Eye-gaze in Multimodal Interactions involving Children with Autism Spectrum Disorders

by

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Terhi Kirsi Korkiakangas
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ABSTRACT

Autism is a neurodevelopmental disorder that characteristically involves an impaired capacity to engage in reciprocal social interaction and to use eye-gaze for social purposes. This collection of conversation analytic studies examines naturally-occurring interactions involving Finnish children diagnosed with autism. The data consist of video-recorded interactions of four children, aged between 9-12 years, each engaged in dyadic or multiparty interactions with a range of familiar co-participants (teachers, parents, and siblings) at home, school, and music club. Comparative data from neurotypical interactions are also considered.

The aim is to use conversation analysis to better understand how the children with autism interact in everyday settings. The study examines the organization of interactions as sequences of action, and how eye-gaze and other multimodal resources are involved in the orientation to and production of initiating and responsive actions (e.g. questions and answers).

The analyses show (1) competencies with respect to using eye-gaze at relevant sequential environments to mobilise a response from a co-participant, and using smiling as an interactional resource while orienting to the response-implicativeness of eye-gaze; (2) displays of self-consciousness (involving averted gaze and other conduct) can occur when the participants orient to the children’s non-production of a response that has been made relevant; (3) child’s gaze aversion can become problematic in particular sequential locations, namely, when the child’s response is noticeably absent and treated as unforthcoming; (4) how the handling of material objects can provide a resource when eliciting interactional involvement with the child.
The findings indicate areas of interactional competence and show how, on some occasions, the direction of eye-gaze and body orientation can become interactionally problematic. The merits of researching naturally occurring interactions, and the prospect of incorporating a conversation analytic component as part of clinical assessments, are discussed.
CHAPTER 1

INTRODUCTION

This is a collection of studies concerned with the participation of children with autism, or more broadly, autism spectrum disorders (ASD), and their familiars, in multimodal social interactions. I use the methodology of conversation analysis to examine the organisation of video-recorded everyday interactions at school, home, and music club. The focus of each study is on a specific interactional phenomenon that recurs in the corpus, namely (a) child gazing at the co-participating adult, (b) child averting mutual gaze with the co-participating adult, (c) child smiling at the co-participating adult, (d) child displaying coyness or embarrassment to the co-participating adult, (e) and the relevance of material objects and eye-gaze in focused interactions between the teachers and children. Eye-gaze emerges as a particularly important resource that is used in concert with talk and non-vocal actions in face-to-face interactions to build multimodal action. I pay specific attention to the ways in which the participants orient to each other’s conduct on a turn-by-turn, and also within-turn basis, and how the combination of multimodal resources are used to conduct collaborative action within the sequences of interaction where some kind of action is underway.

The focus is not on the child with autism in isolation, but rather the actions of all parties involved are rendered as relevant contributions to whatever interactional business is underway. The aim is to demonstrate how the interactional detail – where and when some phenomenon sequentially occurs – enables us to better understand the actual real-life
interactions between the children with autism and their co-participants, such as teachers, parents and siblings. The turn-by-turn unfolding of the sequences and the participants’ own orientations to what is happening can reveal competencies, as well as areas of challenge, on the part of these children who are widely documented as having impairments in their capacity to engage in social interaction. Clearly, the specification of challenge requires knowledge of what the neurotypical competencies are; for this reason, the analysis also draws on comparative neurotypical interactions. In particular, the identification of what makes the child’s conduct occasionally challenging, requires the examination of its sequential location during the interaction.

I will begin by examining some of the leading approaches to explaining social interaction in autism, and discuss their strengths and weaknesses (1.1). Here I will specifically focus on social cognition and social attention, both which are proposed to be fundamental for social conduct and competence. The socio-cognitive approach holds that social understanding is associated with the understanding of mental states in other people, which individuals with autism find difficult. The research on social attention mainly concerns the study of eye-gaze; impairments in the social use of eye-gaze are proposed to be a fundamental characteristic of autism which are consequently linked to difficulties in social interaction. Following the consideration of these approaches, I will provide a rationale for this thesis through proposing the conversation analytic framework as an alternative way of studying eye-gaze in social interaction. I will highlight how this methodological approach can overcome some of the limitations currently faced in the leading paradigms in the autism research.

Thereafter, I will provide a more thorough introduction to conversation analysis and the study of multimodal interaction (1.2). I will also provide a brief consideration of non-neurotypical interactions, prior to considering autism spectrum disorders in more detail.
(1.3). This is followed by a selective review of the research on autism spectrum disorders, mainly focusing on the documented impairments related to these eye-gaze, facial expressions, object interactions and gestures. I will then consider how conversation analysis has been brought to bear on the study of interactions involving individuals with autism, and introduce findings from the previous studies which have served as a motivation for my work. Finally, I will introduce the aims (1.4) and the structure of this thesis (1.5).

1.1 Evaluation of the leading explanations of social interaction in autism

Autism is a neurodevelopmental disorder which causes are not yet fully understood. The contemporary explanations suggest however, that particular genetic variations are likely to contribute to the development of the condition. While there is a wide variability in the degree to which the symptoms manifest on the individuals on the autism spectrum, the most prominent difficulties are associated with social interaction and communication. Some researchers have proposed that individuals with autism find it difficult to relate to others insofar as they seem to avoid social interaction and rarely engage in mutual gaze with other people. In consequence, autism spectrum disorders have attracted intense research interest, especially within quantitative and experimental contexts. While it is beyond the scope of this section to review all the literature on social interaction and communication in autism, the approaches that will be covered are those that have been widely researched and can be roughly divided into two types of concerns: (1) paradigms that examine socio-cognitive understanding and (2) paradigms that examine attention to social stimuli. I will consider each of these as follows.
1.1.1 Socio-cognitive approaches to social understanding

The research on socio-cognitive understanding proposes that children with autism have fundamental impairments in their capacity to understand mental states in other people. According to a widely held view, autism involves a *theory of mind* (ToM) deficit (see Baron-Cohen, 1995). The ability to mentalise, or to carry out what is sometimes called “mind-reading”, has been suggested to develop from our innate mechanism for social relations (Scholl & Leslie, 2001). In consequence, the understanding of others’ minds has been proposed to have a central role in the human social interaction (for a critique of “mind-reading” and “theory of mind”, see e.g. Costall & Leudar, 2004; Costall, Leudar, & Reddy, 2006; Gallagher, 2004). In short, it is suggested that we understand, explain, and predict the behaviour of others through an intuitive access to their “invisible mental states” (Leslie, 2000, p. 61).

These abilities have been examined in a range of experimental task that are designed to assess abilities with respect to ToM through testing children's understanding of others' beliefs, perspectives, and emotions. The *first-order theory of mind* tasks, such as the Sally-Anne task, requires the child to follow a scenario in which their understanding of the separate perspectives of two story protagonists and importantly, the *false belief* of one of the characters, is tested. In this scenario, Sally puts a marble in a basket. While she is away, Anne moves the marble to a box. On Sally’s return, the child is asked where Sally will look for her marble. Neurotypical children around four years generally pass the task by choosing the basket, while the majority of children with autism fail the task by indicating that Sally will look in the box, thereby failing to appreciate Sally's standpoint (Baron-Cohen, Leslie, & Frith, 1985). However some children with autism pass the task which has led to criticism regarding a fundamental ToM impairment in autism. The difficulties seem to be increasingly present in the *second-order theory of mind tasks* which
require that the child makes metarepresentational inferences about a story character’s thoughts about another character’s thoughts or perspectives (Perner & Wimmer, 1985). Overall, the difficulties displayed in the variation of ToM tasks have led to a conclusion that individuals with autism suffer from what Baron-Cohen (1995) calls “mindblindness” (p. 5).

There are different positions amongst the ToM proponents. For example, some argue that the development of ToM is secondary to the development of linguistic and social competencies. Thus certain tasks measuring ToM also put specific demands on the verbal skills to provide explanations of mental states (Happé, 1995). Space prohibits a thorough overview of the different positions; for the present purposes, however, it should be acknowledged that the mechanisms of theory of mind have been broadly understood either through simulation or theorising. Both views rest on the assumed innateness of the capacity to understand others’ minds which forms the cornerstone for competent interaction (Baron-Cohen, 1995). The simulation theory proposes that we model the postulated mental states in our own mind – as if we were experiencing them – and this enables us to understand the behaviour of others fairly effortlessly. In autism, however, the simulation is impaired and, in consequence, reflects on the poorer capacity for social interaction. In this sense, theory of mind has been proposed to be essential for the development of social understanding.

The theory-theory account holds that, in understanding others’ behaviour, we theorise about mental states through the behaviour we observe; social understanding functions much like a scientific theory with its logical operations (Gopnik & Wellman, 1992; Perner, 1991). According to this position, the problem associated with autism seems to be the inability to theorise about the hidden motivations that supposedly inform others’ conduct in social interactions. Theory-theory account rests on folk psychological reasoning in making
sense of some behaviour: You are doing X because you feel/desire/believe Y. A rather compelling argument against the theory-theory account comes from Williams (2004) who has examined autobiographical accounts of individuals with high-functioning autism.

While ToM account holds that these individuals should be impaired in stipulating about the perspectives of other people, the autobiographical writings are often full of descriptions of their explicit attempts to intellectualise social behaviour through law-like explanations. For example, some of these individuals describe using a “visual library”, that is, their “superior visual memories to keep a ‘record’ of past social situations which they could access at a later date in order to search for solutions to new situations” (Williams, 2004, p. 715). Oftentimes the postulated rules are applied irrespective of context, as Williams notes, “sometimes the application of a particular rule makes them pay attention to one aspect of a social situation, at the expense of another, with disastrous consequences” (p. 718). It seems that this theorising about social situations is a specific technique that is unlike the effortless interaction among neurotypical individuals (Williams, 2004).

