she slightly varies the shaking movement and moves her fingers right to the tips of Gunnar's fingers (Ex.41) and then a few seconds later she introduces a very novel action when she slaps Gunnar's palm with her palm (Ex.42). The fact

that she is constantly in direct contact with Gunnar and they have already established a turn-taking exchange has the effect of inviting him to participate in this action. The tactile nature of their contact means that direct engagement with the partner is sought and Ingerid is directing attention to all these new actions that she introduces.

There is a similar outcome in the exchange between Fiona and Ian, where they have established a series of games based around clapping and hand-rubbing. Then suddenly, Fiona places both of her hands either side of one of Ian's hands and begins vigorously rubbing her hands up and down Ian's hand (Ex.43). To some extent this appears as a very novel action from Fiona and it really alters the feel and direction of the exchange. However, it does closely resemble a movement that Ian had introduced about 10 minutes earlier.

Earlier in this exchange, the clapping game develops into a squeezing-hand game, when Fiona takes Ian's hand and squeezes it quite forcefully against her own face (Ex.44). These are both excellent examples of variations on the basic theme of hand-rubbing that has characterised much of this exchange and Fiona demonstrates that she is able to take these basic themes and work them to produce novelty and surprise. In both her and Ian's reactions we see that they both feel pleasure in such skill and cleverness.

Elsewhere in this sequence, Fiona brings Ian's arm over her head, so that she is being hugged by him and she does this on other occasions (Ex.45). This does have the effect of stopping Ian's rhythmic tapping on her back, shoulder and arm but it seems to be less about stopping this action from the partner

and more about introducing a hug. So Fiona is initiating an action which, again because of its tactile nature, has the immediate effect of seeking engagement with the partner.

There are a number of occasions when Rachel continues an action while inviting the partner to join in. For example, she and Jon are sitting together on a sofa. She is swaying from side to side and Jon attempts to make contact with her by bringing his right hand towards her right hand. She stops swaying, nestles the back of her hand into the palm of Jon's hand and then begins swaying whilst moving her right hand in the same rhythm. This has the effect of inviting Jon to join the swaying movement (Ex.46). She does this on another occasion also. She and Jon are again sitting side-by-side on the sofa and his arm is resting just above Rachel's shoulder but with some contact. She is swaying from side-to-side and as she does this she takes hold of Jon's hand and begins to sway it from side-to-side in the same pattern. Again, this has the effect of encouraging Jon to join her in this swaying movement. It is as if she is directing attention to her action and making sure that Jon understands that this is what they are doing together (Ex.47).

It should be noted that for the videos I used for this thesis, I did not code anything against sub-stage 1, where the congenitally deafblind person repeats an act that elicited an emotional response from the partner. It is difficult for a fully deafblind person to be aware of the emotion of the other person, except through direct physical contact and thus is more appropriately coded in other sub-stages. However, I have kept this sub-stage here, because with other

congenitally deafblind people who do have some residual vision and/or hearing it is possible to become aware of an emotional reaction without any physical contact. But also because without retaining it, the analysis would be conceptually confused. This is also an issue I will return to in the final chapters.

Attending to what self perceives

In these two sections, objects perceivable by the deafblind person are the focus of attention for the non-deafblind partner.

3a) Responding to attention to what self perceives

Evidence that the deafblind person is responding to the partner's attention to what he / she perceives will be:

- I. The deafblind person follows the attention of the partner to targets and displays some emotion;
- II. The deafblind person follows the attention of the partner to targets and displays interest such as explorative behaviour or moving towards the object / person / place;
- III. The deafblind person follows the attention of the partner to targets and displays some disinterest by withdrawing or moving away from the object / person / place.

Table 7: Summary of Evidence (Chapter 4 - Responding to attention to what self perceives)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference Number	Responding to attention to what self perceives
		Sub-stage 1 – follows partner's attention and displays emotion
48 *	3I+G/a, b, c *	Ingerid feels the crab, vocalises and slightly withdraws her arm.
		Sub-stage 2 - follows partner's attention and displays interest
49 *	16RB/f *	Rachel follows Paul's attention to his bracelets and begins to play with a loose thread.
50	11RB/d	Rachel follows Paul's attention to his bracelets and begins to play with a loose thread.
51	12RB/b	Rachel follows Jon's attention to his necklace. She brings her other hand closer and a few seconds later she is exploring the necklace with her R hand.
52	11RB/a	Rachel follows Paul's attention to a cup on the table, by pulling it towards herself with both hands.
53	10RB/e	Rachel smells the ball that Jon is bouncing against her arm.
54	10RB/g	Rachel smells the balloon that Jon brings towards her.
55	4FM/b	Fiona picks up the massage bottle after Paul has placed her hands on top of it.
56 *	2FM/f *	Fiona smells lotion bottle when it is presented to her.
57	1FM/h (i)	Fiona feels Ian's glasses when he gives them to her.
58 *	4I+G/a *	Ingerid follows Gunnar's attention to the laundry basket.
59	4I+G/b	Ingerid follows Gunnar's attention to the washing machine
		Sub-stage 3 - follows partner's attention and displays disinterest
60	10RB/p	Rachel rejects the silver tassels that Jon has shown to her
61 *	2PT/g *	Patrick rejects objects given by Paul

There is an occasion when Ingerid and Gunnar are both on a pier, lifting small crabs out of a bucket that is next to them and letting one of the crabs run up their arms. Early in this sequence, there are a few times when Gunnar places the crab in his hand and brings Ingerid's hand towards it to feel it (Ex.48). She does so, but on each occasion she vocalises (and we get a sense that she is not feeling entirely comfortable about this) and slightly withdraws her arm. She perhaps trusts Gunnar sufficiently to follow his attention to the crab, but she does display her emotional reaction to this.

We can see examples where the deafblind person follows the partner's attention to objects with interest. For example, there are many occasions when Rachel follows Paul's attention to his bracelets and then explores the loose threads. One such example (Ex.49) is when Paul places Rachel's hand on top of his wrist in contact with the bracelets. In another example (Ex.50) Paul positions his wrist under Rachel's hand and she begins to explore the bracelets. She follows Jon's attention to his necklace (Ex.51). At the start of the sequence, both of Jon's hands are lifting his necklace out from the collar of his T-shirt and Rachel's right hand is in contact with Jon's right hand. After a few seconds she brings her left hand closer to the necklace, although it never does make contact. With her right hand still in contact with Jon's hands, she begins to explore the necklace with her fingers. Rachel demonstrates similar exploratory actions when she follows Paul's attention to a cup on the table, and then pulls it towards herself with both hands (Ex.52). There is much more subtle exploration when Rachel smells a ball that Jon is bouncing gently off her arm. She moves her head towards it a few times, but twice she clearly

smells the ball (Ex.53). A few minutes later she touches, then smells a balloon that Jon has brought towards her (Ex.54).

In the massage sequence with Paul and Fiona, she picks up the lotion bottle after Paul has placed her hands on top of it (Ex.55). She does this also in the massage in April 2000 (Ex.56). Fiona also explores Ian's glasses (Ex.57) and we see a number of occasions when Ingerid follows Gunnar's attention to external objects: the laundry basket (Ex.58) and the washing machine (Ex.59).

But sometimes the deafblind person rejects or moves away from the objects. For example, when Rachel pushes away silver tassels that Jon has shown to her (Ex.60). Similarly when Paul presents some objects to Patrick that he had collected on the previous day's walk in the forest (leaves, bark, moss etc) and Patrick immediately pushes them away (Ex.61).

3b) Directing attention to what self perceives

Evidence that the deafblind directs the partner's attention to what he / she perceives will be:

- I. The deafblind person offers or gives an object to the partner (e.g. lifts the object towards the partner);
- II. The deafblind person takes an object from the partner (e.g. takes a cup out of their hand);
- III. The deafblind person points to or shows an object / person / place to the partner (e.g. takes the partner's hand to touch the object);

- IV. The deafblind person takes the partner to an object / person / place
(e.g. leads the partner to the kettle).

Table 8: Summary of Evidence (Chapter 4 - Directing attention to what self perceives)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference Number	Directing attention to what self perceives
		Sub-stage 1 – gives object to partner
62	15RB/j	Rachel passes the ball
63 *	4RB/f and i *	Rachel passes hand cream to Paul
		Sub-stage 2 – takes object from partner
64 *	20RB/k *	Rachel takes a drink away from Neil
		Sub-stage 3 – points to or shows an object
65	20RB/i	Rachel takes Lynne's hand towards the teapot.
66	4I+G/c	Ingerid hits the washing machine when it stops vibrating.
67 *	1C+D/c *	Caroline touches the guitar and then taps it. David taps the guitar and Caroline repeats the action.
		Sub-stage 4 – takes partner to an object
		No evidence presented.

Jon and Rachel have been interacting together using a ball. They are sitting beside one another on a sofa and Jon uses the ball to make contact with Rachel by gently pressing it against her arm. He then places the ball into Rachel's lap. She keeps it there for only a few seconds before picking it up and passing it back to Jon (Ex.62). When Paul and Rachel have been sitting beside one another, Paul has given Rachel a tube of hand cream in

preparation for a massage. Rachel explores it briefly before passing it back to Paul (Ex.63).

Sometimes the deafblind person will take an object from another person around which they have been interacting. There is a lovely occasion when Neil has been encouraging Rachel to feel the fact that he is drinking a cup of coffee. He places Rachel's hand on the cup and together they feel the cup as it moves towards Neil's mouth and the contents are drunk. When the (now empty) cup is on the way back down, Rachel moves the cup towards her own body, eventually taking the cup from Neil's hands and pouring some of his coffee into her cup (Ex.64).

A few minutes earlier on that same day in the café, Rachel finishes a cup of tea and puts the empty cup on the table. As she does so, Neil touches rests his hand against hers (which is still holding the cup). They sit together like that for a few seconds, before Rachel reaches out with her right open hand to search the table. Although, Neil interacts with her, she reaches out with her right hand to touch another person, Lynne, who is sitting on her right hand side. She touches that person only briefly before bringing her right hand back towards Neil, whilst at the same time taking hold of his left hand. Together, they gently move their left hands out towards the tea pot, and it appears as if Neil is being guided by Rachel, but after a few seconds Rachel breaks contact with Neil and reaches out again towards the Lynne. She takes hold of Lynne's hand and brings it towards the tea pot. Lynne places her own hand back on the table, but Rachel picks it up again and moves it back towards the teapot.

At that point Neil places his right hand under Rachel's left hand and brings it towards his mouth to sign 'DRINK'. (Ex.65)

When Ingerid and Gunnar are together in the laundry room, they have put all the clothes into the washing machine and they then feel the machine for a while as it vibrates. This becomes part of a story they will re-tell at another time. There is a point when Ingerid hits the top of the washing machine with her hand, and with this action she draws Gunnar's attention back to the machine, and this helps build further dramatic tension that aids future memories of this event (Ex.66).

David and Caroline are in the music room. They are sitting directly opposite each other, their legs are touching and there is a guitar placed between them. Caroline touches the guitar and then taps it which has the effect of directing David's attention more clearly to the guitar. David then taps the guitar and Caroline repeats the action. (Ex.67)

Attending to what self remembers

In these two sections, past events or absent targets are the focus of attention for the non-deafblind partner.

4a) Responding to attention to what self remembers

Evidence that the deafblind person is attending to the partner's reports of past events and absent targets will be:

- I. The deafblind person uses or completes an action, gesture or sign presented by the partner that originates in the past event that is being referred to;
- II. The deafblind person prevents an activity happening that has been referred to by the partner;
- III. The deafblind person makes an appropriate response to a gesture or sign with a previously negotiated meaning (e.g. stands up after a sign 'STAND' is given).

Table 9: Summary of Evidence (Chapter 4 - Responding to attention to what self remembers)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference Number	Responding to attention to what self remembers
		Sub-stage 1 – uses or completes an action, gesture or sign from the partner
68 *	3I+G/b *	Ingerid completes Gunnar's gesture about the crab.
69	3I+G/d and e	After Gunnar has mimed with Ingrid the action of bending down and placing the crab in her hand, Ingrid gestures the action of the crab running up her arm.
70	3I+G/f	The next day in the classroom Gunnar re-enacts with Ingrid the crab being picked up and placed in Ingrid's hand, she then gestures the action of the crab running up her arm (3:24)
71 *	4I+G/d *	Ingerid completes action of closing washing machine lid.
72	4I+G/e	Ingerid completes action of turning on washing machine.
		Sub-stage 2 - prevents an activity happening
73	3FM/j	Fiona vocalises when Paul continues with making coffee.
74 *	4FM/e *	Fiona doesn't sit after Paul signs 'SIT' to her
		Sub-stage 3 – makes appropriate response
75	3FM/i	Fiona turns towards the fridge after Paul has signed 'MILK' to her
76	3FM/l	Fiona turns out of the kitchen towards the dining room after Paul has signed 'SIT'.
77 *	4FM/g *	Fiona does sit after Paul signs 'SIT' to her
78	4FM/c	Fiona stands up after Paul has rubbed her hands across each other.

In the video with Ingerid and the crab we see Ingerid with Gunnar on the pier. He has placed a live crab into Ingerid's hand and it runs up her arm. Gunnar had run his hand up Ingerid's arm as the crab had moved. A few moments

later, Gunnar places Ingrid's hand near her wrist and it looks like he will imitate this movement once more. However, he hesitates and it is Ingrid herself who completes his movement by running her own hand up her arm (Ex.68). Sometime later, Gunnar mimes with Ingrid the action of bending down to pick up a crab (this is a real action that they had done earlier in this sequence) and then placing this imaginary crab in her hand. At that moment Ingrid gestures the action of the crab running up her arm, by running her fingers up her arm (Ex.69). The next day in the classroom we see a continuation of this story, when Gunnar re-enacts with Ingrid the crab being picked up and placed in Ingrid's hand. Again at that moment she then gestures the action of the crab running up her arm (Ex. 70). Elsewhere, we see Ingrid do something similar, when she completes a movement started by Gunnar that looks like the movement of closing the washing machine lid from earlier that day (Ex.71). And later in this same sequence, we see her complete an action of miming turning on the washing machine (Ex.72).

On the occasion in April 2001, when Fiona and Paul have been making coffee, at the point when they reach into the drawer together to bring out a spoon, Fiona does pick up the spoon, but she turns very slightly to her left, away from the cup and kettle and then vocalises (Ex.73). She repeats similar actions later in the sequence when it will be argued that she is directing attention to a past event. However, at this particular time she is responding to Paul's suggestion to take a spoon which she knows means that they will make the coffee together. She already has something else in mind, but her actions are a clear response to Paul's suggestion to carry on with the activity

together. In June 2001, when Paul and Fiona are negotiating where to have a massage, when he suggests they take a seat at the table in her living room and he first gives her the sign 'SIT' she refuses to sit but instead vocalises and indicates with her movements that she wishes to carry on moving around the room (Ex.74).

Prior to Fiona and Paul making coffee together (April 2001), she will have participated in similar activities with many other people and so we can imagine that she remembers previous coffee-making times. Some signs, gestures and actions will have particular meanings for her. When Paul signs 'MILK' at 17:17 (Ex.75) she does turn with him towards the fridge, where they take out a carton of milk and brings it to the cup and kettle. Paul then signs spoon and together they open the drawer. Later in this same extract, Fiona responds to Paul's signs 'SIT, when she immediately turns out of the kitchen and makes her way to the dining table (Ex.76). Earlier I noted when Fiona declined to sit when Paul signed 'SIT' to her (Ex.74), but later in this same sequence (June 2001), she does sit immediately after he has given her this sign (Ex.77). In a way this strengthens the refusal of the offer from earlier because it shows her understanding of the meaning of the sign. These are direct responses to a previously negotiated sign that refers to an absent target. In the June 2001 massage video, Fiona responds to Paul's gesture for 'MASSAGE' (rubbing her 2 hands across one another in an effort to mime the action of massaging one another's hands) by standing up (Ex.78). Analysis of the video after the event suggests that she interpreted this gesture as a previously negotiated sign 'FINISHED'. Paul thinks he is signing 'MASSAGE'

because that is what they have agreed to and he is attempting to show Fiona where the massage will take place (on her hands), but Fiona thinks he is signing 'FINISHED' and stands up. So although this led to a communication confusion (not a complete breakdown since by then they trusted each other enough to resolve this impasse), nevertheless, in that moment, Fiona is responding to Paul's 'sign', even though he was unaware at the time that this was what she was doing.

4b) Directing attention to what self remembers

Evidence that the deafblind person is making reference to a past event or object not present will be:

- I. The deafblind person initiates an action, gesture or sign that originates in the past event that is being referred to;
- II. The deafblind person reminds the partner of the 'rules' of an ongoing interactive sequence;
- III. The deafblind person uses an action, gesture or sign to refer to an object that is not seen, heard or felt;
- IV. The deafblind person uses a gesture or sign that has an agreed negotiated meaning with another person.

Table 10: Summary of Evidence (Chapter 4 - Directing attention to what self remembers)
(Those marked with an asterisk (*) are available on the DVD).

Fragment Example	Reference Number	Directing attention to what self remembers
		Sub-stage 1 – initiates an action, gesture or sign
79 *	3FM/j *	Fiona turns slightly to her left.
80 *	3FM/I *	Fiona turns slightly to her left, then stretches to a cupboard, then opens cupboard door.
81	3FM/I	Fiona opens the cupboard door.
82	3FM/I	Fiona turns and heads out the kitchen.
83	2FM/e 2FM/f	Fiona takes hold of Paul's hand whilst at the same time lifting her shirt. She takes his hand towards her stomach. She then lifts her shirt and takes Paul's hand to rub over her stomach. She rubs Paul's hand across her stomach. A third time she takes hold of Paul's hand whilst lifting her shirt, then pulls Paul's hand towards her stomach.
84 *	1PT/v *	Patrick reaches out to his RHS (where the cup would normally be).
		Sub-stage 2 – reminds the partner of the 'rules' of interaction
85	5I+G/a	Ingerid hits the wall again with her left hand while feeling the wall with her right hand. Again Gunnar pauses and Ingerid slides her right hand towards Gunnar until she touches him. She takes hold of Gunnar's hand and pushes it towards the wall.
		Sub-stage 3 – refers to an object not present
86	Paris DVD (Daelman et al, 1996)	Thomas points towards tunnel (21:07), then brings hand to cheek and ear (21:08), then begins circular motion with his arm and hands (21:14)
		Sub-stage 4 – uses a gesture or sign with an agreed meaning
87 *	1FM/a *	Fiona signs 'FINISHED' to Ian.
88	1FM/dd	Fiona signs 'FINISHED' to Ian
89	2FM/m	Fiona signs 'FINISHED' to Paul.
90	5PT/ii	Patrick signs 'WANT SIT'
91	4PT/m	Paul is standing behind Patrick and presents his hands to him. Patrick signs 'WANT' and pushes Paul's hands away from his body. Paul retains contact with Patrick and he again signs 'WANT. YES. WANT SIT. SIT'.

When Fiona and Paul are making coffee (April 2001), there are numerous examples of Fiona directing Paul's attention to other times she has made coffee, but this only becomes apparent in viewing the whole sequence of events. Paul is unaware of the meaning of these movements at the start of the sequence and only really with the intervention of the person who was operating the video camera (and who knew Fiona particularly well), does Paul become more aware of what Fiona is trying to tell him. For example, after Paul has signed 'SPOON' to her and they open the drawer together, take out the spoon, Fiona turns slightly away to the left (Ex.79). Paul does not know what this means at this stage, but she is perhaps already trying to direct Paul's attention to previous times when she has made coffee, because with this movement she is trying to turn towards the cupboards that are behind her.

As the sequence unfolds this becomes clearer and we will see soon why this movement is important. Soon after pouring some milk into the cup, Fiona vocalises and again turns away to the left. At the point when Paul guides Fiona's hand in a reaching out movement towards the fridge to tell her about putting the milk back in the fridge, she reaches instead for the cupboard above her head. She reaches into the cupboard and brings out a cereal box (Ex.80), which she places on the worktop and then turns away from the cupboard. The person doing the filming then suggests she is maybe looking for a 'top' to wear (Fiona preferred to wear a top when she was having a drink because she didn't like her blouse or jersey to get wet). Paul signs 'TOP' to her and she turns around with him, to face the cupboards opposite. They

reach in together (Ex.81) and bring out a top, Paul signs 'SIT' and she heads out of the kitchen (Ex.82).

There is clear evidence that Fiona both responds to and directs attention to a past event, but it seems clearer with hindsight that from early in this interaction, Fiona was attempting to direct Paul's attention to this final step of the coffee-making task. Only later did he find out that sometimes she comes into the kitchen with other people and goes straight to this cupboard for her top and it was this event that Fiona's actions and gestures were referring to. We could interpret all of this to mean, 'Yes I want a coffee, but could you make it for me?' and the first time she asks this (by turning away from the kettle) is a full two minutes earlier in the sequence.

Something similar happens when Paul and Fiona first met in April 2000. Fiona and Paul were trying to negotiate which kind of massage he would give her. It looks like a foot massage has been agreed and this is where Paul begins but three times Fiona lifts her shirt and / or directs Paul's hand to her stomach (Ex. 83). Perhaps Fiona is thinking of previous massages where people have massaged her stomach, but this is not a situation she has shared with Paul. This was true also of the coffee-making outlined above – Fiona was introducing a step that Paul did not know about, but nevertheless she is still directing the communication partner's attention to a past event.

Patrick initiates a gesture in an attempt to direct Joe's attention to an object that is not present, but the movement he uses comes directly from the activity that he has participated in many times before. He is sitting on the ground in

the forest and reaches out to his right hand side, as if stretching for a cup that would normally be there (Ex.84).

In the episode with Ingerid and Gunnar where they are clapping the wall, it is clear that once both partners understand the 'rules' of this game, Gunnar delays responding to one of Ingerid's claps on the wall. Ingerid hits the wall again with her left hand while feeling the wall with her right hand. But Gunnar continues to delay and one second later Ingerid slides her right hand towards Gunnar until she touches him. She takes hold of Gunnar's hand and pushes it towards the wall. It looks clear that she is reminding him of the 'rules' of this ongoing interactive sequence (Ex.85).

In an activity with Thomas and his teacher, the teacher has been inside a tunnel and Thomas has been feeling the outside of the tunnel as his teacher moved around inside. Once she has come out of the tunnel, she tries to introduce a ball but Thomas directs his teacher's attention back to the tunnel, effectively asking her to go back into the tunnel. At the moment when the teacher brings the ball into his lap, Thomas (who is holding his teacher's hand) points towards the tunnel. He then brings his hand to his cheek and to his ear. Finally, with his left hand he touches his right hand, then with both hands together, he begins a circular motion. All of these movements and gestures have been used throughout the tunnel game completed only a few seconds earlier. This is a clear example of Thomas directing his teacher back to a past event and, at least in his mind to begin with, an absent target – the tunnel (Ex.86).

Early in the meeting between Fiona and Ian (2000), she signs 'FINISHED' (Ex.87) and on this occasion, Ian signs OK and moves away from her. Fiona then curls up, but it was she who brought this part of the session to a pause, using a sign that both of them understand. Later, at the very end of the sequence, Ian takes hold of Fiona's hand and brings it towards his chest and taps his chest twice. Before he can do any more, Fiona signs 'FINISHED' (Ex.88) and Ian confirms this by signing 'FINISHED' also. Fiona also signs 'FINISHED' in the April 2000 meeting with Paul at the very end of the session. Indeed it is the sign from Fiona that Paul uses as the cue to bring the session to an end (Ex.89).

When Patrick is walking through the forest with Joe he signs 'WANT SIT' (Ex.90). The camera unfortunately does not capture how Joe responds to this, but the signing from Patrick is clear. On another occasion, there is a more complex set of signs and gestures, all of which seem to indicate that Patrick wants to be left alone. Patrick is sitting at his kitchen table with Paul standing behind him. Paul presents his hands to Patrick and he (Patrick) signs 'WANT' and pushes Paul's hands away from his own space. However, Paul retains contact with Patrick and now Patrick adds in more signs 'WANT. YES. WANT SIT. SIT'. Paul signs 'SIT' twice and then Patrick again pushes his hands away from him. Paul steps back but remains close to Patrick. Then after a brief pause, Patrick finds Paul's arm and again pushes it away from his own space. Paul signs 'SIT' and moves to sit next to Patrick, while all the time remaining in contact with him. Once he has sat down, Paul signs 'SIT' again.

Patrick takes Paul's hand and guides it over the table and then pushes it away behind him. Paul then moves away from Patrick. (Ex.91)

Discussion

There are two key findings that emerge from this study:

- 1) Congenitally deafblind people can respond to and direct attention at all four stages of Reddy's model.
- 2) When doing so, congenitally deafblind people use a range of movements, gestures and signs, primarily in the tactile medium but sometimes directed to perceptual modalities that they themselves do not have (e.g. vision).

Three implications arise from these findings:

- Firstly, and arguably the most important, non-deafblind partners must recognise these abilities within their congenitally deafblind partners because they support the view that congenitally deafblind people can be equal communication partners. This points to essential attitudes that non-deafblind partners should adopt which I will shortly explore more fully.

- Secondly, it becomes important to understand how deafblind people use movements, gestures and signs to respond to and direct attention because this then informs non-deafblind partners about ways to share attention to these same objects. This suggests a range of skills and approaches that non-deafblind partners will need if they are to learn how to share attention in the tactile medium.
- Finally, it provides convincing evidence that congenitally deafblind people are able to move away from the here-and-now. If our interactions are to be respectful and productive then it becomes incumbent on the non-deafblind partner to take this journey with them. This suggests that non-deafblind partners should combine essential attitudes with an appropriate range of skills and approaches so that they can become fellow travellers and confidently journey away from the here-and-now.

Essential attitudes required by non-deafblind partners

I will first consider why it is important for non-deafblind partners to recognise that congenitally deafblind people can both respond to and direct attention to self, what self does, what self perceives and what self remembers? They must recognise the abilities of their deafblind partners, otherwise they run the risk of minimising the communicative and language potential of their

congenitally deafblind partners (Rødbroe and Souriau, 2000; Hart, 2003 and 2006). Chapter 2 highlighted that all humans are communicating beings, from birth. This is true for everyone we come across in our lives, including all congenitally deafblind people. This is an important attitude that must be adopted by all communication partners, because to do otherwise risks comments such as 'Brenda doesn't really have any communication' or 'Don't worry about Fred, he's happy sitting there on his own, he has a communication impairment and he's not really aware of what's going on around him'. We risk causing people to give up on the world and become very passive. We risk meeting people who are so frustrated with the communication process that they become aggressive towards themselves and others. And all the time, we must remember that these are all people who are our 'innate companions and co-operators' (Trevvarthen, 1995).

Göncü (1998) highlights the importance of 'prolepsis' in the achievement of intersubjectivity, where both participants make an effort to understand each other. He is building on Rommetveit's notion that partners must have 'faith in a mutually shared world' but perhaps more crucially Rommetveit's idea that intersubjectivity has to be pre-supposed for it to be achieved (Rommetveit, 1979, p.96). Göncü additionally suggests that mutual trust is an essential element in the process of achieving intersubjectivity. Thus it is important that non-deafblind partners pre-suppose that their congenitally deafblind partners are able to be intersubjective. Only with this attitude can intersubjectivity be achieved. Non-deafblind partners must grant potential to their deafblind partners. Again, only with this attitude is there a possibility that potential can

be realised. Partners must believe that the congenitally deafblind person has the potential to become an equal communication partner, indeed an equal human being.

Even with the examples of communication breakdowns highlighted in Chapter 1, we must understand that partners still strive for intersubjectivity. They still attempt to understand others and be understood by them. Indeed, all of us continually strive to be recognised as individuals (Markova, 2008).

Communication breakdowns in reality give partners a chance to learn something new about the other. Linell (1998) states that such breakdowns can be the testing ground for trying out new interpretations and I would argue that to acknowledge a breakdown in communication is itself a good starting place for a renewed struggle for intersubjectivity.

It is not, however, always a straightforward process for partners to adopt this stance. Perhaps outside influences come to bear on any communication partnerships. Markova highlights that 'interpersonal dialogues cannot be reduced to here and now exchanges of gestures and words' (Markova, 2006, p.133). Hermans (Hermans, 2006) highlights Markova's arguments that dialogical relationships are not restricted to an ego and an alter but that there are also 'third parties' involved. A 'third party' can either enter the dialogue from the outside or it can be an internal characteristic of dialogue. He highlights amongst others that traditions, institutions, friends and colleagues can all speak through dialogical participants.

In the field of deafblind education, let me consider some examples of potential 'third parties'. The training and professional background of the non-deafblind partner might act as a third party and influence any ongoing communication exchange. Perhaps some partners have been taught that deafblind people do not communicate; or that BSL is what they should use; or that they are supposed to ignore movements and gestures coming from the deafblind person and concentrate instead on using an augmentative communication device. Perhaps a non-deafblind partner's own beliefs influence their interactions with deafblind people: perhaps they believe it's a real shame for deafblind people, living in a dark and lonely world; or they believe they are the skilled language user and the teacher and thus are not prepared to relinquish their power. There could be an equal number of 'third parties' for the deafblind partner. For example, they may believe no-one responds to their movements and gestures so they stop using them; they may get frustrated that not all partners seem to understand them equally well; they may have learned to become passive and wait for activities to happen to them.

I have deliberately focused here on negative examples, because in many instances this will be the reality for many deafblind people. I wish to strengthen the view that it really does matter which attitudes are adopted by non-deafblind partners.

The evidence presented in this chapter demonstrates that congenitally deafblind people can respond to and direct attention at all four stages of Reddy's models. So this evidence perhaps now becomes a 'third party' in its

own right, influencing subsequent communication partnerships because it directly impacts upon attitudes. If congenitally deafblind people are to become equal communication partners, this potential must first be recognised. It has, therefore, been important in this chapter to establish that deafblind people can be aware of the objects of their partner's attention, because this then demonstrates that deafblind people and their partners are able to meet at a common touchpoint. In turn, this becomes the starting point for their journeys beyond the here-and-now. It follows that congenitally deafblind people are potential equal communication partners.

Skills and approaches required by non-deafblind partners

At this point it becomes useful to consider the ways in which deafblind people use movements and gestures to respond to and direct attention at the first three stages of Reddy's model. This informs non-deafblind partners about skills and approaches they will need so that they can share objects of the deafblind person's attention. (The fourth stage, what self remembers, will be considered separately in the next sub-section).

Deafblind people become aware of attention to self when this takes place in a tactile form, either directly onto the person's body (a direct touch, or the feel of a breath etc) or onto some other object with which the deafblind person is in contact (e.g. someone taps a sofa that the deafblind person is sitting on). If a deafblind person is touched on a particular part of the body, often it is this part of the body that is moved in response (Ex.7). However, sometimes the response is at a wider level, such as when Rachel's arm is touched and she

makes her hand available (Ex.12 and 13) or when Fiona moves under the duvet when Paul taps the outside of the duvet (Ex.11). Then at other times the response is at a more global level, such as when Fiona jumps out from under her duvet when Paul taps on top of it (Ex.10) or when she stands up in response to Ian's attention (Ex.4).

Already, in that previous paragraph there is an example of deafblind people responding in ways that are directed towards modalities that they cannot perceive. When Fiona vocalises, for example, she cannot know for sure that her partner hears this. Should the partner let the deafblind person know that they have perceived their response? If an infant, for example, makes a small vocalisation in response to attention from an adult, the adult might interpret this as enjoyment and say something like 'Oh, you like this do you?' The adult interprets this vocalisation as a declarative comment. Should something similar happen for deafblind people? When Fiona vocalises, should Paul let her know in some way that he has heard this vocalisation? Perhaps her vocalisation is not outwardly directed, but this might true also for infants, yet often their vocalisations will be treated as outwardly directed comments.

When directing attention to self, again sometimes vocalisations are used (Ex.17), perhaps directing attention to the whole self. Other times the deafblind person moves a particular part of the body: a foot (Ex.21 and 22), a hand (Ex.18 and 24), toes (Ex.19) which could be directing attention to the whole self or to that particular body part. It is clear, however, that whenever the deafblind partner directs attention to self there must be direct physical

contact at that time, otherwise the deafblind partner cannot be certain that their request has been perceived by the partner. Perhaps to overcome this, the deafblind partner will often take the hand of their partner directly to their body, such as when Fiona takes Paul's hand to her stomach (Ex. 23) or simply reach out to make contact with another person, similar to when Rachel reaches out to take hold of Jon's hand (Ex.27). Sometimes the deafblind person can use touch to remind a partner to continue attending to self, such as when Ingerid taps Gunnar's cheek to start re-commence blowing onto her hand (Ex.26).

Does the same process occur when responding to or directing attention to what deafblind partners are doing (Acts by self)? Obviously, it cannot be as simple as the deafblind partner performing an action (e.g. swaying from side to side), whilst a partner observes this from a distance and smiles, thus encouraging the deafblind person to repeat, continue or stop the action. A fully deafblind person will be unaware that their actions have been overseen. I will contrast this with the example of Serge, who has some residual vision and who laughs as Anne reacts to his clapping (Daelman et al, 1996:16:22). This video is not from the data set prepared for this thesis, but I use it here partly because it is well known in the deafblind field but primarily because the deafblind people on my research videos are all profoundly deafblind.

Nevertheless, these results do demonstrate that congenitally deafblind people can respond to and direct attention to their actions, if this is done within the tactile medium.

Congenitally deafblind partners will sometimes respond with displays of emotion (Ex.28); or they continue actions, such as when Rachel continues to rub her fingers once Paul has joined in (Ex.33); or stop actions, such as when Rachel stills and rejects Jon's hands (Ex.35). However, they do this once they have become aware of the partner's attention through their tactile sense, so it is incumbent upon the non-deafblind partner to make sure that their attention is conveyed through direct or indirect touch, in the way that we saw earlier with attention to self.

There is a wealth of evidence that deafblind people direct attention to what self does through the repetition of acts that elicited co-ordinated actions. Sometimes, this action is done when already in direct physical contact with the partner, such as Ingerid shaking her hand whilst in contact with Gunnar (Ex.36) or when Fiona rubs her hand across Ian's hand to invite him to play the clapping game again (Ex.37). However, sometimes there is no contact when the action is presented, such as when Rachel or Fiona wiggle their toes (Ex.38 and 39). This is another indication that deafblind partners sometimes direct utterances towards sensory modalities that they themselves do not possess. In turn, this raises an intriguing question for the non-deafblind partner: how should they respond to such actions from a fully deafblind person when it is vision they are using to observe the action and vision is a sensory modality unavailable to the deafblind partner?

When Fiona wiggles her toes, for example, and Paul then simply touches her toes a few seconds later, does she wonder how he managed to do this when

he wasn't actually in physical contact with her at the time she wiggled her toes? This is related to the 'magical objects' discussed in Chapter 2. Or has Fiona learned that some partners seem able to respond to her even though they are not in physical contact with her? For some deafblind people, even fully deafblind people, this could be explained by the fact that they may have had functional residual vision at earlier points in their life and they are drawing on visual memories of how the world works. This may be true in Rachel's case, for example because she had residual vision until her teenage years. However, for Patrick this is not true since he has never had vision but he too directs attention to the visual medium. It then becomes clear that some people, fully deafblind since birth, do appear to understand that their partners can perceive actions that are directed towards sensory modalities that they themselves do not possess. This has important implications, especially when I look in Chapter 6 at how partnerships develop negotiated meanings from movements and gestures, because I will demonstrate that sometimes deafblind partners direct such movements and gestures outwards into space with no direct physical contact between them and their partners. Does this indicate a belief in their partner, indeed a trust, that they will be responded to?

Within these videos I did not discover clear examples of deafblind people directing attention to an act that had elicited an emotional response from the partner. For similar reasons to those discussed previously, it is not difficult to see why it would be problematic for the deafblind person to notice another person's emotional reaction. Deafblind partners, however, can become aware of their partners' emotional reactions through tactile means (because the

emotions are entirely captured within the movement), but this raises yet another question. Is the deafblind partner repeating an act because of the emotional reaction of the partner or because of the co-ordinated action? For example, just after Fiona has rubbed Ian's hands vigorously (Ex.43), Ian smiles and makes direct physical contact with Fiona. She repeats the act of rubbing hands, but is this in response to the real emotion being shown by Ian, or the hand-rubbing that he has imitated? In many respects, in order to demonstrate the main aims of this chapter, it is not important. What is clear is that Fiona *does* repeat an act that got a response from her partner. Of this we can be certain.

However, if touch is the medium through which the partner registers their attention, this fundamentally alters interactions because there is direct contact and not simply attending from a distance. For example, Paul observes Rachel rubbing her thumb and forefinger together. One way he can directly let her know this is to touch her thumb and fingers and repeat the action onto her hand. Does this mean that it has developed into an interactive game, as opposed to Paul simply observing Rachel's action, she knowing that he has observed this action, and then she responding to this by continuing the action? There has to be tactile contact in order for Rachel to become aware that Paul has observed her action but non-deafblind partners might ask: Is there a way to tactually 'observe' or 'listen' to the action, without leading the actions in a novel and disconnected direction? How could a non-deafblind partner confirm via touch that they have heard and understood? And indeed, they are still listening.

The data answers these questions and we do see that sometimes non-deafblind partners do 'listen' in the tactile medium. For example, Jon joins in the swaying action with Rachel by taking hold of her hand (Ex.35) and Paul places his hands on Rachel's as she rubs her fingers on her right hand (Ex.33). We see Rachel imitating this approach when she places her hands directly on Jon's hands as he repeats the hand-rubbing that she was doing a few moments earlier (Ex. 34). And when it comes to directing attention to what self does, deafblind people often make sure that they seek this direct tactile engagement with their partner whilst directing attention to their actions. For example, Fiona rubs her hands across Ian's hand to invite him to play the clapping game again (Ex. 37), Fiona rubs Ian's hands vigorously (Ex.43), Ingerid slaps Gunnar's palm with her palm (Ex.42), Rachel takes hold of Jon's hand and then begins the swaying action (Ex.47). Perhaps, this is one way of making absolutely sure that your partner is really attending to you and your actions?

There is also an abundance of evidence that deafblind people can respond to and direct attention to what they perceive. It almost goes without saying that for fully deafblind people the medium of perception for objects or people is most often tactile, but it could be smell or taste also. When Rachel met me for the first time (not captured on video), as I came towards her, she drew me in closely and smelled under my arms! She does this also with her father and it seems to be a way that she categorises people. She does this also with objects, sometimes incorporating her gustatory sense into this general building up of a picture of the world. Rachel once picked up a menu, for

example, and first brought it to her nose and then she felt round the edge of the menu with her tongue. Although this is captured on video, I have not included this footage as part of this thesis, because this is a solitary task she is engaged in and it is neither in response to a partner's attention to the menu, nor is she directing anyone else's attention to it.

Congenitally deafblind people follow the attention of their partner to objects and display emotions (e.g. Ingerid's reaction to the crab being placed in her hand, Ex.48); displaying interest through smelling an object (e.g. Fiona with the lotion bottle, Ex.56; Rachel smelling a ball (Ex.53) and a balloon (Ex.54); or through tactile exploration (e.g. Fiona with Ian's glasses, Ex. 57; Rachel following Paul's attention to a cup and pulling it towards her, Ex. 52); or displaying disinterest by pushing objects away (e.g. Rachel rejects the tassles that Jon has passed her. Ex.60). Sometimes, the object of the partner's attention is not immediately to hand, but the deafblind person will follow the movement of the partner in the direction of the object, all the while in tactile contact (e.g. when Ingerid follows Gunnar's movement downwards to the laundry basket which is on the floor, Ex.58).

There is much evidence to show that deafblind people can direct attention to what they perceive, by passing objects to the partner (e.g. Rachel passes a ball to Jon, Ex. 62), taking objects from the partner (e.g. Rachel takes Neil's drink, Ex. 64) or directing utterances towards the partner while touching an object (e.g. when Caroline taps on the guitar to draw David's attention to it, Ex.67). It was more difficult to find evidence of deafblind people pointing to or

showing an object, but mostly this difficulty relates to the particular examples I have, not to their ability to do this. Primarily, where the deafblind person is arguably 'showing' an object to their partner, this has more of the character of 'giving' the object to the partner and that is how I have coded the examples I observed on these videos.

I did not code anything in the sub-stage defined as 'The deafblind person takes the partner to an object/person'. Again, this in part relates to the examples that I had on my videos with fully deafblind people, because there are examples elsewhere of deafblind people with residual vision directing attention to objects or people in this way. That is why I left it within the operational definitions because it is possible. However, for fully deafblind people, I might not expect to see this happening for objects that are perceived through the distance senses of vision or hearing. An object out of arm's reach is not an object that can be perceived, except if it was emitting a smell. So for example, if there is hot food on the table and the deafblind person leads their partner to this, then such an action could have been coded here. But I saw no such examples in these communication sessions. If an object is on a shelf (for example, a hairbrush) out with the reach of the deafblind person it is not perceivable to the deafblind person. However, if the deafblind person then takes their partner to this object, to my mind, this is directing attention to what self remembers, *not what they perceive*, because the deafblind person is recalling where an object last was. Again, this is an issue I will return to in the final chapter.

In summary, this sub-section has discussed a number of issues arising from movements and gestures used by congenitally deafblind people, that suggest a range of skills and approaches necessary for non-deafblind partners if they are to engage successfully with congenitally deafblind people. They should primarily be observant to any movements or gestures coming from their partner. They should consider any communicative possibilities inherent in these actions. For example, does a movement from a deafblind person indicate a response to attention? Is the non-deafblind partner able to follow any attempts from the deafblind person to direct their attention somewhere? There are particular issues to tease out about whether a deafblind person is directing attention to self, or simply aspects of self, or even an act by self. The non-deafblind partner needs to understand the situation and glean clues about what is in their partner's mind.

In directing attention to objects or people, the non-deafblind partner should be very clear, or at least very curious, about the salient features, particularly tactile, but could also include olfactory or gustatory. In essence, the non-deafblind partner needs to move closer to a tactile 'outfeel' (as opposed to 'outlook') on the world. This means slowing the world down and it means a full and complete immersion in any experience (Hart, 2008a). Non-deafblind partners should attend to any object not simply from a seeing-hearing perspective, but from a tactile and bodily perspective.

Finally, non-deafblind partners need to be mindful that although their deafblind partners may direct utterances towards the visual or auditory modalities, they

must themselves direct all of their communicative utterances towards deafblind partners in a fully perceivable tactile way. This will mean non-deafblind partners closely observing their deafblind partners to understand more effectively how it is that they become aware of attention in the first place. The evidence presented in this chapter demonstrates how congenitally deafblind people do this. Non-deafblind partners need to learn from them.

Moving away from the here-and-now

There is much evidence that congenitally deafblind people are able to respond to and direct attention to what self remembers. This links directly to the central hypothesis of this thesis: that partnerships are able to move away from the here-and-now. Chapter 6 will look at this in more detail but at this point I wish to explore what lessons can be learned from the evidence presented in this chapter.

Being able to respond and direct attention to what self remembers, Reddy's Stage 4, would be evidence that the deafblind person is able to move away from the here-and-now. In many respects this can then be the gateway to an exciting world beyond, where partnerships can talk about the past, plan for the future and discuss people and objects that are not present at this time. These are the functions that language is particularly well suited to. This is likely to be why it developed in the first place. Have I presented sufficient evidence that congenitally deafblind people can do this? In terms of responding to their partner's attention to past events or absent targets, then yes, there is sufficient evidence. When Ingerid completes Gunnar's gestures that refer to

the crab (Ex.68, 69 and 70) or when she completes Gunnar's remembered action of putting down the washing machine lid (Ex. 71) and then switching the machine on (Ex. 72), we see that these gestures have grown directly from the actual activity - they are very iconic. Indeed observing these gestures and then watching the real situation it is possible to see the direct relationship between the movement of doing an activity and the gesture that subsequently refers to it, what others might call Bodily Emotional Traces or BETS (Daelman et al, 1999b; Gibson 2005).

This is evident too when deafblind people direct attention to a past event. They use gestures that come directly from previous events, such as when Fiona turns slightly to her left when she and Paul are making coffee (Ex.79 and 80). This was described more fully in the results section, making clear that only with the intervention of someone who knew her well was Paul able to 'understand' these movements and relate them to previous events. This is another good example of communication breakdown at the level of partnership and is justification for the view expressed earlier in this thesis, that only at the level of partnership can solutions be found to such breakdowns. Fiona is obviously able to refer to a past event, but in this instance, given that he had never made coffee with her prior to this, Paul has insufficient experience of how she has made coffee in the past to know what her slight turn to the left means. However, Fiona demonstrates her metacognitive skills as a communicator by changing the way she gives this message.

Deafblind people also both respond and direct attention using signs that have previously negotiated meanings. For example, Fiona responds to the sign 'SIT' on one occasion by refusing to sit (Ex. 74) and also by going to find a seat (Ex.76 and 77). She also responds to the sign 'MILK' (Ex. 75). There is one occasion when it looks as if she misinterprets an action from Paul as he rubs her hands across each other. Paul is trying to tell her that he will massage her hands, but she immediately stands up. With the benefit of hindsight, Paul later learned that she understands that movement as the sign 'FINISHED' (Ex. 78). And indeed, we can understand this more clearly when we consider that she also uses this sign expressively to direct attention, such as when she signs 'FINISHED' to Ian (Ex.87 and 88) and also to Paul (Ex.89). Patrick also uses signs expressively to direct attention, such as 'WANT' and 'SIT' (Ex.90 and 91). All of these signs have in common that they are tactile amendments to conventional BSL signs.

Conclusion

It is clear from the evidence presented in this chapter that congenitally deafblind people can operate at all four stages of Reddy's model, responding to attention and directing attention to a) self; b) what self does; c) what self perceives and d) what self remembers? This discussion has highlighted the crucial importance of simply recognising the abilities that congenitally have, because this has a direct impact on attitudes that need to be adopted by non-deafblind partners: principally that they must recognise that their deafblind

communication partners can be communicatively equal to themselves. Then learning more about the range and types of movements, gestures and signs that congenitally deafblind people use at each of these stages suggests ways in which non-deafblind partners can share attention to the same objects. Primarily this must take place in the tactile medium. However, it is true also that congenitally deafblind people sometimes use movements, gestures and signs that are directed to the perceptual possibilities of their partner (e.g. vision), allowing us to see that deafblind people are already attempting to 'conceive, create and communication about social realities' (Markova, 2006, p.125) in terms of a non-deafblind partner. Do non-deafblind communication partners equally do this, attempting to conceive, create and communicate about the world from a tactile perspective? This will be the focus of Chapter 5.

Chapter 5

Non-deafblind communication partners – expanding their awareness of the objects of their congenitally deafblind partner's attention.

Introduction

This chapter will demonstrate that non-deafblind partners can respond to and direct attention to a) self; b) what self does; c) what self perceives and d) what self remembers *and* they can do this in the tactile medium. This means non-deafblind partners are journeying towards a tactile perspective on the world. All of the non-deafblind partners discussed throughout this thesis are already fluent language users and thus it may seem self-evident that they can already function at all four stages. This may be true if we were only considering spoken or visually signed languages. However, we cannot simply presume this is also true when we are considering partnerships with congenitally deafblind people, where communication and language has to take place in the tactile medium, in a manner that is perceivable by the deafblind person.

Thus the central questions for this chapter are: can non-deafblind partners respond to the congenitally deafblind person's attention to self (i.e. attention to

the non-deafblind partner), to what self is doing, to what self can perceive and, finally, to what self remembers? And can they also direct attention to each of these? In this chapter, I will only code examples at each of these stages that happen in the tactile medium.

Reddy (2008) suggests that attending may be a very different experience in a sensorily deprived world. This chapter is really an exploration of how close non-deafblind partners can move to their deafblind partners' tactile perspective on the world around them. In this chapter, the focus of attention within the partnerships is what the deafblind person is attending to, so it asks for real skill on the part of the non-deafblind partner to not only follow this attention but to mark their own attention in ways that are perceivable by the deafblind person.

The final discussion at the end of this chapter will explore the range and types of movements, gestures and signs that non-deafblind partners will have been shown to use at all these stages and explore the extent to which they meet the challenges set by the implications discussed in Chapter 4. The discussion will end by asking what the implications then are for communication partnerships involving at least one congenitally deafblind person, in jointly attending to past events and absent targets. These implications will be considered more fully in Chapter 6.

In Chapter 3 I have already detailed the research methods that are employed in this study, highlighting why these particular methods were used. Before

moving to the results section though, I will summarise which DVDs are used in this chapter:

- 1) 4 sessions with a fully deafblind woman, Ingerid and her communication partner, Gunnar.
- 2) 1 session with a young deafblind woman, CM and her communication partner, David. CM has some residual hearing.
- 3) 4 sessions with a fully deafblind woman, Fiona. There is 1 session with Ian and 3 sessions with Paul.
- 4) 12 sessions with Rachel who is fully deafblind.
- 5) 6 sessions with Patrick who is fully deafblind.

(Appendix 2 lists which communication sessions appear in each study and associated chapter).

Results

At the final stage of the analysis I was tackling these two aims:

- 1) To demonstrate that non-deafblind partners can *respond to* attention a) to self; b) to what self does; c) to what self perceives; and d) to what remembers.

- 2) To demonstrate that non-deafblind partners can *direct the attention* of a congenitally deafblind person a) to self; b) to what self does; c) to what self perceives; and d) to what remembers.

As with chapter 4, there were many examples of each in the communication sessions, but for the purposes of this thesis I have only described some of them here. I have chosen examples that best illustrate each stage and to aim for a balance of examples from across the range of videos that were available to me. As reported in Chapter 3, I will not necessarily present an equal number of examples in each sub-stage but instead I will present sufficient evidence that non-deafblind partners can operate all four stages. The results will be reported under each of the four stages of Reddy's model, first how

communication partners responded to attention at this stage, and then how they directed attention. Each section is laid out as follows:

- 1) A statement of the operational definitions for this stage;
- 2) A summary table listing each piece of evidence that non-deafblind partners can both respond to or direct attention at each of the four stages of Reddy's model;
- 3) Narrative descriptions of each piece of evidence, listed under each of the four stages. I have written these narrative descriptions so that they generally follow the order of each operational definition and all of its sub-stages, but in such a way as to tell an engaging story about how non-deafblind partners attend at each of these stages. Within these narrative descriptions I will also begin to draw out general themes that will be more fully considered in the discussion section.

Attending to self

In these two sections, the non-deafblind partner him/herself is the focus of attention for the congenitally deafblind person.

1a) Responding to attention to self

Evidence that the non-deafblind partner is responding to the congenitally deafblind person's attention to him/her will be:

- I. The non-deafblind partner responds by displaying emotion or co-ordinating his /her expressions with the congenitally deafblind person (e.g. smiling, laughing, vocalising etc to show pleasure, distress, excitement);
- II. The non-deafblind partner responds by displaying interest (e.g. stilling behaviour, moving towards the partner, moving body part that has been touched);
- III. The non-deafblind partner responds by displaying disinterest (e.g. withdrawing or moving away from the partner).

Table 11: Summary of Evidence (Chapter 5 - Responding to attention to self)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference number	Responding to attention to self
		Sub-stage 1 – emotions and co-ordinated expressions
1 *	1FM/aa *	Ian smiles when Fiona rubs his hands vigorously
		Sub-stage 2 – displaying interest
2	1C+D/a	David responds to Caroline cuddling him by giving her a cuddle.
3 *	1C+D/c *	David follows Caroline's hand onto his shoulder – he imitates this and goes very closely in towards her.
4	13RB/e	Rachel reaches out for Jon – he takes her hand and begins to sway
5	10RB/t and u	Rachel reaches out for Jon and then he begins a new game with the feather.
		Sub-stage 3 – displaying disinterest
		No evidence presented

Fiona takes hold of Ian's hand and begins to rub it vigorously. His immediate reaction, before he responds with an action, is simply to smile (Ex.1).

Evidently he enjoys this attention to himself. This also seems to be the case for David, when Caroline moves in closely and begins to cuddle him. He responds by cuddling her and this response to her attention to him seems to indicate that he is enjoying the attention (Ex.2). Later in this same music session, David follows Caroline's hand as she places it on his shoulder. He imitates this action onto her shoulder and moves closely in towards her (Ex.3).

When Rachel is interacting with Jon, at one point she reaches out towards him and he takes hold of her hand and begins to sway (Ex.4). On a previous

occasion Rachel had also reached out towards Jon and he then started a new game with a feather, rubbing it across Rachel (Ex.5). Although, in these last two examples, the communication partner moves beyond simply displaying interest and instead introduces a new action, I consider these as responses to the initial attention that is being paid to self.

It should be noted that I coded no examples of the non-deafblind partner displaying a negative emotion in response to attention, but I would not have expected to have captured such examples on video. I have no doubt that this does happen, either where the congenitally deafblind person uses aggressive actions to attend to the non-deafblind partner (e.g. nipping, scratching etc) or where the non-deafblind partner is unwilling to interact with the other person and rejects the attention. I coded no examples, either, of the communication partner displaying disinterest, by moving away from the partner, and again this is not particularly surprising in this research study. In all of the video situations I have (even videos created many years before these particular research studies), non-deafblind partners would be minded to respond positively to any initiatives from the deafblind person.

1b) Directing attention to self

Evidence that the non-deafblind partner is directing attention to him/herself will be:

- I. The non-deafblind partner makes an initial 'utterance' (in any medium) that directs attention to self (e.g. wiggling toes, tapping pens, vocalising);
- II. The non-deafblind partner directs attention back to self by asking the congenitally deafblind person to repeat or continue an action that was directed to the non-deafblind partner (e.g. blowing on him /her, tapping on his / her arm, leg, hand etc)
- III. The non-deafblind partner seeks engagement with the congenitally deafblind person (e.g. reaching out to the other person).

Table 12: Summary of Evidence (Chapter 5 - Directing attention to self)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference number	Directing attention to self
		Sub-stage 1 – initial utterances
6 *	1FM/g *	Ian hits the cushions to draw attention to self.
7	3FM/d	Paul taps on duvet to get Fiona's attention.
8	1C+D/a	David makes noises with his mouth for Caroline to feel with her hands – he keeps his hands available to her.
		Sub-stage 2 – asking deafblind person to repeat or continue an action
9 *	3RB/ff *	Paul asks Rachel to repeat the massage on his arm.
10	1FM/z	Ian tries to get Fiona to repeat hand squeezing and clapping games.
		Sub-stage 3 – seeks engagement with the deafblind person
11	1FM/g and h	Ian blows on Fiona, then taps various parts of her body to get attention.
12	2FM/a	Paul touches Fiona's head, knee then presents his wrist with the bracelets.
13	5PT/zz	Paul introduces himself using his bracelets.
14	3RB/a	Paul introduces himself using his bracelets and fingerspells his name to her.
15 *	11RB/d *	Paul directs attention back to himself by giving his hand to Rachel and then bringing in other wrist with the bracelets
16	2FM/e	Paul rubs his finger across the back of Fiona's hand.

There are various ways that communication partners direct attention to themselves: Ian hits the cushion that Fiona is underneath (Ex.6); Paul taps on a duvet to get Fiona's attention (Ex.7); and David makes sounds with his mouth, but this is so Caroline can feel the vibrations with her hands (Ex.8).

Paul had previously given Rachel a bottle of massage lotion. Together they have opened it and have placed some massage lotion onto Rachel's right hand. As she brings her hand towards Paul and makes contact, she rubs her hand across Paul's left hand. She takes her hand towards her nose to smell it. Paul then brings his open right hand with palm facing upwards towards Rachel's right hand. He does this as a way of asking her to repeat the rubbing of his hand (perhaps thinking a new activity can emerge for Rachel). As he makes contact with her she rubs her hand across his. He then presents his arm to Rachel but she vocalises in response to this and does not rub her hand across his arm (Ex.9).

Ian and Fiona have been involved in a long interaction which has involved clapping hands and at one point Fiona takes Ian's hand and squeezes it firmly against her cheek. She breaks off contact and curls into the sofa. Ian encourages her to sit up and he places his hand onto her cheek/ear and begins to rub his hand against her face. She curls up again and Ian once more encourages her to sit up and this time he places his hand on top of her hand, in the way it had been during the clapping game. He then moves his hand between resting on her hand and on her cheek, before he re-starts the clapping game on her hand and in doing so directs attention back to himself (Ex.10).

Ian blows on Fiona then taps various parts of her body to get attention (Ex.11). The fact that he is in physical contact with her throughout this period has the effect of seeking direct engagement with Fiona. This is similar to the

occasion when Paul touches Fiona's head and her knee then presents his wrist with his bracelets, which he uses as a way of introducing himself (Ex.12). Again, he is seeking direct engagement with her. Paul introduces himself to Patrick by taking his wrist and the bracelets that are on his wrist to Patrick's hands (Ex.13). He does this also with Rachel (Ex.14), but additionally he fingerspells his name onto Rachel's hand, using Deafblind Manual. Paul directs attention back to himself by giving his hand to Rachel and then bringing in his other wrist which has the bracelets (Ex.15). He does this in order to let Rachel know who it is. The final example of directing attention to self is when Paul rubs his finger across the back of Fiona's hand (Ex.16) and again we get the impression that he is seeking engagement with her.

Attending to what self does

In these next two sections, actions by the non-deafblind partner are the focus of attention for the congenitally deafblind person.

2a) Responding to attention to what self does

Evidence that the non-deafblind partner is responding to the congenitally deafblind person's attention to what he/she is doing will be:

- I. The non-deafblind partner responds by displaying emotion once they become aware of the partner's attention to their action (e.g. pleasure, distress, excitement);
- II. The non-deafblind partner responds by continuing what he/she was doing after the congenitally deafblind person has joined in with the action;
- III. The non-deafblind partner responds by stopping what he/she is doing.

Table 13: Summary of Evidence (Chapter 5 - Responding to attention to what self does)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference number	Responding to attention to what self does
		Sub-stage 1 – displaying emotion
17 *	2I+G/a *	Gunnar smiles just after Ingerid has smiled in response to him blowing raspberries onto her hand.
		Sub-stage 2 – continuing the action
18 *	2I+G/a and b *	Gunnar continues to blow raspberries onto Ingerid's hands and continues to press his tongue into his cheek.
19	2FM/s and t	Paul continues his action of tapping Fiona's toes after she becomes involved in the action.
		Sub-stage 3 – stopping the action
20	2FM/e	Paul stops touching Fiona's stomach
21	8PT/e, g and i	David stops touching Patrick's hands after Patrick makes contact with David's hands.
22 *	2PT/c *	Paul stops rubbing Patrick's back after Patrick pushes Paul's hands away.

When Gunnar blows raspberries onto Ingerid's hand, she smiles in response to this. In this moment Gunnar becomes aware that Ingerid is attending to his action and his subsequent smile (Ex.17) reveals his emotional response to this. Gunnar then continues to blow raspberries onto Ingerid's hands (Ex.18) and this is just after Ingerid has joined him in this action, by tapping his cheek to remind him to continue doing the same action. This happens in a similar fashion a few seconds later as Gunnar continues to press his tongue into his cheek (Ex.18). During the sequence when the interaction between Paul and

Fiona takes place primarily on her toes, we see Paul continuing his action of tapping her toes after she becomes involved in the action (Ex.19).

We see an example of a non-deafblind partner stopping an action, when Paul stops touching Fiona's stomach. This session has been reported previously in Chapter 4 and also earlier in this chapter, when I characterised the original utterance at the outset of this meeting as Paul directing attention to himself (Ex.13). A few minutes into this sequence Paul then brings his hands towards Fiona, as if to re-direct attention to self, but then Fiona directs Paul's hands elsewhere, towards her stomach. After briefly touching her stomach, Paul withdraws his hand, but clearly his action of touching her stomach is the focus of attention, but he stops this action (Ex.21).

During the music session with David and Patrick, there are a number of moments when David is making rhythmic movements with his fingers and hands onto Patrick's feet. Patrick leans back in his chair with his legs outstretched and his feet resting on David's lap. He appears to be enjoying these rhythms on his feet. A few times, David brings his hands towards Patrick's hands which are up around Patrick's face, but each time Patrick gently pushes David's hands back towards his feet. On each of these occasions, David stops touching Patrick's hands after Patrick makes contact with David's hands (Ex.21). The gentle push from Patrick onto David's hands, makes what David's hands are doing at that moment the joint focus of attention. Patrick also pushes Paul's hands away, when Paul is trying to rub Patrick's back. The push is enough for Paul to stop his action (Ex.22) and

again it is clear that what Paul is doing is the focus of attention for both partners.

2b) Directing attention to what self does

Evidence that the non-deafblind partner is directing attention to what he / she is doing will be:

- I. The non-deafblind partner repeats an act (or a variation on the original act) that elicited an emotional response from the congenitally deafblind person (e.g. laughter, praise etc);
- II. The non-deafblind partner repeats an act that elicited a co-ordinated action from the congenitally deafblind person;
- III. The non-deafblind partner initiates an action while at the same time seeking engagement with the congenitally deafblind person;
- IV. The non-deafblind partner continues an action while inviting the congenitally deafblind person or other person to join or view the action (e.g. looking towards someone to invite them to see what is happening).

Table 14: Summary of Evidence (Chapter 5 - Directing attention to what self does)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference number	Directing attention to what self does
		Sub-stage 1 – repeats an act that elicited emotional response
23	8PT /f, h, j	David returns to the rhythmic movements on Patrick's feet.
24 *	2I+G/c *	Gunnar repeats acts that get Ingerid smiling
		Sub-stage 2 - repeats an act that elicited co-ordinated action
25 *	1FM/bb *	Ian repeats the hand-rubbing onto Fiona's hands.
26	12RB/u	Jon bangs on sofa, Rachel feels his hand, Jon bangs again
27	14RB/h	Paul rubs fingers into Rachel's hand. She responds, Paul repeats the action.
28	3RB/m	Paul repeats touching Rachel's toes after she responds
		Sub-stage 3 – initiates an action while seeking engagement
29 *	1FM/k *	Ian takes Fiona's hand to rub his face and encourages Fiona to do the same on her face, although the offer not taken up by Fiona.
30	1FM/d	Ian begins clapping game with Fiona
31	12RB/ee	Jon does various actions onto Rachel's body – inviting her to be part of it
32 *	13RB/e *	Jon begins to sway and because they are in direct body contact, he is inviting Rachel to participate.
33	10RB/y	Jon starts rubbing his finger onto Rachel's palm and she responds (There is direct physical contact).
		Sub-stage 4 – continues an action and invites deafblind person or other to join
34 *	21RB/y *	Paul continues finger-rubbing movement into Rachel's hand and invites Suzanne to join with this action
35	13RB/k	Jon invites Rachel to explore him putting on his shoes
36	16RB/h	Paul continues to rub his hands into Rachel's hands

I highlighted earlier the music session with David and Patrick, where Patrick pushes David's hands away from his own hands and back towards his feet. Previously I noted that David stops touching Patrick's hands, but now we can see also that he returns each time to the rhythmic movements on Patrick's feet (Ex.23). He repeats an act that had previously had an emotional response from Patrick. Ingerid had shown an emotional response to actions from Gunnar, so he repeats these actions of blowing raspberries onto her hands and pressing his tongue into his cheek (Ex.24).

During the session with Ian and Fiona, there have been many interactive games played with their hands (clapping, rubbing etc). At one point Ian rubs his hands onto her hands. Fiona responded to this action by repeating this movement onto Ian and then Ian again repeats the hand-rubbing onto Fiona's hands (Ex.25). He is repeating an action that had elicited a co-ordinated action from Fiona. This is also what happens when Jon bangs on the sofa, Rachel feels his hand and then immediately Jon bangs again (Ex.26); when Paul rubs his fingers into Rachel's hand, she responds and Paul repeats the action (ex.27); when Paul touches Rachel's toes, she wiggles them and Paul repeats touching her toes (Ex.28).

Ian takes Fiona's hand to rub his face and we see him taking Fiona's other hand towards her own face, as if to encourage her to perform a similar action (Ex.29). The physical nature of all this contact means that Ian is initiating an action but directly seeking engagement with Fiona. This is similar to the moment when he begins a clapping game with Fiona, where again the

physical contact between them means that it is not only the action that he directs attention to (the clapping) but it is an invite to Fiona to participate (Ex.30). This is true also when Jon does various actions onto Rachel's body (Palms across her hand, finger-rubbing, swaying etc) and in the process is actually inviting her to be part of these interactive games (Ex.31). Jon does this again when he begins to sway and because they are in direct body contact, he is inviting Rachel to participate (Ex.32) or when he starts rubbing his finger onto Rachel's palm and she responds by doing a similar action (Ex.33).

Paul is rubbing the fingers of his left hand into Rachel's right hand. He takes Rachel's hand towards Suzanne, first to introduce her by taking Rachel's hand towards Suzanne's watch. After Rachel has withdrawn her hands, Paul again brings her right hand towards Suzanne's hands but this time he rubs his fingers into Suzanne's hands whilst Rachel keeps her hand on top of his. Again, after a few seconds Rachel withdraws her hand. After a short pause, Paul brings Suzanne's hand towards Rachel so that Suzanne's hand is resting on top of Paul's as he rubs his fingers into Rachel's hand (Ex.34).

At the same time as Rachel is putting on one of her shoes, Jon brings his shoe towards her hand so that she can feel that he too is putting on his shoe. All the while Jon is putting on his shoe, Rachel has one or other of her hands in contact with his shoe. Once his shoe is on, Jon then brings Rachel's second shoe and gives it to her (Ex.35).

Rachel is rubbing both of her hands together with her right hand circling into her left hand. Paul also does a circular movement with his right hand onto Rachel's lower arm, wrist and hands, in an effort to let her know that he is observing and joining in her action. He then brings his left hand towards his right hand and rubs both his hands together whilst always keeping them in contact with Rachel's lower arm and hands. At one point, it is just his right hand that is in contact with Rachel and she takes hold of it with her right hand. Paul immediately begins a circling motion into her hand with his hand. Rachel moves her left hand under Paul's right wrist and he takes hold of her left hand, to begin the rubbing movement there. Rachel withdraws both of her hands towards her own face (Ex.36).

Attending to what self perceives

In these two sections, objects/ people perceivable by the non-deafblind partner are the focus of attention for the congenitally deafblind person.

3a) Responding to attention to what self perceives

Evidence that the non-deafblind partner is responding to the congenitally deafblind person's attention to what he / she perceives will be:

- I. The non-deafblind partner follows the attention of the congenitally deafblind person to targets and displays some emotion;
- II. The non-deafblind partner follows the attention of the congenitally deafblind person to targets and displays interest such as explorative behaviour or moving towards the object / person / place;
- III. The non-deafblind partner follows the attention of the congenitally deafblind person to targets and displays some disinterest by withdrawing or moving away from the object / person / place.

Table 15: Summary of Evidence (Chapter 5 - Responding to attention to what self perceives)

(Those marked with an asterisk (*) are available on the DVD).

Fragment example	Reference number	Responding to attention to what self perceives
		Sub-stage 1 – follows deafblind person's attention and displays emotion
37 *	1I+G/a-d *	Gunnar is focussed on the actions made by Ingerid and sometimes he laughs and makes vocal exclamations.
		Sub-stage 2 - follows deafblind person's attention and displays interest
38	1I+G/a-d	Gunnar is focussed on the actions made by Ingerid and sometimes imitates this action.
39 *	1C+D/c *	David follows Caroline's attention to the guitar and begins to make it tactile
40	2FM/d	Paul touches Fiona's foot which she has left hovering in the air.
41	1PT/v	Joe follows Patrick's attention to the cup.
42	4PT/j	Paul picks up cup after Patrick hands it to him.
43	2RB/f	Paul follows Rachel's attention to seats behind her.
44 *	3RB/hh *	Paul follows Rachel's attention to the towel on the floor
45	17aRB/d	Neil follows Rachel's attention to the cup.
		Sub-stage 3 - follows deafblind person's attention and displays disinterest
46 *	2FM/e and f *	Paul withdraws his hand from Fiona's stomach.

Gunnar is focussed on the actions made by Ingerid (shaking her fingers whilst in contact with his fingers, pressing her fingertips onto his, slapping her hand onto his) and sometimes he laughs and makes vocal exclamations (Ex.37) and sometimes he imitates these actions (Ex.38). David and Caroline are

sitting opposite one another with David playing a guitar, strumming chords. Caroline reaches forward to tap on the guitar fretboard and David follows her attention to the guitar. He too begins to tap the guitar, matching the tactile exploration of Caroline (Ex.39).

During an interaction with Paul, at one point Fiona leaves her foot hovering in the air and Paul notices it and touches it (Ex.40). Joe and Patrick are sitting together in the forest. Patrick stretches slightly to his right side and then signs 'WANT DRINK'. At first Joe signs 'FINISHED' to Patrick but Patrick reaches out again to his right hand side. Joe follows this movement by resting his hand on top of Patrick's and as Patrick picks up a cup Joe lets go his hand. Patrick then holds the cup for a while (Ex.41). On another occasion, Patrick has finished a drink while seated at his kitchen table. He is holding the cup in his hand and then he extends his arm, thus holding the cup out into space. Paul takes the cup from him (Ex.42).

Paul and Rachel are sitting next to one another on a train carriage. Rachel reaches her arm and hand behind her head to explore the top of her seat. Paul follows Rachel's attention by placing his hand on top of hers (Ex.43). On a later day Paul and Rachel are in a similar position, sitting next to one another on the edge of her bed. Rachel feels a towel on the floor with her feet and reaches down to feel it. Paul follows her attention by leaning down with her and exploring the same towel (Ex.44).

Neil and Rachel are sitting beside one another in a cafe and Rachel has just finished a cup of tea. At the outset of this sequence she is sitting back in her

chair, but then leans forward and as she does gently moves her right arm in a sweeping movement until she makes contact with the cup on the table. Just as she makes contact with the cup, Neil brings his hand around and rests it on the front of Rachel's hand so that they are both in direct contact with the cup (Ex.45).

On the occasion when Paul and Fiona are negotiating about a massage (April 2000 -previously reported in Chapter 4), at the point when she takes Paul's hand and places it on her stomach, it is clear that he is not sure about this action and three times he pulls his hand away from her stomach and tries to re-introduce the lotion bottle and return attention to her feet. It is not really 'disinterest' that Paul is displaying, because that is not his intention. It is more that he is unsure about what is being asked of him and he is wary of the outcome – there are 'third parties', in the form of professional and cultural prohibitions, operating for him here! However, it is likely from Fiona's perspective that it feels like Paul is disinterested in, or even opposed to, what she is trying to direct attention to (her stomach). That is why I have given this as an example at the third sub-stage in this section (Ex.46).

3b) Directing attention to what self perceives

Evidence that the non-deafblind partner directs the congenitally deafblind person's attention to what he / she perceives will be:

- I. The non-deafblind partner offers or gives an object to the congenitally deafblind person (e.g. lifts the object towards the congenitally deafblind person);
- II. The non-deafblind partner takes an object from the congenitally deafblind person (e.g. takes a cup out of their hand);
- III. The non-deafblind partner points to or shows an object / person / place to the congenitally deafblind person (e.g. takes the congenitally deafblind person's hand to touch the object);
- IV. The non-deafblind partner takes the congenitally deafblind person to an object / person / place (e.g. leads them to the kettle).

Table 16: Summary of Evidence (Chapter 5 - Directing attention to what self perceives)

(Those marked with an asterisk (*) are available on the DVD)

Fragment example	Reference number	Directing attention to what self perceives
		Sub-stage 1 – gives object to deafblind person
47	1FM/i	Ian gives his glasses to Fiona.
48	2FM/f	Paul gives the oil bottle to Fiona.
49 *	4FM/c *	Paul gives lotion bottle to Fiona and together they take off the lid.
50	13RB/b	Jon directs Rachel's hands to his bracelet.
		Sub-stage 2 – takes object from deafblind person
51 *	15RB/o *	Jon takes the tambourine from Rachel.
52	3RB/	Paul takes the lid of the lotion bottle from Rachel
		Sub-stage 3 – points to or shows an object
53 *	3I+G/a *	Gunnar directs Ingerid's attention to the crab.
54	4I+G/a	Gunnar directs Ingerid's attention to the laundry basket.
55	1PT/j	Joe brings the tree bark to Patrick.
56	2PT/g	Paul tries to show Patrick objects (but he rejects these).
57	5PT/cc and dd	Joe shows Patrick the feather
58 *	9PT/m *	David shows castanets to Patrick via feet, then hands, then feet again
59	2RB/f	Paul directs Rachel's attention to a different seat.
		Sub-stage 4 – takes deafblind person to an object
60	5PT/p	Joe shows Patrick the 'old tree'
61 *	27RB/e *	Paul leads Rachel to wardrobe.

There is a moment in the interaction between Fiona and Ian where Ian is encouraging Fiona to feel his face, by bringing her hands on to it. This means that Fiona feels Ian's glasses and at one point he takes the glasses off completely and gives them to her (Ex.47). In two similar actions, Paul gives a bottle of massage lotion to Fiona (Ex.48) and on another occasion, after giving her a lotion bottle, he encourages her to take off the lid (Ex.49). Jon directs Rachel's hands to his necklace, which is an object he uses as his personal signifier (Ex.50).

During one of their sessions, Rachel and Jon have been exploring a tambourine together, but after around 30 seconds of this, Rachel lifts the tambourine up and Jon takes it from her (Ex.51). On another occasion, she and Paul are sitting on the edge of her bed. Paul has given her a bottle of massage lotion. They start undoing the bottle lid together but Rachel moves the bottle towards her nose and then continues taking the lid off herself. Once the lid comes off, she stretches out with it in her left hand towards Paul. He takes the lid from her (Ex.52).

There are many occasions when we see communication partners pointing to or showing an object to a deafblind person. Such as when Gunnar directs Ingerid's attention to the crab by placing it into her hand and making sure her hand has some contact with it (Ex.53) or when he has contact with Ingerid's hand and he shakes his hand in a kind of anticipatory gesture as he leans his and Ingerid's hand downwards towards a laundry basket (Ex.54). In the forest, Patrick and Joe are standing in front of a tree and after exploring it together,

Joe brings a small piece of the bark which has come loose towards Patrick, placing it into Patrick's hand (Ex.55). On another day, Paul is trying to show Patrick some objects collected from a previous day's walk in that same forest. He brings the objects towards Patrick's hands and gently rubs them against Patrick's skin, but on this occasion, Patrick rejects the objects, by pushing them and Paul's hand away (Ex.56). Again in the forest, Joe places a feather into Patrick's hand (Ex.57)

When working in the music room with Patrick, David brings castanets to him, but first rubs them across Patrick's feet, then his hands and then his feet again (Ex.58). After Paul has followed Rachel's attention to the top of the seat that she is sitting on (Ex.43), he then takes her hand and moves it towards the seat that he is sitting on, so that she can explore that one too (Ex.59).