More generally, however, the limitation of experimental research resides in the elimination of the important contextual factors that are routinely used to interpret everyday social conduct. While it is important for the experimental rigour to exercise control over the variables under investigation and to implement standardised stimulus materials and tasks, the measured performance is inevitably removed from real-life contexts. Some researchers in this area have nevertheless been concerned with trying to use increasingly realistic methods to examine social understanding through a controlled experimentation. For example, the Eyes Task (Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997) and the Awkward Moments Task (Heavey, Phillips, Baron-Cohen, & Rutter, 2000) are considered to be advanced tests of theory of mind because they attempt to simulate social understanding as naturalistically as possible through the use of photographs or films of real
people. Yet some of the contextual aspects that are controlled can be, in fact, crucial in the everyday understanding of social behaviour. For example, viewing a photograph of the eye-region differs from seeing the eyes during a real-time interaction: do you interpret a squint on a person’s face as an expression of uncertainty or as a simple facial movement as they are chewing a forkful of food? Clearly, an interpretation of some behaviour requires information about the local contextual elements of that behaviour. However, it is precisely the uncontrolled contextual aspects that are considered as “contamination” in the experimental research, insofar as the “real-life social understanding makes demands on executive processes and contextual/global processing” (Heavey et al., 2009, p. 233). Thus it is suggested that interpreting “pure” stimuli during an experiment should be easier than interpreting conduct in real-life contexts. Another concern relates to the fact that the experimental tasks routinely require that the participant observes events and responds to questions that are assumed to tap purely into social understanding. While some research has considered the dynamics of natural interactions through the use of films, even these tasks limit the opportunity for interactional participation. Thus, despite attempting to be naturalistic, the experimental methods routinely remove the social context of lived experience.

The way in which individuals with autism themselves explain their social experiences often contradicts the notion of impaired social understanding. Not only do they attribute mental states to others, they also describe feeling different to others. Consider how a personal communication from a person with an autism spectrum disorder provides a clear description of how others might think of them: “I know when people do not like me, or find me strange and scary, no matter how polite and friendly they try to look. I just physically feel their attitude to me” (Bogdashina, 2010, p. 145, emphasis in original). Some writers with autism seem to embrace the sense of being separate and an “onlooker”, as Williams
(2004) notes, “there is a sense that the gap between themselves and other people is unbridgeable” (p. 711). Unfortunately, the autobiographical accounts are often overlooked and disregarded as having little merit for the empirical inquiry proper (argument for the importance of “autism narrative” and autobiographical accounts, see e.g. Hacking, 2009; Williams, 2004). Their fuller consideration might nevertheless help us to think why neurotypical individuals have difficulties in understanding individuals with autism – regardless of their intact theory of mind. Hacking (2009) notes how there appears to be “symmetry” insofar as individuals with autism and those who are neurotypical do not seem to understand each other, “neither can see what the other is doing” (p. 1471):

Ordinary people cannot see what an autistic boy is doing when, to take a banal example, he is furiously flapping his hands. What on Earth is hand flapping? The parent or other outsider knows vaguely that there must be some kind of agitation, yet the child seems so tranquil when hand flapping. Autobiographies tell us how calming it is. So we are now able to infer a bit of what’s going on. Autistic narrative thus comes to our aid. (pp. 1471-1472)

It is important to consider how the explanations from individuals with autism can highlight other issues at work in social situations. For example, the propensity to experience sensory difficulties can make the world appear fairly unpredictable (Bogdashina, 2010; Gallagher, 2004) and influence the way in which an individual experiences also a social situation. As such, their behaviour might not always mean that there is little understanding of the difference between their own and someone else’s experience or perspective (for a neurophenomenological account of autism, see Gallagher, 2004). Let us return to the bench-mark test of social understanding, the Sally-Anne task, and consider how Cohen-Rotterberg, an autobiographical author with an autism spectrum
disorder, offers one casual yet intriguing explanation why children with autism might fail
the task. The excerpt is taken from her article featured in the blog “Journeys with Autism”: 

A better test might be to have Anne move the marble to an unknown place and ask the
child whether Sally will think the marble has been moved. If the answer is yes, the
researcher might then ask, “Where would she look?” If asked that question, the child
might just say, “She’ll look everywhere she can.” That’s the answer I would have
given as a child, because my experience was that nothing stayed the same for very
long. Moreover, as I reflect upon how I would experience the Sally-Anne test as an
adult, I’m certain that with my auditory processing difficulties, I would need to write
down the sequence of events in order to make sure I understood what was being asked.
It’s very difficult for me to keep track of auditory information, and I generally need to
make it visual in order to more easily grasp it and remember it. If I were to begin
plotting out the sequence of events in writing, I’m virtually certain that a diagnostician
would conclude that I was attempting to figure out the answer by deductive logic,
rather than by using ToM. That diagnostician would be wrong. I would not be
attempting to arrive at an answer; I would be attempting to make sure that I understood
the question. (Cohen-Rottenberg, April, 2, 2009)

Another writer highlights the inherent difficulty with the test-question “Where will
Sally look for her marble?”:

The word “look” has several distinct alternative meanings in the English language. It
can mean viewing a person or object, such as in the phrase “look at”. It also can mean
searching for a person or object outside one's field of view, when used in the phrase
“look for”. Distinguishing between these two meanings requires a child to have a fairly
complex understanding of prepositions and idiomatic speech. Many autistic children
learn the word “look” in the context of behavioral therapy with “look at me” prompts.
Such children may not be aware that the word has an alternative meaning of searching
for an item that is out of sight. They will interpret the question as “Where will Sally
see her marble?” (Abfh, January 30, 2007)

In his critique of theory of mind, Gallagher (2004) presses the point that the false-belief
tasks inevitably place the participant in the role of observer who is “asked to predict the
behaviour of others with whom they are not interacting” (p. 204, emphasis added). He
further notes an important point, namely, that while a child might not pass the false-belief
task they nevertheless demonstrate understanding of the actions of the experimenter during
the actual encounter. Schegloff (2003) has raised a similar point in his analysis of “Alvin”,
a person with brain damage to the right hemisphere. This damage is considered to affect
pragmatic competencies and the capacity to understand non-literal language among other
impairments; indeed, the situation which is the focus of Schegloff’s paper involves
Alvin’s pragmatic capacity to understand commands and indirect requests (in which he
performed poorly). However, the point of interest occurs in the short stretch of interaction
before any test has been administered. Namely, the way in which Alvin responds to a test-
irrelevant request (“Alvin, can you come a bit closer to the table”) by moving his chair
demonstrates practical pragmatic competence:

The form “can you come a bit closer” in this view literally asks a question about ability
or capacity. The “request for action” has to be analyzed out of this utterance as the
indirect speech act being enacted. This is just the sort of speech act, just the sort of
non-literal usage, which – in the common view – persons with a discourse/pragmatic
deficit would be expected to have trouble with. (Schegloff, 2003, pp. 31-32)
This is an important consideration for the argument I wish to develop in this thesis. Namely, that the detailed understanding of social conduct requires the examination of the actual encounters between individuals insofar as eye-gaze and body movement can embody intersubjectivity beyond the “invented and imagined worlds in constructed vignettes and experimental stimuli” (Schegloff, 2003, p. 36). Thus the way in which we use our body, talk, material objects and the situational details to interact can show social competence and understanding to an extent that is not always possible during the actual experimental task. This is not to deny that theorising about others’ motivations, desires, and beliefs has important heuristic value. Rather, it is suggested that such stipulation might be precisely just that: a particular kind of cognitive skill, not a default mechanism in the “ordinary way of encountering the other person” (Gallagher, 2004, p. 204). Thus in the pursuit of experimental rigour and conceptual specificity (“purity”) laboratory tasks risk tapping into abstract competencies, thereby missing skills that might manifest themselves in more practical interactional contexts.¹

The critical evaluation of the experimental research inevitably calls for the consideration of realistic contexts in our sense-making practices. How would a neurotypical person with an intact ability to “read minds” explain, for example, “John’s” behaviour on hearing the following sentence: “John walked into the bedroom, walked around, and walked out” (in Baron-Cohen, 1995, p. 1)? Baron-Cohen notes, that the mind-reading ability allows us readily to make use of mental state inferences: for example, “John” might have been looking for something that he’d forgot or something that he wanted and he believed it was in the bedroom. Thus in order to understand “John’s” behaviour, we must have access to his mental states that are nevertheless invisible to us. It is equally possible, however, that such explanation falls short on hearing the sentence alone; I might be in a better position to make sense of “John’s” behaviour if I knew more
or, better still, was actually present in the situation and observing him – in which case I would most probably make a direct use of the information of what is actually happening. The concept of mind-reading is inherently problematic, and it can be questioned as to how far we actually mind-read outside the perceived (or imagined, in hypothetical scenarios) behaviour and the context in which it occurs. Returning to our example, it is equally possible that “John” absentmindedly walked into the bedroom when he was actually going to the bathroom. I can speculate, but will not know for sure without putting “John’s” behaviour in some sort of context; even when I speculate, I will most probably use some sort of information – outside of his mind – to arrive at my explanation.