There are occasions when the non-deafblind partner actually takes the deafblind person towards an object, as opposed to bringing the object to them such as when Joe supports Patrick to move forward and feel the tree that is in front of them. (Ex.60)

Rachel is sitting on the edge of her bed. Paul signs to her 'THINK NEED JACKET' with the JACKET sign first formed onto his body, then her body and finally his again. Paul then signs 'STAND' and he supports Rachel to stand up and leads her hands towards the wardrobe door. Once she has made contact with the wardrobe, he lets go her hands. She briefly touches the door handle

but lets go of it and sits, then lies back down on her bed. Paul touches her foot and she sits up and he then places his left wrist under her right hand so that she can feel his bracelet. He then takes both her hands and signs 'JACKET' and supports Rachel to stand up. This time he guides Rachel's hand towards the wardrobe door handle and helps her to open the door. They reach in together to find a jacket and Rachel puts it on by herself. (Ex.61)

Attending to what self remembers

In these two sections, past events or absent targets are the focus of attention for the congenitally deafblind person.

4a) Responding to attention to what self remembers

Evidence that the non-deafblind partner is attending to the congenitally deafblind person's reports of past events and absent targets will be:

- I. The non-deafblind partner uses or completes an action, gesture or sign presented by the congenitally deafblind person that originates in the past event that is being referred to;
- II. The non-deafblind partner prevents an activity happening that has been referred to by the congenitally deafblind person;
- III. The non-deafblind partner makes an appropriate response to a gesture or sign with a previously negotiated meaning (e.g. stands up after a sign 'stand' is given).

Table 17: Summary of Evidence (Chapter 5 - Responding to attention to what self remembers)

(Those marked with an asterisk (*) are available on the DVD)

Fragment example	Reference number	Responding to attention to what self remembers
		Sub-stage 1 – uses or completes an action, gesture or sign from deafblind person
62	IPT/aa and ee	Joe picks up on Patrick talking about 'Piggy Back'.
63 *	4I+G/e *	Gunnar repeats the action of miming turning the on/off switch after Ingerid has first made this gesture.
		Sub-stage 2 - prevents an activity happening
64	3FM/j	Fiona turns to the left during the coffee-making
65 *	3RB/t *	Rachel lies on her bed with her feet in the air but Paul does not give her the shoes.
		Sub-stage 3 – makes appropriate response
66	1PT/z	Joe follows Patrick talking about a toothbrush
67	2FM/m	Paul goes away after Fiona has signed 'FINISHED'
68	1FM/dd	After Fiona has signed "FINISHED", Ian moves away.
69 *	8PT/t *	David puts on Patrick's sock after Patrick has lifted his foot.

Ingerid is sitting facing Gunnar and they are remembering the events of a previous day in the laundry room. They had previously recalled putting down the lid of the washing machine and then Gunnar brings Ingerid's and his hands together. Ingerid bunches the fingers of her right hand and twists them against the bunched fingers of her left hand. This is the movement they had previously made when turning the on/off switch of the machine. Gunnar repeats this action with his right fingers onto Ingerid's left hand. (Ex.63)

Whilst on a forest walk, Patrick turns round so that he is standing just behind Joe's back. This is a movement that Joe appears to interpret as Patrick wishing a 'Piggy Back'. Joe bends down so that Patrick can get on to his back (Ex.62). Earlier in the same walk, Patrick had made a similar movement, and although Joe appears again to understand what is in Patrick's mind, on that occasion he did not allow Patrick on to his back. During that same day's walk in the forest, Patrick had moved his right index finger across his mouth. We can hear on the video that Joe interprets this a sign for 'TOOTHBRUSH' and he confirms the sign with Patrick, by repeating it onto him and then engaging in further conversation using tactile signs about teeth brushing (Ex.66). We can see on the video that Joe does not fully understand why Patrick has signed toothbrush, but nevertheless he is able to respond to this sign and indeed this attempt by Patrick to talk about an event or an object not present at that time.

There are other occasions when the communication partner responds to previously negotiated signs given by the deafblind person. For example, Paul goes away after Fiona has signed 'FINISHED' (Ex.67) as does Ian after she has signed this on a previous occasion (Ex.68).

We see not a sign, but a gesture, from a routine activity being used by Patrick to direct David's attention to a task that he wishes completed and as he lifts his foot after the music session is completed, David interprets this as 'Can you put on my sock' and this is what David does (Ex.69).

During the coffee-making activity in April 2001, on a number of occasions Fiona turns slightly to her left hand-side. Paul does not initially respond to these turns and it is only with the intervention of someone who knows her well, that the suggestion is made that she is looking for her 'top' to wear. This would indicate the final step in the coffee-making and as reported in Chapter 4, perhaps she is attempting to direct Paul's attention to the fact that she wants to sit down and have the coffee brought to her instead of participating directly in the activity (Ex.64). Again, on Paul's part this might not be a deliberate prevention of an activity happening, but nevertheless from Fiona's perspective, this is probably how it feels. Perhaps there is a clearer example of preventing an activity happening, when Paul goes through to Rachel's room with her. She sits on the edge of her bed and he touches her foot (he is thinking about giving a foot massage). Rachel then lies back on her bed with her feet in the air. A staff member in the background is heard to say that she perhaps thinks she is going out for a walk, but Paul does not offer to give her shoes, nor does he sign anything related to walks. He attempts to continue a foot massage (Ex.65).

4b) Directing attention to what self remembers

Evidence that the non-deafblind partner is making reference to a past event or object not present will be:

- I. The non-deafblind partner initiates an action, gesture or sign that originates in the past event that is being referred to;
- II. The non-deafblind partner reminds the congenitally deafblind person of the 'rules' of an ongoing interactive sequence;
- III. The non-deafblind partner uses an action, gesture or sign to refer to an object that is not seen, heard or felt;
- IV. The non-deafblind partner uses a gesture or sign that has an agreed negotiated meaning with another person.

Table 18: Summary of evidence (Chapter 5 - Directing attention to what self remembers)

(Those marked with an asterisk (*) are available on the DVD)

Fragment example	Reference number	Directing attention to what self remembers
		Sub-stage 1 – initiates an action, gesture or sign
70	3I+G/f	Gunnar talks about the crab from yesterday.
71 *	4I+G/d	Gunnar talks about the washing machine lid.
72	2PT/a and e	Paul talks to Patrick about yesterday's walk with Joe.
		Sub-stage 2 – reminds deafblind person of the 'rules' of interaction
		No evidence presented.
		Sub-stage 3 – refers to an object not present
73 *	1PT/a	Joe talks to Patrick about Paul and Simon who will also be coming on the walk.
		Sub-stage 4 – uses a gesture or sign with an agreed meaning
74	3FM/b	Paul signs 'SEAT', 'WALK', gives shoes, signs 'WALK' to Fiona.
75 *	3FM/c	Paul signs 'DO YOU WANT A DRINK' to Fiona.
76	3FM/i	Paul signs 'MILK' to Fiona.
77	1PT/a	Joe talks with Patrick about the walk they are going to do.

We see many times when non-deafblind partners direct attention to what self remembers. For example, we see Gunnar and Ingerid in the classroom the day after they have been playing with crabs on the pier. Gunnar directs attention to this event from the previous day, by using movements and gestures taken directly from the experience. The previous day he had placed a small crab into the palm of Ingerid's arm and as it scurried up her arm, he had made similar movements with his hand going up her arm. In the

classroom conversation, we see Gunnar placing an imaginary crab into Ingerid's hand and then running his fingers up her arm (Ex.70).

On another day, we see Gunnar and Ingerid in the laundry room and we observe them loading a washing machine with clothes, putting down the lid and switching the machine on. All of this we see re-created in a subsequent conversation, when Gunnar mimes the action of putting down the lid (all the time his hands are in direct physical contact with Ingerid's) and Ingerid completes this action (Ex.71). This is Gunnar directing attention to a past event.

We see Paul also directing attention to a past event, when he uses signs and gestures from a previous day's forest walk with Joe. For example, he initially signs 'TALK ABOUT JOE' and also makes gestures and signs associated with the OVER-UNDER TREE and attempts to encourage Patrick to explore objects collected on the previous day's walk and these are finger-spelled to him (Ex.72).

During that original forest walk, we can observe Joe signing to Patrick about Paul and Simon, who will also be coming on the walk. He does this using a sign 'MAN' accompanied by a Deafblind Manual sign for P and S, respectively (Ex.73). We see tactile signs, with previously negotiated meanings, being used by Paul when he is supporting Fiona to put her shoes on prior to a walk: 'SEAT', 'WALK'; he then gives her some shoes and signs 'WALK' again (Ex.74). During this same session, he also signs 'DO YOU WANT A DRINK?'

(Ex.75) and 'MILK' (Ex.76). Joe also uses signs with previously negotiated meanings when he tells Patrick about the walk they are going to do (Ex.77).

I have not marked specific examples of sub-stage 2, but I will return to issues raised by this in the final chapter. To be coded in this sub-stage, I would expect to see an interaction unfolding between the partners and at a certain moment, the deafblind partner would pause his/her actions. The non-deafblind partner would then 'remind' the deafblind person of the 'rules' of this interaction. I do not have clear examples of this, only because I cannot be certain that the deafblind person is stopping an action, in order to encourage the non-deafblind partner to repeat a particular action. We can see clearer examples of this the other way around, when it is possible to ask the non-deafblind partner why they paused an interaction.

Discussion

There is one central finding in this study:

- 1) Non-deafblind partners can respond to and direct attention at all four stages of Reddy's model using a range of movements, gestures and signs primarily within the tactile medium.

In keeping with the broadly phenomenological approach adopted throughout this thesis, I have presented evidence that shows good examples of this happening. This is not to suggest that it happens like this in every

circumstance, and indeed it might even be the case that this type of response happens in the minority of instances. Yet, just as it was important in the previous chapter to demonstrate that congenitally deafblind people can do this, so too it is important for readers to understand that non-deafblind partners can operate successfully within the tactile medium.

In this discussion I will review the range of movements, gesture and signs that non-deafblind partners use to respond to and direct attention at all four stages of Reddy's model within the tactile medium. In essence this might have been enough for this chapter because it would mean the complementary Chapters 4 and 5 have evidenced that both partners can respond to and direct attention within the tactile medium. In other words, the expansion from dyadic to triadic interactions outlined in Chapter 2 as essential for the journey away from the here-and-now can take place entirely within the tactile medium. But I wish to go further and consider three additional theoretical questions that arise from this finding and from the evidence presented in this chapter.

- 1) Why is it important to share the same perceptual experience of the world?
- 2) Are there additional skills and approaches that need to be adopted by both partners if they are to perceive the world successfully from a tactile perspective?
- 3) How are emotions shared tactually?

I will first review the evidence that non-deafblind partners can move towards the tactile world inhabited by their deafblind partners. Although non-deafblind partners could become aware of attention to self via media other than touch, in this study it is most often through touch that we see the deafblind person directing their attention to the partner (Ex.1, 2 and 3). Non-deafblind partners pick up on this and respond accordingly. Even on occasions when a partner's first awareness of attention to self might be through vision, such as when Rachel reaches out for Jon (Ex.4 and 5), it is nevertheless clearly through touch that Jon responds, because to do otherwise would mean that Rachel was unaware of his response.

In terms of directing attention to self, almost all examples are entirely within the tactile medium, although we do see David using some sounds to attract attention to himself, but given that Caroline's hand is on his mouth, it is primarily the vibration that is attracting attention (Ex.8). We also see Ian blowing air as a way of first attracting attention, but this is quickly supported by touch, as he taps on various parts of Fiona's body (Ex.11). So touch can be used as an initial utterance to attract attention (Ex.6, 7), as a way of asking the deafblind person to repeat an action that was directed to self (Ex.9) and also as a way of seeking direct engagement with the deafblind person (Ex.12-16). Non-deafblind partners touch the deafblind person in various parts of their body (most commonly for new partnerships you might start with extremities such as feet, head or hands), or they can touch objects that the deafblind person is in contact with so that a vibration is felt.

Non-deafblind partners respond to attention to what self is doing by displaying emotions (Ex.17), by continuing actions once the deafblind person joins the action (Ex.18 and 19) and sometimes they stop an action once the deafblind person attends to it (Ex.20-22). Non-deafblind partners direct attention to what self does and again this happens primarily within the tactile medium. Non-deafblind partners touch various parts of a deafblind person's body (Ex.28 and 31), establish rhythmic movements that have a musical character (Ex.2 and 34), clap and rub hands (Ex.25, 27,30 and 33), bang on objects so that they vibrate against the deafblind person (Ex.27) and encourage deafblind people to touch parts of the communication partner's body (Ex.31). Of particular note are the 'musical' examples where each time Patrick pushes David's hands back towards his feet, David responds by tapping rhythms onto Patrick's feet. Each time David makes these rhythmic movements there are slight variations which appear to be connected to the quality of Patrick's pushing of David's hands. David subtly 'picks up' on the quality of Patrick's movements and translates these into rhythms that take place on Patrick's feet. David is lost in the musicality of the session. He is not consciously thinking of this each time he does this, but responds to Patrick's interjections as if he were engaged in an improvisation – he feels the music and rhythm of the session and reacts accordingly.

Non-deafblind partners can perceive objects or people also via vision and / or hearing and we do see these senses being used to perceive the world around them, even when communicating with congenitally deafblind people. For example, it is vision that Paul uses to perceive Fiona's foot (Ex.40) or when

he takes the cup from Patrick (Ex.41). It is also vision that Neil uses to first notice Rachel's attention to the cup (Ex.45) but this becomes tactile as their hands connect to explore the cup. This is true also when Paul notices Rachel exploring the top of the train seat that she is sitting on (Ex. 43) or when she touches the towel on the floor with her feet (Ex.44). Similarly, for Joe as he follows Patrick's attention to the cup: in part Joe is using his vision to follow Patrick's attention, but in part he is using touch since they are sitting in close contact. But, as with Neil, both Paul and Joe quickly make these experiences fully tactile by placing their hands on to Rachel's and Patrick's hands as they continue their exploration. So the important point that arises is not that non-deafblind partners can perceive the world through more sensory channels than the deafblind person, but what they subsequently do about sharing their perceptions with the deafblind person. Making it tactile as soon as possible seems the only way of sharing experiences with the deafblind person. In other examples, the non-deafblind partner and the deafblind person are already in physical contact with each other, so when the non-deafblind partner follows the deafblind person's attention to a target, it is through touch that they initially became aware of the focus of the deafblind person's attention (Ex.37, 38 and 41).

When directing attention to objects, not surprisingly perhaps, all examples I have listed are in the tactile medium. Sometimes the non-deafblind partner gives an object directly to the deafblind person, placing it into their hands (Ex.48 and 49) or bringing the deafblind person's hands to the object (Ex.47 and 50). Sometimes they take the object from the deafblind person (Ex.51)

but again there is direct physical contact. Of course, this could be done in a way that minimises physical contact. For example, the non-deafblind partner could simply lift an object out of the deafblind person's hands without much additional explanation or touch of hands. When showing an object to the deafblind person, there is contact usually between hands (Ex.55, 56 and 57) or the partner brings the object to some other body part of the person (Ex.58). Sometimes the partner is in close physical contact with the deafblind person and leading them almost with dance-like movements to an object, such as Gunnar's movements when he builds anticipation in his hand by shaking it as he and Ingerid lean downwards towards the laundry basket (Ex.54).

If both partners experience the world side-by-side from a tactile perspective, it allows new uses and possibilities for any objects to emerge. For example, during the music session with David and Caroline, David at first plays the guitar in a traditional manner – he strums chords, designed primarily to appeal to aural perception. However, Caroline taps the fretboard and David follows her attention to the guitar in this same manner, by beginning to tap the guitar. In this way he experiences new possibilities for the guitar. He makes it a tactile experience and perhaps he changes his mind about how it can be used? Goode (1994) suggests something similar happens with a deafblind teenager when she uses a tambourine. For her it is not a musical instrument, it is an object full of tactile wonder. For non-deafblind partners there is a widening of ways to experience the world if it is perceived from the tactile perspective – it literally becomes a new world. David is a skilled communication partner and we see this when he is in the music room with

Patrick. David introduces castanets to Patrick, but he first does this by rubbing them across Patrick's feet, then Patrick's hands and then back to his feet again. So castanets are not simply a musical instrument that needs to be played in just one way, but they have to be introduced to Patrick in the tactile medium, so that he can build them into a tactile landscape. In Chapter 2, I discussed the notion from Snow that as our relationships with people increase, they draw new capacities in us. A web of interconnectedness begins to form where new capacities in one person draw forth ever more capacities in people they subsequently meet. Perhaps this also happens with objects that are used. So a non-deafblind partner might see one use of an object (a guitar to listen to) but in direct relationship with a deafblind person, further uses open up (something to explore tactually). Deafblind people help their partners perceive the world in a fundamentally different way and thus see new possibilities for objects within it. Moving towards that experience will help meet the circumstances where partners come together to share the same perceptual experience of the world.

Why is it important to share the same perceptual experience of the world?

Chapter 1 outlined Vonen's (2006) suggestion that any person learning a language needs the perceptual abilities to perceive the language(s) around them and they need to learn from people who already are fluent in the language(s). It highlighted the obvious challenges that follow for congenitally deafblind people. This thesis has not yet presented evidence about language within these partnerships (although there are hints of its use within chapters 4

and 5), but if I return to Adamson and McArthur's view (1995, p.207), first detailed in Chapter 2, that 'the seeds of referential communication are sowed within the overlap between partners and shared events', then the evidence from this chapter suggests that the seeds of language have indeed been sown. A more detailed exploration in Chapter 6 will reveal whether any of these flower into referential communication or language for these partnerships. But within these chapters 4 and 5 it has been important to establish that within early communicative exchanges both congenitally deafblind and non-deafblind partners can share attention to events. This is evident in the fact that both partners can respond to the other's directing of attention at both dyadic and triadic levels. This is crucially important as we move into the next chapter to look more closely at how the partnership jointly refers to people, objects, places and events.

Both chapters 4 and 5 have demonstrated the kind of circumstances that Morford and Kegl (2000) described as essential to language development, where there are opportunities for shared communication, partners willing to communicate in the tactile modality and thus increased communication demands associated with preferred accommodation to tactually oriented partners. Finally, we see aspects of Burling's cognitive tools (2005) in these interactions also: partners sharing a rich conceptual understanding of the world, attending to the same objects and understanding gestures that resemble the objects they refer to. All the essential foundations for language acquisition are in place.

Are there additional skills and approaches that need to be adopted by both partners if they are to perceive the world successfully from a tactile perspective?

Earlier in the thesis I outlined attitudes that need to be adopted by partners, emphasising the role that 'third parties' may play in influencing non-deafblind partners. One good example of a 'third party' is evidenced in this chapter, where Paul stops touching Fiona's stomach. Perhaps these 'third parties' are most evident in the difficulties Paul has around touch, particularly touching the stomach of a woman he is meeting for the first time. Is there confusion in his mind about what Fiona is really asking him to do? There are also organisational and societal views that he is trying to grapple with in the moment. Should he be touching this woman in this way? How should he respond as Fiona repeatedly lifts her top and takes his hand to her stomach? This clearly worries him and this worry is intensified by the fact that there is a camera rolling and a staff team watching the supposed communication specialist from Head Office!

Paul may also interpret some actions from the perspective of someone initially trained many years ago to communicate with congenitally deafblind people. So when Fiona rests her foot on his lap, he puts this action together with the object of reference (the lotion bottle) that they have used a short time before and concludes she wants a foot massage. But perhaps he was wrong. Maybe she was just resting her foot to get comfortable for her stomach massage! It is not necessary simply to interpret Paul's unwillingness to massage her

stomach as 'bad practice'. Bearing in mind Markova's (2008) views on agency, I think it is just as important that Fiona learns that Paul is not the kind of communication partner who likes to touch stomachs on a first meeting. Indeed, later on this same video (explored in Hart and Noble, 2002), after curling up in her chair for more than 10 minutes, Fiona presents a foot to Paul (Chapter 4, Ex.20) and so perhaps this is evidence that she has learned something about him. She is learning that perhaps he is more comfortable touching feet and this helps both of them to work out their boundaries of their budding communicative relationship. This view returns full circle to the arguments expressed right at the outset: learning in a partnership is not simply one-way. In chapter 6 I will build on this notion so that I evidence clearly what each partner learns from the other.

There are missed opportunities for additional communication and language to be brought to some situations. This sometimes happens when the non-deafblind partner has used vision (or hearing) as the principal means of following the deafblind person's attention. For example, Patrick finishes his drink, extends his arm, thus holding the cup out into space, and Paul simply takes the cup from him (Ex.42). In Chapter 4 I highlighted that such actions give a clear indication that the deafblind person appreciates the fact that some partners can perceive objects not presented in the tactile medium. On one hand, if Patrick already has the ability to direct attention to the visual medium, a sense he does not possess, then it seems reasonable that Paul just takes the cup from him. On the other hand, it seems that Paul could go further and make more of the moment when he actually takes the cup from him. This is a

moment when their contact becomes fully tactile and perhaps at that moment Paul should make an additional comment to Patrick. At the very least Paul could talk about the cup, even add in additional communication about the fact that the drink is finished or that they are both holding the cup. This would make clear to both partners that they are sharing attention to the same object but also that this sharing of attention can be the starting point for many more discussions and observations on the world around them.

How are emotions shared tactually?

There are particular questions that arise when non-deafblind partners show emotional responses to attention (Ex.1). On the videos I saw more evidence at the second sub-stage (i.e. the communication partner responds by displaying interest) than the first sub-stage (the communication partner responds by displaying emotion or co-ordinating his /her expressions with the congenitally deafblind person) perhaps because the partner is making certain that his/her response is perceptually available to the deafblind person. A simple smile or a laugh, or even an angry or disappointed face, are not readily available to the deafblind person. Does this suggest there are new skills and approaches for the non-deafblind partner to learn? For example, how to develop signs or actions that can tactually communicate the emotion that is being felt? Or can we appreciate that emotion is already carried in an action? For example, when David cuddles Caroline, his actions and his movements will already carry an emotional overtone, so it could easily be argued that the

emotion is not unavailable to her. On the contrary, it is completely available if the partner engages authentically, and thus bodily, with the other person. This relates to Reddy's point that the mentality of any action should not be seen as a separate process but 'rather as a quality of the action itself' (2008, p.14). She provides many examples: 'we sit anxiously, step carefully, move confidently, pause thoughtfully, look attentively, reach purposefully and so on' (Reddy 2008, p.14). In this same way, we can see that David will be cuddling emotionally, an emotion that I believe is entirely available to Caroline through their direct engagement. Similarly, Jon sways emotionally with Rachel and when Paul asks Rachel to repeat the massage, there will be a directly perceptible emotional content to the movement which he uses to ask Rachel for another massage. Video will not always capture these emotional components well, but I have no doubt that they are present in the real experience. Reddy suggests that 'if minds are what bodies do, they are public, not private. We don't need inference or theory or stories to get at them; they are transparent to perception' (Reddy, 2008, p.14). This is never seen more clearly than when communication takes place primarily in the tactile medium, in the way that we see Thomas and Serge (Daelman et al, 1996) using movements and actions to display their emotions (described more fully on pp.77-78). But non-deafblind partners must become more aware of how emotions are already contained with actions and to find ways to make sure that it truly influences their practice.

Conclusion

It is clear from the evidence presented in this chapter that non-deafblind partners can operate at all four stages of Reddy's model entirely within the tactile medium. They are responding to attention and directing attention to a) self; b) what self does; c) what self perceives and d) what self remembers. These partners are attempting to 'conceive, create and communicate about social realities' (Markova 2003, 2006 (p.125) and 2008) in terms of their deafblind partner, by moving ever more deeply into a tactile perspective of the world. Now that I have demonstrated that both congenitally deafblind people and their non-deafblind partners can each expand their awareness of the objects of each other's attention, does it then follow that partnerships between deafblind and non-deafblind partners can develop movements, gestures or signs, introduced by either partner, so that they have jointly understood meanings and are presented in jointly perceivable forms?

As highlighted in earlier chapters, it is appropriate for communication partners to bring their own linguistic and cultural experiences, and to find creative ways of making sure that language (in its widest sense) is all around. In this respect, this thesis aligns itself with a general view outlined by Schjøll Brede who similarly argues that non-deafblind partners need to bring fluent signing to their meetings with deafblind people, but in itself this is not enough (Schjøll Brede, 2008). If that is all they bring it is going to be a one-sided affair. They must also rise to the challenge set by Lane (1999) to find ways to reorganise

their daily interactions 'that are attuned to vision and hearing so that they become attuned instead to touch'. People, events, objects and places should not simply be understood from a seeing-hearing perspective and referred to solely in the non-deafblind partner's language, but should be understood and referred to from a tactile and bodily perspective. In this way a 'shared communicative landscape' can be created. How both partners understand one another in such communicative landscapes will be the focus of Chapter 6.

Chapter 6

Now we are partners do we understand each other?

Introduction

This chapter will present the outcome of Study 3 and will demonstrate that in communicative meeting places between congenitally deafblind partners and non-deafblind partners, both partners learn from each other about how the other is using movements, gestures or signs to refer to people, objects, places or events. I will focus on communication partnerships with two fully deafblind adults, Patrick and Rachel. Sometimes it is the non-deafblind communication partner who brings tactile adaptations of conventional BSL signs or non-conventional gestures and movements to the partnership. Sometimes it is the congenitally deafblind person who brings non-conventional gestures and movements. But whoever brings a movement, gesture or sign, both partners can come to understand it. Chapters 4 and 5 have already demonstrated that, individually, congenitally deafblind people and non-deafblind people can use movements, gestures and signs to both respond to and direct attention at all four stages of Reddy's model. This includes the final and most 'challenging' stage of directing attention to past events and absent targets. Chapters 4 and 5 did list movements, gestures and signs used by Patrick and Rachel and

their non-deafblind partners at all stages of Reddy's model, but did not detail the full extent of these. I listed some in order to demonstrate that both Patrick and Rachel can operate at all four stages of Reddy's model but this chapter will allow a more detailed exploration of how any of these movements, gestures or signs come to be understood and perceived by both members of the partnership. How can the partnership between a deafblind and a non-deafblind person confidently and jointly move away from the here-and-now? This question is the focus of this chapter.

Chapter 2 outlined a range of models that describe language development. It made clear that I was rejecting any individualistic accounts of how developments take place. I also rejected interactional accounts that place too great an emphasis on language acquisition without first co-constructing solid foundations of intersubjective trust or which see those foundations as the final destination. Finally, I rejected models that describe the more competent other 'scaffolding' the development of the learner, guiding them gradually towards their language destination (Wood, 1988; Schaffer, 1996).

Ultimately, this thesis rejects interactional accounts which see that any new tactile languages must grow solely from either the existing linguistic and cultural experiences of the non-deafblind partners or the movements and gestures of the deafblind partner. Instead, the model defended in this thesis and especially this chapter will demonstrate that *both* partners make significant contributions and have significant roles to play. Key communication and language developments take place at the level of the *partnership*. It is

only at the level of the partnership that movements, gestures and signs have any meaning at all and thus it is only at the level of the partnership that they can be understood. No matter who brings a movement, gesture or sign to the partnership, through a dynamic process that involves both partners, it comes to have meaning for both and comes to be perceivable by both. This chapter will shed light on that process. Thus there is one principal aim for this third study:

To demonstrate that movements, gestures or signs that refer to people, objects, places or events, brought by either partner to a communicative meeting place, are developed and modified by the partnership through a dynamic process of exchange. In this way such movements, gestures or signs take on jointly negotiated meanings and are presented in jointly perceivable forms.

In order to understand the intricacies of this process, I will consider it from two different perspectives, but all the time it is one process that is being considered. I will first explore what the partnership does with the movements, gestures or signs that the *non-deafblind partner* brings to communicative meeting places. I will then explore what the partnership does with the movements, gestures or signs that the *congenitally deafblind partner* brings to communicative meeting places.

Methodology

What videos were chosen?

In Chapter 3 I outlined the various sources of data that I had available to me for analysis throughout this thesis. Study 3 will only draw upon data from source 3: the 43 communication sessions featuring Rachel and Patrick, both of whom are fully deafblind, with no functional vision or hearing. These were all filmed between 2007 and 2009, specifically for this thesis. In total there are 29 sessions with Rachel, 10 sessions with Patrick and 4 sessions that feature both Rachel and Patrick.

What did I do with the videos of the communication sessions?

Chapter 3 outlines the general processes involved in filming each of the sessions and then making and storing the video records of each session, so I will not repeat all of that here. The data used in Study 3 had already been coded for the previous two studies (reported in Chapters 4 and 5), so each iMovie had a number of video clips that were described as relating to one of Reddy's four stages. This included movements, gestures or signs used by or with Patrick and Rachel. For example, at Stage 3 Rachel responds to attention to Paul's bracelets or Jon's necklace and Patrick responds to attention to cups and trees. At Stage 4, amongst other things Rachel puts her

feet in the air to indicate she wants a walk and Patrick reaches for cups to indicate he wants a drink and asks to be carried.

I undertook five different phases in the analysis process for this Study, in order to tackle the principal aim. First I had to be clear that both partners were using movements, gestures and signs to refer to people, objects, places or events (Phases 1 to 3). Next, I needed to be clear that such movements, gestures or signs were being brought to communicative meeting places by both partners (Phase 4). Finally, I undertook detailed analysis to be clear what developments and modifications were taking place for these movements, gestures and signs so that they were jointly understood and presented in jointly perceivable forms (Phase 5).

I will describe each of these phases in more detail.

Phase 1

I re-considered all Stage 3 and 4 examples involving Patrick and Rachel. I observed each example coded on the videos again, and from these initial observations, I developed a set of general headings to group together movements, gestures and signs (See Tables 19 and 20 below). Following Gibson's view (2005, p.118) that interpretations of movements and gestures are constantly being made throughout communicative episodes with deafblind people, I have marked possible interpretations after some of these headings (e.g. Drink). Where I write an interpretation in capital letters (e.g. WANT, TOILET etc), this means it is a BSL sign used by either partner. If used by

either Patrick or Rachel, this was a sign introduced to them prior to this research and agreed by existing communication partners as meaningful to that person (e.g. Patrick used the sign DRINK).

These were the first set of general headings identified for Rachel and Patrick. I have given a description of the movement, gesture or sign that is observed and then supplementary comments to explain more of my thinking process.

Table 19: Chapter 6 – Movements and gestures to code (Rachel - set one)

No.	Description	Comment
1	Non-deafblind partner takes Rachel's hands and touches at his/her own mouth, either with his/her own hand or Rachel's hand (DRINK)	The partner is using the BSL sign DRINK in a tactile form.
2	Non-deafblind partner takes Rachel's hands and touches it at Rachel's mouth (DRINK)	The partner is using a BSL sign DRINK in a tactile form.
3	Rachel touches near her own mouth with her hand (Drink)	At the outset of this analytical process, I could not be certain that Rachel was signing DRINK. I wanted to be absolutely clear that the context indicated that this was her intention.
4	Non-deafblind partner finger-spells to Rachel using conventional Deafblind Manual.	
5	Non-deafblind partner uses their personal signifier or sign name with Rachel	All of the non-deafblind partners working with Rachel used a personal signifier (an object) and associated movements to indicate who they were. Rachel was encouraged to feel this object. For example, Paul used the bracelets on his wrist; Jon used his necklace and Neil used a wooden key holder placed into the palm of his hand.
6	Rachel explores or attempts to explore partner's personal signifiers	During some sessions, if somebody was introduced to Rachel, she would reach out to touch their wrists, neck etc. I considered she was searching to determine who was with her.
7	Rachel makes clear actions or movements with her body	There were many actions that I considered communicative but in

		the early analysis, I could not determine exactly what was in Rachel's mind (e.g. she stood up; she leaned forward to touch the table in front of her; she takes the arm of a partner and pushes it into the space in front of her etc).
8	Rachel sits/lies on her bed with feet in the air	On many occasions, Rachel lay on her bed and put her feet straight into the air. Her existing communication partners at the outset of this research suggested she was asking for her shoes.
9	Either partner rubs right palm across left palm	This gesture resembles a tactile form of the BSL sign 'FINISHED' but when Rachel started using this gesture, it was difficult to tell that she really meant 'FINISHED'. But it is a gesture that is used many times by her.
10	Non-deafblind partner takes Rachel's hands and taps her fists on his /her chest or on Rachel's chest (JACKET)	This is a tactile version of the BSL sign JACKET.
11	Rachel taps her fists on her chest (Jacket)	Rachel made this gesture a few times. Again, at the outset of this analysis, it was difficult to determine if she meant JACKET.
12	Rachel rubs her hands together	Rachel frequently made a gesture that resembled washing her hands. Many of her existing communication partners felt this gesture indicated her general mood (i.e. she was content).
13	Non-deafblind partner takes hold of Rachel's hands and moves his /her palm and Rachel's palm down his/her front or Rachel's front (WANT)	Partners introduced this BSL sign to Rachel and added in front of other signs such as DRINK, WALK etc. It was not used often.
14	Non-deafblind partner signs TOILET	This BSL sign was made onto Rachel's body or onto the body of the partner.
15	Non-deafblind partner signs MILK	This BSL sign was made onto Rachel's body or onto the body of the partner.

Table 20: Chapter 6 – Movements and gestures to code (Patrick - set one)

No.	Description	Comment
1	Non-deafblind partner signs OVER-UNDER TREE or any of the component parts of the sign (e.g. TREE)	This is composite sign made from 3 BSL signs in a tactile form and was used to describe one particular tree that Patrick climbed on his regular park walks.
2	Patrick signs OVER-UNDER TREE or any of the component parts of the sign (e.g. TREE)	
3	Patrick signs YES	On many occasions, Patrick brings his right fist into the palm of his left hand. This is tactile form of BSL sign YES introduced to Patrick prior to this research. His existing communication partners consider that he is signing YES. (More discussion of this will follow in Chapter 7).
4	Patrick makes clear actions or movements with his body	There were many actions that I considered communicative but in the early analysis I could not determine exactly what was in Patrick's mind (e.g. he moves around rooms; he reaches out to objects in front of him; he reverses into his chair etc).
5	Either partner refers to a past or future event	Most often this is Joe talking about a walk in the park that he and Patrick are about to do, or Paul / Joe talking about a walk that Patrick has done earlier that day or the day before. Movements, gestures and signs associated with the walk are used with Patrick (e.g. OVER-UNDER TREE, finger spellings of M.O.S.S., B.A.R.K., F.E.A.T.H.E.R. etc) and a plan or review of the route is talked about using gestures of climbing trees etc.
6	Either partner signs COFFEE or DRINK	These are standard BSL signs that Patrick was introduced to many years before this research.
7	Patrick signs WANT	Patrick had been introduced to this BSL sign prior to this research. He often uses it accompanied with other signs such as SIT, DRINK etc.
8	Either partner uses Deafblind Manual	

The videos of all communication sessions were viewed to find examples of each of these headings and all were summarised on a sheet as follows:

Table 21: Video analysis sheet No.2

General heading	Video code	Comments
Patrick signing YES	3PT/e	Patrick has just climbed over the tree branch. He turns to Joe and signs YES.

Phase 2

As reported earlier, throughout all of the studies I participated in regular video analysis sessions with key people who knew Rachel and Patrick. In addition I held regular discussions with each of the non-deafblind communication partners who feature in the communication sessions. This resulted in agreement between me, as researcher, and the non-deafblind communication partners that the first set of headings described above were an accurate description of what was observed. This was in line with the process outlined in Chapter 2 in relation to reliability. Each of these meetings was recorded.

During such meetings, new ideas and observations came to light that allowed a re-appraisal of what was happening during the session. It allowed important information to be included in the analysis of any situation, information that often resulted from the direct engagement of the communication partner in the communication session that was being viewed. Through such regular discussions with communication partners the context of any given situation was able to be taken into account (e.g. what any gestures meant in the

context of that day's walk in the forest), but also the ongoing context of a communication relationship built up over many weeks, months, or indeed years. So, for example, a communication partner could help me make sense of a movement being made by the deafblind person by suggesting this was related to a routine activity, or had first appeared a few weeks previously etc. Without this detailed knowledge, it is difficult to fully appreciate the richness and significance of what is happening in the interactions. It also meant that new gestures were noted as meaningful.

So in addition to the many examples noted under the first set of headings, repeated observations of the videos meant that new headings emerged as follows:

Table 22: Chapter 6 – Movements and gestures to code (Rachel – set two)

(Numbers continue from Table 19)

No.	Description	Comment
16	Rachel opens out the palm of her right hand	On many occasions, Rachel opens the palm of her right hand and sweeps it across the table. I considered that this had a communicative function.
17	Rachel rubs her right thumb against two forefingers	Similar to Rachel rubbing her hands together, there were many instances where Rachel rubbed her thumb against her forefingers. There was some discussion that this might indicate an emotion, or perhaps it was a reference to feeling one of the personal signifiers of one her partners (i.e. either rubbing a thread on Paul's bracelets or exploring Jon's necklace).