The process of inference is in itself problematic. Hacking (2009) draws examples from Köhler and Wittgenstein to propose how, even when we do not “see” something (such as some kind of mental state), we, in fact, see it and do not infer it: for example, when a child reaches out to touch an animal (wants to touch it) but then withdraws their hand (the child is scared). It can be argued that any behaviour is seen this way – directly – as it occurs. Consider further how working out what someone is doing does not simply occur in psychology experiments such as those examining theory of mind, but is a naturally occurring practical problem in everyday situations and professional practice. A fairly clear example of work that involves interpretation and prediction of behaviour – yet what some might call mind-reading – is the practice of security surveillance, which has been studied empirically using non-experimental methods (e.g. Luff, Heath, & Jirotka, 2000; Heath, Svensson, Hindmarsh, Luff, & vom Lehn, 2002). The conduct of the agents, whose work it is to observe others in public places, shows that the understanding of some behaviour – namely, the ability to see something in a particular way – is organised with respect to “a practical geography of the events which can occur in the local domain and the sequential import of happenings” (Luff, Heath, & Jirotka, 2000). Thus some of the most important
resources in the professional practice of surveillance are not abstract decontextualised constructs. Rather, they are the configurations of concrete specific details seen in the actual conduct and body movement of those whom they are watching in relation to the geography of the local environment and the events unfolding within it.² This is not to say that making sense of the latter does not require cognitive operations, but that these operations are closely linked to an array of concrete particulars rather than bound up with a complex theoretical abstraction.

We might not have to theorise or simulate others’ mental states in order to infer the purpose of some social behaviour. Rather, we seem to understand each other through direct action (see Krueger, 2011; Proust, 2003); this is a more parsimonious explanation than one that invokes theorising about mental states. Thus when I see you doing something, your bodily conduct, gaze, posture, and facial expressions, are important resources for me to make sense of your conduct and the “intentions” or “reasons” for whatever it is that you might be doing. The proponents of theory of mind account might nevertheless object to such conduct as evidencing “true” understanding and discount it as a perception of the expression of some disposition. Hence they propose that in order to show mental state understanding, a test measuring theory of mind should be passed. Nevertheless, a question arises why must we locate such understanding exclusively in the hidden mind which I have to access in order to simulate or theorise about your experience each time I see you doing something? Even if I respond to you in a contextually sound manner – for example, shift my gaze and lean my body closer as you show me a photograph – is it unequivocally possible that I “react” with no real understanding of your intention or desire to show me the photograph? Do I simply perceive your expression of it although my responsive body movement suggests that I have grasped the purpose of your conduct (for example, as you bring the photograph towards me)? This raises the question whether the ToM account
proposes such mundane practical action as fundamentally different from (and perhaps less demanding than) the “pure” mentalising that can be only measured in and through the experiments such as the false-belief task. They might require distinct cognitive processes however it seems spurious to suggest that only one of them embodies social understanding.

Costall and Leudar (2004) propose that in theory of mind research, the decontextualised nature of the experimental tasks employed presuppose the very mental processes that they seek to elucidate:

There is a common assumption that making sense of other people involves the traditional “problem of other minds”, a problem which children, in particular, must supposedly resolve before they can relate properly to others. However, the assumption that the mind is, in effect, occult is hardly confined to Theory of Mind. What is distinctive about Theory of Mind as an approach within experimental psychology is the widespread acceptance (1) that both the subjects of psychological research and the scientists studying them are, in an important sense, on a similar epistemological footing in their efforts to understand “mind”, and (2) that the psychological experiment represents the problem people in general face when trying to understand minds, and (given the way the problem is defined) also the general form that the successful understanding of other minds must take. In the end, what holds Theory of Mind together, we will be proposing, is not so much any shared explicit theoretical claims, but the institution of the psychological experiment itself, which serves as a largely tacit model, a metaphor or “paradigm” of how we must all be managing to understand one another. (p. 626)

The consideration of social understanding purely as the process of the mind can be seen to rest on a Cartesian view of the mind and body; true understanding of others occurs
in the hidden mind and is only accessible through a controlled experimentation in an empirical inquiry where the workings of the mind are “displayed”. Thus what the participants observe or experience in the experimental task supposedly taps into a specific kind of representational process that is unlike the direct understanding of behaviour in a mundane interactional situation in which one participates among other bodies.

However, the experimental tasks might not always capture how we make sense of the actual interactions in which we participate. Therefore, it is important to examine social understanding through a direct observation of the most real encounters out there – where and when the interactions actually happen. Assuming that we routinely use contextual cues to understand each other’s conduct, we might have to re-think how we consider social understanding where also individuals with autism are concerned.

1.1.2 Research on social attention in autism

In another line of inquiry, the social impairments in autism have been examined with respect to the orientation and attention to socially salient stimuli. The evidence indicating such difficulties in autism are mainly drawn from paradigms where the child is expected to gaze at stimuli that is considered being social rather than inanimate by nature. For example, some studies have shown that children with autism rarely show orientation to their own name being called or the sound of hands clapping (as opposed to non-social stimuli such as the sound of a rattle shaking) (Dawson, Meltzoff, Osterling, Rinaldi, & Brown, 1998; Osterling & Dawson, 1994). More generally, children with autism appear to show reduced orientation to other people, even so much as failing to attend to another person’s distress (Dawson, Toth, Abbott, Osterling et al., 2004).

One of the most salient social difficulties in autism have been characterised in terms of the use of eye-gaze in social situations, shown namely in the reduced responding to mutual
gaze with co-interactants. Some of the current research paradigms that record the patterns of eye-gaze with the help of eye-tracking technologies have shown that individuals with autism do not have a general impairment in gaze processes (e.g. review by Senju & Johnson, 2009). For example, individuals with autism show an ability to follow another’s gaze when explicitly trained to do so (e.g. Leekam, Baron-Cohen, Perrett, Milders, & Brown, 1997). Rather, the attentional atypicalities appear to be selective with respect to social cues insofar as the attention is not naturally drawn to stimuli that are of social nature.

The most recent experimental studies in the field have employed eye-tracking technologies to examine the viewing patterns of individuals with autism, for example, a propensity to fixate on social or non-social stimuli in static or dynamic images. Whilst experimental and observational studies that are based on quantitative methods have led to a considerable body of such detailed empirical analysis, there are some intrinsic limitations to these methods. Firstly, some of the problems emerge at the very practical level of context insofar as the performance-based studies often separate the individual from their natural settings. The removal of “uncontrolled” contextual aspects that are present in ordinary everyday situations does not make the viewing-paradigms realistic. Secondly, the focus on the observational performance, rather than on the person’s own participation, does not lend itself to the understanding of how they might use eye-gaze in actual interactions. Therefore it might not be sufficient to infer a person’s social competencies from their eye-gaze patterns alone.

There is another dimension to context that merits further consideration. Namely, the unusual settings can be particularly problematic for children with autism who often find unfamiliar people, out-of-routine events, and even minor changes in the environment distressing and frightening (Groden, Cantela, Prince, & Berryman, 1994). Therefore,
familiarity, in particular, can be a factor that in itself reflects on the experimental findings. For example, let us consider the fairly recent studies measuring mirror neuron system (MNS) activation through the use of EEG. These studies record mu suppression responses to the degree to which a participant, who is viewing a film, is able to identify with the actor performing actions (e.g. grasping hand gestures). In general, the mu suppression indicates that as we observe another person performing some action, we simulate that action in the brain’s mirror neuron system. The activation shown in individuals with autism however appears to deviate from this as the suppression is milder in comparison to the mu suppression in typically developed controls (Oberman & Ramachandran, 2007). As a consequence, this has been taken to suggest that the core socio-communicative deficits and difficulties in relating to others, as characteristic to autism, emerge through the inability to simulate the mirror neuron system in the neurotypical way.

However, the mu suppression appears to be different when observing a familiar person (e.g. parent or sibling) performing the same action. The recorded suppression is the greatest in response to familiarity, not only in typically developed individuals, but also in individuals with autism (Oberman, Ramachandran, & Pineca, 2008). Thus while familiarity can influence the way in which the sensorimotor system responds to stimuli in general, it could be assumed that any behaviours measured in unfamiliar contexts with unfamiliar experimenters might inflate the findings of impaired social competencies in autism. In particular, the unfamiliar contexts might influence the way in which children with autism respond to the occurring events and to the actions of co-present people.

In addition to the limitations that are inherent in the measurement of social competence through the eye-gaze activities in experimental contexts, it should be acknowledged that the comparison of the groups of children with autism and the groups of children without autism (neurotypical controls or children with other developmental disorders such as
Down’s syndrome) is not unproblematic. Namely, it can be difficult to establish the most appropriate matching variables for the groups (e.g. chronological age, or verbal or non-verbal mental age), while the comparison of the level of performance within groups can be also difficult as children with autism often display high levels of variation. The experimental findings can be contingent upon the particular testing contexts, for example, whether the child is engaged in a structured or unstructured situation. This is an important consideration as, clearly, the experimental situations are also social interactions in their own right, as shown in the example of the pragmatic assessment of “Alvin” (in Schegloff, 2003). However, a limitation in the experimental research is precisely the tendency to overlook any competencies that might be displayed outside the actual testing. In an eye-tracking study examining social orientation, then, any such competence might not be even of particular interest if not measured – for example, a relevant gaze to the experimenter or the establishment of joint attention to a computer screen that makes the experiment possible in the first place. Therefore, it would be important to examine what goes on between the experimenters and children, albeit a major limitation is the lack of transcription of the actual interactions that take place in these settings. This limitation is often present also in the more naturalistic observational studies insofar as it remains unclear what kinds of interactions occur outside the behaviours that have been coded and what are the actions of the observer.

Thus a question arises, whether unusual contexts are likely to contribute to the children’s failure to display some of the competencies that they might show outside the formal testing situations. Clearly, to address this question new paradigms are needed to examine the interactions in familiar and natural settings. This would help us to develop a more detailed understanding of the competencies but also the areas of difficulty of these children. Another limitation of the experimental studies (such as those examining social
impairments through the fixation patterns of eye-gaze) is the way in which the investigated
behaviours are isolated from the realistic interactional contexts. For example, the mere
viewing of stimuli can be fundamentally different to the conduct (e.g. the use of gaze) in
real-life interactions where some business of interaction is likely to concern the child as
opposed to a protagonist in a film (see Klin et al., 2002). From this it follows that the use
of gaze can become relevant during actual interactions; the paradigms using looking-time
measures towards stimuli are often unable to capture such detail and the actions of co-
present others that can make this relevance apparent.

1.1.3 Conversation analysis as an alternative approach to the study of eye-gaze and
social conduct in autism

In order to gain a more thorough understanding of the social conduct of children with
autism it is necessary to conduct detailed analytical observations of the actual use of eye-
gaze. I propose, along with a number of researchers such as Klin et al., Williams, Costall,
and Leudar, that the examination of behaviour in natural contexts is particularly important,
and in the following, I consider how the detailed methodology of conversation analysis can
provide a means for accomplishing this. Conversation analysis is essentially a qualitative
methodology that focuses on the study of naturally occurring interactions. The framework
is used to explicate what people actually do – what kinds of practices and resources the
participants have at their disposal to conduct interaction. The way in which conversation
analysis examines bodily conduct, such as eye-gaze, emphasises the many different ways
in which it can be used in interactions and its consequentiality for interaction. For example,
whether we shift our gaze to or away from a co-participant, or whether we gaze at objects
in the line of sight, can be highly dependent on the interactional context of a particular
moment. The pragmatic import of gaze is thus considered in relation to the very sequence
of interaction in which it occurs. The meaning of any instance of eye-gaze is not fixed, but rather when and where sequentially gaze is produced in relation to the other on-going activities (e.g. talk and other bodily conduct) contributes to the understanding of what it might be doing.

The concept of eye-gaze, like the concept of theory of mind, is however inherently problematic; the way in which eye-gaze is generally understood in the dominating research on autism might thus also warrant consideration. Note, for example, how the everyday vocabulary about gaze-related practices makes important distinctions in terms of “seeing” and “gazing at” something. As Coulter and Parsons (1999) note:

I may see but not recognize X, I may look for but not look at X, I may watch X without staring at X, I may observe X without scrutinizing X, I may peruse X without poring over X, I may see X as Y but not see X, I may see X without watching X, I may gaze at X without observing X, I may catch sight of X without looking for X, etc. (pp. 261-262)

Therefore also in practice, such distinction between these (and other) possibilities is not a simple one and goes beyond what is traditionally understood about visual perception. The experimental paradigms that study eye-gaze and attentiveness are unable to make such distinctions perhaps due to the adopted notion of gazing process being entirely internal to the individual. In this thesis, I have adopted the terms eye-gaze and gazing due to their convenience and insofar as they seem to be at the modest end of terms that describe what a participant is doing with their apparent looking practices. However, in the chapters that follow, will show how the interactional sequences and bodily conduct (other than gazing)
of the participants are fundamental contributors to the making of eye-gaze a particular kind of action – be it, for example, “monitoring” or “scrutinising”.

From this it follows that the actions that precede, for example, mutual gaze between participants, can make its production relevant; the actions that follow show the participants’ own treatment of the import of any spell of gazing that has occurred. Consider how, for example, the engagement in mutual gaze with another is generally taken as a first step when initiating something in face-to-face situations. In consequence, looking away from another can be considered as a state of unavailability but also, occasionally, an outright refusal to engage in interaction with another. But which action is occurring? This cannot be inferred without considering the local sequential environment of the unfolding activity – what has occurred just before, or what occurs concurrently as the participant, for example, withdraws gaze from the co-interactant. The direction of eye-gaze is also an important resource in sustaining what already Goffman (1963) called civil inattention in public places: Having first given a glance of visual notice, strangers routinely withdraw from mutual gaze with each other. Thus gazing or not gazing, it is actively oriented to as a matter of social significance.

The conversation analytic framework contrasts sharply with the dominant approaches that study social impairments in autism through the measuring or coding of behaviours of one party (namely, the child) in isolation from the actions of co-present parties. It can be argued, that both the isolation of a party’s actions (e.g. instances of eye-gaze) and the use of pre-stated coding schemes not only ignore the interactional contexts in a fairly broad sense, but they also fail to capture the interactional import of the actions in these contexts. Furthermore, the mere quantification of eye-gaze phenomena is not entirely helpful when attempting to understand the use of eye-gaze at some particular moment – for this we need
detailed analytical descriptions of the events that co-occur, say, when parties gaze or do not gaze at each other.

In the attempt to overcome some of the limitations of the research paradigms that have been used previously, I propose that it is important to pay detailed attention to the parties’ conduct in naturally occurring, video-recorded interactions. The tools of transcription and the micro-analysis of interactional sequences enable the analyst to focus on the particular moments where the participants orient to some business through their conduct and through monitoring the conduct of others. Some might still question, as to why direct attention to these often very short-lived moments – for example, a fleeting moment when a child shifts their gaze to a co-participant. Why transcribe them and analyze the unfolding moment in such great detail, as opposed to counting the aggregated cases within the whole data corpus, arriving at a distributional understanding of the use of eye-gaze? Indeed, the fragmented instances that are often the focus of conversation analytic work – episodes which might occur even rather sparsely (for example, so called deviant cases) – “may appear slight, even trivial” (Hindmarsh & Heath, 2000b, p. 533, emphasis added).

However, it is the apparent triviality for the researcher – the outside observer – whose research concerns (often derived from theoretical frameworks) or coding schemes might not consider these instances as relevant or even capture as they occur. However, it is through the detailed analysis of the parties’ conduct that the importance of these moments can be demonstrated for the parties themselves.

Arminen and Halonen (2007) have poignantly remarked that “the basic working principle of CA research is so simple that it is difficult to grasp” (p. 490). Namely, that what parties do or say “next” shows their orientation and take-on what occurred just before. It is through these orientations that any bit of conduct gains its relevance (or its non-relevance) to some stretch of interaction. The naturalistic examination of real episodes
of interaction through conversation analysis also involves consideration of how the familiar adults interact with these children – interactions are considered as collaborations. Much in the spirit of the research that has examined autobiographies and narratives of individuals with autism, this thesis is inclined to understand the social life of these individuals in more detail. In particular, my aim is to analytically describe the ways in which the parties make sense of each other’s conduct – how they produce intersubjectivity in interactions and manage to “see what the other is doing” (Hacking, 2009, p. 1471).

In the following, I will provide a more thorough introduction to conversation analysis. In the further sections, I will outline some of the conversation analytic findings with regards to the use of eye-gaze, facial expressions, and the use of objects in interactions insofar as they are relevant for this thesis. Occasionally, I will refer to this conduct as multimodal interaction.

1.2 Conversation analysis

Conversation analysis (CA) emerged from the study of tape-recorded interactions through the work of Harvey Sacks and his colleagues Emanuel Schegloff and Gail Jefferson, in the late 1960s. This research tradition, or framework, has its focus on talk-in-interaction which grew out of a close examination of casual conversations, telephone calls, and group therapy sessions; its scope expanded to include the study of formal institutional interactions – for example, court rooms and medical consultations – in the late 1970s. Both areas of the tradition share the same underlying concern for conducting detailed examination and description of the orderliness of social interactions.

The framework drew on the perspectives on social interaction proposed by Erving Goffman and Harold Garfinkel. These two social scientists rejected the salient notion that everyday interactions and ordinary conversations were disorderly. For example, the
prominent linguist, Noam Chomsky (1965) essentially held that performance errors in talk—such as restarts, pauses, fragmented sentences—made everyday talk unworthy of any systematic study. However, for Goffman (1955, 1959, 1967, 1983), social interaction was seen as a highly structured institutional order that could be explored in its own right. In his words Goffman (1967) remarked that “the proper study of interaction is not the individual and his psychology, but rather the syntactical relations among the acts of different persons mutually present to one another” (p. 2). These structures, in his view, are an autonomous site of an interaction order where face, identity, and moral inferences motivate the interactional conduct of people, and where manners and appearances are altered and controlled as when acting out a theatrical performance.

Garfinkel’s (1967) main concern was to show how interactants make sense of their circumstances in a socially shared manner, and how the social structures that are found in societies have their basis in commonsense reasoning. Through his famous breaching-experiments, which were deliberately designed to break unstated social rules, he exposed how the understandings of social reality could be breached. For example, in a game of tic-tac-toe, a student experimenter would ask the opponent to make the first move, but then erased that mark and entered their own mark in the square instead. Perhaps in a more striking experiment, Garfinkel asked his students to return to their parental homes and act as lodgers— to the parents, the behaviour of their children was bizarre and confusing. Through breaching, he postulated that there are normative expectations of common conduct and thus illuminated the taken-for-granted conventions, for example how games should be played according to the rules, or how the children should ordinarily behave in their homes and parents should behave to their children. Anger and confusion were often elicited when the interactants could not make sense of a situation that breached the conventional norms and expectations.
The mutual orientation to the normative expectations in conduct in general, and in talk, in particular, is thus an important element of the way in which participants produce the \textit{orderliness} of everyday affairs. As Garfinkel (1967) put it, “many matters that the partners understood were understood on the basis not only of what was actually said but what was left unspoken” (p. 39). Such produced orderliness of interactions and the use of socially shared methods of reasoning grounded the development of CA; the participants in interaction find and produce order, and the analysis of that order became the business of CA. However, this distinct methodology emerged through the inspection of such concerns at the very micro-level of conversational turn-taking. Sacks and Schegloff placed great emphasis on the notion that the structure and order were built out of \textit{sequences of action}: Participants involved in any stretch of interaction constantly make sense of the talk, the emerging silences, laughter, and the like in a manner that reveal “why that now” reasoning (Schegloff & Sacks, 1973, p. 299). Sacks’ first observations of the organisation of sequences were drawn from recorded phone calls to the Los Angeles Suicide Prevention Center helpline. He noted a recurring difficulty in getting the caller to give their name at the start of conversation. One such case is provided in Example 1.