18	Rachel and non-deafblind partner make multiple gestures in a sequence	There were many occasions when movements, gestures and signs were used in sequences of three or four different gestures.
19	After the non-deafblind partner has made initial contact with Rachel, she makes her hands available to the partner by placing it on top of their hand or by opening out her hand	Rachel has been supported to use Hand-under-hand signing. There are many occasions when she adopts appropriate hand positions for communication to take place.
20	After the non-deafblind partner has made initial contact with Rachel, she makes her hands unavailable to the partner by making a fist, or withdrawing her hand.	There are also many occasions when she appears unwilling to communicate with her partner.

Table 23: Chapter 6 – Movements and gestures to code (Patrick – set two)

(Numbers continue from Table 20)

No.	Description	Comment
9	Patrick asks for shoes off	Patrick takes his partner's hands to his feet, or he places his feet into the lap of his partner.
10	Patrick asks partner to touch his feet	Patrick takes his partner's hands towards his feet. This happened frequently during music sessions.

The videos of all communication sessions were viewed again in order to find examples of each of these new headings. They too were summarised on the same sheet described earlier (Table 21).

Phase 3

I undertook repeated observations of these videos in order to find examples under each heading. There were also further discussions with key people who knew Patrick and Rachel. Both of these processes led to some headings

being removed, some being combined, some being split into two headings and some being re-written.

Headings removed

I took out some headings because they did not contribute to the overall aim of this Study: Rachel No.12 (*Rachel rubs her hands together*); Rachel No.18 (*Rachel and non-deafblind partner make multiple gestures in a sequence*); Rachel No.19 (*After the non-deafblind partner has made initial contact with Rachel, she makes her hands available to the partner by placing it on top of their hand or by opening out her hand*); and Rachel No. 20 (*After the non-deafblind partner has made initial contact with Rachel, she makes her hands unavailable to the partner by making a fist, or withdrawing her hand*). I will return to some of these headings in the final chapter as they all point towards future research possibilities.

I also took out Rachel No.13 (*Non-deafblind partner takes hold of Rachel's hands and moves his /her palm and Rachel's palm down his/her front or Rachel's front - WANT*) because there were insufficient examples for any further analysis.

Headings combined

Rachel No.1 (*Non-deafblind partner takes Rachel's hands and touches at his/her own mouth, either with his/her own hand or Rachel's hand - DRINK*),

Rachel No.2 (*Non-deafblind partner takes Rachel's hands and touches it at Rachel's mouth - DRINK*) and Rachel No.3 (*Rachel touches near her own mouth with her hand - Drink*) were combined into one heading with a new title 'Either partner touches around their mouth (DRINK)' because repeated observations made it clear that Rachel was asking for and making comments about drinks whenever she formed that gesture. Indeed, she was using that movement of touching around her mouth as a sign.

Patrick No.1 (*Non-deafblind partner signs OVER-UNDER TREE or any of the component parts of the sign - e.g. TREE*) and Patrick No.2 (*Patrick signs OVER-UNDER TREE or any of the component parts of the sign - e.g. TREE*) were combined into one new heading 'Either partner signs OVER-UNDER TREE or component parts of the overall sign (OVER, UNDER, TREE)'. This was done because both partners used component parts of the sign.

Finally, Rachel No.10 (*Non-deafblind partner takes Rachel's hands and taps her fists on his /her chest or on Rachel's chest - JACKET*) and Rachel No.11 (*Rachel taps her fists on her chest - Jacket*) were combined into one heading 'Either partner signs JACKET', again because it became clear that Rachel was forming a sign.

Headings split

Patrick No.5 (*Either partner refers to a past or future event*) was split into two new headings so that I could be certain when a non-deafblind partner was talking about a walk that had already taken place (Partner refers to a past event) or to a walk that was yet to take place (Partner refers to a future event).

Patrick No.4 (*Patrick makes clear actions or movements with his body*) was split into three new headings as it became clear through repeated observations what some of these actions meant: 'Patrick asks for a Piggy Back' and 'Patrick asks for a drink'. For the third new heading, 'Patrick moves around the room', it was still unclear exactly what was in Patrick's mind in all instances but in other situations the context makes clear what he is intending to communicate.

Headings re-written

Rachel No.5 (*Non-deafblind partner uses their personal signifier or sign name with Rachel*) and Rachel No.6 (*Rachel explores or attempts to explore partner's personal signifiers*) were re-written so that I could be clear that it was the personal signifier of Paul (bracelets) or Jon (necklace) that was being referred to. The new headings were: 'Either partner touches wrist or bracelets' and 'Either partner touches neck or necklace'

This entire process led to a final set of headings that were used to code the videos, following agreement reached at the discussion groups about any potential meanings of movements, gestures and signs. I allowed the groups to consider what both partners had come to understand by particular gestures in later sessions, even if these gestures did not necessarily have these meanings for both partners in the earliest sessions. Nevertheless these earlier examples were subsequently coded by me. For example, one group discussed the open hand gesture shown by Rachel, where she opens out the palm of her right hand fully and presents this gesture directly to her communication partners. This gesture began to appear more often over the second year of this research project and her partners were reporting its use around drink times. When videos of earlier sessions were viewed again, it could be seen that this gesture had been used by Rachel before partners became conscious of its use.

For the final set of headings, each movement, gesture or sign was given a general description and a specific alphabetic code (A, B, C etc). So the final list for coding was as follows:

Table 24: Chapter 6 – Movements and gestures to code (Patrick and Rachel – final set)

Patrick	Rachel
A) Either partner signs OVER-UNDER TREE or component parts of the overall sign (OVER, UNDER, TREE)	M) Rachel or her partner touches around their mouth (DRINK)
B) Patrick signs YES	N) Rachel uses open palm gesture
C) Patrick moves around the room	O) Rachel explores partner's wrist or bracelet and she or others uses associated gestures to refer to Paul
D) Patrick asks for a Piggy Back	P) Rachel or her partner rubs their right thumb against their forefingers.
E) Patrick asks for a drink	Q) Rachel or her partner touches neck or necklace
F) Patrick's partner refers to past events (Walks)	R) Partner fingerspells to Rachel
G) Patrick's partner refers to future events (Walks)	S) Rachel lies on bed with feet in air or directs partner's hand to her feet or shoes
H) Patrick or his partner signs COFFEE or DRINK	T) Rachel or her partner signs JACKET
I) Patrick signs WANT	U) Rachel or her partner moves right palm across left palm (FINISHED)
J) Patrick or his partner uses Deafblind manual finger spelling	V) Rachel makes clear actions with her body
K) Patrick asks for his shoes to be taken off / put on	W) Rachel or her partner signs TOILET
L) Patrick asks partner to use his feet for interaction	X) Rachel's partner signs MILK

Although discussions had taken place with communication partners and other key people who knew Patrick and Rachel well throughout the time that the sessions were recorded and code headings were amended, it was not until the completion of all communication sessions that the final coding, as presented in the results section, was added to the videos of communication sessions, using a sheet similar to this example.

Table 25: Video analysis sheet No.3

J) Either partner uses Deafblind manual finger spelling

1)	1PT/b	Joe and Patrick are walking in the forest. Joe encourages Patrick to feel the holly bush and after doing so Joe signs NAME and Hand-Over-Hand they fingerspell H.O.L.L.Y.
2)	4PT/a	Paul uses Deafblind Manual to fingerspell P.A.U.L. into Patrick's hands.

It can be seen from this example that a brief narrative description of each of these examples was included within the table. This gave a quick overview of each clip (the general background, who was there, who did what etc) but also made clear whether the movement, gesture or sign originated from the congenitally deafblind person or the non-deafblind partner.

Phase 4

As reported earlier, in order to understand something about this process, I wished to consider it from two different perspectives:

- 1) What the partnership does with movements, gestures or signs that the seeing-hearing partner brings to the communicative meeting places.
- 2) What the partnership does with movements, gestures or signs that the congenitally deafblind partner brings to the communicative meeting places.

So at this phase of this analysis process, I separated out which movements, gestures and signs must have originated from the non-deafblind partner (e.g. BSL signs such as DRINK, WANT, TREE etc) and which were first introduced by the deafblind person (e.g. Rachel's open palm gesture). Most often, multiple examples were observed under each of the headings but it is not possible to report all of these in detail. I will report only a smaller sample that were selected for more detailed analysis at phase 5 of this analytical process (to be described shortly). In the results section that will follow I will, however, give a summary of the frequency of all the gestures I coded.

These were the headings that I chose for more detailed analysis at phase 5.

Table 26: Chapter 6 – Movements, gestures and signs to report (Perspective 1)

Perspective 1 - What the partnership does with movements, gestures or signs that the <i>non-deafblind partner</i> brings to the communicative meeting places.
Patrick or his partner uses Deafblind manual finger-spelling (J)
Patrick or his partner signs OVER-UNDER TREE or component parts of the overall sign (OVER, UNDER, TREE) (A)
Rachel or her partner touches around their mouth (DRINK) (M)
Rachel or her partner signs JACKET (T)
Rachel explores partner's wrist or bracelet and she or others uses associated gestures to refer to Paul (O)

Table 27: Chapter 6 – Movements, gestures and signs to report (Perspective 2)

Perspective 2 - What the partnership does with movements, gestures or signs that the congenitally deafblind partner brings to the communicative meeting places.
Patrick moves around the room (C)
Patrick asks for a Piggy Back (D)
Patrick asks for a drink (E)
Rachel lies on bed with feet in air or directs partner's hand to her feet or shoes (S)
Rachel uses open right palm gesture (N)

Phase 5

At this final stage of analysis, I observed examples of each of the headings listed above in Tables 26 and 27 in order to explore how movements, gestures or signs are developed by the partnership such that they come to have jointly understood referential meanings and are presented in jointly perceivable forms. This meant consideration of developments and modifications both in terms of meaning and form. I observed all examples of these headings, but in the final results section I will again only report a smaller sample of examples. I have chosen examples from early communicative sessions as well as examples from later sessions. These examples will be described in fuller narrative descriptions that detail changes over time in a number of areas, including: visual or tactile iconicity of a movement, gesture or sign; temporal and spatial developments - the length of time or physical distance between the use of a gesture or sign and the object to which is referring; changes in the number of people who use a sign; changes in ways that either partner respond to the sign; changes in the way the movement,

gesture or sign is linked to other movements, gestures or signs. I will not report each of these areas for all examples, but across the data set that is considered, each of these areas is considered in some detail.

Results

The results will be described as follows:

1. An overall summary giving the frequency of movements, gestures or signs observed on the videos (as detailed in Table 28 below).
2. A sample (listed in Tables 29-39) of movements, gestures and signs brought by the *non-deafblind partner* and then the *congenitally deafblind partner* will then be described more fully in:
 - a. A table format listing video examples, along with video code and brief narrative description to indicate which partner made the movement, gesture or sign. These are laid out in date order.
 - b. Detailed narrative descriptions in order that a fuller picture is drawn on how both partners engage with each other and how the movements, signs and gestures are used. I will not necessarily follow the video date sequence order (as used in the table) but instead will use these narrative descriptions to tell an engaging story about how both partners learn from each other and how any movements, gestures and signs develop within the partnership.

1) Overall summary giving the frequency of movements, gesture or signs observed on the videos

There were many examples of movements, gestures and signs observed in these communication sessions and this chapter can only list a few in any detail. However, I do wish to give the reader a clear sense that although these particular partnerships may just be starting out on their journeys towards language, nevertheless the sheer quantity of utterances that refer to people, places, objects or events gives great weight to the subsequent conclusions I will reach in the final discussion. That is why I have chosen to list the frequency with which these gestures were observed on the videos. This is not to suggest that these are the only examples of all these movements, gestures or signs but it is the number that I worked with during the analysis stages.

Table 28: Frequency of movements, gestures or signs that the *non-deafblind partner* brings to the communicative meeting places

Perspective 1 - What the partnership does with movements, gestures or signs that the <i>non-deafblind partner</i> brings to the communicative meeting places.	Number of examples
A) Patrick or his partner signs OVER-UNDER TREE or component parts of the overall sign (OVER, UNDER, TREE)	8
B) Patrick signs YES	15
F) Patrick's partner refers to past events	27
G) Patrick's partner refers to future events	30
H) Patrick or his partner signs COFFEE or DRINK	18
I) Patrick signs WANT	9
J) Patrick or his partner uses Deafblind manual finger-spelling	10
M) Rachel or partner touches around their mouth	68
N) Rachel explores partner's wrist or bracelet and she or others uses associated gestures to refer to Paul	25
Q) Rachel or her partner touches neck or necklace	21
R) Partner fingerspells to Rachel	4
T) Rachel or her partner signs JACKET	17
U) Rachel or her partner moves right palm across left palm (FINISHED).	59
W) Rachel or her partner signs TOILET	4
X) Rachel's partner signs MILK	4

Table 29: Frequency of movements, gestures or signs that the *congenitally deafblind partner* brings to the communicative meeting places

Perspective 2 - What the partnership does with movements, gestures or signs that the <i>congenitally deafblind partner</i> brings to the communicative meeting places.	
C,D and E) Patrick makes clear actions or movements with his body (He moves around the room; he asks for a Piggy Back; he asks for a drink)	37
K) Patrick asks for his shoes to be taken off / put on	17
L) Patrick asks partner to use his feet for interaction	6
N) Rachel uses open palm gesture	55
P) Rachel or her partner rubs their right thumb against their forefingers.	11
S) Rachel lies on bed with feet in air or directs partner's hand to her feet or shoes.	20
V) Rachel makes clear actions or movements with her body	82

2) Movements, gestures and signs brought by the non-deafblind partner to communicative meeting places

Analysis showed that non-deafblind partners did bring movements, gestures and signs to communicative meetings with both Patrick and Rachel. In Patrick's case this is, perhaps, not surprising given that he has been supported by appropriately skilled and qualified communication partners for many years. We would expect a great many signs to have been introduced to him over these years. Many of these signs he now receptively and expressively uses in culturally and linguistically appropriate contexts, such as DRINK, WANT, SIT, TREE, FINISHED, YES. I will detail two examples: Using Deafblind Manual and OVER-UNDER TREE.

Similar to Patrick, Rachel had been introduced to some signs prior to this thesis being undertaken, such as DRINK, FINISHED and TOILET. For her, however, there are more examples of signs that have been introduced during this research project, such as JACKET and SHOES. In this results section, I will report three gestures / signs brought by the non-deafblind partners: DRINK, JACKET and using a personal signifier (bracelet on wrists).

a) What movements, gestures or signs are brought by the *non-deafblind partner* to communicative meeting places with Patrick?

Patrick or his partner uses Deafblind Manual finger spelling (J)

Deafblind Manual is a system of finger-spelling developed for deafblind people and is most commonly used with people with acquired deafblindness. It uses a series of shapes formed by the 'signer' into the hand (often left hand) of the receiver. Patrick had been introduced to Deafblind Manual prior to this thesis being undertaken. Sometimes, the communication partner takes Patrick's hand and helps him to form the letter into his own hand using his own fingers. This is not standard practice with deafblind people but it is how Patrick was taught. Where this happens, I will write HOH (Hand-over-Hand). This indicates that the communication partner's hands are on top of the deafblind person's hands and generally guides them into forming the sign. This is the way that Patrick prefers to receive signs and this preference pre-dates any work on this thesis.

Table 30: Summary of Evidence (Chapter 6 - Patrick or his partner uses Deafblind Manual finger spelling)

(Those marked with an asterisk (*) are available on the DVD)

1	1PT/b	Joe and Patrick are walking in the forest. Joe encourages Patrick to feel the holly bush then Joe signs 'NAME' and HOH they fingerspell H.O.L.L.Y.
2 *	4PT/a *	Sitting in Patrick's room, Paul fingerspells P.A.U.L. into Patrick's hands.
3	5PT/cc +dd	Patrick and Joe pick up a feather. As Patrick is touching the feather, he touches two fingers of his right hand onto the index finger of his left hand. (This is the location of 'F').
4	5PT/ee	After holding a pine cone, Patrick begins to move his right hand forefingers towards his index finger of left hand. Joe HOH helps Patrick to form 'P' and then Joe signs 'I.N.E.C.O.N.E'.
5	5PT/hh	Patrick and Joe pick up a feather. Patrick first signs 'H' or 'FINISHED'. ⁹ Joe signs 'NAME' and Patrick takes two fingers from his right hand towards index finger of left hand, in what looks like an 'F' handshape.
6	5PT/rr	Paul gives Patrick a sycamore leaf. Paul signs NAME and Patrick moves his right palm across his left palm – 'FINISHED' or 'H'.
7 *	5PT/fff *	After touching a holly leaf, Patrick moves his right palm across left hand – 'FINISHED' or 'H'. Later Joe gives Patrick a pine cone. Joe signs 'NAME' and Patrick first signs 'H', then makes a 'P' shape.

Firstly I will detail how communication partners use finger-spelling with Patrick.

Joe and Patrick are walking in the forest. Joe encourages Patrick to feel the holly bush at the start of their route and they bend down together to touch the bush. This is a marker they use to indicate that the forest walk has begun.

After they have touched the holly bush, Joe signs 'NAME' by HOH guiding

⁹ 'H' in Deafblind Manual and the tactile version of 'FINISHED' used by Sense Scotland staff are formed in exactly the same way.

Patrick's hands into the conventional BSL sign 'NAME' (in a tactile form¹⁰).

After this, again HOH, they fingerspell H.O.L.L.Y. and then proceed with their walk into the forest. (Ex.1)

On another occasion, Patrick is curled up on a chair in his bedroom. Paul introduces himself to Patrick by presenting his left wrist and allowing Patrick to feel his bracelets. Paul then finger-spells P.A.U.L. onto Patrick's hand, after which he curls back into his chair. (Ex.2)

Patrick himself uses Deafblind Manual and he can only have learned this from his communication partners.

Patrick and Joe pick up a feather on their forest walk and Joe puts it into Patrick's hands. As Patrick is touching the feather, he moves the front two fingers of his right hand towards his left hand and then pulls them away from the index finger of his left hand. (This is close to the location of 'F' in Deafblind Manual). Joe then moves the feather around Patrick's hands for a few seconds, then HOH signs 'NAME'. Joe then repeats the movement of the feather in Patrick's hand and Patrick moves two fingers from his right hand

¹⁰ Throughout this chapter where I mention conventional BSL sign, this will always be in a tactile form unless otherwise stated. To avoid repetition for the reader, I will not keep repeating this throughout this chapter.

towards the index finger of his left hand and then Joe HOH helps Patrick to form 'F'. Patrick signs 'YES' at this point. (Ex.3)

Later on that same walk, Patrick and Joe pick up a pine cone which Patrick holds for a few seconds. He then passes it back to Joe. Joe signs 'NAME' and helps Patrick to feel the pine cone again. Joe pauses and Patrick begins to move his right hand forefingers towards his index finger of left hand. Joe HOH helps Patrick to form 'P'¹¹ and then Joe signs 'I.N.E.C.O.N.E'. Joe signs 'YES, GOOD' and gives Patrick the cone again. Patrick begins to form 'P' and then Joe confirms by signing 'GOOD, P SAME YOUR NAME'. (Ex.4)

Patrick and Joe pick up another feather. Patrick first signs 'H' (or 'FINISHED') and then Joe gives him the feather to explore again. Joe signs 'NAME'. Patrick takes two fingers from his right hand towards index finger of his left hand, in what looks like an 'F' handshape. Joe then HOH forms Patrick's hands into an 'F' and Patrick signs 'YES'. (Ex.5)

Paul also interacts with Patrick later on that same walk, and he recalls events from earlier in the walk by giving Patrick a sycamore leaf collected earlier with Joe. Paul signs 'NAME' and Patrick moves his right palm across his left palm. This could be interpreted either as 'FINISHED' or 'H'. Earlier on this walk (and

¹¹ 'P' and 'F' are formed very close to each other in Deafblind Manual.

captured on video), Joe had explained that on a previous walk he had thought a sycamore leaf fell through the air like a helicopter and so when giving Patrick a name for this type of leaf, he had first used the letter 'H' and this came to be the letter used at all other times the picked up a sycamore leaf. At this point on the video we can hear Paul asking Joe, who is filming, if this is the leaf he calls a helicopter, so perhaps Patrick's gesture is indeed 'H' and not 'FINISHED'. (Ex.6)

Later that same day, Patrick and Joe are sitting in Patrick's garden, talking about the walk that had taken place earlier. At one point Joe reaches out with Patrick's hands to a nearby table, in order to pick up a holly leaf collected earlier in the forest. Patrick immediately moves his right palm across his left palm. Again, this could be interpreted as 'FINISHED' or 'H' (for Holly leaf), and as we saw earlier 'H.O.L.L.Y.' is a sign used with Patrick. Joe signs 'NAME' and Patrick then signs 'H' (or 'FINISHED') again and then follows this with signing 'YES'. After a few seconds of signing about other things, Joe again signs 'NAME' and picks up the leaf, putting it back into Patrick's hand. It looks like Patrick begins to sign 'H' but then Joe fingerspells H. (Patrick repeats this letter) O.L.L.Y. into Patrick's hand, after which Patrick signs 'YES'. Then Joe gives Patrick a pine cone and encourages him to smell this. Joe signs 'NAME' and Patrick first signs 'H', then makes a 'P' shape. Joe signs 'YES' and then confirms 'P' sign. He then signs 'P.I.N.E.C.O.N.E.', first onto Patrick's hand in Deafblind Manual, then repeats it HOH with Patrick's hands forming the letters. (Ex.7)

Deafblind Manual is a conventionalised language system understood and used by many people with acquired deafblindness. It is tactile by its very nature and so there is not a great deal of amendment required to use it with Patrick. I have reported it here because it is an abstract system, in as much as there is no iconic connection between the Deafblind Manual placement of 'F' and a feather, for example and because Patrick uses it expressively, albeit just the initial letter to refer to objects. This would suggest that Patrick can use abstract language systems.

Patrick or his partner signs OVER-UNDER TREE or component parts of sign (e.g. TREE) (A)

OVER-UNDER TREE is a non-conventional sign that has been developed by Joe and determined by the shape of one particular tree he and Patrick regularly climb. It is an old tree with two branches protruding from the side. One that hangs upwards a few feet off the ground and can be climbed over and another that hangs downwards but high enough off the ground to be climb under. The component parts of this sign are themselves tactile adaptations of BSL signs: OVER, UNDER, TREE and when indicating what to do, the BSL sign CLIMB is used. The whole sign is made by the partner moving Patrick's right hand and arm over the top of his left hand in a forward motion (OVER), then moving his right arm and hand under his left hand in a forward motion (UNDER) and finally moving the open palm of Patrick's left hand under his right elbow, while the rest of Patrick's lower right arm and

hand rotates slightly (TREE). In the main, these signs are formed HOH with Patrick.

Table 31: Summary of Evidence (Chapter 6 - Patrick or his partner signs OVER-UNDER TREE or component parts of sign)

(Those marked with an asterisk (*) are available on the DVD)

8	1PT/e	Joe and Patrick are standing in front of the tree. Joe signs 'FIRST CLIMB OVER'. They both climb over and then Joe signs 'NEXT CLIMB UNDER'.
9	1PT/s	Joe and Patrick are approaching the tree from the return side. Joe signs 'TREE. UNDER'. Joe supports Patrick to move under and then stand up. Joe then signs 'NEXT CLIMB OVER'.
10	3PT/b	Joe signs 'FIRST OVER' and places Patrick's hands on the branch. They climb over together. Joe then signs 'NEXT UNDER' and again rests Patrick's hands on the branch. Joe dips his body and Patrick follows.
11 *	5PT/I *	Joe signs 'NOW OVER-UNDER TREE' and there is an exploration of the tree by Patrick and Joe. Joe signs 'FIRST NEED CLIMB' and Patrick signs 'YES' – his hands are guided to the branch again and he steps over. There follows signing from Patrick and Joe about a drink, then Joe signs 'NOW CLIMB UNDER' and he rests Patrick's hands on the branch and then both go under the branch.
12	5PT/II	Joe signs 'OVER-UNDER TREE GOOD' just before they reach the tree. As they touch the tree Joe signs 'FIRST UNDER' and then dips his body and guides Patrick under the branch. Once they are standing up again, Joe signs 'NOW CLIMB OVER' and his hand is guided to the branch. Patrick readies himself to climb over.
13	5PT/ww	Paul and Patrick are standing next to the tree. Paul signs 'WHAT WANT.OVER-UNDER TREE'. Paul guides Patrick's hands to the tree and then signs 'YOU WANT CLIMB OVER'. Patrick steps over the branch. Once they are over, Patrick signs 'WANT' but Paul directs his hands and signs 'TREE. HAPPENS HERE. UNDER'. Paul guides Patrick's hands to the tree and then Paul dips his body, gesturing UNDER and guides Patrick under the branch.
14	6PT/c +d	As they approach the tree, Joe signs 'NOW OVER-UNDER TREE' and guides Patrick's hands high up the branch. Patrick signs TEETHBRUSH. Joe signs 'TEETHBRUSH LATER HOME. NOW FIRST YOU' and Patrick signs 'YES'. Joe continues with 'CLIMB OVER'. Once over the branch Joe signs 'NOW CLIMB UNDER'.
15 *	2PT/e *	Paul signs UNDER and it appears as if Patrick takes his right hand towards his left elbow.
16 *	7PT/a *	In Patrick's room Paul signs 'OVER-UNDER' and as their hands move back from making 'UNDER' sign, Patrick loses contact with Paul and he takes his own left hand under his right elbow (TREE).

Firstly, there are examples of non-deafblind partners using the sign when they are standing directly in front of the tree. We can see how Patrick responds to the sign.

Joe and Patrick are standing in front of the tree and Joe signs 'FIRST CLIMB OVER' to Patrick then he guides Patrick's hand to the tree. Patrick climbs over while keeping in contact with Joe. Joe signs 'GOOD' once they are both standing at the other side. Joe then signs 'NEXT CLIMB UNDER' to Patrick and he rests Patrick's hands on the branch. Joe gestures UNDER as they begin to dip their bodies to get under the tree. Patrick sits on the ground as Joe helps him to move under the tree. (Ex.8)

On another occasion when they are standing in front of the tree, Joe signs 'FIRST OVER' and places Patrick's hands on the branch. They climb over together. Joe then signs 'NEXT UNDER' and again rests Patrick's hands on the branch. Joe dips his body and Patrick follows. Joe is the first to go under the branch and supports Patrick to crawl under. (Ex.10)

Paul and Patrick are standing next to the tree and Paul signs 'WHAT WANT.OVER-UNDER TREE' (Paul forms TREE with Patrick's left elbow as opposed to the usual right elbow). Paul guides Patrick's hands to the tree and then signs 'YOU WANT CLIMB OVER'. Patrick steps over the branch. Once they are over, Patrick signs 'WANT' but Paul directs his hands and

signs 'TREE. HAPPENS HERE. UNDER'. Paul guides Patrick's hands to the tree and then Paul dips his body, gesturing UNDER and guides Patrick under the branch. Paul also guides Patrick's head by gesturing that the branch is above him. (Ex.13)

In these next examples the sign is used as they approach the tree, so already some distance between the sign and the object is created. Although the initial separate signs all have a degree of visual iconicity (OVER, UNDER and TREE), the signs are now developing a greater degree of tactile iconicity, as movements connected with the actions of climbing over or under the tree are added around the sign. For example, Joe signs 'UNDER' at the same time as lowering his and Patrick's bodies so that they can get under the tree. So there are developments both in terms of slight temporal separation between sign and object but also developments in form.

As Patrick and Joe approach the tree from the other side on a return journey, Joe signs 'TREE. UNDER'. As Joe dips his body, Patrick does likewise and begins to move under the tree, where he sits down. Joe supports him to move under and then stand up. Joe then signs 'NEXT CLIMB OVER'. He rests Patrick's hands on the branch and Patrick sits on the branch. Joe gestures Patrick to climb over, by moving both Patrick's hands in the direction of the climb and also touching Patrick's right leg. Patrick climbs over. (Ex.9)

Joe signs 'OVER-UNDER TREE GOOD' just before they reach the tree. As they touch the tree Joe signs 'FIRST UNDER' and then dips his body and guides Patrick under the branch. Once they are standing up again, Joe signs 'NOW CLIMB OVER' and his hand is guided to the branch, Patrick readies himself to climb over and then does so. (Ex.12)

In these next examples, Patrick introduces signs other than OVER-UNDER TREE to the on-going negotiation process with Joe. This gives us some indication of his confidence and also trust between the partners. OVER-UNDER TREE has established meanings and Patrick and Joe can talk about other things without necessarily disrupting the current activity.

Joe and Patrick arrive at the tree. Joe signs 'NOW OVER-UNDER TREE' and there is some joint exploration of the tree. Joe signs 'FIRST NEED CLIMB' and Patrick signs 'YES'. His hands are guided to the branch again and he steps over. Patrick reaches out for Joe's hands and it looks like he signs 'SIT' (although it is hard to tell who is forming the sign). Just as that sign is formed, Joe guides Patrick's hands to the branch and they run their hands along it. Patrick signs 'WANT SIT (or MORE)¹²' and Joe replies 'WHAT'. Patrick then signs 'WANT DRINK. FINISHED YES. WANT DRINK YES'. Joe signs 'LATER ALL HAVE DRINK'. Patrick signs 'YES' and then Joe signs 'NOW

¹² The camera angle does not make clear which sign it is. Given that Patrick has signed SIT a few seconds before that is my primary interpretation.

CLIMB UNDER' and he places Patrick's hands on the branch. He signs 'UNDER' again and this time Patrick climbs under with support from Joe. (Ex.11)

On another occasion, as they approach the tree, Joe signs 'NOW OVER-UNDER TREE' and guides Patrick's hands high up the branch. Patrick signs TEETHBRUSH. Joe signs 'TEETHBRUSH LATER HOME. NOW FIRST YOU' and Patrick signs 'YES'. Joe continues with 'CLIMB OVER'. Once over the branch Joe and Patrick are signing something but the camera does not capture it all. It does capture Joe signing 'NOW CLIMB UNDER' and the actions and movements indicate what to do. When they are standing up again on the other side of the branch, Patrick signs 'FINISHED. YES.YES'. Joe signs 'LOTS MORE' and he brings out the reference stick that they have been using to measure out the walk, in an effort to let Patrick know how far through the journey they are. (Ex.14)

Here is an example of Patrick attempting to sign 'TREE'.

Paul is standing behind Patrick and with his right hand on top of Patrick's right hand and his left hand holding Patrick's left hand, Paul signs 'UNDER'. It then looks as if Patrick opens out his own right hand and brings it towards his left elbow (to sign 'TREE'). Paul then goes on to sign 'OVER TREE' with Patrick before signing 'OVER-UNDER TREE' in its entirety again (Ex.15)

However, it is not absolutely clear who is actually forming the first TREE sign. It looks also as if it comes out of sequence, but it is interesting to note that Paul signs this sign the wrong way round the first time. Instead of OVER first, he starts with UNDER and on most occasions it would then mean that TREE comes next. Does Patrick pre-empt this? It is difficult to tell but in this final example, it is much clearer that Patrick himself expresses the sign 'TREE'.

On the day after a forest walk with Joe, Paul and Patrick are in his room. Paul introduces himself to Patrick using his bracelets and then he fingerspells his name to Patrick. As Paul takes hold of Patrick's wrist, Patrick opens out his palm for the spelling to take place. Paul then signs 'TALK ABOUT YOU JOE WALK YESTERDAY'. Paul places an acorn (collected from the walk) into Patrick's hands and together they explore it for a while. As Paul takes hold of his wrist, Patrick opens out his palm and Paul fingerspells A.C.O.R.N. into his hand. Paul signs 'SAME. WALK YOU YESTERDAY WITH JOE'. Paul then continues with 'OVER-UNDER' and as their hands move back from making 'UNDER' sign, Patrick loses contact with Paul and he takes his own left hand under his right elbow, to form the sign 'TREE'. Paul joins Patrick's left hand in forming this sign and then Paul takes Patrick's hand to sign 'YES'. (Ex.16)

Patrick clearly understands signs which are brought by his non-deafblind communication partners. Not only does he respond to them with appropriate

next actions but significantly, he also produces these signs. Deafblind Manual and TREE are both expressively used by him but additionally these narrative descriptions have detailed his use of SIT, WANT, DRINK, FINISHED and TOOTHBRUSH. He introduces signs that appear completely unconnected to the ongoing activity (e.g. TOOTHBRUSH whilst climbing over a tree).

Whatever his motivation for doing this, and there are a few plausible interpretations by his communication partners, it is clear that Patrick can direct attention to absent targets or past (or indeed future) events. Joe, a skilled and regular communication partner with Patrick, is able to follow him when he directs attention away from the here-and-now. Patrick is also able to construct sentences as we saw in Ex.11. 'WANT DRINK. FINISHED YES. WANT DRINK YES'. This is especially exciting and gives strong evidence of Patrick's growing linguistic abilities.

b) What movements, gestures or signs are brought by the *non-deafblind partner* to communicative meeting places with Rachel?

Rachel or her partner touches around their mouth (DRINK) (M)

The BSL sign for 'DRINK' brings the right hand in a cupped shape to touch the upper lip. To make it tactile, person A (e.g. Rachel) rests their hand on person B's (e.g. non-deafblind partner) hand as person B signs DRINK at their own mouth. This would be described as HUH (Hand-under-hand) and means that one of the partners is signing while the other partner rests his/her hands on top of the signer's hands.. This is the most commonly used form with

Rachel, although there are variations, such as the partner taking his own hand to Rachel's mouth or taking Rachel's hand to her own mouth.

When Rachel signs DRINK herself, she does this simply by bringing her own hand to her mouth. This would closely resemble a conventional BSL sign.

Sometimes, however, the partner's hand is resting on Rachel's hand as she brings it to her mouth.

This was a sign Rachel was introduced to before this research was started.

However, over the lifetime of this research there have been significant developments in the way that Rachel both responds to and directs attention to drinks and that is why I wish to report it here. In subsequent sections we will look at other gestures and signs Rachel herself has developed to refer to drinks.

Table 32: Summary of Evidence (Chapter 6 - Rachel or her partner touches around their mouth)

(Those marked with an asterisk (*) are available on the DVD)

17	3RB/b+c	Sitting on her bed, Paul takes hold of Rachel's hands and she then brings her left hand up to her mouth. Paul then signs 'MAKE DRINK. BAKE SCONES. BAKE SCONES'.
18	6RB/d	Rachel stands up from the sofa, next to Paul. He signs 'YOU WANT DRINK' and he guides her towards the kitchen.
19	7RB/a	Rachel searches around the table with her right hand. Paul takes hold of her hand. She signs 'DRINK'. Paul then takes her hand and signs 'DRINK' at his mouth.
20	8RB/q	Rachel is sitting beside Jon when she rubs the back of her hand across her mouth.
21 *	9RB/h *	Paul sits beside Rachel and lets her explore his bracelets. He then signs 'DRINK' and a few seconds later (partly guided by Paul), she then confirms a sign 'DRINK'.
22	10RB/gg	Jon is sitting next to Rachel on the sofa. He signs 'DRINK' to her and guides her to stand up. He signs 'DRINK' again and Rachel confirms with 'DRINK'.

23 *	11RB/a *	Paul and Rachel are sitting next to each other in a café. Paul signs 'FOOD FINISHED.FOOD FINISHED' and then asks 'YOU WANT MORE DRINK'. Rachel leans forward slightly and locates the cup in front of her.
24	12RB/b	As Jon moves to play a game with Rachel's fingers, she brings her hand to her mouth and signs 'DRINK'. Jon confirms by also signing 'DRINK'.
25	12RB/s, t + bb	Rachel moves towards Jon and brings her right hand to her mouth. Later she again leans towards Jon and moves her right index finger across her mouth. 5 minutes later while playing interactive games, she again runs her index finger along her mouth.
26	13RB/d	Jon signs 'DRINK' to Rachel and guides her hands to find the drink on the table on front of her.
27	14RB/b	Paul touches Rachel's hand and she leans forward with right palm opened out. Paul signs 'WANT MORE DRINK. FIRST MILK.'
28 *	15RB/u *	Jon signs 'DRINK' three times to Rachel. She leans forward and Jon repeats the sign. Rachel then signs 'DRINK' and Jon confirms with 'DRINK' sign.
29	17RB/a	As Paul signs 'YOU WANT A DRINK' to Rachel using her left hand, she also has her right palm opened outwards.
30	22RB/y	Jon signs 'DRINK' to Rachel and she immediately leans forward with outstretched hands and open palms.
31 *	23RB/v *	Rachel passes her empty cup to Paul then leans back in her chair. Paul makes contact with her hands and tries to introduce himself using the bracelets. But Rachel pulls her hands back and signs 'DRINK' to herself.

I will first detail how communication partners use the sign 'DRINK' and how Rachel responds to this.

Rachel has just stood up from the sofa and she is standing next to Paul. He signs 'YOU WANT DRINK' and she is content to be guided towards the kitchen. (Ex.18)

In a similar way, Jon signs 'DRINK' to Rachel and guides her hands to find the drink on the table on front of her. She picks the cup up. (Ex.26)

When Paul touches Rachel's hand, she leans forward with right hand palm opened out. Paul signs 'WANT MORE DRINK. FIRST MILK.' Paul then brings in milk jug and they pour the milk, after which Paul signs 'MILK' again. Then he signs 'DRINK TEA' and he brings the teapot. Once the tea is poured, Rachel leans back in her chair with the cup that she has picked up. (Ex.27)

These examples show that Rachel is responding as much to the actions associated with getting or making a drink, but in these next examples there are clearer responses to the sign 'DRINK' itself, albeit the context will be giving additional information.