Example 1 (Sacks, 1992, vol. I:3)

\begin{tabular}{ll}
1 & A: \hspace{1em} this is Mr. Smith, may I help you \\
2 & B: \hspace{1em} I can’t hear you \\
3 & A: \hspace{1em} This is Mr Smith \\
4 & B: \hspace{1em} Smith \\
\end{tabular}

Through the analysis of such conversations, Sacks began to note how the structured nature of everyday talk determines particular places where certain activities should occur – should they not, we recognise them as being noticeable absent. Commonly, for example, the exchange of names is reciprocated when meeting for the first time, and many types of
utterances are consistently juxtaposed in turns at talk by different speakers: greetings yield reciprocal greetings, questions yield answers, and invitations are either accepted or declined, and so on (adjacency pairs, Sacks 1992; Schegloff & Sacks, 1973). Such orderliness grounded Sacks’ understanding of also those instances where a caller would not volunteer their name; Sacks questioned whether conversations had, in fact, identifiable places where one could tell that some bit of talk was not forthcoming – for example the name of the caller, an answer to a question, or an acceptance of an offer.

Within the sequential analysis of the fragment above, Sacks noticed that the utterance “I can’t hear you” occurred at the particular place where it would have been relevant for caller B to identify themselves as a response to speaker A, who gave their name in the previous turn upon answering the call. Sacks proposed that caller B might have not simply reported their problems of hearing (see repair initiations, Schegloff, Jefferson, & Sacks, 1977) on this occasion, but rather their utterance was designed to reverse the constraint for providing a name at the particular place where it was expected. This observation does not claim however that every reported problem of hearing is doing another action (such as declining to respond to the expected action), but rather it illustrates the underpinnings of normative expectations and how talk operates in social interactions. Participants constantly orient to these expectations – for example, when it is relevant to introduce yourself on the telephone – and consequently notice when such expectations remain unfulfilled, for example when another declines disclosing their name (even without explicitly doing so). I will take a closer look at such structures and orderliness of interactions in the next section, and provide a brief outline of sequence organisation which is the framework for understanding the interactions considered in this thesis.
1.2.1 Turn-taking and sequence organisation in everyday talk

While any conversation might be somewhat unpredictable in terms of the length of conversation, the topics that will be addressed, the order of the speakers, the stances towards talk, and the length of turns that speakers produce, a conversation is nevertheless orderly in fundamental respects. In their seminal study of the organisation of turn-taking Sacks, Schegloff, and Jefferson (1974) identified the systematics which make this order possible in conversations: turn-constructional units (TCUs) and the procedures for turn allocation between speakers. Turns are the environment where some work is performed through the modality of talk; they are built out of lexical, clausal, phrasal or sentential units, and can be the length of a single word, or built out of non-lexical utterances and vocalisations.

Turns, essentially, constitute actions in context: A speaker who has begun to talk has the right and obligation to produce one TCU which can effectively accomplish several actions. Turn taking works in a manner which the next speaker can speak after the present speaker’s TCU has come to completion. Generally, this enables one speaker to speak at the time; where overlaps might occur they are routinely very brief. Thus the environment at the end of any TCU is a transition relevance place (TRP) where the present turn completes, and the next speaker can begin to speak. The reaching of TRPs can be routinely anticipated from the talk itself (for example, when a question is coming to a projectable completion); while these places can make the speaker transition relevant, they do not determine that it necessarily occurs. Rather, the transition might be better understood as an expectation and accomplishment, while any constraint for the transition has to be inferred from the turn that just reached its completion – whether a next speaker was selected, for example, through a question addressed to them. On such occasion, upon reaching the TRP,
the selected next speaker has the opportunity but also an *obligation* to speak – if they do not, we treat their talk (for example, an answer to a question) as noticeably absent. The turn allocation procedures are used in a rule-based manner (Sacks et al., 1974):

**Rule 1a.** If the current speaker has identified, or selected, a particular next speaker, then that speaker should take a turn at that place.

**Rule 1b.** If no such selection has been made, then any next speaker may (but need not) self-select at that point. If self selection occurs, then first speaker has the right to the turn.

**Rule 1c.** If no next speaker has been selected, then alternatively the current speaker may, but need not, continue talking with another turn constructional unit, unless another speaker has self-selected, in which case that speaker gains the right to the turn.

**Rule 2.** Whichever option has operated, then rules 1a-c come into play again for the next transition relevance place.

The turn-taking system is *context independent* (Sacks et al., 1974) insofar as it manages every area of human social interaction: from phone calls and casual conversations with friends to the structured institutional interactions in medical consultations, educational settings, work places, the court of law – in any given moment and setting when two people or more are involved and usually, talking. Turn-taking operates also in the interactions involving individuals with a limited linguistic capacity, such as young infants and children, and individuals with communication difficulties such as autism or acquired aphasia, albeit with additional challenges (discussed in section 1.2.5). In this thesis, I will examine closely
the turn-by-turn unfolding of the interactions between children with autism and their neurotypical co-interactants.

The close monitoring of turns and speaker transitions do not simply function for this systematics to work for its own orderly accord, but rather the turns are an environment where the human social action happens. Turns and actions continuously orient to the idea of progressivity insofar as they enable us to labour various kinds of interactional business through moving-on the sequence at hand. Thus turns-at-talk constitute action, and “sequences are the vehicle for getting some activity accomplished” (Schegloff, 2007, p. 2). The understanding of and the production of action through talk – regardless of how banal or seemingly meaningless the utterance – is always embedded within the sequential environment where it is produced, and the sequential context which it renews, shaping the next actions (actions are context-shaped and context renewing, Heritage, 1984a). So, we remember how upon uttering “this is Mr Smith”, the call taker A, creates a place for the caller B to disclose their name in the next turn. By means of giving their own name, the call taker invites the caller to identify their name; they initiate an action which creates the expectation for a particular response. Consider further, how an utterance such as “I was trying you all day and the line was busy for, like, hours” initiates an action that requests information about who the recipient might have been talking to – even when the utterance might appear to be doing so inadvertently – and, as such, makes an account relevant from the recipient (Pomerantz, 1980).

The basic sequential structure around which most of our interactions are organised is the adjacency pairs (Schegloff & Sacks, 1973). These are paired actions that have conditional relevance insofar as the first pair-part makes the type-specific second pair-part relevant (Schegloff, 1972a). Thus, a greeting makes a reciprocal greeting relevant, a question makes an answer relevant, and an offer makes an acceptance or rejection relevant,
and so on. Adjacency pairs can be conceptualised as the minimal base pairs, which can be expanded through other sequential actions produced before, within, or after the base pairs. Before the first pair part, we can find *pre-expansions*, which for example, project a subsequent offer or invitation such as in “are you doing anything tomorrow?” In the middle of the first and second pair parts, we can have *insert expansions*, such as repair initiations that can launch *repair sequences* between the base pairs, in dealing with “troubles” of hearing, understanding, or speaking of some bit of talk (Schegloff et al., 1977). Repair *initiations* are the actions that address such problems: When a recipient initiates repair in relation to a speaker’s earlier talk, it is said to accomplish *other-initiated repair* – routinely, these take the form of questions, such as “What?”, “Huh?” or by repeating the target repairable – and as such, make a *repair* as the relevant next action from the speaker of the trouble source. *Self-repairs* are actions undertaken by a speaker to repairs their own talk such as by restarting, modifying, or correcting their prior talk.

After the base second pair parts, we can have *post-expansions* which function to close the sequence (such as “okay” or “good”) (Schegloff, 2007). The interactions considered in this thesis routinely follow the base adjacency pair structure; I will consider post-expansions in Chapter 3, where a post-expansion move that registers or accepts the prior response, can be pursued through *eye-gaze*. This, in turn, shapes the following actions of the participants.

While sequence organisation implies that there are particular types of responses which go together with the initiating action, there are also responses, or second pair parts, that are *preferred* over the potential alternatives. As such, they indicate different forms of alignment with the first pair part (Pomerantz, 1978, 1984; Schegloff, 2007). This preference structure is realised so that routinely, for example, for yes/no questions and assessments an *agreement* stands as a preferred response; for requests *granting* is
preferred, and for offers and invitations accepting is preferred over declining. In this sense, pre-expansions (such as, “are you doing anything tomorrow?”) that are produced before invitations, for example, have a clear function insofar as they can work to minimise or avoid being faced with a potential dispreferred response (e.g. decline of the invitation). Namely, they enable the speaker to find out the recipient’s alignment through the (so called blocking or go-ahead) responses to these pre-expansions first. Atkinson and Heritage (1984) remind us that preference is “not intended to reference personal, subjective, or ‘psychological’ desires or dispositions” (p. 5), but rather to the interactional dynamics of sequences.