Paul and Rachel are again sitting next to each other in a café. Paul signs 'FOOD FINISHED.FOOD FINISHED' and then asks 'YOU WANT MORE DRINK'. Rachel leans forward slightly and locates the cup in front of her. (Ex.23)

On another occasion, Jon signs 'DRINK' to Rachel and she immediately leans forward with outstretched hands, with open palms until she finds the cup on the table. (Ex.30)

This is similar when Paul signs 'YOU WANT A DRINK' to Rachel using her left hand and at this same time she has her right palm opened outwards.
(Ex.29)

Such examples are already giving us clues about other gestures that are meaningful to Rachel in relation to drink but I will consider these more closely in later sections. For the moment, here is an example of Rachel combining actions connected with getting a drink with the sign 'DRINK'.

Rachel searches around the table with her right hand. As Paul takes hold of her right hand, she lifts both hands towards her mouth and signs 'DRINK'.
Paul then takes her hand and signs 'DRINK' at his mouth. (Ex.19)

There are other occasions also when Rachel responds to a partner's sign 'DRINK' by herself using the sign for 'DRINK'.

Jon signs 'DRINK' three times to Rachel. She leans forward and Jon repeats the sign. Rachel then signs 'DRINK' and Jon confirms with 'DRINK' sign. This is repeated again both by Jon and Rachel. A few moments later they are both getting up from the sofa and as they do so, both are signing 'DRINK'. (Ex.28)

On another day with Jon, they are sitting next to each other on the sofa. He signs 'DRINK' to her and after a short while he guides her to stand up. As he does so, he signs 'DRINK' again and this time Rachel confirms with a sign 'DRINK' and then Jon passes Rachel's hands to another person who guides Rachel to the kitchen. (Ex.22)

Paul and Rachel are waiting on a fresh pot of tea arriving at the table, and as it appears he sits beside her and lets her explore his bracelets. He then signs 'DRINK' and a few seconds later (partly guided by Paul), she then confirms a sign 'DRINK' and Paul moves the cup, tea pot and milk jug towards her. (Ex.21)

Rachel also directs attention to drinks before the communication partner has done so. In some of these examples, the movements and gestures are often so subtle that her partner does not observe them in the moment. They only become apparent through watching the video.

Rachel is sitting beside Jon who is playing an interactive game with her using two small beach balls. Rachel rubs the back of her hand across her mouth. (Ex.20)

There are three short fragments when Jon is playing a Finger Piano and he rests it gently on Rachel's knee. She tolerates this for some time. Part way through this activity, she moves her head towards Jon's head, bringing her right hand to her mouth. She rests it there for a few seconds then takes it away. Later in this session, she gently pushes the piano away and Jon guides her to sign 'FINISHED'. Together they put the finger piano back in the box and although Jon tries to bring it back out, this is quickly rejected when Rachel hits herself. Rachel again leans towards Jon and moves her right index finger across her mouth. This is not responded to and Rachel continues to sway from side to side. For another 5 minutes Jon and Rachel interact with one another through a series of swaying, rubbing fingers etc until again she runs her index finger along her mouth (Ex.25). Is she asking for a drink using very subtle movements? We cannot be certain, but in any event these movements are not noticed by the partner.

Rachel is sitting on the end of her bed. Paul takes hold of her hands and she then brings her left hand up to her mouth. This is a clearer gesture on Rachel's part. Paul then signs 'MAKE DRINK. BAKE SCONES. BAKE SCONES'. He then guides Rachel to stand up and they head out of her room. (Ex.16)

Finally, we do see Rachel using the sign DRINK to direct the attention of her communication partners.

Rachel has been exploring Jon's necklace as part of a greeting ritual. As Jon moves then to play a game with her fingers, she brings her hand to her mouth and signs 'DRINK'. This is noticed by Jon and he confirms by also signing 'DRINK'. (Ex.24)

Similarly, when Rachel passes her empty cup to Paul, then leans back in her chair, Paul makes contact with her hands and tries to introduce himself using the bracelets. But Rachel pulls her hands back and signs 'DRINK' onto her own mouth. Paul guides her to stand up which she does and then gives her the cup back and they set off towards the kitchen. (Ex.31)

In the form used with Rachel, DRINK does have a certain tactile iconicity, since a hand touches on the upper lip around the same place that a cup might be placed. For Rachel (and perhaps more so for Patrick) the sign can be used in a variety of locations such as the kitchen, bedroom, cafe, or outside and still it is understood. This suggests a level of abstractness that is helping the partnership move further and further away from the here-and-now. In these various situations, Rachel is able to understand the sign, and make appropriate responses to it but she is also able to use it expressively, both as a sign in its own right and also combined with other movements and gestures connected with getting or making a drink.

JACKET is a sign that was introduced to Rachel during this study and we can see how its use developed over the months. The conventional sign is made by both hands making fists, and then miming an action of pulling a jacket over your shoulders. To make it tactile, partners gently tapped both fists onto their body or Rachel's body. There are also some variations. Sometimes the partner has Rachel's hands on top of their hands as they make the sign onto their own body. Sometimes, the partner has Rachel's hands on top of theirs as they make the sign onto Rachel's body. And sometimes, the partner guides Rachel's hands to make the sign on her own body (HOH). Mostly it is done with both hands together, but occasionally because one hand is doing something else, the sign is formed with one hand. There is one occasion when a partner makes a tactile version of the full BSL sign, with his hands coming over his shoulders before tapping on his chest. There is a great similarity between all these forms and all are recognisable as a sign 'JACKET'.

Table 33: Summary of Evidence (Chapter 6 - Rachel or her partner signs JACKET)

(Those marked with an asterisk (*) are available on the DVD)

32	3RB/kk	Paul uses his bracelets to introduce himself, signs 'JACKET NOW' and guides Rachel towards her wardrobe.
33 *	6RB/i *	Rachel stands up from her bed. Paul signs 'JACKET' and guides her to the chair where the jacket is. Together they touch the jacket. Paul then signs 'JACKET' HUH onto his own body and then her body.
34	6RB/j	Paul signs 'JACKET' and whilst keeping contact with at least one of Rachel's hands at all times, he puts his jacket on.
35	13RB/m	Jon signs 'JACKET' with one hand onto his and her body. They then stand up and another person is standing there with Rachel's jacket.
36 *	14RB/o *	Paul tugs at the jacket that she is sitting on, then takes her left hand and signs 'JACKET' twice. He tugs again at the jacket.
37 *	21RB/z *	Paul takes both of Rachel's hands and signs 'JACKET'. Rachel makes a similar gesture around her shoulders and cheeks. Paul signs 'DRINK FINISHED. NOW NEED JACKET'. He then encourages Rachel to repeat the sign onto herself, which she partly forms.
38	21RB/aa	Once Rachel has put her jacket on, Paul signs JACKET onto her body and then guides Rachel to sign JACKET onto Suzanne's body.
39	23RB/f	Paul takes both Rachel's hands and she moves them towards her shoulders / cheeks and Paul then signs 'JACKET' onto her body a few times.
40 *	26RB/a *	Jon signs 'CHRISTMAS. HAPPY NEW YEAR' and takes Rachel's hands back to his necklace. He then signs 'YOU ME WORK WITH AGAIN'. Rachel takes Jon's hands to sign 'JACKET'.
41	27RB/b	Paul makes contact with Rachel who is on her sofa and signs 'YOU WANT WALK. JACKET. SHOES' and then points towards and touches her foot and signs 'CHANGE SHOES.JACKET'.
42	27RB/d	After Rachel has put on her shoes, she is lying again on her bed. Paul takes her hands and signs (THINK NEED) JACKET and he is guiding Rachel to the wardrobe.
43	27RB/e	Paul signs 'THINK NEED JACKET'. Rachel puts her left hand on her chest and then Paul guides both hands to sign 'JACKET' onto her own body. He then signs 'JACKET NOW' onto his body.

Partners began using this sign simply as part of ongoing discussions about what was happening and with a general view that language should be all around. Partners form the sign onto their own bodies, as well as onto Rachel's.

Rachel has put her shoes on in preparation for a walk and is lying on her bed. Paul makes contact with her and helps her to stand up. He uses his bracelets to introduce himself, then signs 'JACKET NOW' (HUH) and guides her towards her wardrobe. She appears content to go with him. (Ex.32)

On another occasion, Rachel stands up from her bed and Paul signs 'JACKET' (HUH) and guides her to the chair where her jacket is. Together they touch the jacket. Paul then signs 'JACKET', first onto his own body then onto hers. Once she has put the jacket on, he again signs 'JACKET' (HUH) (Ex.33). They then move through to the sitting room to get Paul's jacket. Once they are standing next to it, he signs 'JACKET' and whilst keeping contact with at least one of Rachel's hands at all times, he puts his jacket on. Once it is on, he signs 'READY'. (Ex.34)

Jon uses the sign in a similar way, although in this next example when Rachel is lying on her bed and Jon is sitting next to her, he uses only one hand to sign 'JACKET'. He signs it onto his and her body. They then stand up and another person is standing with Rachel's jacket. (Ex.35)

Sometimes other signs are used at the same time, again in keeping with an overall view that language should be all around. There is also an expansion in the temporal gap between signing about and receiving the jacket.

Paul makes contact with Rachel who is on her sofa and signs 'YOU WANT WALK. JACKET. SHOES' and then points towards and touches her foot and signs 'CHANGE SHOES. JACKET'. Rachel lies back on the sofa, but as Paul offers to help her up, she stands and begins walking towards her room.

(Ex.41) After Rachel has put on her shoes, she is lying again on her bed. Paul takes her hands and signs (THINK NEED)¹³ JACKET and he is guiding Rachel to the wardrobe. However, on this occasion she goes straight past the wardrobe and heads to the toilet. (Ex.42)

Rachel was also encouraged to use this sign with other communication partners so there is further expansion in its use, this time extending beyond the first partnerships.

In a café, Rachel had already put her jacket on. Paul signs 'JACKET' onto her body and then guides Rachel to sign 'JACKET' onto Suzanne's body, a third person sitting next to Rachel. Suzanne then puts her jacket on while

¹³ The first two signs are not captured on video but the direction of Paul's hands suggests these signs.

remaining in contact with Rachel's hands. Paul then turns Rachel around, presents his bracelets and then signs 'JACKET' and, just as Suzanne had done, he puts his jacket on whilst remaining at all times in contact with at least one of Rachel's hands. (Ex.38)

In this next example, we get evidence that she understands something about the significance of 'JACKET', as an indication that the trip to the cafe is over! In this example, she doesn't wish to leave.

Just after finishing a drink, she searches with her hands around the table in front of her with an open hand gesture. Paul begins to tug at the jacket that she is sitting on. He then takes her left hand and signs 'JACKET' twice. He tugs again at the jacket. Rachel continues to sit at the table, occasionally reaching out with her hands to explore the table. After about a minute, Paul makes contact with her again but she does not make her hands available. After a further 30 seconds, she rubs the back of her right hand across her mouth and then reaches out towards Paul. He takes both her hands and signs 'NOW JACKET' and again tugs at the jacket she is sitting on. The sign is made onto her body and then again on Paul's but she hits the table and then reaches out towards the table. (Ex.36)

I will now detail Rachel's first attempts at forming the sign, in order to demonstrate that this sign is being used by both partners. At first this is supported by her communication partner.

Paul takes both of Rachel's hands and signs 'JACKET'. Rachel makes a similar gesture around her shoulders and cheeks. Paul signs 'DRINK FINISHED. NOW NEED JACKET'. He then encourages Rachel to repeat the sign 'JACKET' onto herself. Her entire left hand and fingers are guided by Paul, but she controls the fingers on her right hand to make contact with her chest in a way that resembles 'JACKET'. (Ex.37)

We see her go further in her expressive use of the sign in these next two examples.

Paul has taken hold of both Rachel's hands as she sits on the end of her bed waiting to go for a walk. As he takes her hands, she moves them towards her shoulders / cheeks and Paul then signs 'JACKET' onto her body a few times. They then stand up and go to the wardrobe where Rachel finds a jacket and puts it on. (Ex.39)

Paul signs 'THINK NEED JACKET'. Rachel puts her left hand on her chest and then Paul guides both her hands to sign 'JACKET' onto her own body. He

then signs 'JACKET NOW' onto his body. They stand to go to the wardrobe, but Rachel sits back down. They re-engage and Rachel feels Paul's bracelets. Paul signs 'JACKET' and this time they do go to the wardrobe, open it and bring out a jacket. (Ex.43)

Finally we see Rachel forming the sign for herself.

Rachel is lying on her sofa and Jon is sitting on a small table next to the sofa. He gently taps on the cushion. After a few seconds, Rachel reaches out to Jon's wrist, then runs her hand up his arm and then back to the wrist. They then hold hands and Jon guides Rachel's right hand, then both hands to his necklace, which they explore for a short while. Rachel leans into Jon. Jon signs 'CHRISTMAS. HAPPY NEW YEAR' and takes Rachel's hands back to his necklace. He then signs 'YOU ME. WORK WITH AGAIN'. Rachel takes Jon's hands and signs 'JACKET' onto her own body, just as communication partners have done with her. Indeed her hand movements in the few minutes leading up to this have perhaps been indicating she was trying to get Jon's hands to that position. Jon confirms her sign 'JACKET. WAIT. FIRST YOU COFFEE'. Rachel breaks contact with Jon and lies back down on the sofa. (Ex.40)

Perhaps in Rachel's mind she does not want a coffee in her flat but was hoping to go out. While we may worry that her first real attempt at signing

JACKET was not immediately rewarded by being able to go for a walk, it was nevertheless recognised by Jon. His confirmation of the sign is hugely important because it lets Rachel know that she is being understood. At this particular moment, it is of lesser importance that they agree about what can happen (i.e. go out right now) than the fact that they can agree about the meaning of this sign. Even in his apparent rejection of Rachel's 'JACKET' sign, Jon is nevertheless confirming its meaning.

Rachel explores partner's wrist or bracelet and she or others uses associated gestures to refer to Paul
(O)

When Paul introduces himself to Rachel, he lets her explore the bracelet he wears on his left wrist. (For the initial months of this research project, he also wore a bracelet on his right wrist and this was also sometimes used).

Table 34: Summary of Evidence (Chapter 6 - Rachel explores partner's wrist or bracelet and she or others uses associated gestures to refer to Paul)

(Those marked with an asterisk (*) are available on the DVD)

44 *	2RB/a *	Paul makes his bracelets on right wrist available to Rachel and he swivels his wrist so that her hand fully explores the bracelets.
45	4RB/a	Paul touches Rachel's right hand as she lies on her bed. He brings Rachel's left hand to explore his bracelets on his right wrist. She explores for a few seconds, as he swivels his wrist around her hand.
46	9RB/f	Paul changes which side of Rachel he is sitting on and as he sits back down, he presents his left wrist to her right hand, then brings her left hand to feel the small thread at the end of the bracelet.
47 *	11RB/d *	Paul touches Rachel's left arm and she brings her right hand to his right hand. Paul then brings his left wrist to Rachel and she finds the small thread and begins to explore it.

48	14RB/f	Paul presents his left wrist to Rachel's right hand and she explores the small thread for around 10 seconds.
49	17aRB/x	Rachel is lying on her bed. Neil touches her outstretched right hand using his left hand. She brings her left arm to his wrist.
50 *	20RB/m *	Neil takes Rachel's left arm and moves it over his left wrist, then Paul comes to sit beside Rachel. He presents his bracelet to her and she explores this for a while.
51	21RB/d	Jon places Rachel's right hand on Paul's left wrist and Paul then swivels his wrist around. Rachel finds a small thread which she plays with.
52	21RB/g	Rachel briefly touches Jon's wrist, then she touches her own neck and keeps her hand there.
53	21aRB/a	Jon interacts with Rachel and she touches his right wrist. He takes her hand to his necklace, then touches his left wrist.
54	21aRB/h	Jon presses on the sofa Rachel is sitting on and she brings her hand up to his wrist.
55	22RB/a	Jon taps on sofa arm and Rachel moves her arm around and across his arm until she reaches his necklace. She explores it for a while and then Jon does the finger-rubbing movement into her hand.
56 *	22RB/r, s, t, u and v *	Paul is putting on Rachel's seat belt and he presents his wrist to her Rachel swivels her hand around it, finds the thread and plays with it. As she lets go, she makes a swivel movement in the air with her right hand and continues this movement for a few minutes.
57	22RB/jj	Jon takes Rachel's left hand onto his left wrist. He does this twice. Paul then approaches Rachel and presents his wrist and she explores the bracelets.
58	23RB/u	Paul touches Rachel's foot with his right hand and brings his left hand towards Rachel. She finds his wrist and then finds the small thread on his bracelet.
59 *	26RB/a *	Jon taps the sofa which Rachel is lying on. She extends her right hand and touches Jon's hand, then moves up to his wrist and further up his arm, then back to his wrist. Jon then takes her hands and helps her to explore his necklace.

Firstly, here are examples of Paul using his bracelets as a way of introducing himself.

Paul makes the bracelets on his right wrist available to Rachel by bringing his wrist towards her hand. He swivels his wrist in her hand so that she is fully exploring the bracelets. (Ex.44)

On another occasion, Paul touches Rachel's right hand as she lies on her bed. He brings Rachel's left hand to explore his bracelets on his right wrist. She explores for a few seconds, as he swivels his wrist around her hand. He then fingerspells P.A.U.L. (Ex.45)

Paul uses his bracelets not just as first introductions on any meeting, but if there is a significant break in contact during any interaction, such as when he changes where he is sitting.

Paul moves from sitting to the right of Rachel's to her left side. As he sits back down, he presents his left wrist to her right hand and then brings her left hand to feel the small thread at the end of the bracelet. (Ex.46)

That latter movement, Rachel feeling the thread, led to the development of a new interactive element in the use of the bracelet but it also had the effect of lengthening the time for exploring the bracelets. Thus their greeting ritual lengthened in time.

Paul touches Rachel's left arm and she brings her right hand to his right hand.

Paul then brings his left wrist to Rachel. She finds the small thread and begins to play with it for about 30 seconds. (Ex.47)

Similarly, when Paul presents his left wrist to Rachel right hand, she explores the small thread for around 10 seconds. (Ex.48)

When Paul touches Rachel's foot with his right hand, then brings his left hand towards Rachel, she finds his wrist, then the small thread on his bracelet which she plays with for a short while. (Ex.58)

It is Rachel who first reaches out towards people who approach her and she very often feels first for their wrist.

Rachel is lying on her bed when Neil touches her outstretched right hand using his left hand. She brings her left arm to his wrist and after some interaction with a ball she again takes hold of his left wrist. (Ex.49)

Jon begins interacting with Rachel and she touches his right wrist. He takes her hand to his necklace, she again touches his left wrist and then begins to rub her two fingers together. (Ex.53)

Jon presses on the sofa that Rachel is sitting on. She brings her hand up to his wrist. (Ex.54)

When Jon taps on sofa arm where she is sitting, she moves her arm around and across his arm until she reaches his necklace, which she then explores for a while. (Ex.55)

On another occasion, when Jon first touches her, she briefly reaches out to touch his wrist, before touching her own neck and keeping her hand there. (Ex.52)

Jon taps the sofa and she extends her right hand and touches Jon's hand, then moves up to his wrist and further up his arm, then back to his wrist. Jon then takes her hands and helps her to explore his necklace. (Ex.59)

In these examples, Rachel seems to be asking 'Who is this?' and partners pick up on these subtle gestures, what Linell might call 'communicative

uptake' (Linell, 2009a) and they give her answers. So when she first reaches out for Jon's wrist, for example, he presents his own signifier (his necklace). It is as if he interprets her action as a question - is this Paul or Jon? It seems straightforward to provide her with an answer. The answer Jon gives in Ex.59 would also meet Linell's description of a 'minimal communicative interaction' (Linell, 2009b, p.183) where there are minimally three steps. Jon has made an utterance (Tapping the sofa), Rachel explores who has come to see her (Feeling his wrists) and Jon clarifies who it is (Helping her to explore his necklace).

Soon after Rachel first reached out to explore wrists, non-deafblind partners began using wrists, either Paul's or their own, as a way of introducing Paul.

A few seconds before Paul comes to sit beside Rachel, Neil takes Rachel's left arm and moves it over his own left wrist. After Paul comes to sit beside Rachel, Paul presents his bracelet to her and she explores this for a while. (Ex.50)

Jon places Rachel's right hand on Paul's left wrist and Paul swivels his wrist around in her hand. Again Rachel finds the small thread to play with. (Ex.51)

Jon twice takes Rachel's left hand onto his own left wrist just before Paul approaches Rachel. As usual, Paul then presents his wrist to Rachel and she

explores the bracelets. At one point during this exchange, she is exploring Paul's bracelet and Jon's necklace at the same time. (Ex.57)

It is significant then that it is Rachel who first rotates her wrist into the air without Paul's wrist or the bracelet being present (albeit it had just been there a few seconds earlier).

Paul has guided Rachel into a car and is helping her to put on her seat belt. In order to let her know who is doing this, Paul presents his wrist and Rachel swivels her hand around it, finds the thread and plays with it. As she lets go, she makes a swivel movement in the air with her right hand. Paul makes his way to the other side of the car and so for a short while, Rachel is sitting in the car by herself. The camera captures her continuing to swivel her right hand/ wrist around and as Paul sits down next to her, she reaches out to him. Paul presents his wrist and Rachel touches it briefly before breaking contact. Rachel again swivels her right hand and wrist, then reaches out to feel Paul's wrist, then his chest. She then swivels her hand again and Paul confirms all of this by swivelling his hand into her hand. She pushes his hand away but swivels her own hand again. She then signs 'FINISHED'. Paul signs 'DRINK' (because they had left the house to journey to a café). Rachel sways gently from side to side by herself. (Ex.56)

Personal signifiers allied to sign names are the best example of iconic signs brought by the non-deafblind partners. Although I am only reporting exploration of Paul's bracelet and wrist in any detail, Jon and Neil also used objects as personal signifiers. The movements connected with exploring these objects become sign names, a way of referring to a person and this is commonly seen in deafblind education (Hart, 2006).

In many ways this gesture truly grows out of the partnership itself. The earliest examples indicate that it is Paul who uses this gesture as a way of introducing himself, indeed directing attention to self, thus Stage 1 in Reddy's model. It is Paul who begins to move his wrist around in Rachel's hand and it is he who first gives her the small thread, so that she can fully explore the bracelet. So this gesture is an example of Stage 2 of Reddy's model – directing attention to what self does. It is Neil who first uses it to refer to Paul, by making the rotating movement onto his own wrist. Jon also uses it in a similar way to refer to Paul although he makes this rotating movement directly onto Paul's wrist with Rachel's hand resting on top of his. So here, this movement can be thought of as an example of Stage 3, directing attention to what self perceives – this wrist, these bracelets, this person. Repeated use of the gesture in this fashion and Rachel's reaching out to explore other people's wrists, leads to it becoming a referential gesture meaning 'Paul', hence, Stage 4 of Reddy's model, directing attention to someone who is remembered.

This gesture/ sign came from Paul initially, which is why I have reported it in this section. He used it in one context but it was developed by Rachel in

another context and then was subsequently used by Paul, Rachel and other non-deafblind partners in yet more contexts. This is qualitatively different from the sign DRINK, for example, where it is very clearly brought by the non-deafblind partner and drawn from their previous linguistic experience. It is at the level of the partnership that this gesture has come to have meaning and indeed be shaped into a form perceivable by both partners.

3) Movements, gestures and signs brought by the congenitally deafblind partner to communicative meeting places

Analysis showed that both Patrick and Rachel brought movements and gestures which are understood in time by their non-deafblind communication partners. I will detail four such examples from Patrick (moving around the room; asking for a Piggy Back; asking for a drink; asking for shoes to be taken off/on) and two from Rachel (asking for shoes; asking for a drink).

c) What movements, gestures or signs does Patrick, a congenitally deafblind partner, bring to communicative meeting places?

Patrick moves around the room (C)

Table 35: Summary of Evidence (Chapter 6 - Patrick moves around the room)

(Those marked with an asterisk (*) are available on the DVD)

60	2PT/f	Patrick moves around his bedroom whilst holding Paul's hand.
61 *	2PT/j *	Patrick is making a drink with Andy. After the milk has been returned to the fridge, instead of returning to the counter to finish making the drink, Patrick reverses into his chair.
62	5PT/ggg	Joe and Patrick are sitting on a bench in the garden talking about the walk they did earlier that day. Patrick, however, asks for a drink and they work out who is going to make it.

63 *	7PT/e *	Patrick and Paul are making coffee but just after the coffee granules are put in the cup, Patrick turns towards the table, walks there and sits down.
64	8PT/o	Patrick is in the music room with David and he is resting his feet on David's lap. Patrick takes hold of David's hand, stands up and begins to walk around the music room.
65 *	9PT/ff, hh and ii *	Patrick is sitting with his feet on the timpani, he stands up, whilst holding out his right arm. Once David takes hold of his arm, he fully stands up and walks to a cupboard. Patrick rubs, then smells David's arm. Patrick rejects an instrument that David is offering him and then he walks out of the music cupboard.

There are many occasions when Patrick begins to move around his environment, whilst at the same time remaining in contact with the non-deafblind partner. This contact with the partner suggests that he is attempting to direct their attention to something, although it is not always clear what.

Patrick and Paul are sitting in Patrick's room, when he stands up and begins to move around his bedroom whilst holding Paul's hand (Ex.60). It is likely that he was getting ready to leave the room to make a drink and this is what Paul offered him. They left the room and headed to the kitchen.

When Patrick is in the music room with David, about 15 minutes into a 30-minute session when he is resting his feet on David's lap, he takes hold of David's hand, stands up and begins to walk around the music room. He walks around for a short while before coming to sit back down on the seat. (Ex.64)

The next week, at virtually the same point in the music session, Patrick is sitting with his feet on the timpani, he begins to stand up whilst holding out his right arm. Once David takes hold of his arm, he fully stands up. He remains in contact with David and makes his way into a large walk-in cupboard. As David gives him various instruments, he holds them for a few seconds before returning each of them to David. He rubs, then smells David's arm on a few occasions and although this is acknowledged by David, it is difficult for the partner to know exactly what he means at that time. After being offered a final instrument by David, Patrick walks out of the cupboard and is guided back to his seat. (Ex.65)

Even after numerous observations of these examples, it is difficult to say with any certainty what Patrick was thinking about, but nevertheless it is clear that the partner makes every effort to follow him and he does so with a view that Patrick does have something in his mind. In the next two examples, it is clearer for the partner to understand what is in Patrick's mind, since the context is a much more familiar one.

Patrick is making a drink with Andy. After the milk has been returned to the fridge, instead of returning to the counter to finish making the drink, which he sometimes would do, Patrick reverses into his chair. (Ex.61)

Similarly, when Patrick and Paul are making coffee, just after the coffee granules are put in the cup, Patrick turns towards the table, walks there and sits down. (Ex.63)

Both of these examples link to the story of Fiona and her partner outlined in Chapter 1, where she was using her movements and actions to short-circuit the coffee-making to the end point, perhaps as a way of indicating that although she wanted a drink, she would prefer someone else to make it. It is not too difficult to imagine that this is also what Patrick is asking here and it is through his movements that he indicates what is in his mind. His partners read these intentions. It is clear also from these examples that routine activities, what Nelson (1999) might call scripts or Mental Event Representations (MERs), provide key frameworks on which communicative developments can take place. Routines have played an important role in the history of deafblind education (Van Dijk, 1989; Hart 2006).

In this final example, the context again gives Joe additional clues about what might be in Patrick's mind. However, the shared language between them is not yet sufficient to be more explicit about what is in each other's minds.

Joe and Patrick are sitting on a bench in Patrick's garden talking about the walk they shared earlier that day. Joe signs 'WALK WHERE FIRST'. Patrick stands up and signs 'WANT DRINK YES'. Joe responds with 'SORRY. JOE MAKE DRINK' and Patrick signs 'YES'. Joe signs 'WANT SIT' and encourages Patrick to sit back down. Patrick appears reluctant to sit and even

after Joe has taken Patrick's hand to feel the bench he does not sit down. Joe signs 'WHERE SIT'. Patrick lifts and stretches out both of his hands whilst Joe is in contact with both and he walks towards the back door of his house. (Ex.62)

Sitting in the back garden is itself not a routine activity for Patrick and Joe, so when Patrick suggests making a drink, he is probably already thinking of going back into the house to make it because in his mind, how else will a drink be possible? So Joe's helpful suggestion that Patrick stays sitting in the garden and he (Joe) will make the drink for him, is not fully understood by Patrick. But Patrick's movement of going back towards the house is understood by Joe (he wants to get to the kitchen) and so they do then proceed into the kitchen to make the drink. So although it appears that Patrick does not understand Joe's suggestion through sign ('SORRY. JOE MAKE DRINK' and then later 'WANT SIT') to bring the drink to him, the subsequent clear movements from Patrick, do allow Joe to follow Patrick's intention in that moment: let us go back inside and then we can get the drink. Joe comprehends those gestures from Patrick and follows him into the house.

Patrick asks for a Piggy Back (D)

In this next set of examples, we see Joe responding to an action from Patrick that he does understand, an action that has been built from an activity they have done together. Often when they are on walks together, Patrick is given a 'Piggy Back' - jumping onto Joe's back to be carried for a while. In these

examples, we see some of the movements and actions that come from this activity.

Table 36: Summary of Evidence (Chapter 6 - Patrick asks for a Piggy Back)
(Those marked with an asterisk (*) are available on the DVD)

66	1PT/l	Joe bends down to tie Patrick's shoe lace and Patrick then explores Joe's back.
67	1PT/n	Patrick slightly turns to his right and looks as if he is trying to turn Joe around so that his back is facing Patrick. Joe signs 'WHAT', Patrick rolls back the right sleeve on his jumper. Joe then helps him do the same with the left arm.
68 *	1PT/aa *	Patrick turns Joe round so that Patrick can access his back. Joe begins to sign and at that point Patrick sits down.
69 *	1PT/ee *	Patrick turns Joe round to get on his back. On this occasion, Joe allows him to get on his back.
70 *	5PT/bb *	Patrick is walking with Joe. He stops, turns to face Joe and then makes his way round to the back of Joe. He feels the rucksack and then moves round again to the front of Joe. Joe signs 'SORRY HAVE RUCKSACK'.

First we see ways in which Patrick indicates to Joe that he wishes a Piggy Back.

Joe bends down to tie Patrick's shoe lace and Patrick begins to explore Joe's back. He might be thinking about jumping on Joe's back but he is given no encouragement from Joe to do this, partly because Joe does not see the movements being made by Patrick. (Ex.66)

Patrick and Joe are walking beside each other. Patrick slightly turns to his right and looks as if he is trying to turn Joe around so that his back is facing Patrick. Again this might be an indication that he is asking for a Piggy Back.

Joe signs 'WHAT'. Patrick rolls back the right sleeve on his jumper and Joe then helps him do the same with the left arm. There is no more discussion at that stage about going on Joe's back. (Ex.67)

A while later on the walk, Patrick turns Joe round so that Patrick can access his back but as Joe begins to sign to him, at that point Patrick sits down. (Ex.68)

Finally towards the end of this walk, Patrick turns Joe round to get on his back and on this occasion, Joe does allow him to get up and they walk on with Patrick on Joe's back. (Ex.69)

Taking all of these episodes together, it does seem as if Patrick was asking for a Piggy Back earlier in the walk. However, it is not always essential for activities to happen for meanings nevertheless to be jointly understood by both partners.

On another day when Patrick is walking with Joe, he stops, turns to face Joe and then makes his way round to the back of Joe. He feels the rucksack and then moves round again to the front of Joe. Joe signs 'SORRY HAVE RUCKSACK' and they walk on. (Ex.70)

It seems clear that Joe understood what Patrick was directing attention to and it seems clear also that Patrick accepts the explanation, or at the very least accepts that Joe has understood his request and he can't get on Joe's back at that particular point in time.

Patrick asks for a drink (E)

Table 37: Summary of Evidence (Chapter 6 - Patrick asks for a drink)

(Those marked with an asterisk (*) are available on the DVD)

71	1PT/bb	Patrick takes flask out of the rucksack and holds it in his hand while lying on the ground.
72 *	1PT/v and w *	Patrick and Joe are sitting on the ground in the forest, with Patrick leaning into Joe's front. Patrick leans out slightly to his right hand side and Joe signs 'WHAT'. Patrick signs 'WANT DRINK' and Joe signs 'DRINK FINISHED'.
73	5PT/rr	After Paul picks up a leaf and asks its name, Patrick signs WANT and then leans to his right with outstretched arm.
74 *	5PT/tt *	Patrick is pushing Paul's right hand away in the direction of the rucksack. After a while he signs 'WANT DRINK'

Patrick does understand and produce the conventional sign 'DRINK', as can be seen throughout this results section. However, there are other ways also that he asks for drinks, using actions that are associated with getting drinks. We have already seen that making your way to sit at the table might be a way of asking for a drink (Ex. 61 and Ex.63). In these next examples when he is

outdoors, he uses actions connected with his flask as a way of directing attention to the drink.

Patrick takes the flask out of the rucksack and holds it in his hand while lying on the ground (Ex.71). On this particular occasion there is no direct response from either of the partners who are present because they are engaged in other tasks and are not directly observing what Patrick is doing.

Sitting together in the forest, Paul picks up a leaf and asks Patrick its name.

Patrick signs WANT and then leans to his right with outstretched arm. (Ex.73)

Paul signs DRINK to Patrick.

In that last example, Patrick combined a conventional sign (WANT) with a gesture associated with getting a drink – leaning for the flask. The partner interprets the sign and the action together as Patrick wanting a drink, and this is what he suggested to Patrick. In this next example, we again see Patrick using movements and gestures combined with signs. We could think of this as two different language systems, and perhaps Patrick employs this strategy because he is not clear that his partner has fully understood his first attempt at asking for a drink.

Patrick is pushing Paul's right hand away in the direction of the rucksack (where the flask is usually located), although he doesn't quite reach out that far. Paul makes no direct response at this stage and after a while Patrick signs 'WANT DRINK' (Ex.74).

In this final example, we also see Patrick using both movements and gestures as well as conventional signs.

Patrick and Joe are sitting on the ground in the forest, with Patrick leaning into Joe's front. To the right hand side of them are two cups, a flask and a rucksack. Patrick has already had a drink of coffee. Patrick leans out slightly to his right hand side and Joe signs 'WHAT'. Patrick signs 'WANT DRINK' and Joe signs 'DRINK FINISHED'. Patrick follows this up by leaning out to his right hand side where he finds his cup (which the previous drink had been in), picks it up and holds it out in front of himself for a few seconds. Eventually he drinks from it. When he realises nothing is in the cup, he holds it out in his outstretched right hand. Joe takes hold of Patrick's hand and the cup and together they put the cup and then the flask back inside the rucksack. It looks like Patrick signs 'FINISHED' and then he holds his right index finger in the air. Joe is holding Patrick's hand and he forms this index finger into a sign 'WHAT'. Joe then signs 'HAVE LATER' and Patrick signs 'YES' but he then gets Joe's hands into a listening position and then signs 'FINISHED. YES WANT DRINK DRINK'. Both he and Joe sign 'FINISHED', after which Patrick

lies down and Joe takes his hands to sign 'SIGNING FINISHED' to him.

(Ex.72)

This example shows not only that Patrick and Joe trust one another in terms of decisions made, but they trust that each other is trying to communicate something to the other. Thus, when Patrick leans out to his right side, Joe immediately interprets this action as communicative. Maybe Joe already understands that Patrick is enquiring about another drink, because he observes Patrick reaching out in the general direction of the cup and flask. When Joe asks Patrick the question 'WHAT' and Patrick responds not with the same gesture as before but with a two-sign utterance, 'WANT DRINK', does he use these signs, knowing that this is the most easily understood by Joe?

The initial answer from Joe to Patrick's request is that the drinks are finished. Although it is possible that Patrick does not understand this, it is more likely that he is just making sure, by reaching again out for the cup. This has the double effect of checking the cup for himself and letting the partner know that this is what he is referring to. He chooses a very concrete symbol for drink – the cup. The fact that he doesn't really search after this, and the possible 'FINISHED' sign, might indicate that he accepts Joe's answer. When Joe follows this up with a more direct statement that he can have a drink later, again we cannot be sure that Patrick understands all of this, but we can easily imagine that the fact that Joe has confirmed a DRINK sign, means that a drink

is coming, albeit at some point in the future. Again, such acceptance is based on trust built over many years and is a real example of Rommetveit’s (1979) faith in each other.

It is interesting to note the order of signs that Patrick then gives to Joe. He starts with ‘FINISHED’ and follows this with ‘YES’. Is this Patrick’s way of saying “OK it is finished for now”? The follow-up signs ‘WANT DRINK. DRINK’ are saying “But I do want one later”. If Patrick really wanted an extra drink right there and then, he would have made a fuss about it because this is something he might do in other situations. The fact that Joe has promised him a drink seems sufficient. Their shared language has helped them to negotiate this compromise, but this language is not just conventional signs, but is also the movements and gestures linked to getting a drink in the forest. If this interpretation is correct, then the order of these signs would indicate some grammatical structure. I will return to this issue in the final chapter.

d) What movements, gestures or signs does Rachel, a congenitally deafblind partner, bring to communicative meeting places?

Rachel lies on bed with feet in air or directs partner’s hand to her feet or shoes (S)

Table 38: Summary of Evidence (Chapter 6 - Rachel lies on bed with feet in air or directs partner’s hand to her feet or shoes)

(Those marked with an asterisk (*) are available on the DVD)

75 *	3RB/t *	Paul is preparing to give Rachel a foot massage. They are sitting next to each other on her bed. Paul touches Rachel's foot and she falls back onto the bed and lifts both her feet into the air. Paul continues to touch her feet. Rachel gets upset.
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76 *	3RB/v, cc, ii, jj *	Rachel falls back on the bed and puts her feet in the air. There is no response from Paul. Rachel gets upset. Sometime later Paul gives her a shoe, which she puts on.
77	6RB/g	Rachel sits on the edge of her bed. Paul is standing in front of her. His left hand is holding her right hand which is slightly pointing to where the shoes are.
78 *	13RB/j *	Rachel leans forward and Jon signs 'SHOES'. She immediately lies back on her bed and puts her feet in the air. Jon gives her a shoe.
79 *	17aRB/x, aa, bb, cc + dd *	Rachel is sitting on her bed and she pushes Neil over to the corner (where the shoes are kept). She has an outstretched foot and then she lifts her foot.
80	21aRB/x	Rachel gently pushes Neil to the far corner of her room (where the shoes are) and he touches her foot, then signs 'SHOES'. She begins to take her slippers off and lies back on the bed with her feet in the air.
81	24RB/a	Susan is getting Rachel ready to go out. Rachel lies back on the bed with her feet in the air, Susan gives her the shoes.
82	27RB/c	Rachel sits on her bed. Paul signs 'THINK CHANGE SHOES' and his left hand and Rachel's right hand drop slightly downwards. Rachel takes off her slippers.

In this first example, Rachel attempts to direct her partner's attention to 'an absent target' (Reddy, 2003) but given that it was one of the earliest times that he had met Rachel, he does not understand her and instead needs guidance from a more familiar partner to know what is in Rachel's mind.

Paul is preparing to give Rachel a foot massage. They are sitting next to each other on her bed. Paul touches Rachel's foot and she falls back onto the bed and lifts both her feet into the air. Paul continues to touch her feet but Rachel gets annoyed. Paul continues touching her feet and Rachel continues to display some distress. There is another person present and she is suggesting that when Rachel does this action, they think she is asking to get her shoes on and go for a walk. (Ex.75)

There had been a previous discussion with Rachel's team that they were trying to develop some activities for her in the house and so in that moment Paul is thinking he should continue with the massage – an example of a 'third party' influencing the event! Unlike Patrick and Joe, this partnership has as yet no way as yet to confirm activities can happen, but just not at this particular time. They are stuck for the moment in the here-and-now and from Rachel's perspective she must be feeling either misunderstood or ignored, hence the distress.

How have other communication partners in Rachel's life come to recognise this action of lying on the bed with her feet in the air as a request for a walk? The answer becomes evident even during this same meeting, after Paul and Rachel have been separated for some minutes.

When Rachel returns from the toilet and is again sitting on her bed, Paul is in front of her and has by now decided that they will go for a walk. He helps her find her shoes. They bend down together and as they pick up a shoe, she falls back onto the bed with her feet raised into the air. When she is given the shoe, she remains in this position to put the shoe on. (Ex.76)

This is how she puts shoes on and her gesture is, therefore, an excellent way to refer to shoes or indeed going outside, since shoes are only really worn by

Rachel when she is outdoors. It is a clear iconic gesture for shoes, if understood from her perspective on the world and once understood, it is straightforward for partners to respond to it as Rachel's way of asking for shoes.

When Susan is getting Rachel ready to go out and Rachel lies back on the bed with her feet in the air, Susan immediately gives her the shoes. (Ex.81)

When Jon makes contact with Rachel, she leans forward. As she does so, Jon signs 'SHOES'. Rachel stands up and she and Jon go towards her bed. She immediately lies back and puts her feet in the air. Jon gives her a shoe and again she puts it straight on (Ex.78).

Over the months, however, this gesture has not remained just in this one form and we see that Rachel also uses other body positions to point towards shoes.

Rachel and Paul walk into her room and she sits on the edge of her bed. Paul is standing in front of her. Paul's left hand is holding Rachel's right hand and both hands are slightly pointing to where the shoes are. The hands briefly touch Rachel's right leg. As Paul lets go her hands and turns towards the

shoes, Rachel lifts her right leg. Paul then touches her left leg which she then lifts as Paul hands her a shoe (Ex.77).

Rachel is sitting on her bed and she slightly pushes Neil over towards the far corner of her bed, towards a cupboard where the shoes are kept. She also has an outstretched foot which she then lifts as if to draw even more attention to what she wants. (Ex.79)

Neil and Rachel are sitting on the bed, preparing to go out for a walk to a café. Neil signs 'FOOD' and she confirms by taking her hand to her mouth. Then she gently pushes Neil towards the far corner of the bed (where the shoes are kept). He touches her foot, then signs 'SHOES'. She takes her slippers off and lies back on the bed with her feet in the air. She even wiggles her toes, perhaps to emphasise her wish for shoes, and Neil then gives her the shoes. However, not before she has reached out for him, then stood up to find him (Ex.80).

Over time Jon, Paul and Neil all introduced the sign 'SHOES' as part of this getting ready routine, as well as responding directly to the gestures that she made. We saw examples earlier from Jon and Neil but in this next example even more signs are introduced.

Paul and Rachel have gone through to her room and she sits on her bed. Paul signs 'THINK CHANGE SHOES' and his left hand and Rachel's right hand drop slightly downwards. Rachel lets go of his hand and takes off her left slipper, then her right slipper. She hovers her right hand in the air and Paul touches her leg. He then puts the boot in her hand and she puts it on. (Ex.82)

It appears as if Rachel is able to cope with other signs being introduced around this activity, but still to understand that both her gestures and the sign SHOE can refer to shoes and preparing for a walk. It is interesting to note that the non-deafblind partner, Paul, responds to movements and gestures from Rachel (e.g. she hovers her hand in the air waiting for a boot), but he still uses his own signs to refer to the shoes (boots).

Rachel uses open right palm gesture (N)

Rachel uses a gesture where she opens out the palm of her right hand. Sometimes she places this on a table, between an angle of 45 or 90 degrees. Sometimes she holds it out in space, again often at an angle and sometimes she places this gesture into the hand of another person. This gesture was not fully understood by partners in early meetings with Rachel. At one of the group discussion meetings, it was observed on video and it was suggested that it might relate to drink.

Table 39: Summary of Evidence (Chapter 6 - Rachel uses open right palm gesture)

(Those marked with an asterisk (*) are available on the DVD)

83	6RB/m	Rachel is sitting at the table. She then reaches out with an open right hand until she finds the empty cup on the table in front of her. She is guided to find her cutlery and begins eating the food.
84	6RB/o	Rachel holds Linda's hand, while Linda pours a drink. Rachel opens out her right palm and holds it in Linda's palm. She gently pushes both hands towards Linda, then back towards herself and then towards the cup on the table. She takes hold of the cup.
85 *	6RB/r *	Rachel's palm is face down in Linda's hand, but gradually she turns it around until her palm is facing upwards. She breaks off contact, leans back slightly and then hits herself twice again on the head. When Linda makes contact with her hand again, she opens out her fist into outstretched palm and searches around the table.
86 *	7RB/c *	Rachel searches the table, then opens out the palm of her right hand and once Paul makes contact with her, he signs 'DRINK' onto Rachel's mouth.
87	11RB/a	Rachel has a right open palm, whilst with her left hand Paul is telling how the food is finished. He then signs 'YOU WANT MORE DRINK?' They pour another drink.
88	16RB/a	Rachel has right open palm then feels her cup. Paul signs 'FINISHED' and then holds his hands in that position for a short while. Rachel then explores the table and Paul signs 'FINISHED' and she leans back in her chair.
89 *	20RB/i *	Neil and Rachel are in contact with each other after Rachel has put down her empty tea cup. She sits for a while and then moves her right open palm to the table. Neil continues to interact with her for a while, but soon Rachel seeks contact with Lynne, pushing her hand towards the teapot. Neil then signs 'DRINK' and Rachel also signs 'DRINK'.
90	20RB/o	Rachel is sitting between Paul and Neil. She touches her cup with her right open palm. Paul signs 'DRINK FINISHED' and they push the cup away, then explore the empty table with her hands on top of his. Paul again signs 'FINISHED'.
91	24RB/d	Rachel brings her right open palm to Michelle, who then signs 'WALK DRINK'
92	24RB/g	Neil and Rachel are interacting when Rachel brings her right open palm to touch her cup, then she holds out her palm on an outstretched right arm. Neil signs 'DRINK'.
93 *	25RB/b *	Rachel presents right open palm to Michelle and then searches the table. Michelle signs 'FINISHED'. Rachel turns to Paul, who signs 'DRINK FINISHED'. Rachel alternates between Michelle and Paul, using both open hand gesture and 'DRINK' sign.

Firstly, I will examine how Rachel herself used this gesture in the early meetings.

Rachel is signing 'FINISHED' and swaying from side to side while sitting at the table. She then reaches out with an open right hand until she finds the empty cup on the table in front of her. She leans down to smell the cup and then leans over to smell her food on the plate next to it. She is guided by both Linda and Paul to find her cutlery and begins eating the food. (Ex.83)

On this same trip to the cafe, Rachel reaches out to make contact with Linda, sitting to her right side. She holds Linda's hand whilst at the same time pushing away a plate of food with her other hand. Her right palm is face down in Linda's hand, but gradually she turns it around until her palm is facing upwards. After a few seconds she hits herself on the head twice. She moves her upturned palm further towards Linda's body. She continues to present Linda this open right palm and changes its position a couple of times. She breaks off contact, leans back slightly and then hits herself twice again on the head. When Linda makes contact with her hand again, Rachel opens out her fist into outstretched palm and searches around the table, whilst all the while keeping contact with Linda. She hits herself once during this time. Rachel eventually takes hold of a cup with her right hand and holds it for a few seconds. Her left palm also opens out and briefly explores the table. She lets go of the cup, takes hold of Linda's hand and after a few seconds lets go and leans back in the chair. (Ex.85)

Already it is possible to discern the iconic link between Rachel's open right palm and the action of picking up a cup. It is a movement that comes directly from the action of reaching out to locate then pick up a cup. This is especially the case since Rachel does this without vision and so she has to take a wide sweep of the table.

Closer examination of the café trip outlined above reveals one moment where a link between this gesture and drink is perhaps made. It is not clear that the partner is directly responding to the right open palm gesture, but nevertheless from Rachel's perspective there may be a connection. The partner is, however, reading other movements and actions from Rachel within this café context and from all of these interprets that she wants another drink.

Rachel is holding Linda's hand, while Linda is pouring a drink. After a few seconds, Rachel opens out her right palm and holds it in Linda's palm. She gently pushes both hands towards Linda and then pulls the hands back towards herself and then pushes again towards the cup on the table. She takes hold of the cup. By this time the drink is poured and together with Linda, the cup is slid towards Rachel. She picks it up and has the drink. (Ex.84)

Once partners do recognise that Rachel is asking for a drink whenever she gives this open hand gesture, it results in two main outcomes. Firstly, in

watching these earlier videos described above, we see clearly why Rachel becomes distressed – she feels ignored, just as she was when partners misunderstood her SHOE gesture. Secondly, it means partners should respond to this gesture whenever they see it. This does not necessarily mean always giving her a drink, but it does mean at least acknowledging that she has mentioned one.

A few weeks after the café trip noted above, Rachel reaches out to search the table in front of her, then opens out the palm of her right hand. Paul makes contact with her and he signs 'DRINK' immediately onto Rachel's mouth.
(Ex.86)

On a later occasion, Rachel and Paul are sitting together at the table having finished a meal. Rachel has a right open palm resting on the table, whilst with her left hand Paul is telling her that the food is finished. Her right open palm remains on the table and he then signs 'YOU WANT MORE DRINK?' and together they reach out for a cup and they pour another drink. (Ex.87)

Partners are now beginning to recognise this gesture as an alternative sign from Rachel that relates to drink and more and more frequently, they respond to this gesture from Rachel, even when the immediate context does not relate to drink.

Michelle is sitting next to Rachel on her bed, preparing to go out to a cafe.

Rachel brings her right open palm to Michelle who, even in this removed context, signs 'WALK. DRINK' (Ex.91) to confirm the gesture that Rachel has made.

Neil and Rachel are interacting when Rachel brings her right open palm to touch her cup, then holds out her palm of her outstretched right arm. Neil signs 'DRINK' to her. (Ex.92)

Sometimes partners introduce signs other than DRINK in their response to this sign but it still drink that they are referring to.

Rachel has right open palm then feels her cup. Paul signs 'FINISHED' and then holds his hands in that position for a short while. Rachel then explores the table. Paul signs 'FINISHED' again and she leans back in her chair. (Ex.88)

This happens on another occasion also. Rachel is sitting between Paul and Neil. She touches her cup with her right open palm. Paul signs 'DRINK FINISHED', they push the cup away, then explore the empty table with her hands on top of his. Paul again signs 'FINISHED'. (Ex.90)

So it is not always the case that she needs to get the drink. Combining gestures that both of them understand, we can imagine that Rachel is enquiring about a drink, but Paul is saying they are finished, albeit in the first example he himself does not sign DRINK, but is directly responding to Rachel's gesture for DRINK. In these examples, Rachel seems satisfied that drinks are finished. However, she is not always satisfied with a refusal from her partners and in some instances we see her ask the same question to another partner.

Neil and Rachel are in contact with each other after Rachel has put down her empty tea cup, she sits for a while and then moves her right open palm to the table. Neil continues to interact with her for a while but does not directly respond to her gesture. Rachel then seeks contact with Lynne, pushing Lynne's hand towards the teapot. Neil then signs 'DRINK' with Rachel and she also signs 'DRINK'. They then proceed to pour another drink. (Ex.89)

In another three-way interaction, Rachel presents her right open palm to Michelle and then searches the table. Michelle signs 'FINISHED'. Rachel then turns to Paul, who signs 'DRINK FINISHED'. Rachel alternates between Michelle and Paul, using both open hand gesture and 'DRINK' sign. (Ex.93)

In that last example, Rachel uses both the right open palm gesture and also the conventional sign to refer to a drink. She appears to use these

signs/gestures interchangeably, in the way that was seen also with Patrick. Rachel's partners have learned to understand Rachel's use of this gesture and they respond to it as if she had used a conventional sign for drink.

Discussion

There are three key findings in this study:

1) Partnerships involving at least one congenitally deafblind person *do* use movements, gestures and signs originally brought by either partner to jointly refer to people, objects, places or events. Dynamic alterations are made to such movements, gestures or signs within the partnerships so that their meaning is understood by both partners and their form is perceivable by both.

2) Although both partners bring such movements, gestures and signs, there are significant differences in their level of iconicity or, in Burling's terms, their level of motivation (Burling, 2005). Those brought by the deafblind partner are more closely linked to the activities and experiences that they are referring to, more iconic in other words. Those brought by the non-deafblind partner are often amended signs from their previous cultural and linguistic experience, in other words tactile versions of BSL.

3) Although both partners often understand the movements, gestures and signs brought by the other, there are significant differences in ways that both partners subsequently produce the referential signs and gestures that the other has brought. There is a greater willingness on the part of deafblind partners to use referential signs and gestures brought by non-deafblind partners rather than the other way around. This was surprising. But it is even more surprising given the abstract nature of signs that are both understood and produced by the deafblind person.

Taken together, these three key findings lead to insights into what the field currently considers to be representational or symbolic language. This has implications not just for communication partnerships involving congenitally deafblind people, but for all communication partnerships. This is an issue I will return to more fully in Chapter 7, when I review findings from this thesis as a whole.

These results demonstrate that deafblind and non-deafblind partners both bring movements, gestures and signs to their communicative meeting places. There is a real desire both to be understood and to understand the other and there is significant evidence that the partnerships outlined in this chapter work hard to understand each other. They do not simply undertake activities together but all the while they attempt to share and to communicate about these activities as they unfold. Even on occasions when they do not necessarily understand each other, there is still a desire to share ideas and

thoughts and a willingness to make this process as straightforward for the other as possible.

There are many ways in which expansions are made to these movements, gestures and signs. For example, there are *temporal expansions*, a widening of the gap between the use of the sign and what it is referring to. This happens with OVER-UNDER TREE, DRINK and JACKET and also Rachel using her open right palm gesture. There are *expansions in the number of people* who both understand and express them and willingness from both deafblind and non-deafblind partners to introduce other people into these communicative meeting places. This happens, for example, with JACKET, open right palm, SHOES, and the use of wrists / bracelets. Finally there is an *expansion in the way that other signs are used in combination* with them, such as SHOES with Rachel's lying on the bed, Patrick's leaning to the right or Rachel's open right palm with DRINK. There are also many times when signs other than those central to the ongoing activity are introduced. For example, both Patrick and Joe talk about many things when they are climbing the Over-Under Tree.

There is an evident willingness from both partners to 'conceive, create and communicate about social realities in terms of the other' (Markova 2006, p125) but perhaps the deafblind partners in these studies meet this challenge more successfully. I will now discuss in more detail why I believe that these deafblind partners show a greater motivation to be understood.

Movements, gestures and signs brought by the deafblind partner are more closely linked to the activities and experiences that they are referring to and have a greater degree of tactile iconicity than those brought by the non-deafblind partner. For example, when Patrick wishes to direct attention to a drink (whether this serves an imperative or declarative function), he can reach out to where the flask and cup should be, he can walk to the worktop with the kettle, or he can sit at the table, knowing that this comes at the end of making a drink. In many ways, such gestures start life as instrumental actions that are part of activities. This is true for infants also.

When such instrumental acts are used for the first time, they are not necessarily other-oriented so there is no expectation of a response.

Sometimes, a response is lacking because the gesture is unobserved but even if it is observed, at the outset no communicative intent might be ascribed to it. For example, when Rachel uses an open right palm gesture, in the earliest meetings communication partners make no direct connection with this gesture and her desire for a drink. It is initially unobserved as a communicative gesture. However, even if partners do observe gestures or actions and recognise that the other is trying to communicate something, they may still not understand what is meant. What, for example, is the partner to make of Patrick's movements around the music room? In that moment there is insufficient shared context to draw upon to give additional clues about what the communicative intention of Patrick is.

We know from research with young children who use single words that adults can ascertain likely meanings using other contextual clues (Rodgon, 1976). This is seen to in meetings with congenitally deafblind people. If the context is a regular activity that both partners participate in then it is more likely that they can understand one another's intentions, especially if they are willing to move to the other person's perception of the world. So in later meetings when Rachel presents an open right palm to her partners, her partners immediately respond, for example, with their sign for DRINK. Something has changed for them over this time period. They have learned to interpret the movements and actions made by her and have learned to understand its meaning, perhaps in part due to its high level of tactile iconicity. It is direct engagement with the deafblind partner that makes such gestures more easily understood by the non-deafblind partner because they can understand this gesture as being related to activities they have done many times before. In time, such gestures are able to be conventionalised and thus become meaningful for both partners.

Non-deafblind partners also use movements and gestures associated with activities, such as tapping a foot before a shoe is presented or presenting someone with a cup as an invitation to make a drink. Most often, however, such gestures relate to the immediate context and when trying to move away from the here-and-now, non-deafblind partners more often relied on signs amended from their previous cultural and linguistic experience - tactile alterations to BSL. At the outset of this research I considered a distinction between conventional and non-conventional signs. I may, for example, have

considered DRINK a conventional sign, but PAUL as a non-conventional sign (i.e. using the movement associated with exploring his wrist as a referential gesture for Paul) in the sense that one comes directly from an existing linguistic culture. However, I now consider that all signs are by their nature non-conventional, since there is no agreed meaning within the context of these partnerships when they are first used by the non-deafblind partner. So in essence partners could invent and bring any sign to these meeting places. The deafblind person would have no way of knowing whether this is or is not a conventional sign from the wider linguistic culture. For example, staff within Sense Scotland developed a tactile sign FINISHED many years ago. This does not resemble the standard BSL sign for FINISHED, yet within Scotland we can see this sign used by many different congenitally deafblind people. Is this a conventional or a non-conventional sign? It has become conventionalised within Sense Scotland and it is worth noting that it is understood and used by both Patrick and Rachel, even though they were introduced to it many years apart. Similarly, both Rachel and Fiona (who is referred to in various parts of this thesis) use Paul's bracelets as a signifier for him, again even though they have been introduced to this many years apart and in different parts of the country.

Two key questions arise then from these discussions, the first of which is:

Why do deafblind partners introduce iconic gestures, or in Burling's terms highly motivated signs, more often than the non-deafblind partner?

There are at least two immediately straightforward answers to this:

- 1) Non-deafblind partners already have signs from a wider linguistic culture that they can bring to these meeting places. It makes sense that they do bring them and indeed throughout this thesis I have argued that they must do this.
- 2) When deafblind partners first use iconic movements and gestures, they start out as instrumental actions related to the completion of a task and as such they are an integral part of that task (reaching out for a flask, picking up a cup, leaning back to put shoes on etc). So it is not really the fact that deafblind partners bring iconic movements or gestures with communicative intent, as much as they cannot complete the task without using that movement or gesture. Rachel's searching for a cup comes immediately to mind.

However, I would like to suggest that there is more to it than this. I think there is a greater motivation on the part of the deafblind person to be fully understood. These results certainly confirm the process described by Burling

(2005) and Stokoe (2000), where instrumental actions made by one partner (in this instance the deafblind partner) are responded to by the other in such a way that the original partner knows that they have been understood. So I agree with Burling that comprehension does come before production.

However, let me then consider Rachel's use of the open hand gesture. This is qualitatively different because its first use with communicative intent comes directly from Rachel before her communication partners have responded to it. She directs this gesture clearly to her partners. She does not wait to be understood before forming this gesture into a sign. In my opinion it is a sign, just as much as any of the signs brought by the non-deafblind partners. It appears to have a stable, consistent meaning for Rachel and over the lifetime of this study it came to be meaningful for her partners also.

This has important implications because it would support Goldin-Meadow's (2005) view that there are some resilient features in language development and would suggest that she has 'created' this particular sign by herself.

However, it only becomes meaningful at the level of the partnership (Linell, 1998 and 2009). It is true also that she has had many other experiences by this time that have given her confidence in the communication process.

Indeed the circumstances, first described in Chapter 2 that relate to Burling's (2005) five cognitive tools and the non-linguistic input described by Morford and Kegl (2000), have been sufficiently good to allow such signs to emerge.

But there are differences in the way that both partners produce gestures brought by the other. The non-deafblind partner does not often expressively produce the movements and gestures brought by the deafblind person. They do not often imitate the instrumental actions coming from the deafblind person. It is the opposite for deafblind partners, where frequently they do imitate the signs coming from their non-deafblind partners. Any conventionalisation taking place is thus likely to be around the signs that are brought by the non-deafblind partner since these are used by both partners. Of the five abstract signs brought by the non-deafblind partner, these deafblind partners produce Deafblind Manual and TREE, albeit in response to a sign or action made by the non-deafblind partner. However, DRINK, JACKET and the use of the wrist movement to refer to Paul, are all produced by the deafblind person without any initial utterances from the non-deafblind partner.

If Patrick and Rachel can imitate their partner's gestures, then it follows that non-deafblind partners should also be able to imitate those from Patrick and Rachel, in much the same way that Caldwell advocates 'learning the language' of people with ASD (Caldwell 2002 and 2006). I will return to this question in the final chapter because it suggests some practice areas for future consideration. But for now a second key question arises from this discussion.

Why would the deafblind partner use the non-deafblind partner's movements, gestures or signs more frequently than vice versa?

In my opinion, the deafblind partners use the non-deafblind partners' movements, gestures or signs more frequently than non-deafblind partners use the movements, gestures or signs of the deafblind person, because congenitally deafblind people have a greater motivation to be understood. Perhaps this is because they are not in as many communicative partnerships as their non-deafblind partners. Put another way, this might suggest a somewhat controversial conclusion: that non-deafblind partners do not have such strong motivation to develop meaningful communication partnerships with deafblind people because they already have many strong communication partnerships with other non-deafblind people. But what role, then, do professional non-deafblind partners play in the lives of people they support? I will return to this more fully towards the end of the final chapter, where I consider why it is in the interests of non-deafblind partners to develop strong communication partnerships with congenitally deafblind people. But it also suggests some new thinking and perhaps a debate on professional and personal boundaries in education and care settings (Butler, 2009; Mann, 2009).

Let us consider how congenitally deafblind people maximise the likelihood of being understood. I think they do this on two levels. Firstly, they use highly motivated signs (i.e. iconic signs) as we saw earlier. But then, given the perceptual barrier to cross, with the likelihood of mismatch (Pease, 2000;

Rødbroe & Souriau, 2000) and, as I have just outlined, the reluctance of non-deafblind partners to imitate such motivated signs, deafblind people quickly adapt to their partner's preferred cultural language. As pointed out in previous chapters, these congenitally deafblind people meet the principal dialogical challenge – to conceive, create and communicate about social realities in terms of the Other (Markova, 2006). This tells us something very profound about the human desire to communicate. If communication is the way we reach out to each other (Miles and Riggio, 1999), then we can begin to understand that this desire for connection with the world and the people around us could be yet another resilient feature (Goldin-Meadow, 2005). This would fit comfortably with the notion that infants are innate companions and co-operators (Trevvarthen, 1995), whose impulses to communicate are sole adaptations to the world into which they are born (Macmurray, 1961).

Conclusion

It need not be the case that non-deafblind partners understand but do not as often produce the movements and gestures brought by their deafblind partner. Non-deafblind partners could instead imitate the movements and gestures from their deafblind partners and begin to use such gestures to refer to people, places, objects and events. This then would lead to exciting questions about what counts as 'symbolic' or 'representational' language. The results in this chapter have shown that Rachel and Patrick *can* produce conventional signs from their partners' linguistic culture but they use these interchangeably

with movements and gestures from their own experiences of the world. For example, Patrick can sign DRINK, or he can lean out to ask for a drink. Rachel too can sign DRINK but she can also open out her right palm to ask for a drink. If sign and gesture are interchangeable, does this not make both of them symbolic? Does it not then follow that if leaning out to ask for a drink is symbolic, so too is putting your feet in the air to ask for shoes? So too is turning your partner round to ask for a Piggy Back? Non-deafblind partners understand such gestures and they make appropriate responses. If they also begin to produce such gestures, then they become conventionalised between these partners. Language truly grows then from the partnership and is influenced directly by the perceptual experiences of both. That would be truly dialogical!

Chapter 7

Making sense of tactile communication – talking about the past and thinking about the future.

Introduction

This thesis has demonstrated that partnerships involving at least one congenitally deafblind person can move beyond the here-and-now. It is evident that both partners can operate at all levels of Reddy's model: they can respond to and direct attention to self, what self does, what self perceives and what self remembers. All of this happens within the tactile medium. As both partners expand their awareness of the objects of the other's attention, this then makes it possible for them to journey together away from the here-and-now using movements, gestures and signs introduced by either partner. This also can happen in the tactile medium. All of this demonstrates that language is possible for congenitally deafblind people and their partners. This thesis has focussed on those first, tentative steps away from the here-and-now, but it is clear that this journey can be successful. It is a journey that comes about because of the contributions made by both partners.

In this final chapter, I first review the key findings from the three data chapters (Chapters 4, 5 and 6) and also the important implications that were raised in their respective discussions. In essence this is a summary of what I have

learned about communication partnerships involving congenitally deafblind people and this will form the first section of this chapter. In the second section, I then widen the scope to consider implications beyond partnerships involving congenitally deafblind people. This is done against the backdrop of the model developed by Reddy, in particular highlighting how this thesis adds weight to three main conclusions from Reddy's work that relate directly to this thesis:

- Attending without vision is possible;
- There is more to the 'third element' than meets the eye;
- The mind-body gap needs to be reconsidered.

Exploring these three topics, in particular the re-consideration of the mind-body gap, allows me to reach some conclusions about what is meant by 'symbolic' language and calls into question current views of how language should be acquired in practice for people with communication support needs. Such questions are explored in the third section of this chapter, where I also widen practice implications beyond congenital deafblindness. That is, this thesis tells us something about the development of communication in general. There are important implications for practice as well as theory and the latter begins to suggest future directions for research, which I will review in the fourth section of this chapter. In the fifth section, I then return full circle to partnerships with congenitally deafblind people, to ask what is it that practitioners need to do to create and sustain communities of communicative practice around individual congenitally deafblind people. In the sixth and final

section of this chapter, I conclude this thesis, by repeating a question first asked in Chapter 1: why has this thesis primarily been aimed at non-deafblind communication partners, given that this might seem like a rejection of the partnership model that I have consistently argued throughout? In answering this question, I offer an apparent paradox exploring why, in 'stepping into relation' (Buber, 1996) with congenitally deafblind people, it is to the direct benefit of non-deafblind partners that it is they who assume responsibility for taking the first step.

What I have learned about communication partnerships involving congenitally deafblind people?

This thesis has focussed on the early stages of journeys away from the here-and-now, those first tentative steps taken by both partners. In the first place, I have stressed the importance of building the earliest foundations of communication and language as the starting point in any journey away from the here-and-now. That is, making sure that the rhythms and interaction patterns so important in early developments for infants (Trevarthen, 1979 and 1980; Nadel and Camaioni, 1993; Bråten, 1998; Dessinayake, 2000) are also in place for congenitally deafblind adults. Even for those who may have had limited exposure to social interactions, this leads to significant developments taking place (Hart, 2006). The key step is to focus at all times on giving contingent responses in the tactile medium. This means that communicative exchanges within the dyad itself, where both partners share attention to each

other, but also communicative exchanges beyond the dyad, where both partners share attention to objects, can all take place within the tactile medium. As stated in earlier chapters, in itself this is not a new discovery. The importance of replicating such interaction patterns has long been understood in the deafblind field (Daelman et al, 1999b; Janssen, 2003; Rødbroe and Souriau, 2000; Schjøll Brede, 2008) but the focus previously has principally been on the congenitally deafblind person's abilities and not on the ability of both partners to do this within the tactile medium.

There must be recognition of the important and indeed equal roles played by both partners as they journey towards language together. That is why I chose to demonstrate, in the complementary chapters, 4 and 5, that both congenitally deafblind and non-deafblind partners in themselves can respond to and direct attention to self, what self does, what self perceives and finally what self remembers. As both partners expand their awareness of the objects of the other's attention, this makes it possible for them to journey together away from the here-and-now. Chapter 6 demonstrated that movements, tactile gestures and signs introduced by either partner can be understood and used by both partners.

The dialogical framework has been especially useful as a backdrop to this thesis because it focuses the research effort on communicative meeting places as opposed to individual partners. The evidence presented in Chapters 4, 5 and 6 have borne out the conclusions from Chapter 2 that it is insufficient to simply adopt 'scaffolding' metaphors for language development, where the

traditional role of the more competent other is played by either of the partners. Current world languages are not tactile so there is no such person as the 'more competent other' in this respect. Instead, any new languages will emerge from genuine partnership and they will have elements of existing linguistic culture (signed and spoken), but they must reflect a tactile perspective on the world. This is clear from the evidence presented in Chapter 6. This thesis, therefore, has added to current knowledge about how partnerships involving congenitally deafblind people might journey towards language.

In summary, this thesis has described six main findings emerging from the data:

- 1) Congenitally deafblind people can respond to and direct attention at all four stages of Reddy's model.
- 2) When doing so, congenitally deafblind people use a range of movements, gestures and signs, primarily in the tactile medium but sometimes directed to perceptual modalities that they themselves do not have (e.g. vision).
- 3) Non-deafblind partners can also respond to and direct attention at all four stages of Reddy's model using a range of movements, gestures and signs within the tactile medium.
- 4) Partnerships involving at least one congenitally deafblind person do use movements, gestures and signs originally brought by either partner to jointly refer to people, objects, places or events. Alterations are

made to such movements, gestures or signs within the partnerships so that their meaning is understood by both partners and their form is perceivable by both.

- 5) Although both partners bring such movements, gestures and signs, there are significant differences in their level of iconicity. Those brought by the non-deafblind partner are often amended signs from their previous cultural and linguistic experience, in other words tactile versions of BSL. Those brought by the deafblind partner are more closely linked to the activities and experiences that they are referring to. In other words, they are more iconic.
- 6) Although both partners understand the movements, gestures and signs brought by the other, there are significant differences in ways that both partners subsequently produce the referential signs and gestures that the other has brought. There is a greater willingness on the part of deafblind partners to use referential signs and gestures brought by non-deafblind partners rather than the other way around. This was a surprising outcome, particularly given the abstract nature of signs that are both understood and produced by the deafblind person.

A number of implications arose from these findings and they were discussed in chapters 4, 5 and 6. They included the following. Firstly, non-deafblind partners must recognise the abilities of their congenitally deafblind partners. This suggests some essential attitudes that non-deafblind partners should adopt, particularly the important idea that non-deafblind partners must grant

potential to their deafblind partners. Only with such an attitude will potential be realised at all. Secondly, by understanding how congenitally deafblind people use movements, gestures and signs to respond to and direct attention non-deafblind partners are informed about ways to share attention to these same objects. Again, this suggested a range of skills and approaches that non-deafblind partners need as they move closer to a tactile 'outfeel' on the world, in particular, attending to objects not from a seeing-hearing perspective but from a tactile and bodily perspective. Thirdly, there are important developmental implications that flow from sharing the same perceptual experience of the world. Later in this chapter, I will further explore practice attitudes and approaches that will lead to the creation and sustaining of communities of communicative practice around congenitally deafblind people.

Evidence in support of Reddy's main conclusions

But now I wish to explore what wider implications arise from these findings for partnerships beyond those involving congenitally deafblind people, although I will still draw on some evidence from the partnerships featured in this thesis. The tactile nature of interaction and contact explored in this thesis has added considerable weight to three outcomes of Reddy's work and I will explore each of these in turn.

- Attending without vision is possible;
- There is more to the 'third element' than meets the eye;
- The mind-body gap needs to be reconsidered.

Attending without vision is possible

Reddy suggests that developmental psychology should become interested in modalities of attention other than vision because this would tell a richer story (Reddy, 2008, p.91). This notion was always going to be worthwhile exploring within the context of congenital deafblindness. This thesis has explored what the process of attending ‘feels’ like in the tactile medium and this *has* allowed a richer picture of attention to emerge. I will provide one illustration of this at this point, by comparing an communicative exchange featuring a deafblind person who has residual vision (Andrew) with an exchange featuring a fully deafblind person (Fiona, who has featured elsewhere in this thesis). During an interaction between Andrew and an adult, Inger (Daelman et al, 1996), Andrew alternates directing attention to tapping his pen on the table, then scribbling with the pen on a piece of paper. Inger is able to follow his attention and respond with a similar actions – she imitates his tapping and scribbling. An interaction between Fiona (fully deafblind) and Paul from April 2000 (Chapter 4, Ex.22) unfolds in a similar way with Fiona alternating attention between wiggling her left toes then her right toes. Paul is also able to respond to her attention and co-ordinate his actions. However, this interaction between Fiona and Paul takes place entirely on her body so it is immediately ‘felt’, in a physical sense, by both partners. Whereas when Andrew taps or scribbles with the pens, this is not physically felt in the same way by Inger. Instead their vision allows them to become aware of another’s attending from a distance. The effect, however, on Fiona and Paul of attending through the tactile

medium is no less significant and it is clear that both partners can follow and direct each other's attention.

It is important to understand that attending can take place in any medium because this opens the door to new ways of considering what developments then flow from sharing attention. Butterworth (1995, p.29), albeit focussing on visual attention, suggests that it 'may offer one of the bases in shared experience for the acquisition of language' and Bruner (1995, p11-12) suggests that without joint attention, 'we cannot construct and coordinate the shared social realities that comprise everyday life'. I will expand on this notion of shared experience through Bruner's idea (Bruner, 1995, p.6) that joint attention 'depends not only on a shared or joint focus, but on shared context and shared presuppositions'. It is vitally important then that communication partners completely tune into the landscape that is the focus of the deafblind person's interest, bearing in mind Prechtel's words that 'the highest form of praise is to acknowledge a person's interests and to explore the world together' (cited by Miles, 2006). Miles has demonstrated this through video footage of a young deafblind boy (who has some residual vision) and his teacher in an Indian classroom. On the first day we see the young boy coming into the school and the teacher is encouraging him to take part in his normal morning routine, of going round other classrooms and offices, to find out who is there and to say hello. This is all in the interests of developing his social and communication skills. We see that the young boy's interest is taken by various objects along this journey and he employs his residual vision to gaze at clocks, computers, papers etc lying on desks. Each time he does this, the

teacher draws his attention back to the task of saying 'good morning' to the people he meets on his journey. On the second day of filming the teacher has been advised simply to follow the interests of the boy and to engage in joint exploration of whatever he first shows an interest in. As he walks into the school and the teacher greets him, the boy looks towards the ring on his teacher's finger. The teacher touches the ring and encourages the boy to do so as well. Within a short time they are both seated on the floor in the school corridor and they are jointly exploring the ring together and their hands constantly overlap with each other as they feel and touch the ring. Both seem lost in each other's company and both are fully engaged in the exploration of the ring. We can clearly see that they are jointly attending to the ring.

A poem by Barbara Miles, *Your Hands*, captures this point beautifully and helps us to move even further into the tactile world. The poem develops a rich picture about attending beyond the visual medium.