Assessments are an interesting case which illustrates how the participants continuously orient to the preference organisation. Consider how, when a speaker’s assessment is a self-deprecation (for example, “I’m so dumb I don’t even know it. hhh!”), the preferred response would not be an agreement but a disagreement with such assessment (“Y-no, y-you’re not du:mb”) (Pomerantz, 1984, p. 87). By means of disagreeing with a self-deprecation, the co-participant avoids aligning with the criticism of another; by way of contrast, the preferred response to excessive praise from another would be to downplay it or to deny it in order to avoid self-praise and the appearance of being arrogant (Pomerantz, 1978). Thus the preference structure has its wider dynamics in doing solidarity at the very sequential level of interaction; the avoidance of uncomfortable situations that might risk of being embarrassing, insulting, or difficult for the participants are managed in sequences of interaction where the initiated actions are responded to in a manner that affiliates or disaffiliates with the initiated action according to a sound preference structure. Thus some emotions, even as complex as embarrassment, can be displayed in such sequential locations where the participants’ orientation to the preference structure is some way realised and perhaps conflicted. In Chapter 6, I will examine this matter further and show
how also children with autism can show orientation to such social matters at the very level of initiating and responsive actions.

In addition to talk that makes a response relevant, there is talk that implicates conditional relevance to a lesser degree. Recently, Stivers and Rossano (2010) have reconsidered whether some talk identified as first pair parts – such as announcements, noticings, and assessments – straightforwardly project a conditionally relevant response (see Schegloff, 2007). In their words, “an examination of spontaneous conversation suggests that they do not show the same strong normative patterns as the canonical actions” (Stivers & Rossano, 2010, p. 9). What counts in any interaction however is the way in which the participants themselves orient to what is being said and done. For example, Stivers and Rossano observe a case of a multiparty interaction where three participants are cooking a meal. One party utters an assessment “These smell good”, and while no-one responds to this assessment, no-one treats a response being noticeably absent either. The authors propose that the aspects that might affect the response-implicativeness of utterances, such as assessments, are the turn-design features in use: interrogative lexicomorphosyntax, interrogative intonation, recipient epistemic primacy, and the speaker’s eye-gaze.

Our understanding and treatment of the prior turns from other speakers are consequently implicated in our own actions – what we say and how we might use our body in interactions. Through the next or responsive actions, we display our understanding and take-on of the prior actions of another. The next turns are also the environment where we can display how we choose to treat something said or done by a co-interactant. For example, Pomerantz (1984) notes how hesitations and overt difficulties in producing a response in talk routinely lead the first speaker to infer some kind of problem and thus clarify their earlier talk. These problems are oriented to as being essentially interactional
rather than the recipient’s dysfluency in producing speech (see Chomsky, 1965). Thus the offered clarifications by the first speaker are also a means for avoiding any wrong or insulting assumptions of what the trouble in responding might be, which in consequence is “less serious to the interactants and their relationship” (Pomerantz, 1984, p. 156). A further important element is the way in which we orient to gaps and silences – as well as to hesitations – which imply difficulties that have sequential connotations. Even very young children orient to the sequential expectations and silences, as illustrated in Example 2.

Example 2
(From Atkinson and Drew, 1979, p. 52; discussed in Heritage, 1984a, pp. 248-9)

<table>
<thead>
<tr>
<th></th>
<th>Child:</th>
<th>Mother:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Have to cut these Mummy</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>(1.3)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Won’t we Mummy</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>(1.5)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Won’t we</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Consider how the normative expectation yields a response to the initiating action – when a response does not occur, as in Example 2 (note the gaps in lines 2 and 4), we might suspect problems of hearing; sometimes we might infer problems of understanding, even another’s refusal to respond us, or simply that their occupation elsewhere might limit their attention to our utterance. The child, in Example 2, can be seen to pursue the response from Mother in response to the gaps, and thus treats the second pair part as noticeable absent. As Wooffitt (2010) explains it:

Gaps after turns in which the next speaker has been selected will be heard by co-participants as the absence of a specific person’s talk. In such instances, the absence of talk is a normatively accountable matter, in that negative inferences may be drawn about the speakers because they are not taking a turn allocated to them. (p. 30)
Wootton (2006) discusses how the attributions that even small children make about co-participant’s psychological states are associated with turn-design in different sequential positions, and can be displayed the way in which the child treats an absent response to their question. For example, in reference to a case where a mother’s response to her child’s question is met with a pause, the way in which the child orients to this shows an attribution that the mother had in fact heard the question. This fragment is illustrated in Example 3.

Example 3 (Wootton, 2006, p. 192, from Wootton 1981, pp. 146-7)

The child’s mother is looking through a booklet containing some stamps:

Child: Which ones are (.) which ones are ye fir::ndin
      (2.5)
Child: Eh mummy=
M: =I’m just having a look through pe::t

The child’s orientation to the normative expectation for a response is on the one hand revealed in her producing “Eh mummy” out of other alternatives; on the other hand, this very action reveals the child’s simultaneous attribution about her co-participant. As Wootton (2006) notes,

For example: she could have employed a summons (e.g. ‘Mummy’), as though her mother had not oriented to her initial turn (both prosodic features of Eh mummy and the way the mother replies to it suggest that it is not here designed as such a summons); she could have repeated her question (‘Which ones are ye findin’); she could have used words constructed as one of various kinds of possible increment to the prior turn (e.g. ‘In there’); she could have redone her question whilst at the same time introducing altered vocabulary (e.g. ‘Which ones are ye looking for’). The child’s actual turn represents a selection from these alternatives, one which also implicates a selection as
regards how she is treating the absence of response from her mother. Specifically, *Eh mummy* proposes that the form of her initial question was such that it was answerable and that the question was originally accessed by her mother; it implicates this kind of, possibly psychological, attribution. (p. 192)

The normative expectation to respond is thus often implicated also in the actions of the party who does not produce the response insofar as they orient to the expectation that a response from them is due and provide an account for not responding (Heritage, 1984a; Stivers & Robinson, 2006). In Chapters 5 and 6, I will consider absent responses from children with autism to questions from their teachers. In particular, I examine how the direction of the child’s *eye-gaze* might shape the way in which the noticeably absent response becomes treated.

### 1.2.2 Multimodal interaction

Although the origins of conversation analysis were rooted in the study of audio-recorded conversations and focused on the modality of talk, the development of modern audio-visual technology has enabled the conversation analytic inquiry to expand on the study of non-vocal aspects of interaction alongside talk; the use of video-recording enables the detailed scrutiny of real-life interactions *in situ* (Heath, 1986). As I have occasionally noted, eye-gaze can emerge as an important accompaniment to talk (or to absence of talk) in sequences of interaction. Thus not all actions are conducted in talk – eye-gaze, facial expressions, gestures, and body movement constitute what we consider as the *multimodal* interactional resources used in concert with talk. Consider, for example how an action initiated in talk can receive a response through another modality, as in Example 4, where the participants are having dinner.
Example 4 (Schegloff, 2007, p. 10, line numbers altered and omitted for clarity)

1. Sha: °Goo[d°
2. ► Mic: [Butter please, (0.2)
3. (6 lines omitted for clarity)
4. 13 ► (0.5) ((Shane passes butter to Michael))
5. 14 Sha: °.hhh° to Michael)

We see that, in line 2, Michael requests for butter – he produces an initiating action in talk which has sequential implications insofar as it makes a response relevant to the request. In line 13, Shane produces a response through non-vocal means, namely, by using his body as he begins to pass the butter to Michael. Note that although Shane’s action is accomplished through a different modality to that of Michael’s, we can easily see that this non-vocal action is relevant to the request that was produced in talk. In fact, it is the most meaningful response in comparison to any other possibilities, such as should Shane merely talk (e.g. “sure”) as a response without any attempt to pass the butter to Michael.

Recently, Berger and Rae (under review) have examined how the participants in interaction choose between the modalities at their disposal, for example, whether they produce a responsive action vocally, non-vocally, or build action through both elements. They have raised an interesting issue regarding the use of non-vocal responses (e.g. head bow doing iconic appreciation) which might, on some occasions (e.g. when used alone), avoid the production of a dispreferred response. As such, the non-vocal action can be occasionally used to deliver a disingenuous preferred response while fulfilling the sequential expectations to respond.

The different modalities are thus used to produce meaningful action interdependently. For example, gestures that accompany talk might not be understood independently of what
is said, while the talk itself might need an elaborated gesture to be relevantly understood (Goodwin, 2002). Non-vocal actions and talk, but also material objects and environments constitute diverse resources which enable people to conduct and shape meaningful human action in continuously changing contexts. As Goodwin (2003b) puts it,

symbiotic gestures are built through the conjunction of quite different kinds of entities instantiated in diverse media: first, talk; second, gesture; and third, material and graphic structure in the environment. The actions they are performing cannot be understood by focusing on the gesturing hand in isolation, or even just on the gesture and the talk that accompanies it. Symbiotic gestures might thus constitute one perspicuous site for investigating embodiment as something lodged within both human interaction and a consequential, structured environment. (p. 10)

In the following sections, I will take a closer look at how conversation analytic research has examined non-vocal actions as interactional resources among sighted individuals. In particular, I consider how non-vocal conduct can be shown to accomplish particular interactional business when examined within the sequences of action that are underway. I will start with eye-gaze.

1.2.3 Eye-gaze in interaction

In some settings (e.g. in telephone conversations), talk alone is the resource through which social interaction is conducted, however, non-vocal actions are an important element in face-to-face interactions among sighted individuals. Consider how the CA studies using audio-recorded telephone conversations essentially examine a particular kind of interaction that is different to face-to-face interactions. That is, while conversing on the phone, the participants have to continuously orient to the particular issues that arise due to the fact
that the parties cannot see each other; the speakers have to co-ordinate their talk and turn-taking based on the auditory modality alone.\textsuperscript{5} From this it follows that issues, such as showing recipiency to each other’s talk, or sorting out the problems of hearing or understanding, have to be realised and managed in ways that are limited in comparison to those at disposal in face-to-face conversations.