YOUR HANDS

Do you remember, sometimes
that each of your hands
contains an entire landscape?
The plains of your palms
stretch outward,
criss-crossed by intricate roads
that were laid down generations ago
and continue far into tomorrow.
Your fingers, as they hold the bone handle
of a honed knife,
know something of the deer whose thigh
cradles the hammered steel.
your fingerprints feel the subtle curve
that once propelled the lithe body
across bright fields.
And your thumbs! What your thumbs know!
how to strum, weave, tie, carve and sculpt;
how to grip a pen as it moves across a page,
unrolling magical curves of words;
how to rub a memory of life
from the smooth gnarl of an oaken cane
left leaning against an empty doorway;
how to steady a blade
as it slices a peeled potato,
realising bright moons into a simmering stew.
Do you remember, sometimes,
that your hands – yes, yours! –
are cousins of White Tara's?
she has eyes in the center of her palms.
she knows the language of wave-tossed stones
and ancient maple bark.
she sees with her hands the textures
of the thirty-seven million things.
she reads the braille of the weeping world.
Remembering this,
rest your hands gently on whatever is near to you.
see this substantial thing
with your awakened fingers and palms.
then speak back to it, whatever it is,
with a fine, thumb-formed
gift
of praise.

It is particularly the final stanza that guides practitioners in how they must engage with a congenitally deafblind person during any activity. This poem develops the same detailed picture of the richness of the tactile world as that described by Jacques Lusseyran, who lost his vision when he was 8, but who later joined the French Resistance during WWII before being incarcerated in a concentration camp. He writes about how he learned that his hands could be tools of discovery and adventure (Lusseyran, 1985, p.25-26):

'Unlike eyes, they (his hands) were in earnest, and from whatever direction they approached an object they covered it, tested its resistance, leaned against the mass of it and recorded every irregularity of its surface...

Movement of the fingers was terribly important, and had to be uninterrupted because objects do not stand at a given point, fixed there, confined in one form. They are alive, even the stones. What is more they vibrate and tremble...

Yet there was something still more important than movement, and that was pressure. If I put my hand on the table without pressing it, I knew the table was there, but knew nothing about it. To find out, my fingers had to bear down, and the amazing thing is that the pressure was answered by the table at once. Being blind I thought I should have to go out to meet things, but I found that they came to meet me instead. I have never had to go more than halfway, and the universe became the accomplice of all my wishes...

Touching the tomatoes in the garden, and really touching them, touching the walls of the house, the materials of the curtains or a clod of earth is surely seeing them as fully as eyes can see. But it is more than seeing them, it is tuning in on them and allowing the current they hold to connect with one's own, like electricity. To put it differently, this means an end of living in front of things and a beginning of living with them. Never mind if the word sounds shocking, for this is love...'

He goes on to describe how his hands discovered other objects and how in time he came to understand that smell was also more distinctive than he used to think it was. I have used a large section from his writing, because it describes a beautiful picture of how rich, exciting and varied the world can be if perceived through touch. I believe non-deafblind partners have to experience the world in a similar way, if they are to use movements and gestures as the basis for communication and language.

Elsewhere (Hart, 2008) I have given an example of how a colleague of mine, Joe Gibson, undertakes regular forest walks with a fully deafblind man. (This is Joe and Patrick who have featured in Chapters 4, 5 and 6). I described how both partners fully explore a tree at the start of their walk, not simply standing back and admiring it from a distance. Instead both sets of hands weave with each other in a dance of exploration and stimulation, feeling the texture of the bark, running their fingers along the soft, velvety ridges, discovering the spongy moss that it is growing on the side, pressing it, feeling it with their fingers, their palms, their knuckles, letting it bounce gently back against their hands as they establish a rhythmic pulse on the side of the tree.

This means slowing the world down and it means a full and complete immersion in the experience – it means letting the trees come to you as much as you come to them! Nhat Hanh (1995, p21) recounts asking a group of children to think about the origins of a tangerine before eating it. ‘They saw not only their tangerine, but also...the tangerine tree...They began to visualise the blossoms in the sunshine and in the rain. They then saw petals falling

down and tiny green fruit appear. The sunshine and the rain continued, and the tiny tangerine grew...each child was invited to peel the tangerine slowly, noticing the mist and the fragrance of the tangerine and then bring it up to his or her mouth and have a mindful bite, in full awareness of the texture and taste of the fruit and the juice coming out...Each time you look at a tangerine, you can see deeply into it. You can see everything in the universe in one tangerine. When you peel it and smell it, it's wonderful. You can take your time eating a tangerine and be very happy'. Non-deafblind partners can take this same approach when exploring the world alongside a deafblind person. Think of the tree not simply from a seeing-hearing perspective, but from a tactile and bodily perspective.

If we bear in mind Bruner's view (1995), first expressed in Chapter 2, that humans have a need to share objects of their attention with others then we understand more clearly the challenges facing non-deafblind partners. They need to share attention to such objects in the tactile medium and to do this requires an immersion in that tactile world in the way I have just described. To not share someone's interests in this way could, at one level simply be frustrating and disappointing, or it could have longer-term negative consequences. Bruner suggests, for example, that 'without a ready ability for joint attention, human beings fall into a grievous state of pathology' (Bruner, 1995, p.11) and this is echoed by Hobson, who considers the impact on children with autism if joint attention is deficient (Hobson, 2002 and 2005).

This thesis has added weight to the general conclusion reached by Reddy, and indeed the story emerging from the field of congenital deafblindness (Nafstad, 2008; Schjøl Brede, 2008; Rieber-Mohn, 2008), that the process of attending can take place in modalities other than vision. Let me therefore explore even further what then emerges from this richer story of attention.

There is more to the ‘third element’ than meets the eye

In chapter 2 I outlined Reddy’s (2008) view that developmental psychology must move away from the idea that a common object of attention needs to be spatially distinct from both partners for it to be considered a ‘third element’ (Bates et al, 1976). She presents convincing evidence that communicative interactions are triadic earlier in an infant’s development than others might believe. This is a radical contention because for her no ‘Copernican revolution’ happens towards the end of the first year of an infant’s life (Hobson, 2002, p.92) when suddenly the infant shifts from dyadic to triadic interactions. Instead there is a gradual expansion in awareness of the objects of others’ attention and the first of those objects is the Self. She then notes when infants, at around 4 months, begin to look outwards into the world and adults attempt to regain the infant’s attention by performing increasingly exaggerated movements. She suggests this expanding horizon of adult actions must have consequences for the infant: marking ‘the infant’s body

parts as separate entities...and it must make the process of engagement instantly more complex and essentially triadic' (Reddy, 2008, p.117).

The evidence presented in this thesis supports Reddy's ideas about the earlier development of triadic interactions in three related ways:

1. Firstly, the close physical contact that we saw in the communicative exchanges at the centre of this thesis allows '*overlap*' at the edges of the four stages suggested by Reddy's model. By *overlap*, I mean that a movement, gesture or sign might be considered at two different stages of Reddy's model, depending on the perspective from which it is understood. Such *overlaps* help me to see that developments in particular stages of Reddy's model occur earlier than we might at first think and in turn this can lead to a view that particular interactions are triadic. (I will detail some examples shortly).
2. Secondly, in directing attention to objects that are outwith physical contact, fully congenitally deafblind people cannot rely on their hearing and / or vision and thus must draw on memories of these objects from past encounters.
3. Finally, as early communicative interactions unfold and both partners negotiate the 'rules' of interactions, these 'rules' themselves become a 'third element', something beyond the dyad. Indeed they become something self remembers, albeit from a few seconds previously. Thus

partners are already responding to and directing attention to past events.

1. *Overlaps between stages in Reddy's model*

Let me first consider *overlaps* that occurs between Stage 1 and 2 of Reddy's model.

David is the object of Caroline's attention and she touches his shoulder.

David imitates this action by touching her shoulder (Chapter 5, Ex 3 – 1C+D/c) which I marked as David's *response to attention to self* (Stage 1).

However, let us consider this from David's perspective – that is, Caroline's actions (touching his shoulder) are the object of *David's* attention.

Through the direct contact with David, when Caroline touches David's shoulder, this can be thought of as Caroline *directing attention to what self does* (Stage 2).

Ingerid is the object of Gunnar's attention. Gunnar blows raspberries onto Ingerid's hand (Chapter 4, Ex.1 – 2I+G/a) and she laughs. Her laughter is her *response to attention to self* (Stage 1). Again, let us consider this interaction from Ingerid's focus of attention, when it is Gunnar's actions which are the object of her attention. After she has laughed, Gunnar's continued blowing of raspberries would then be *responding to attention to what self does* (Chapter 5, Ex.19 – 2I+G / a and b). Additionally when he repeats these actions in response to Ingerid's co-ordinated actions, he is

then *directing attention to what self does* (Chapter 5, Ex.25 – 2I+G/c).

These are both examples of Stage 2.

So we can see *overlap* between Stage 1 and Stage 2, depending on whose perspective is taken and this has important developmental implications. The physical nature of contact in the tactile medium means that both of these perspectives are immediately available to both partners. You can literally ‘feel’ the action of the other, even at the same time as you are experiencing yourself as the object of the other’s attention.

Now I will consider an example of *overlap* between Stage 2 and 3.

Ingerid’s actions are the object of Gunnar’s attention. When Ingerid shakes her hands and fingers she is *directing attention to what self does* (Stage 2). Gunnar then shakes his hands in response (Chapter 4, Ex.38). But these same actions (Ingerid shaking her hands and fingers) are also something perceived by Gunnar (Stage 3). When he shakes his hands in response then, he is *responding to attention to what self perceives* (Chapter 5, Ex.37 and 38).

The embodied nature of interactions marks out clearly that any one action can be understood from two different perspectives at the same time. One action is always felt by two people from two different perspectives. I am not suggesting that partners consciously perform this shift of perspective when partnerships are functioning well. It is just present! Nevertheless, it does indicate one source of difficulties when partnerships are not functioning well – one or other

partner is not attempting to 'conceive, create and communicate about social realities in terms of the Other' (Markova, 2006, p.125) and either cannot, or will not, make this perspective shift that is absolutely essential, not only in terms of meaning-making but in recognising the other person's agency.

Rather than being a difficulty in the analytical process, such examples provide an opportunity to think differently about what is happening between partners. It can direct us back to Linell's view of 'communicative projects' (Linell, 1998 and 2009) as essentially dialogical and it follows that I should not necessarily be too focussed on whose perspective is paramount at any particular time. Indeed, both perspectives will be present throughout and perhaps it is the case that any partner can take both his / her own perspective as well as the perspective of the other at one and the same time. This principle must lie behind the idea of 'donation' that was described in Chapter 2 of this thesis (Bruner, 1978; Schaffer, 1996), where one partner makes a contribution in such a way that it will be more easily understood by the other. Why do this, unless you perceive the world from the perspective of the other? And if you 'perceive' the world from the other's perspective already this suggests that partnerships are operating at the third stage of Reddy's model – what self perceives. Thus there is a move outwards from the dyad, supporting Reddy's idea about the essentially triadic nature of even early interactions (2008).

2. Memories of past encounters with objects

I now wish to turn to the question of how congenitally deafblind people draw on memories of objects from past encounters. Here are some examples:

Rachel has just finished a cup of tea, which was poured from a teapot. She then guides Lynne's hand in the general direction of the teapot (Chapter 4, Ex.67). Perhaps she is directing attention to an object she understands will be perceived by Lynne using her vision (and this was a key finding from Chapter 4). Rachel gets Lynne's hand in the general direction of the teapot and then lets Lynne's vision finally locate the pot. But how does Rachel achieve this? She is not using vision herself to locate the teapot. Instead, she recalls where the teapot was the last time she had used it.

Patrick leads Joe back into his house (Chapter 4, Ex 70). In Chapter 4 I marked this as Patrick leading Joe to an object, thus directing attention to what self perceives, but we can additionally understand this as Patrick remembering the layout of his garden and house. It is his memory that he is calling on here.

If a congenitally deafblind person is directing attention to an object that is outwith their physical reach, then they must be remembering previous

occasions when they have been in contact with that object and thus they are directing attention to what self remembers.

An important question then arises: if this is what is happening within the tactile medium, can we be certain this is also not happening in exchanges where vision is used to direct attention? So, for example, if an infant points to an object on the shelf, is this simply directing attention to what self perceives? Or could the infant be directing attention to previous occasions when they have used that object?

3. 'Rules' of the interaction are the 'third element'

Finally, I will now consider what happens as partners negotiate the 'rules' of an interaction. I will first use an example from a commercially-available DVD (Daelman et al, 1996) because this also draws on the ideas in the previous section about remembering past encounters.

When Lasse (who has some residual hearing) touches his arm in response to his mother saying his name, he touches himself at the place on his arm where she plays the 'Round and round the garden' nursery rhyme game. It is not difficult to imagine that he is already thinking about the game that they have played a few seconds earlier. Lasse might not simply be responding to his mum's attention to him (Stage 1) but responding by recalling a previous event (Stage 4).

Let me expand on these ideas around 'rules' of an interaction. Imagine I perform an action (tapping someone's toes), the other person attends to that action (they wiggle their toes in response) and I then respond to that attention with yet another action (I tap their toes three times). Does this last action indicate that I am remembering the previous exchange between us, albeit it happened only a few second previously? Does this mean that the 'rules' of our interaction, our game, have themselves become the topic of the attention? These rules are not necessarily something that can be perceived (Stage 3) but are instead something that is consciously remembered (Stage 4). With Lasse and his mother, we see the rules of their exchange being negotiated as they go along, but in sticking to these rules throughout the exchange, they are doing much more than just responding to each other's attention. They are both responding to and directing attention to a past event, albeit it took place only a few seconds previously. We see another example of this, in the game of clapping against the wall that Ingerid and Gunnar have played (Chapter 4, Ex. 88).

Ingerid and Gunnar have established an interactive game whereby she claps the wall and he claps the wall in response to this. After one clap by Ingerid, Gunnar pauses. Ingerid claps the wall again with her left hand while feeling the wall with her right hand. Again Gunnar pauses and Ingerid then slides her hand towards the hand of Gunnar until she touches it. She takes hold of Gunnar's hand and gently pushes it towards the wall. She is reminding

Gunnar of the 'rules' of this interactive game and it is these rules that are the focus of attention for both partners.

These 'rules' have originated in the ongoing interactive sequence. To me, Ingerid and Gunnar's actions can be considered as attention to a past event, albeit, it is a very recent past. There are many examples in the sessions examined throughout this thesis where partners negotiate 'rules' of interactive games as they unfold. At what stage can we consider these rules to be a 'third element'? If both partners are able to respond to and direct attention to the next element of the game (tapping a pen, scribbling with the pen, wiggling toes etc), and they develop trust and confidence in the other person that they will know what to do, can this be thought of as referring to a past event? I think so and thus these 'rules' are then the 'third element', because they have become a concept or idea that exists outside of the dyad. This would support Reddy's notion of the essentially triadic nature of early communicative exchanges. Indeed it is why I included a sub-stage (reminding a partner of the rules of an interaction) at Stage 4 of Reddy's model, what self remembers.

This thesis provides considerable evidence to support Reddy's call to widen the concept of what constitutes an object in the first place, and as I have just demonstrated, supports her contention that the 'third element' is present much earlier in development than might at first appear. For congenitally deafblind people, who cannot become aware of an object at the distance, it is clear that 'absent targets' can be their own body parts, can be 'rules' of interactive games being negotiated as the action unfolds, and can be objects

remembered from previous encounters, even if those objects are still technically present and available. The absence of distance senses and the tactile nature of interactions make the essentially triadic nature of early exchanges even more evident.

These discussions then raise important questions. For example, should we reconsider Stern's notion of *interactivity* (Stern, 1985; Beebe et al, 2003)? If adults and infants understand and respond to each other's emotions, are these emotions themselves not already 'third elements'? If infants and adults can co-ordinate a range of actions such as protruding tongues, yawning or wagging fingers, what many consider primary intersubjectivity (Trevarthen, 1979 and 1980), are the 'rules' of such interactive sequences not already 'third elements'?

Reconsidering the mind-body gap

In Chapter 2 I first explored Reddy's view of the supposed Cartesian mind-body dualism, particularly the two gaps that developmental psychology and philosophy have been interested in: firstly, the gap between the minds of two different people and secondly, the gap between one person's own mind and body. The evidence presented in this thesis supports Reddy's conclusions that these gaps do not truly exist. Traditional developmental models lead us to imagine that developments take place as partnerships extend beyond the dyad, as temporal or spatial distance becomes apparent. However, this thesis

demonstrates that significant developments do take place when two bodies remain in direct physical contact.

When non-deafblind partners initiate an action while seeking engagement with a deafblind person, the physical nature of contact between these partners means that the 'psychological gap' between them is minimised, if indeed it does not become non-existent. It is very difficult, if not impossible, to imagine initiating an action in the tactile medium with a partner, without that same action being at the same time a direct invitation to engage. With vision and/or hearing, it would be possible to engage in some kind of action (e.g. shaking your head) and then at a distance invite someone else to join you in this action, by looking towards them and smiling, for example, or using speech or sign to ask them to join you in the game. With touch, if you make direct physical contact with someone, whilst performing an action (again, let us think of shaking your head), then there is little need to issue a separate invitation for them to join you. This could be possible by, for example, taking your hand to the other person's head and beginning to shake it, or bringing their hand to your head so that you know they are definitely feeling the shaking. But shaking your head whilst in physical contact with another person already does have the immediate effect of being physically felt by them and can be perceived as an invitation to attend to the action. This one gesture can be both *what self does* and an invitation to attend to *what self does* at the same time.

This is apparent when Ian begins a clapping game with Fiona (reported in Chapters 4 and 5). It is his action for sure, but it is impossible for it not also to be immediately felt by Fiona. Similarly, when Paul rubs his fingers into Rachel's hands, or touches her toes, such actions have an immediate physical impact on Rachel. When I additionally bear in mind some of the lessons from dialogicality and second-person engagement, a number of exciting implications arise: it is not just Ian's hands that are doing the clapping onto Fiona's hands, or Paul's fingers that are rubbing into Rachel's hands, or Paul's fingers that are tickling Rachel's toes. At exactly the same time, it is Fiona's hand that is being clapped, Rachel's hand that is being rubbed and Rachel's toes that are being tickled. Understanding such interactions from the perspective of the dialogical framework, combined with tactile contact, breaks down the gap not only between one individual's own mind and body, but also between two bodies/minds.

If we take seriously the notion from Macmurray (1961) that 'the unit of personal existence is not the individual but two persons in personal relation', then it is clear that the supposed gap that exists between two minds and /or bodies is an illusory phenomenon. This is certainly the view of Swinton and McIntosh (2000, p.2) who suggest Macmurray's view 'points to the absurdity of Descartes' suggestion that it is possible to separate mind from body, and self from other'.

Reddy (2008, p.100) reminds us to be cautious about solely visual metaphors because they 'could let us forget about other modes of experiencing mentality:

not inferred or simulated but felt' and I believe contact between people in the tactile medium helps us to see this Cartesian absurdity much more clearly than does contact between people where primarily vision is used. But even where vision is the primary medium of contact between people, Reddy (2008) has successfully pointed out that smiles, for example, although perceived visually, could still be 'felt', emotionally, by the other person (Reddy, 2008). Let me return to the importance of tactile contact. Even with seeing-hearing children, Rogoff et al (1998) remind us that squirming and postural changes allow effective communication to take place between infants and mothers. This occurs through direct tactile skin-to-skin contact. This makes even more significant the claim that 'thought is a constituent part of action...' (Swinton and McIntosh, 2000, p.2). If, as Reddy suggests, it is the connection between bodies which form(s) the basis of knowledge of other minds' (Reddy, 2008, p.14), then we can see clearly that congenitally deafblind people and their communication partners can effortlessly share knowledge and this does not come across a gap. To return to Reddy from earlier in this section, it does not need to be inferred or simulated, just felt.

There is one major implication that arises from the disappearance of the supposed mind-body dualism: what developmental psychology has traditionally counted as symbolic no longer holds true.

What then counts as symbolic language?

Hobson suggests that symbolising has a Janus-like quality (Hobson, 2002, p.99), where at one and the same time it is 'turned inwards to provide the mechanism for an individual's thinking and turned outwards to communicate thoughts between individuals'. This appears to fit my previous discussions about the same action being felt and understood differently from two different perspectives. However, Hobson (2002) also suggests that symbols allow ideas to get transmitted from one to another mind, by means of one person communicating the symbol for the idea. This begins to suggest that the symbol lies outside the dyad and their interactions. But I believe that the embodied nature of tactile communication helps to make clear that symbols can be an integral part of the action unfolding between partners and symbols can also be iconic representations of an action.

But what is meant by 'symbol'? Most often, a symbol is considered to be 'something that stands for something else' (Hobson, 2002, p.25), most especially an abstract representation of a referent (Bruce, 2005; Burling, 2005; Rowland, 2009). The symbol bears no physical resemblance to the referent it stands for (Bruce, 2005), indeed it is 'a sign without either similarity or contiguity, but only with a conventional link between its signifier and its denotata' (Sebeok, cited in Stokoe, 2000). The abstract nature of a symbol is especially important and Burling (2005), drawing on Pierce's typology of icons, indices and symbols, clearly outlines a contrast between 'symbols' and

'motivated' signs (icons and indices). Symbols, according to this way of thinking, have a very limited definition and must be abstract representations. But must symbols always be abstract? Stokoe leaves open the possibility that symbols do not need to be abstract when he describes how manual gestures are symbols 'but more often than not are also icons or indexes or both' (Stokoe, 2000, p.389). Recall from Chapter 2, the example Stokoe gave us of the mother alerting her distant child to danger by making a snatching and throwing movement accompanied by alarmed facial expressions. Stokoe writes that when these actions occur for the second time, they are no longer instrumental but 'wholly symbolic' (Stokoe, 2000, p.393). Yet they are also iconic, with a direct relationship to the previous actions the mother is directing attention to.

Stokoe considers these actions as symbolic, even though 'the convention linking sign to what it represents is tenuous' (Stokoe, 2000, p.393).

Nevertheless, both the mother and child understand what these actions represent and for Stokoe, this makes them symbolic. Bruce suggests too that a symbol should have 'a meaning that is commonly understood by others' (Bruce, 2005, p.235) and Sebeok's view from the previous paragraph highlights this notion also. But Stokoe's example, like many I will illustrate shortly from my data source, indicate that this meaning need only be understood by two people, and can be recently co-created.

Perhaps, if 'symbol' has always been defined in one particular way, then this definition is the filter through which all gestures are then considered. So an

overwhelming view in the literature that symbols must be abstract correspondingly leads people to only count abstract representations as symbols, thus strengthening even more strongly the original contention. Graddol et al (1994, p.1) provide a good example of what can go wrong if we think too narrowly when we define anything. They recount Harris' answer to anyone who asks 'What is a language?'

'...they must expect to be treated with the same suspicion as the traveller who inquires of the other passengers waiting on platform 1 whether they can tell him the way to the railway station...The language user already has the only concept of a language worth having'.

There is an inherent danger in Harris' view that those who already have language see their type of language as the sole definition and they then judge other people using a system they already have. This is true also when we think of symbolising. If the traditional view is coloured by the idea that symbols are abstract and they exist outwith the dyad, then this is what will count as symbolic. A movement or gesture that fails to meet these criteria would consequently be considered pre-symbolic. It is easy to understand how such a view of a symbol comes about. If I jump up and down, in a very excited way and then tell you that I am happy, then the word 'happy' is representing the emotion that I am feeling. When I utter the words 'I am happy', then you can begin to know something about what I am feeling. This is Hobson's idea of communicating thoughts between individuals (Hobson, 2002). The word 'happy' stands for the emotion that I am expressing. But just because the word 'happy' is abstract and sits beyond the actions of the dyad, and just

because this is what happens in almost all cases of language development, this does not seem to me to be sufficient justification for then discounting other possibilities for symbolising.

So imagine, for example, in the tactile world of close physical contact, where no mind-body dualism exists, that somebody jumps up and down and they then invite somebody else to join them in this action, in order to share their expression of happiness. That second person clearly understands that the other is happy, and by virtue of the direct physical contact, no separate symbol for 'happy' is required. It is already contained within the actions. If meaning is successfully shared between people and this happens because they are in direct physical contact with one another, would this not count as symbolic, in the sense that the jumping is already representing the state of happiness, it is 'standing for something'?

Can we go even further in extending the definition of 'symbol'? Rowland and Schweigert (cited in Bruce, 2005, p.235) suggest that symbols allow people to communicate about a 'referent that is not in the current physical or temporal environment' and Hobson (2002, p.99) also highlights that symbols help us to think of absent realities. So we have this sense of moving away from the here-and-now, to Reddy's fourth stage where absent events or targets are the focus of attention. Bruce (2005, p.235) further suggests that 'symbolic expression frees the child from being bound to communicating about the immediate context' and I would agree with her. But I would then suggest that the data presented in this thesis confirms that congenitally deafblind people

can become free of the immediate context, but sometimes they do this by using movements, gestures or signs that are iconic. So, in Rowland and Schweigert's terms (cited in Bruce, 2005) are such movements, gestures or signs symbolic because they allow the person to move beyond the current physical or temporal environment? I think they are and so a new definition of symbol must emerge. Symbols need not be abstract.

For example, Fiona and Paul are making coffee (April 2001: the full session is described in various places throughout this thesis including Chapter 4, Ex. 79-81 and Chapter 5 Ex.64). She turns away to her left immediately and vocalises after touching the spoon. She does this because the spoon indicates to her that she is soon going to be directly involved in the coffee-making whereas she wants Paul to make the coffee. Her slight turn to the left is an effective way to ask the other person to make the coffee and already has a symbolic quality to it. Fiona does not then need separate signs or symbols to ask Paul to do this, because she already has done so through gestures, actions and vocalisations.

Similarly, when Patrick steps away from the kitchen worktop and reverses into his chair, this is an effective way to ask for a drink (Chapter 6, Ex.61) because he is moving to the final step in the coffee-making routine. Traditionally, we might not consider these actions as symbolic because there is no separate symbol that stands for 'Can you make the coffee?' Indeed, we may consider such actions as pre-symbolic as if these were developmentally less impressive.

In Chapter 4, I reported how Thomas directed attention back to the tunnel that his teacher had just been inside (Chapter 4, Ex.86). He seemed to be indicating that his teacher should go back inside the tunnel and he did this by first taking hold of his teacher's hand and pointing it towards the tunnel, then bringing his own hand to his cheek and ear (the place on his body that had made physical contact with the tunnel), and finally moving his arm in a circular motion similar to the way his arm had been around the tunnel at one point. All of these movements and gestures are iconic if understood from Thomas' tactile perspective on the world, what some would call Bodily Emotional Traces (Daelman et al 1999b), but all these movements and gestures also direct attention to an absent target. Thus they are symbolic.

There are occasions reported in Chapter 6 where Patrick indicates he wants a drink either by using a conventional sign DRINK or leaning out towards where the cup and flask usually are. Both are interchangeably used by him, and both are responded to by his partners (Chapter 6: Ex 71-74). He is directing attention to an absent target but we can see that he does so using both abstract and iconic gestures. This begs a question related to Hobson's (2002, p.239) suggestion that young child begin to use symbols when they grasp that other people have the mental ability to attribute meaning to things. Does Patrick have a realisation that his partners are attributing meaning to the conventional sign DRINK but not necessarily to his iconic gesture for 'drink'? Does this explain why he switches to using the more conventional sign (DRINK) because he feels he is not responded to when he uses his own gesture for drink (leaning towards the flask). Do his actions indicate his ability

to move to a symbolic level (from the iconic to the abstract sign) and thus strengthen the traditional view that symbols are indeed abstract? Or does it, instead, indicate that communication partners could more readily incorporate Patrick's movements and gestures into their own expressive repertoire, a point that was made in Chapter 6? In other words, could they already understand that when Patrick leans to the right this is already a symbol that is standing for 'drink'? If they respond to it as such, then it can become a conventionalised sign understood by both partners.

We see this also in the examples discussed in Chapter 6 where Rachel indicates she wants her shoes by putting her feet up into the air (Chapter 6: Ex.75 and 76), or wants a drink by opening the palm of her right hand (Chapter 6: Ex.86). Again, she uses iconic gestures but she is also directing attention to absent targets or events. In this sense, Rachel's gestures are symbolic.

Widening the definition of symbol to include iconic gestures has important practice implications. Non-deafblind partners must be open to the idea that iconic gestures emerging from their deafblind partners can be symbolic, when such gestures are already representing something. It is too easy to dismiss many of the movements, gestures and signs as pre-symbolic and I believe such a dismissal can lead to an over-reliance on introducing external symbolic systems, particularly those that employ objects of reference as representations of various activities. (In previous chapters I have already

suggested that practitioners can often use these for instrumental purposes only with corresponding negative impacts).

I am reminded of the Milan Congress from 1888, where practitioners in the field of deaf education from all across the world gathered to conclude what would be the most effective way to communicate with deaf children and young people (Sacks, 1989). They concluded that oral education would offer the best solution because this would at least guarantee some contact with the wider hearing community. Signing was to be discouraged because it would only be of use to communicate with a limited few. No doubt it is true that some young deaf people would have greatly benefited from oral education, but the overwhelming majority would not have been served well by this educational policy. In a similar way, some congenitally deafblind people will greatly benefit from Augmentative and Alternative Communication (AAC) systems and devices that use objects of reference, but I believe to over rely on such systems minimises the possibility of responding to and building upon the symbolism that is already present within a person's bodies and available through their hands and fingers. Indeed, gesture plays powerful roles even with non-deafblind people who have spoken language. For example, children demonstrate greater knowledge of concepts when they express themselves through speech and gesture, rather than just speech alone (Garber et al, 1998); adults glean information about a child's knowledge by reading the child's gestures and not just listening to their speech (Alibali et al, 1997; Golding-Meadow, 1999); and when gesture assumes the full burden of communication, it takes on language-like forms (Goldin-Meadow, 1999 and

2006). If gestures can reveal this much about the thinking of non-deafblind people who already have spoken language, how much more could it reveal about the thinking of congenitally deafblind people who already live in a tactile world of movements and gestures? The movements and gestures used by congenitally deafblind people are often already representational. In addition, I believe there are implications for other groups of people where there are recognised communication support needs, e.g. people with learning difficulties or people on the autistic spectrum (ASD), where very often practitioners might describe people they support as pre-symbolic. To me, this now makes no sense if that person is already using movements and gestures to indicate what is in their mind. It is for practitioners in those fields to begin to both respond to and produce such movements and gestures. Caldwell's work with people with ASD and learning difficulties, would suggest these ideas are immediately applicable (Caldwell, 2002 and 2008).

In essence I am arguing for a wider definition of symbol, so that it includes movements, gestures and signs that are iconic or indexical. Symbols that are iconic can stand for something and they can be used by at least two people to represent shared meaning about a person, object or concept. I would certainly agree with Hobson (2002, p.26) that 'language is a specially elaborated and a specially powerful system of symbols' but he does not then go on to state that other less elaborate systems cannot also be symbolic. I am not arguing that the examples I have listed above constitute fully fledged languages but I am suggesting that we should not simply dismiss such examples as pre-symbolic.

Such a view leaves congenitally deafblind people vulnerable to practitioners who are overly keen to introduce their own symbolic systems.

Related to these discussions around symbolism, we might return to an issue first discussed in Chapters 2 and 5 about sharing emotions tactually. In Chapter 5 in particular, I highlighted the fact that emotions can already be contained within an action and thus actions can already reveal something about the other is thinking and feeling. Here I wish to go further and consider it against the backdrop of imperative and declarative functions of communication, by first asking how far into the past does an event have to be for it to be in the 'past'? Is one second enough? If events from one second ago count as 'past' events this would suggest a re-consideration of a practice approach where it is thought that the important task for the non-deafblind partner is simply to sustain communication episodes. But what if one of the partners produces a gesture that is referring to a past event in order to make a declarative comment and not simply to ask for the action to be repeated? This then asks us to have a different focus of attention while doing an activity – it is not simply about sustaining the episode for as long as possible, as traditional approaches to Intensive Interaction might suggest (Nind and Hewitt, 1994 and 2001; Caldwell, 2002, 2006 and 2008), but is instead about responding initially as if an utterance is declarative – making a comment on something that has just happened, and not just asking for it to happen again.

In examples outlined in Chapters 4 and 5, for example, there were occasions when either partner responded emotionally to attention focused on self (e.g.

by laughing, smiling etc). How should this emotional expression be understood? Does it simply serve an imperative function, asking for the action to be repeated? Or does it serve a declarative function, making a comment about the ongoing interaction? To respond as if the deafblind person is always making imperative demands is to limit the possibilities for expansion. But if emotional expressions are treated as if they were declarative comments, this leaves open greater possibility that communication can expand (Rosenthal Rollins, 1999). A hearing-seeing infant and mother may be engaged in imitating tongue protrusions and then both could display their emotional involvement by an excited vocalisation, or wiggling hands or toes. These utterances can be seen as making a comment on the 'game' that is being played. They lie alongside the actions that are at the centre of the game. The infant is not necessarily saying, 'Can you now imitate this vocalisation or this wiggle of my hands?' Instead, they are just making a comment about the joy they feel in the game: 'Wow, this is good fun'.

We see similar encounters in the partnerships featured in this thesis. Imitation may take place entirely at a tactile level (e.g. the deafblind person wiggles their toes and the communication partner does a similar movement onto the deafblind person's toes, so that it can be perceived). If the deafblind person continues to wiggle her toes, it is too easy for the non-deafblind partner to respond as if she is asking for the game to be played over and over. So the partner responds as if the 'toe wiggling' was an imperative request (Rosenthal Rollins, 1999) and thus repeats the game. I think they fall into the trap of frequently doing this because the external 'symptoms' of emotions (Stokoe,

2000, p.395) are often the same movements and gestures that are being imitated. By this I mean, if the deafblind person was excited by the activity they might attempt to express that emotion by moving body parts in an excited manner (e.g. wiggling toes or fingers). It is difficult for the non-deafblind partner to understand that these actions (e.g. wiggling toes, moving the fingers very quickly) might simply be external expressions of emotions. More consideration needs to take place in the field of congenital deafblindness to help practitioners find ways to separate out those actions which are imperative ('do that again') and those which are declarative ('Wow, this is good fun'), just as happens with infants. But for the moment, non-deafblind partners should respond in the first instance as if such movements were expressing declarative intents.

There are important theoretical implications for how we define language that arise from these partnerships with congenitally deafblind people. What does it mean for language if I see the ability to symbolise as already present within movements and gestures? I am first drawn to Christiansen and Kirby's view of language as 'never stationary, changing over time and within populations...It is infinitely flexible ...' (Christiansen and Kirby, 2003, p.15). Then there is the contrast described by Linell (1998, p.285) where linguists would view language 'as a supra-individual stable system of signs (expressions with associated meanings), as objective structures uncontaminated by various 'performance' variables' whereas he would suggest an alternative framework, in which language is seen 'as mediational means and flexible resources with dynamic potentials to be used for

communicate purposes in various kinds of contexts'. The latter is more akin to the view I have adopted in this thesis. Language should not be thought of as a unitary phenomenon but instead as the 'coming together of three things: modality, symbols and structure' (Christiansen and Kirby, 2003, p.5). This, taken with Linell's view that 'our perceptions and conceptions are not independent of the material world' (Linell, 1998, p.272), leads to a view of language as an embodied experience (Linell, 2009b).

Morford and Kegl (2000, p.380) speculate about how the leap to language might have happened for the deaf children in Nicaragua that I considered in Chapter 2. They ask if it happens when the lexical conceptual structure possessed by each homesigner demands some form of linguistic coding? They argue that this would set language in a continuum with gestural communication. Or does the leap to language happen at the point where characteristics of the input are recognized by the expectations of the brain as sufficiently linguistic and this then initiates the first-language acquisition process? They suggest that this would demonstrate that language is a unique capacity of the modern human brain. I am drawn to the former because it suggests that any languages developed by partnerships involving deafblind people would grow out of movements and gestures that are already present and could occur entirely in the tactile medium.

In concluding this section on what might count as symbolic language, I wish to extend Reddy's contention that there is no change in the nature of the attention but instead a change in the nature of the objects that are attended to

(Reddy, 2003 and 2008). Similarly, I see no real difference between the nature of communication and language, just the nature of the topics (objects) that are referred to. There may be a similar expansion in the way that objects (topics) are treated on a *communication – language continuum*: increasingly complex topics can be discussed; objects can be referred to further and further away from the here-and-now (both past and future); a greater number of objects can be referred to; objects can be referred to with an increasing number of people; and increasingly abstract ways of referring to objects will develop as signs conventionalise within communities of practice. Burling (2005) highlights and indeed provides many examples of the inherent iconicity of spoken languages, but he also outlines the pressures that come to bear on the producers of words, as they seek to make their production faster. This leads to an ongoing tension and dance between production and comprehension, which in turn leads to a greater level of abstractness and coupled with a process of conventionalisation, languages are co-created. It is interesting to note in many of the examples I listed earlier in this section that the gestures are iconic, only if understood from the tactile and proprioceptive experience of the deafblind person (e.g. opening out a right palm to refer to 'drink', touching your cheek to refer to 'tunnel'). These gestures do not always have a visual iconicity and perhaps this strengthens even more the notion that iconic gestures can be symbolic, because from whose perspective should we measure iconicity?

Communication and language are part of the same continuum in much the same way that primary, secondary or indeed tertiary intersubjectivity (Linell, 2009b; Bråten and Trevarthen, 2007) are all part of a continuum. But just as secondary intersubjectivity (triadic interactions) happens sooner than traditionally we might have thought, so too does symbolic language. For partnerships involving congenitally deafblind people, this means that language is not only a clear future goal (because it is further along the continuum that they are already travelling) but for many congenitally deafblind people, they will already be using movements and gestures as symbols – their partners must recognise this.

Where next for research?

There is much evidence in the communication sessions that I have analysed throughout this thesis that both Patrick and Rachel have acquired many aspects of the wider linguistic culture. This has not been a particular focus in this thesis because my focus was on those first moves away from the here-and-now and the ability of both partners to share attention to 'what self remembers'. I believe there is an opportunity now for greater consideration of these aspects, in order to get a clearer view of what a fully developed language might look like for partnerships involving congenitally deafblind people. We can also understand more about the roles played by both partners in the process of co-creating a new language.

Language evolved as a social tool in the first instance

The communication sessions used in this thesis reveal occasions when congenitally deafblind people use gestures, not just to get objects or go places (because they could get these objects or go places without using language) but to make comments about objects and events and to give others information about what they are doing and thinking. Just as when people stand up from the sofa whilst saying to anyone in earshot: 'I'll just nip to the bathroom', congenitally deafblind people also give language clues about what they are about to do, rather than just doing an action that their partner wouldn't necessarily find comprehensible. Such comments are an indication that communication partners take the other's perspective into account. This supports the idea that language evolved primarily as a social tool as opposed to an instrumental tool (Burling, 2005)

Let me consider some examples. There are not many occasions when non-deafblind partners sign TOILET to Rachel while she is in her own house, perhaps because it is thought of as redundant in this context because she is independent and in familiar surroundings she is able to visit the toilet whenever she needs to. We see this when she has put on her shoes and is lying again on her bed (27RB/d). Paul takes her hands and signs (THINK NEED)¹⁴ JACKET and he is guiding Rachel to the wardrobe. However, when she feels the wardrobe, she immediately goes past it and heads to the toilet

¹⁴ The first two signs are just out of video but the direction of PH's hands make it look like these signs.

instead. On another occasion (23RB/g) she has put on her jacket in preparation for going out for a walk, but once her jacket is on she walks out of her room and straight to the toilet.

Yet despite few people signing TOILET to her in her house, an intriguing situation arises when Rachel is lying on her bed and Paul is tying her shoelaces (23RB/d). She rubs her right hand just below her waist and then sits up as Paul finishes tying her laces. She is then sitting on the edge of her bed and she takes hold of Paul's wrist and briefly explores his bracelet, although at that moment Paul moves his wrist away from her in order to take hold of her hands. As he takes her right hand it looks as if she is trying to push him slightly to the left. However, he then signs 'JACKET' and they head off towards the wardrobe. Rachel puts on her jacket in preparation for going out for a walk, but once her jacket is on she walks out of her room and straight to the toilet. Only at that point then does the slight gesture she did below her waist a few minutes earlier become significant. Was she asking for the toilet at that point? Indeed it is doubly significant because why didn't she just go to the toilet as she has demonstrated she can do on countless other occasions, especially since she is in her most familiar environment of all? Why use the sign at all if she knows exactly how to get to the bathroom and she has pushed past dozens of partners in the past? There is a willingness to use language to get ideas across and not just use force to do this, in a similar way to the story outlined in Chapter 1 where Fiona goes for a shower.

Similarly, Patrick is sitting on a chair in his room with Paul holding both of his hands (2PT/d). Patrick takes his right and Paul's right hand briefly to touch his mouth and then takes both hands upwards as he stands. Why not just stand up? Why tell his partner anything at all at this time? Or why does Rachel continue signing DRINK, using both her open-handed gesture as well as the conventional sign, when it appears that neither Michelle or Paul understand her (Chapter 6, Ex.93). Why does she not resort to hitting herself, as she may have done previously?

There is evidence in the data that congenitally deafblind people are beginning to trust in the power of language, not just to make things happen but simply to pass comment on their own actions. Further research could discover if this is truly the case and determine if language is primarily a social tool in these partnerships.

The impact of fluent tactile sign language use on language acquisition for congenitally deafblind people.

What is the impact on language acquisition for congenitally deafblind people if their non-deafblind partners use tactile sign language in most communicative meetings? What impact is there on congenitally deafblind people's ability to acquire language if they are first aware that language is a cultural tool available to humans? Schjøll Brede (2008) has undertaken some research on this topic, but there is more to learn about the impact of bringing the non-deafblind partner's existing cultural and linguistic experiences to meeting places with deafblind partners. I would hypothesise that if non-deafblind partners use tactile signs when interacting with congenitally deafblind people, then the deafblind people will incorporate many of these signs into their own communication and language repertoire. Deafblind people will also come to expect that partners will sign with them and they will seek contact with their partners' hands in order to jointly explore the world.

This hypothesis is suggested by the communication sessions explored in this thesis where non-deafblind partners consistently make sure that 'language is all around' (Miles and Riggio, 1999). They bring many additional signs into interactions with congenitally deafblind people, even if these signs are not understood at that particular point in time by their partner. For example, Jon signs about Christmas before suggesting to Rachel that she gets a drink (Chapter 6, Ex.40). Paul signs 'THINK NEED JACKET' (Chapter 6, Ex.43) before guiding Rachel towards her wardrobe. Non-deafblind partners join

together with their deafblind partners to explore the world together through their hands and bodies (Miles, 1998, 2005 and 2006), in ways that allow the deafblind partner to expect hands to be used for communication. In turn, this means that both Patrick and Rachel make themselves either available or unavailable for communication, by adopting particular postures so that their hands are open or closed for communication. For example, if a partner makes contact with Rachel, she frequently places her hand on top of the partner's hands or she reaches out towards the partner's hands. In this way, she very often adopts a 'listening' position, where her hand is available to feel what her partner's hand is signing. Again, this does not indicate that she understands all that is being signed, but she is willing to listen (e.g. 11RB/d, 12RB/d, 14RB/b, 15RB/l, 16RB/d, 17aRB/w, 25RB/d). There are also many occasions, when she withdraws her hands and refuses to let her partner place their hand under hers (e.g. 14RB/j, 16RB/l, 17RB/n, 23RB/cc). On these occasions, Rachel is not willing to listen to her partner.

Patrick has not been used to the Hand-under-Hand (HUH) system of tactile communication so we do not see him making hands available or unavailable in the same way. Nevertheless he has a preferred signing position, where he sits or stands directly in front of his partner, so that they can sign with their hands manipulating his. Very often if a partner attempts to sign in a Hand-under-hand position, Patrick will move into his preferred position (e.g. 2PT/l, 3PT/l and 5PT/uu) so that he can receive signing Hand-Over-Hand (HOH).

It is not standard practice in UK schools and adult centres, to have non-deafblind partners who are already fluent in tactile versions of BSL but I would imagine that research with a focus on the impact of fluent tactile sign language use on the acquisition of language for congenitally deafblind, would conclude that this is a skill that non-deafblind partners must have. They would additionally need open and flexible attitudes towards tactile sign language use, so that such signs were being adapted to the particular needs of their partners.

Is there any evidence that congenitally deafblind people develop what Goldin-Meadow calls resilient features of language?

This thesis focussed on what Goldin-Meadow (2005) calls displaced talk but does this data also reveal evidence of the other resilient features identified by her: gesturing used to make generic statements (Generics), to tell stories about self and others (Narratives), to talk to oneself (Self-talk) and to refer to one's own and other's gestures (Metalanguage)? Additionally, she highlights grammatical features that govern the way deaf children use their gestures. Goldin-Meadow (2005, p.186) defines linguistic properties that appear in a child's gesture system as resilient if they 'crop up in a child's communications whether or not that child is exposed to a conventional language model'. If these same properties are resilient in congenitally deafblind people, then this would tell us something about how languages develop for any person.

Already in this thesis, we see a number of ways that congenitally deafblind people think about their own communication and language situations. Further

research would reveal how congenitally deafblind people communicate about their communication and how they think about their thinking. For example, there are occasions when Rachel is interacting with two partners that she attempts to sign something to one of them. For example, she signs DRINK. If no response comes from that partner, then she makes her hands available to the second partner, perhaps in an attempt to be understood. Perhaps this indicates she trusts in language, just not that partner!

There are occasions when both Rachel and Patrick alter the sign/ gesture they are using to get a message across. Chapter 6 outlines some examples where both Patrick and Rachel first use their own gesture for DRINK, but when this is not responded to they then produce a sign that comes from their non-deafblind partner's repertoire. Does this give an indication that deafblind people are thinking about how their partner is comprehending them? We see occasions also when the deafblind person makes very explicit what it is they want, adding in multiple gestures/ signs to be make their views as clear as possible. For example, Rachel lies on her with her feet in the air, then points Neil towards the place where her shoes are and finally wiggles her toes to direct Neil's attention. All of these actions seem to build a more definitive picture for the non-deafblind partner and indicate that the deafblind person is thinking about how their message is being received.

In terms of grammatical functions, we can return to Stokoe (2000) who suggests nouns, adjectival and adverbial modification can all be present in one gestural action. Can this also be seen in tactile movements and

gestures? Is it possible that as a congenitally deafblind person repeats a movement from an activity that took place earlier that day, in that one movement, they are telling about not only an object, but what that object was like, what they did with that object and in what way? My previous discussion about the inherent symbolism 'trapped' in movements and actions would suggest this is not only possible but highly likely. It does, however, need to be more fully investigated. Such an exploration would also help tease out whether the basic building blocks of language can be identified in the tactile medium – what is the tactile equivalence of phonology and morphology?

This could lead then to a more detailed exploration of signs such as YES and WANT (used by Patrick) and FINISHED (used by both Patrick and Rachel). For example, I believe Patrick sometimes signs YES, to indicate his agreement with a request made by his partner (YOU WANT DRINK?), but sometimes I think he uses it to mark a question, such as when he combines both signs DRINK, YES. Is he clarifying whether the drink is now? I believe also that he sometimes uses the sign to emphasis a point he is making, so he may again combine the two signs DRINK and YES, but this time he is indicating that he wants the drink right now. And as we saw in Chapter in Chapter 6 Patrick is able to construct sentences, 'WANT DRINK FINISHED YES WANT DRINK YES' (Ex.11; 5PT/I) and 'FINISHED YES WANT DRINK DRINK' (Ex.72; 1PT/v and w) and the order of these signs appears to have an impact on the meaning that he intends. This needs more thoroughly investigated, but these discussions begin to suggest grammatical functions

that govern both the word and sentence structure. This would point at yet more resilient features identified by Goldin-Meadow (2005).

Creating and sustaining communities of communicative practice

Is it possible for communities of communicative practice to build up around congenitally deafblind people? In other words, if initial partnerships develop movements, gestures and signs so that they come to be perceived and understood by both partners, can the use of these movements, gestures and signs spread to people who are not in the first partnership? It is evident from this thesis that such communities of practice do develop. Notwithstanding any limitations of the studies reported in this thesis, partners do learn from each other and share this learning with yet more partners. Key groups of people around an individual deafblind person share their knowledge and thus begin to use the same signs and respond in similar ways to gestures used by the deafblind person. This is reminiscent of the evidence emerging from Nicaragua where one deaf child's homesigns served as the language model for another child, leading to the transmission of language across generations (Morford and Kegl, 2000, p.361). Such transmission might only take one generation (Senghas et al, 2004; Sacks, 1989; Goldin-Meadow, 2005; Burling, 2005). However, extending these communities of practice beyond a small group of people is a considerable challenge because there is a recognition that these partnerships are co-developing gestures and signs that, initially at least, are vague and transient (Linell, 1998). The tentative co-

created meanings that these partnerships develop are vulnerable and require enormous energy and commitment to be maintained.

Without doubt practitioners need to return to the challenge set in Chapter 6 where I suggested that even though non-deafblind partners understand their congenitally deafblind partner's movements, gestures and indeed respond to them, they do not consistently produce such movements, gestures or indeed signs. But they should produce them. This would balance the fact that congenitally deafblind partners produce movements, gestures and signs coming from their non-deafblind partner's linguistic culture. But would communities of communicative practice develop even faster if partners deliberately imitate and share movements, gesture and signs with each other in three-way communicative interactions? There is much to learn about the impact of three partners sharing signs and gestures together, of course, but surely it must help the process of conventionalising instrumental actions if all partners are aware that others understands and uses such signs / gestures (Burling, 2005)?

There are many examples of three-way signing / interaction in the data for this thesis. Sometimes these involve one non-deafblind and two deafblind partners and at other times, one deafblind partner and two non-deafblind partners. Both Patrick and Rachel participate in such interactions / conversations. For example, there are many occasions where two non-deafblind partners interact with Rachel (e.g. 13RB/q, 20RB/m, 20RB/r, 20RB/s, 21RB/w, 21RB/aa, 21aRB/o, 21aRB/q, 21aRB/r, 21aRB/s, 21aRB/u,

21aRB/v, 22RB/kk, 22RB/ll, 22RB/ss, 25RB/b and 25RB/c). At first, such conversations were initiated by a non-deafblind partner, but there are some later examples where it is Rachel who brings in a third person. There are examples of introducing the third person, such as when Jon uses a sign / gesture to introduce Neil or Paul, moments before they say hello to Rachel. There are also examples of exploring objects together and then 'showing' that object to a third person.

Imitating and sharing movements, gestures and signs between all partners would strengthen the growth of communities of communicative practice, so that new tactile languages emerge. In turn, this would encourage congenitally deafblind people to produce more gestures, as they realise that their movements and gestures are being understood and thus they themselves are affirmed (Burling, 2005). Such tactile languages will have attributes drawn from the wider linguistic and cultural experiences that non-deafblind partners bring, such that some signs can simply be borrowed and tactualised. However, other gestures and signs need to be conceptualised at the outset from the tactile perspective, by the deafblind person, the non-deafblind partner or growing directly out of the partnership itself. It is clear that understanding the iconic nature of a gesture within the tactile medium allows partners to read one another's intentions and this helps people move towards shared language. Indeed I think it is clear that language starts at the same place for everyone, even if it subsequently takes divergent paths according to its principal perceptual medium. Visual, auditory and tactile languages spring from the same source.

This thesis has demonstrated the underlying language abilities of congenitally deafblind people. Within partnerships that perceive the world from a tactile perspective, communication and language is a realistic outcome. Of particular interest in this regard are various theses emerging from the Masters course in Communication and Congenital Deafblindness at the University of Groningen (e.g. Hostyn, 2008; Schjøll Brede, 2008). We are venturing into a world where congenitally deafblind people can move away from the here-and-now to tell their own stories (Vege et al, 2007; Souriau et al 2009), not just to one communication partner, but to many new partners that they will meet time and again in new communicative meeting places.

Conclusion – Why non-deafblind partners should take the first step towards communication partnerships.

Notwithstanding all that has been said throughout this thesis about the absolute centrality of the interactional and contextual nature of communication and language, why is it that I have addressed this thesis principally at the non-deafblind partners? This is because I am going to present non-deafblind partners with a practical and philosophical paradox: I tell them that they must work in genuine and equal partnerships, yet I also tell them that they have the responsibility to take the first step towards that partnership. They must repair any breakdowns in communication relationships and it is they who should first adopt the role of 'I' in an I-You relationship (Buber, 1996).

By suggesting that 'I' has the primary responsibility for repair, this seems to describe an asymmetrical and unequal relationship that at first consideration seems removed from an ideal 'I-You' relationship first described in Chapter 2. Friedman might suggest (2002, p.xiii) that 'I-You' cannot come about simply by 'I's own actions, although 'I' could prevent an 'I-You' but this contrasts with Buber's own view that 'I' can accept the other as 'You' and thus the other becomes so. So I suggest that in order for an 'I-You' relationship to come about, 'I' has to take the first step.

Buber explores the type of relationship that might exist between a teacher and his pupil. When we are considering a congenitally deafblind person learning a language for the first time, we cannot avoid the fact that non-deafblind partners do already have a language (spoken or signed) and thus in linguistic terms are already more competent others and might assume the role of teacher. So for now, if we accept that in some respects the non-deafblind partners are teacher (but, of course, as I have argued throughout, in other respects they are learners), what can Buber tell us about the role that they should play? Buber suggests a teacher must 'really *mean* (his pupil) as the definite person he is in his potentiality and his actuality...but he can only do this if he meets him again and again as his partner in a bipolar situation' (Buber, 1996, p.98). And so for non-deafblind partners, truly meeting their congenitally deafblind partner is vital but they must additionally really *mean* the deafblind person both in their *potentiality* (i.e. they must grant potential for the other to be an equal communication partner) and in their *actuality* (i.e. they must appreciate how their partner uses their perceptual possibilities to

already make an impact on the world and other people in their life). This resembles the symmetrical relationship that I proposed earlier.

But it is not as simple as that, and this is where the paradox arises for non-deafblind partners, because Buber hints that the teacher-pupil relationship should never be equal or mutual but is instead inherently asymmetrical, with the teacher possessing more authority and competence. And although this thesis has made clear that I do not accept this greater competence in respect of non-deafblind partners having to scaffold learning, I am nevertheless going to propose that there is an unequal relationship in terms of responsibility, with greater responsibility resting with the non-deafblind partners. By this I mean that if communication goes well and meanings are negotiated from joint actions between deafblind and non-deafblind partners, then I place joint responsibility for this positive outcome with both partners. But if communication does not go well, then I place primary responsibility for this with the non-deafblind partner. This seems unfair! But I do not mean responsibility in terms of apportioning blame, but instead in terms of being clear where the responsibility lies for repair of the partnership.

But why should the non-deafblind partner take the first step into relation with others? Buber offers helpful advice here (1996, p.15-16): 'Even if the man to whom I say 'You' is not aware of it in the midst of his experience, yet relation may exist. For 'You' is more than 'It' realises. No deception penetrates here: here is the cradle of Real Life'. I take this to mean that the congenitally deafblind person does not have to conceptualise the relationship existing

between her and the non-deafblind partner, for an 'I-You' relationship nevertheless to exist, if the non-deafblind partner really says 'You' to his partner. And herein lies one reason why non-deafblind partners should take the first. In stepping into an 'I-You' relationship with a congenitally deafblind person, the process of accepting them as an 'You' reveals in that moment the communication partner as the 'I' in the relationship. The non-deafblind partner opens up their whole being and in doing so becomes a more effective communication partner. This is at least some reward for assuming the burden of responsibility.

Such a view also strengthens the idea that subjectivity grows out of intersubjectivity (Zeedyk, 2006), since there must be a 'You' to reveal the 'I' and this allows us to see even more clearly why it is in the direct interests of the non-deafblind partner to take the first step. In a very real sense, 'I' can never be a competent communication partner if there is not first an acceptance that 'You' is an equally competent communication partner. And this is the solution to the dilemma about unequal responsibilities and a way out of this apparent paradox for non-deafblind partners. There has to be complete acceptance of the congenitally deafblind person as 'You' (what Nafstad and Rødbrøe (1999) call 'an absolute subjection of yourself to the deafblind child') before 'I' as a competent communication partner can be revealed and it is only 'I' who can do this. So what at first appears to be a *selfless* act, where the non-deafblind partner bears unequal responsibility, turns out in actual fact to be a *selfish* act (but not carrying negative overtones) that confirms 'I's potential as a competent communication partner. Non-

deafblind partners need their deafblind partners if they are going to become effective communicators.

If it is through relationships that we get fully revealed (Snow, 2000; Swinton and McIntosh, 2000; Macmurray, 1961), then the reverse is equally true. If there are people that we struggle (or refuse) to connect with, this must diminish us and prevent us from being fully revealed. But we can go further still: if there are people that we cannot or will not allow to be themselves, then we are diminishing not just them, but ourselves in the process. This makes it vitally important that we really allow people to be themselves and accept people for who they really are, not who we might want them to be. In the context of this thesis, this means not journeying towards communication or languages destinations that rely primarily on vision and/or hearing whilst in the process rejecting the representational and symbolic language that may already be present for our partners.

It is only through authentic partnerships between congenitally deafblind and non-deafblind partners that language in the tactile medium will emerge. Indeed, it is only through authentic partnerships that any achievements will take place for the human species at all. The ideas presented in this thesis do not just apply to communication partnerships but can effortlessly extend into all areas of human connection. Perhaps its most sobering lesson is the need to reflect on one's own contribution to difficult situations and one's own contribution to seeking solutions. 'I' never has the authority to change another, even in the most intimate 'I-You' relationships. 'I' can only ever be responsible

for self in any interaction and 'I' can only ever be responsible for changing self. But changing self can effect change in relationships and thus provide the opportunity for the other to change and grow.

I wish to end this thesis with words from two poems by Robert Burns. Firstly, from one of his masterpieces, To a Louse, in which he describes the time he saw a louse crawling upon the hat of a fine lady and he uses this scene to ask us to reflect on our interactions with others. He uses the poem to explore the world from the perspective of others, including that of the louse. In the poem, Burns contemplates that one might assume a louse should be crawling up the hat of a poor woman, or a young boy's ragged vest but not the hat of a fine lady, yet this is the scene he is witnessing even though the lady is completely unaware of it. This allows him to see the lady in a different light from that which she might see herself, and he concludes the poem by asking us all to see ourselves as others might see us. This, he suggests, would stop all of us making foolish comments about others (Wilkie, 2002) and prevent us feeling too high and mighty.

O wad some Pow'r the giftie gie us

To see oursels as others see us!

It wad frae monie a blunder free us

An' foolish notion:

What airs in dress an' gait wad lea'e us,

And ev'n Devotion.

(Oh would some Power the gift give us
To see ourselves as others see us!
It would from many a blunder free us
And foolish notion:
What airs in dress and gait would leave us,
And even Devotion.)

A contemporary of Burns, the philosopher Adam Smith, expressed a similar sentiment just as powerfully, albeit less poetically, when he wrote: 'If we saw ourselves in the light in which others see us, or in which they would see us if they knew all, a reformation would generally be unavoidable. We could not otherwise endure the sight' (Smith, 1976, p.182).

In the context of the communication partnerships that exist between non-deafblind partners and people with dual sensory impairments, or indeed any partnerships between ourselves and people who are different from us, what might these partnerships seem like from the other person's point of view? If we were able to see ourselves in the light that our communication partners see us, do we come across as *lousy* communicators? Do we see an enormous imbalance in the relationship with lots of power resting with one of those partners? Can we endure the sight or do we need to reform?

In reforming ourselves, can we then move ever closer to the ideal suggested by Burns in the final stanza of one of his most famous and stirring poems, A Man's a Man For A' That, where all humans are seen as equal, where we all have a shared sense of purpose and togetherness?

**Then let us pray that come it may,
As come it will for a' that,
That Sense and Worth, o'er a' the earth,
Shall bear the gree, and a' that.
For a' that, and a' that,
It's comin' yet for a' that,
That Man to Man, the world o'er,
Shall brithers be for a' that.**

(Then let us pray that come it may,
As come it will for all that,
That Sense and Worth, over all the earth,
Shall win the victory, and all that.
For all that, and all that,
It is coming yet for all that,
That Man to Man, the world over,
Shall brothers be for all that.)

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Appendices

Appendix 1: Transcription of first five minutes of communication session between Paul and Fiona (19th April 2000)

Time	Communication partner as Other (Fiona becoming more aware of where Paul's attention is directed).	Deafblind person as Other (Paul becoming more aware of where Fiona's attention is directed).
0:00		Fiona is curled up on chair with her left side facing outwards. Her head is resting on the arm of the chair.
0:09	Paul approaches the chair from Fiona's left side near her head.	
0:12	Paul taps side of chair.	
		Fiona flicks her fingers on her right hand.
0:13	Paul touches her little finger on R hand and then taps her knee	
0:14		Fiona lifts her head and moves feet towards floor (although her feet don't touch ground yet)
0:17	Paul takes hold of her R hand and moves it around his wrist (to feel the bracelets). Paul lets go her hand.	
0:20	Paul lets go her hand.	
0:23		Fiona hits her left ear with L fist (gently) and brings her R hand over her face/ eyes.
0:26		Fiona lifts her feet back onto the chair.
0:28	Paul taps her foot 4 times	

0:30		Fiona lifts her foot
0:31	Paul holds her R foot in his hands (and at the same time ask someone for massage oil and get distracted from her).	
0:41	Paul rests her R leg on his knee. (Still distracted from her)	
1:11		Fiona vocalises and brings her R hand over her R eye.
1:18	Paul begins massaging her R foot	
1:29-1:31		Fiona vocalises ('Ppprrr' sound). Still covering eye.
1:32		She gently moves her R hand in a rocking movement.
1:34	Paul touches her R hand (and I am still holding her R foot)	
1:42	Paul lets go her R hand and just hold her foot.	
2:00	Paul lets go her foot (and Paul picks up a massage bottle).	(She's still covering her face with her hands).
2:03	Paul lets her smell the massage oil by taking it towards her nose.	(She lifts her left foot - I don't spot it at this stage)
2:10	Paul sees her left foot outstretched and he moves towards it and touches it.	
2:14	Paul rests her L foot on his knee.	
2:14-2:17		She hits her face gently after flicking her fingers.
2:18		She's got a slightly bowed head and her hands are still covering her face

2:19	Paul is massaging her foot.	
2:35- 2:38		She makes a 'raspberry' noise while lifting her R hand over her R eye and her L hand over her L eye.
2:38		She brings her L hand back down.
2:39	Paul gently strokes her L hand	
2:41		She holds L hand in an upright position.
2:53	Paul stops stroking her L hand.	
2:52		She takes hold of Paul's R hand with her R hand, whilst at the same time gently lifting her shirt with her L hand.
2:53	Paul takes his hand away.	
2:55 2:56 2:58 3:01 3:02 3:03 3:04 3:06	Paul briefly touches her stomach and then withdraws his hand. Paul pulls his hand away. Paul takes hold of her L hand with his L hand and holds it in the air. He lets go his R hand and picks up the oil bottle.	She takes Paul's R hand with her L hand to her stomach. She lifts her shirt with both hands and takes hold of Paul's R hand with her L hand, pulling it towards her stomach. She rubs Paul's hand with her hand across her stomach. She takes hold of Paul's R hand with her L hand and pulls it towards her stomach. She rubs his hand across her stomach.
3:09 3:12	Paul lifts massage bottle towards her hands and tries to encourage her to towards her face to smell it.	She briefly smells it, but pushes it away.
3:14		She takes hold of Paul's L hand with her L hand whilst lifting her shirt with her R hand.

3:16		She pulls his hand towards her stomach.
3:17	Paul gently stokes her stomach with my index finger.	She holds both her hands in the air at her shoulder height.
3:22		She puts her R hand over her R eye and L hand over L ear. She vocalises ('pprrr sound').
3:24	Paul stops stroking her stomach.	
3:25		She slaps her L ear with her L hand.
3:27	Paul places his R hand on her L shoulder.	
3:28		She bows her head.
3:29	Paul massages her foot.	Covers R eye with R hand and L ear with L hand.
3:32		She vocalises ('pprr sound')
3:34		She bows her head further into her body
3:36		
3:49		She lifts her head slightly
3:55		She flicks the fingers of L hand.
3:58		She brings L hand to R eye and takes hold of L hand with her R hand.
3:58-4:02		Gently moves her fingers on L hand.
4:06		Moves thumb of L hand
4:31		Bows her head again.
4:44	Paul stops massaging her foot.	
4:46		She pulls her leg into her body and curls up in the chair. She rests her head on the arm of the chair and curls into a ball.
5:00	Paul moves away from her and sit a few feet away.	

Appendix 2: Summary of communication sessions and where used in thesis

Session No.	Video source and date if known	HD Number	Brief Summary of Action	Where used in thesis
Rachel				
1 (17:56)	Source 3 19/7/07	1RB	Rouken Glen park walk (Lynn, Paul and Janice).	Not used
2 (5:08)	Source 3 26/7/07	2RB	Rachel is on a train journey into the centre of Glasgow (Lynn, Paul and Laura).	Studies 2 and 3 (Chapters 5 and 6)
3 (45:56)	Source 3 16/11/07	3RB	Paul is making scones with Rachel in her own house then a walk to Maxwell Park.	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
4 (30:43)	Source 3 30/11/07	4RB	Paul gives Rachel a massage in her own house.	Study 3 (Chapter 6)
5 (9:40)	Source 3 12/2/08	5RB	Rachel walks to a pub, then has lunch (Lisa, Paul and Neil).	Not used
6 (29:58)	Source 3 26/2/08	6 RB	Rachel has a walk then lunch in Rouken Glen park. (Lynette, Paul and Neil).	Study 3 (Chapter 6)
7 (17:30)	11/3/08	7 RB	Calderglen Park – Rachel walk to the bench at the bottom of the path and then returns (Rachel I, Paul and Neil).	Study 3 (Chapter 6)
8 (31:50)	Source 3 28/4/08	8 RB	Rachel and Jon are involved in an interactive session at TouchBase using various objects.	Study 3 (Chapter 6)
9 (22:28)	Source 3 29/4/08	9 RB	Rachel is having lunch in Calderglen coffee shop (Rachel I, Paul and Neil).	Study 3 (Chapter 6)
10 (42:56)	Source 3 12/5/08	10 RB	Rachel and Jon are involved in an interactive session at TouchBase using various objects.	Studies 1, 2 and 3 (Chapters 4, 5 and 6)

11 (7:09)	Source 3 21/5/08	11 RB	Rachel is having lunch in Calderglen coffee shop (Rachel I and Paul).	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
12 (32:14)	Source 3 22/5/08	12 RB	Rachel and Jon are involved in an interactive session at TouchBase using various objects.	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
13 (39:18)	Source 3 16/6/08	13 RB	Rachel and Jon have a coffee in her house and then go for a walk)	Studies 2 and 3 (Chapters 5 and 6)
14 (25:57)	Source 3 20/6/08	14 RB	Rachel has lunch at Rouken Glen cafe and then sits for a while afterwards and interacts with Paul (Lisa and Paul).	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
15 (39:23)	Source 3 23/6/08	15 RB	Rachel and Jon are involved in an interactive session at TouchBase using various objects.	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
16 (20:14)	Source 3 3/7/08	16 RB	Rachel has lunch at Rouken Glen cafe and then sits for a while afterwards and interacts with Paul (Lisa and Paul).	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
17 (21:28)	Source 3 28/7/08	17 RB	Rachel has lunch at Rouken Glen coffee shop (Paul and Michelle)	Study 3 (Chapter 6)
18 (1:05:15)	Source 3 11/8/08	22 RB	Jon interacts with Rachel at her house using hands, arms etc and then they go on a car journey to TouchBase (Jon, Paul and Lisa).	Study 3 (Chapter 6)
19 (32:05)	Source 3 13/8/08	17a RB	Rachel is having a coffee in Asda cafe then returns home where she has an interactive session with Neil.	Studies 2 and 3 (Chapters 5 and 6)
20 (17:42)	Source 3 19/8/08	17a RB	Rachel has lunch at Calderglen cafe with Neil.	Studies 2 and 3 (Chapters 5 and 6)
21 (15:57)	Source 3 29/8/08	17b RB	Rachel has lunch at McDonald's then has an interactive session at home with Neil (Rachel, Lynne and Neil).	Not used.

22 (40:06)	Source 3 29/9/08	20 RB	Rachel goes for a walk in Rouken Glen park then has lunch in the cafe (Paul, Neil and Lynne).	Studies 1 and 3 (Chapters 4 and 6)
23 (42:38)h	Source 3 3/11/08	21 RB	Rachel has an interactive session at her house then travels to TouchBase (Jon, Neil and Susanne).	Studies 2 and 3 (Chapters 5 and 6)
24 (53:49)	Source 3 15/12/08	21a RB	Rachel has an interactive session at her house then gets ready with Neil to go out on a walk. (Jon and Neil).	Study 3 (Chapter 6)
25 (47:42)	Source 3 12/1/09	23 RB	Rachel has an interactive session at her house then travels to TouchBase (Paul, Michelle, Neil)	Study 3 (Chapter 6)
26 (38:00)	Source 3 Jan 09	24 RB	Rachel has an interactive session at her house then travels to Tramway cafe before returning home (Neil and Susan).	Study 3 (Chapter 6)
27 (47:59)	Source 3 Jan 09	26 RB	Interactive session at her house with Jon and Susan.	Study 3 (Chapter 6)
29 (7:30)	Source 3 27/1/09	27 RB	Paul and Rachel at her house getting ready to go to Calderglen park.	Studies 2 and 3 (Chapters 5 and 6)
Rachel and Patrick				
30 (24:24)	Source 3 27/1/09	25 RB	Rachel and Patrick are having lunch together in Calderglen cafe (Paul and Michelle).	Study 3 (Chapter 6)
31 (9:23)	Source 3 28/1/09a	28 RB	Rachel and Patrick are having lunch together in Asda cafe (Gillian, Lynne, Neil, Paul and Jon) (Camera 1).	Not used
32 (23:58)	Source 3 28/1/09b	29 RB	Rachel is shopping in Asda with Jon and Lynne.	Not used
33 (14:59)	Source 3 28/1/09c	1RB +PT	Rachel and Patrick are having lunch together in Asda cafe (Gillian, Lynne, Neil, Paul and Jon) (Camera 2).	Not used

Patrick				
34 (33:09)	Source 3 18/6/07	1PT	Patrick and Joe are walking through the forest in Pollok Park.	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
35 (13:20)	Source 3 19/6/07	2PT	Patrick and Paul talking about the walk in Pollok Park from the day before.	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
36 (18:03)	Source 3 28/6/07	3PT	Patrick and Joe are walking through the forest in Pollok Park.	Study 3 (Chapter 6)
37 (11:03)	Source 3 29/6/07	4PT	Patrick and Paul talking about the walk in Pollok Park from the day before.	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
38 (58:22)	Source 3 5/7/07	5PT	<p>Patrick and Joe are walking through the forest in Pollok Park.</p> <p>Patrick and Paul, continuing same trip to Pollok Park and chatting about what PT and Joe did.</p> <p>Then back at Patrick's house, Joe talks with him about the walk.</p>	Studies 1, 2 and 3 (Chapters 4, 5 and 6)
39 (9:55)	Source 3 12/7/07	6PT	Patrick and Joe are walking through the forest in Pollok Park.	Study 3 (Chapter 6)
40 (3:24)	Source 3 16/7/07	7PT	Patrick and Paul talking about trip to Pollok Park on 12/7/07 and also making a coffee.	Study 3 (Chapter 6)
41 (31:31)	Source 3 March 08	8PT	Patrick and David are having a music session in TouchBase.	Studies 2 and 3 (Chapters 5 and 6)
42 (36:23)	Source 3 29/4/08	9PT	Patrick and David are having a music session in TouchBase.	Studies 2 and 3 (Chapters 5 and 6)
43 (6:58)	Source 3 27/1/09	10PT	Neil, Marlene and Patrick walking in Calderglen Park	Not used

Ingerid and Gunnar				
44 (1:01)	Source 1 (But also Janssen and Rødbroe, 2007)	1I+G	Ingerid and Gunnar are sitting beside one another and they are playing various interactive games with their hands.	Studies 1 and 2 (Chapters 4 and 5)
45 (1:10)	Source 1 (But also Janssen and Rødbroe, 2007)	2I+G	Ingerid is sitting on Gunnar's knee. He blows raspberries and makes other movements with his cheeks. Ingerid asks for repetition of actions.	Studies 1 and 2 (Chapters 4 and 5)
46 (3:58)	Source 1 (But also Souriau, Rødbroe and Janssen, 2008)	3I+G	Ingerid and Gunnar are on a pier beside the sea. Gunnar allows a small crab to run up Ingerid's arm. Many gestures are created to refer to this activity and the next day Ingerid and Gunnar are in the classroom using these gestures to talk about the visit to the pier.	Studies 1 and 2 (Chapters 4 and 5)
47 (4:25)	Source 1 (Personal collection)	4I+G	Ingerid and Gunnar are putting laundry in the basket. Many gestures are created to refer to this activity and later that day Ingerid and Gunnar are in the classroom using these gestures to talk about the laundry.	Studies 1 and 2 (Chapters 4 and 5)
48	Source 1 (But also Janssen and Rødbroe, 2007)	5I+G	Ingerid and Gunnar are standing next to a wall. They play interactive games by clapping their hands onto the wall.	Study 1(Chapter 4)

Fiona				
49 (38:51)	Source 2 Jan 1999	1FM	Fiona is lying on her sofa and Ian is interacting with her with various massage and interactive hand games.	Studies 1 and 2 (Chapters 4 and 5)
50 (37:46)	Source 2 April 2000	2FM	Paul is attempting to give Fiona a massage but curls up on her chair for 10 minutes. There then follows an interactive session based almost entirely around Fiona's toes.	Studies 1 and 2 (Chapters 4 and 5)
51 (28:49)	Source 2 April 2001	3FM	Fiona and Paul are making a cup of coffee at her house.	Studies 1 and 2 (Chapters 4 and 5)
52 (11:02)	Source 2 June 2001	4FM	Fiona and Paul have agreed to a massage and are agreeing where it should take place.	Studies 1 and 2 (Chapters 4 and 5)
Caroline				
53 (3:26)	Source 2	1CM	Caroline and David are having a music session in TouchBase.	Studies 1 and 2 (Chapters 4 and 5)
Thomas				
54	Daelman et al, 1996	Paris 1997	Thomas uses various movements and gestures to ask his teacher if she will go back inside a tunnel that she has just come out of.	Study 1(Chapter 4)