Let us consider the issue of \textit{recipiency} in face-to-face interactions. Eye-gaze is perhaps the most important resource for showing that one is receiving another speaker’s talk – by gazing at the speaker one displays that they are listening (Goodwin, 1981). Mutual gaze is thus important for both the speaker and the recipient. In the very early work that observed the systematic movement of eye-gaze in face-to-face interactions, Kendon (1990, originally published in 1967) described how gaze withdrawal seems to work as a warning from a party taking the floor to speak – especially very long utterances – with their gaze returning to the recipient when the talk nears its completion. There is an interesting observation, however, in terms of the significance of the recipient’s gaze to the speaker, which implies that the gaze activities of both parties can be consequential for the progression of the talk and sequence. As an example, consider Goodwin’s (2000) remarkably clear illustration of such issues following through Example 5 and Example 6, respectively. In Example 5, we have first a transcribed instance of some talk from Cathy.

Example 5 (Goodwin, 2000, p. 159)

1 Cathy: En a couple of girls- \underline{One} other girl from there,

We note how Cathy begins an utterance “En a couple of girls-” then cuts it off and produces a restart “\underline{One} other girl from there,”. By looking at the talk alone we have no way of knowing what might be going on in the non-vocal activities of Cathy and her
recipient. What follows (in Extract 6), is the same utterance and the gaze activity of both participants, Cathy and Ann.

Example 6 (Goodwin, 2000, p. 159)

Speaker brings gaze to recipient
↓ Restart
↓ ↓
1 Cathy: En a couple of girls- One other girl from there,
Ann: ((Hearer looking away)) ↑ ↑ Gaze arrives
↑ Hearer starts moving gaze to speaker

Cathy’s talk, and the way in which she restarts her utterance-in-progress, start to look different where eye-gaze is concerned. Note how Cathy, upon bringing her gaze to Ann when speaking to her, finds Ann gazing elsewhere (precisely upon uttering “girls-”). On seeing that Ann is not gazing at her – that is, not showing recipiency to her talk – Cathy does not simply continue, but specifically restarts her utterance with a slight modification. As we see, it is this restart that gets a response from Ann who begins to shift her gaze to Cathy (upon Cathy uttering “One”).

Restarts, pauses, and other speech perturbations are among the very regular vocal means for eliciting the eye-gaze of the recipient (Goodwin, 1981, p. 2000). Thus, they permeate as interactional resources (used for some particular purpose), rather than as a manifest of performance errors on the part of the speaker (see Chomsky, 1965). Consider how we might, in fact, see a speaker (such as Cathy) deliberately doing a performance error: Upon finding that her first utterance was not attended to, the cut-off and restarted modification display that the original utterance would have not been “correct” anyway and thus warrant another start while simultaneously eliciting the gaze from the recipient. In this way, rather than revealing some sort of incompetence on the part of the speaker, the restart
reveals sensitivity to the actions of the co-participant – this is especially clear when the
gaze behaviour of both parties are considered interdependently with talk. Heath (1986) has
examined how also body movement – posture shifts and gestures – are among the
resources that can be used to draw the co-participant’s gaze to us, as in Example 7.

Example 7 (Heath, 1986, p. 29)

[Dr=Doctor; P=Patient]

\[\text{Dr reads records} \quad \text{shifts gaze to P} \]

\[\text{Dr:} (- - - - - - - - - - - - 1) \quad \text{howav:: you bee:n:} \]

\[\text{shifts gaze to Dr} \]

\[^{\text{P sits and aligns posture}}\]

In this particular fragment, Heath shows how the patient does recipiency through
posture alignment and gaze shift to the doctor at the start of a consultation. This display of
recipiency pursues the doctor (who is occupied with reading the medical records) to make
the first “move” in the consultation. The subtlety of such actions is the key for the work
they pursue; large and theatrical movements would endanger attention to be drawn to the
movement itself. Thus Heath’s (1986) analysis of body movement and gaze on the whole
illustrates, that recipient gaze is important for the speaking party, not because of the
attention to oneself per se, but rather to have another showing attention to the utterance.
Furthermore, Heath shows how eye-gaze and body movement can be used as the resources
which enable the participants to move out of silent lapses or preliminaries towards the
business of interaction by gently pushing for the establishment of mutual involvement.

The findings considered so far imply that we can use a modality to act on behalf of
another modality – for example, showing by eye-gaze that “our ears are open” for the
speaker’s talk. Not unlike when a recipient might gaze at the speaker in order to give an
appearance of listening while being preoccupied with their own thoughts, for example. Thus in face-to-face interactions, participants orient to each other’s eye-gaze as a fundamental display of involvement and engagement – either with each other, or with something else. The parties conduct analyses of each other’s involvement which, in turn, shape their next actions. For example, one might take a remedial action to seek another’s gaze, or push them to speak in order to move out from stages of disengagement, and then pursue some action with mutual engagement is secured. In Chapter 7, I will consider how the teachers orient to the eye-gaze and body orientation of the children, and in particular, how the teachers can adjust material objects in the line of sight to elicit the child’s attention to a relevant object or activity.

Eye-gaze can be used for further distinct work in sequences of interaction, namely, to nominate and select the next speaker. According to the turn-taking system, the speaker transition occurs when a speaker’s TCU is coming to a completion; the next speaker can be implicated in the turn itself, for example addressing a question to a specific party (Sacks et al., 1974). The inspection of video-recorded interactions has shown that speakers also routinely shift their gaze to the selected party near the transition relevance place (Heath, 1984; Lerner, 2003). Thus gaze is used as a resource for showing that transition to the next speaker is relevant, and also identifying who has been nominated – a resource which is especially relevant in multiparty interactions (Lerner, 2003). Gaze can be further used when the talk itself has not placed particular constraints for another speaker to respond. Consider how such constraint-free talk might differ from the talk that makes a response conditionally relevant. Stivers and Rossano (2010) show how, upon producing talk that has a low response-pressure, the speaker can mobilise a response by shifting their gaze to the co-participant, as illustrated in Example 8.
Example 8 (Stivers & Rossano, 2010, p. 22)

1. (2.5)
   
   [(A & B gazing down)]

2. A:
   1.0)/((A looking down; B looking at A))

3. (0.2)/((A shifts gaze to B))

4. 1.3)/((A & B hold mutual gaze))

5. B:
   ((Hands out gesture + leftward head tilt + facial expression))

6. (7.5)

7. A:
   Beh insomma Angela ha vinto l’Erasmus ad Heidelberg (0.2)...

8. A:  
   Well Angela won the Erasmus for Heidelberg (0.2)...

Stivers and Rossano observe how, in line 4, A gazes towards B to pursue a response to her earlier talk, which in itself did not make a response relevant from B. The response implicativeness of her eye-gaze is realised as, after a spell of mutual gaze, B embarks on a gesture and facial expression (line 6) that correspond to “what a pity” or “what can you do” in relation to A’s earlier talk (Stivers & Rossano, 2010). Eye-gaze, as it emerges, is a powerful means for eliciting action such as a response when talk alone might fail to accomplish it.

I noted earlier how even young children orient to the sequential expectations in initiating and responding to actions. Kidwell (2005) has shown how children orient to caregiver’s shift of gaze to them as a socially relevant matter – especially, a gaze which is sustained at the child, while the adult ceases other activities that might have been in progress. This particular gaze, or “the look”, is treated as a warning about a possible sanction when the child has engaged in misconduct that the caregiver treats as undesirable. Routinely the children stop their behaviour or activities in response to such gaze alone; Kidwell calls gaze as social control. The work that any spell of gazing is doing, at any particular moment, has to be realised sequentially, in relation to other activities that are in
progress. In this thesis, I examine eye-gaze in sequences of interaction and how children with autism use and orient to eye-gaze despite the widely documented impairments in the social use of eye-gaze that characterise the disorder. Facial expressions are another important resource that is used for interactional work, emotional connotations notwithstanding. I will consider these next, namely, smiling in relation to talk.

1.2.4 Facial expressions in interaction

Alongside eye-gaze, facial expressions routinely attract attention in the face. Traditionally, in psychological literature, facial expressions have been considered as the manifestations of our internal states and feelings; for example, on exhibiting a *Duchenne smile* we reveal the state of true happiness (Ekman, Davidson, & Friesen, 1990; Ekman, Levenson, & Friesen, 1983; Frank, Ekman, & Friesen, 1993). Ekman’s (1973) work has proposed strong evidence for the universality of facial expressions and their correspondence to internal states: six basic facial expressions (anger, happiness, fear, surprise, disgust and sadness) are shown to be recognized across very different cultures (Ekman, 1973; Ekman & Friesen, 1971). While critique has raised concerns about the various degrees to which facial expressions are essentially displayed in *social* contexts (e.g. Fernandez-Dols & Ruiz-Belda, 1995; Hess, Banse, & Kappas, 1995; Kraut & Johnson, 1979; Ruiz-Belda et al., 2003; Russell, 1994), some conversation analytic literature has specifically considered how facial expressions, such as smiling or frowning, occur at particular places in the sequences of interaction where eye-gaze also plays a significant part.6

Various non-vocal actions, such as nods (Stivers, 2008) as well as body postures, eyebrow flashes, smiles, and the rolling of the eyes (M. H. Goodwin, 1980) are routinely used to show the recipient’s understanding of, and stance towards, the speaker’s talk. For
example, the production of vocal continuers (e.g. “yeah”) in response to the speaker’s story aligns with the speaker as the story teller, but nodding at such places also affiliates with what the speaker is saying (Stivers, 2008). Thus nods can be a token of recipiency and understanding; they can be also used to affiliate in doing a response (also Berger & Rae, under review). Recently, Ruusuvuori and Peräkylä (2009) have specifically examined the use of facial expressions in exchanges where an affiliation with assessments in conversations has been made relevant, that is, “how speakers and recipients arrange face and talk in different configurations in order to display their stance toward what is being told” (p. 377). In Example 9, from their data, the speaker displays their stance towards their own talk through a particular facial expression to which the co-participant affiliates in the talk that follows.


1. (4.0)
   right.
3. (1.7) ((B swallows, wipes her mouth))
4. (1.5) ((B touches her pendant, and opens her mouth to begin her announcement))
5. B: Ai niin tämmönen >tää oli tää< koru  
   Oh yeah this is >what this< pendant was like
6. minkä mää sain,  
   that I got,
7. (0.4)
   oh right.
9. B: mhh|e
10. A: [Ai se on noin iso.  
   [oh it’s that big.
11. (1.0)
12. A: Mä kuvittelin et se on ihan se|llanen [mini|f.  
   I thought that it’s just the |kind of |mini|f.
13. B: [No e:i mutta  
   [well no: but
In the fragment above, two Finnish girls are conversing over lunch and arrive at a mutual appreciation of a pendant B is wearing. This collaborative accomplishment lies in the interactional detail of this exchange. In their analysis, Ruusuvuori and Peräkylä consider the design of B’s actions on inviting an assessment from A. First, B gently pulls the pendant on her neck, but the gesture only displays the object as observable by A. Second, consider how B’s talk “Oh yeah this is >what this< pendant was like” (“Ai niin tämmön >tää oli tää< kori”) does not in itself show a valence towards what is said but further indicates the pendant as the object of assessment. Rather, on turning to look at her own pendant, B starts to smile and sustains her expression throughout the assessment. On responding to the invite which thereby has been implicated, A affiliates with the positive valence displayed on B’s face (“yeah(.) well it’s really beautiful.” [“Joo(.) no se on tosi kaunis.”] line 25) and further reciprocates the stance through smiling.

The authors note, how affiliation towards some talk can be made relevant at different locations that is, before, during, or after a telling. In particular, the facial expression – such
as the smile – indicates the kind of response that is searched from the recipient, when what is said could be taken in different ways, for example, seriously or light heartedly. In another data fragment, Ruusuvuori and Peräkylä show how the speaker who holds a straight face throughout their telling only beings to smile at the end of the punch line. Notably, the speaker sustains their gaze and smile at the recipient throughout a short silent interval that emerges between the turn and its response – the expression pursues a particular response through implicating a humorous edge in the telling. The stance is then reciprocated by the recipient’s uptake and smile.

Thus the evidence from real-life conversations warrants a re-think of the human face as the site of direct internal manifestations such as the emotional states, of a person. In particular, the facial expressions that are at the speakers’ disposal (such as the smile), can be artfully tailored in relation to what is said and when pursuing a particular kind of affiliation from the co-participant. The expressions thus have interactional relevance for both the speaker and the recipient insofar as the facial expression can afford means for accomplishing the valence of some talk, or imply the stance towards what is said; routinely the expressions cease, or are modified, after some interactional business has been accomplished. In Chapter 4, I further examine smiling as an interactional resource by considering an interaction between a boy with autism and his teacher. In particular, I inspect how smiling can orient towards some bit of talk but also to the way in which eye-gaze might seek a response from another.

The detailed examination of the use of facial expressions and eye-gaze in children with autism and their co-interactants can further indicate how these resources are essentially social. This means that they can serve specific interactional pursuits at the sequential level of initiated and responsive actions, rather than substantiate as purely socio-cognitive processing of a psyche located within a body, and acting somewhat independently of the
nuances of interaction. While conversation analytic research has been mainly applied to neurotypical participants, a word should be said about research that has addressed participants with a limited capacity for spoken interaction. I will briefly consider some of the applied conversation analytic work of interactions involving individuals with learning disabilities and acquired aphasia, before moving on to the autism spectrum disorders, in particular.

1.2.5 A brief consideration of non-neurotypical interactions

One of the advantages of applied conversation analytic research is in its potential to inform professional and institutional practice based on the empirically grounded findings of the organisation of social interaction. Indeed, a strand of conversation analysis has been heavily concerned with institutional interactions (e.g. Drew & Heritage, 1992), and a range of disciplines have found value in the conversation analytic contributions, for example, in education, applied linguistics, medicine, counselling, and broadcasting. Richards (2005) reminds us, that the merits of conversation analysis in informing practice do not merely lie in the scope for providing detailed description of social interactions, but also in the processes of training and development that could be offered based on the findings.

Some conversation analytic work has examined the care practice of clients with learning disabilities. For example, an examination of mundane interactions in residential homes has shown that the way in which the care staff formulate questions can encourage choice-making and positive identity conceptions for the clients (Antaki, Walton & Finlay, 2007). The attention to everyday conversations can thus have far-reaching implications in the institutional practice, and the way in which the staff interact with clients. Other related work has addressed the communicative strategies of individuals with learning disabilities (Wootton, 1989), their identity management in interview contexts (Rapley, Kiernan, &
Antaki, 1998), and how they formulate refusals to the care staff (Finaly, Antaki, & Walton, 2008b). The detailed inquiry can also inform how power and empowerment are negotiated between the care staff and clients with profound learning disabilities. For example, one site for such negotiations can emerge when clients play games and engage in past-time activities (Finlay, Antaki, Walton, & Stribling, 2008). As Finlay et al. (2008) themselves put it, “One of the problems we often encounter when trying to understand empowerment in practice is in trying to decide when encouragement becomes direction, and when playfulness tips over into disempowerment” (p. 546).

In another line of conversation analytic inquiry involving adults with difficulties of spoken communication, namely, acquired aphasia, it has been shown that the use of multimodal resources can sometimes overcome the limitations that are posed on the capacity to use talk in interaction. While conversation analytic work on neurotypical participants focuses on general socially shared resources, the work on non-neurotypical participants might reveal practices that are very specific to their particular condition. Thus when examining interactions involving speakers with Broca’s aphasia, for example, their talk and other conduct does not tell us about aphasia generally, but rather how the condition manifests for the particular speaker. Furthermore, also these speakers can show orientation to the socially shared interactional concerns despite their specific difficulties; I will consider some of this work in the next section.

### 1.2.5.1 Interactions involving speakers with acquired aphasia

The detailed inspection of the everyday interactions involving speakers with acquired aphasia (e.g. Goodwin, 1995; Kliippi, 1996; Laakso, 2003; Lock, Wilkinson, & Bryan, 2001; Wilkinson, Beeke, & Maxim, 2010), a condition that affects different types of agrammatism, syntactic, phonological, and semantic problems due to the damage to the
brain (for example, following a stroke), have been revealing in terms of how the speakers adapt to interactions, the difficulties in the production (Broca’s aphasia) or understanding (Wernicke’s aphasia) of speech notwithstanding. For example, the detailed conversation analytic work from Goodwin (1995) and Klippi (1996) have addressed multimodality – the use of gestures and various semiotic resources, such as writing and graphical representations – in the interactions involving speakers with aphasia and their co-participants with an intact capacity for spoken interaction. While the production of speech can pose extreme difficulties for the speaker with aphasia, the participation in complex conversations is still possible, for example through gesturing and melodic uttering of syllables (Goodwin, 1995). The important contribution of conversation analytic framework is in the identification of the grammatical and lexical utterances within a turn and in the sequential contexts; considering their use outside of such immediate context might not show their specific interactional value.

Gestures, facial expressions, and body movement can afford for the speakers with aphasia the economical means to contribute in interactions with others; the compensatory use of other modalities apart from talk can accomplish complicated interactional moves, such as kinesic enactment, recently considered by Wilkinson et al. (2010). An example of such enactment is provided in Example 10 from their data.

Example 10 (Wilkinson, Beeke, & Maxim, 2010, p. 65)

1 Tim:  uhm: (0.3) what’s the boy’s name that ( ) that plays
2   football
3 Donald:  (1.4) eh (. ) Larry Larry,
4 Tim:  Larry right.
5 Donald:  [eh, eh tall. ]
6 [(indicates “tall” with hand)]
7 (2.5)
8 eh Gus (. ) [( )]
9 Tim:  [oh Gus] [Gus yeah]
10 Donald:  [ Gus, ]
Wilkinson et al. demonstrate how Donald, the speaker with aphasia, is in the process of describing to his relative, Tim, some threatening behaviour from a boy during a neighbourhood incident. In lines 11 and 12, Donald produces a vocalisation (stressing the sound) and then depicts the threatening behaviour by enacting it kinesically: “he pushes his head forward and stares, as if at an opponent, while tensing his mouth and face as if in readiness to fight” (p. 65). Thus Donald deploys his body movement and prosodic delivery of the vocalised sound which enables him to overcome the difficulty that a lexical articulation of the situation would have posed him.7

The collaborative nature of conversations (Schegloff, 1982) becomes especially prominent when considering the interactions between speakers with aphasia and their co-interactants with an intact capacity for spoken interaction. The occurrence of repair sequences is very common, insofar as the establishment of mutual understanding have to be constantly monitored by the parties in interaction due to the reduced linguistic capacities in play. For example, the word-finding problems are recurring, and the repair sequences are often shaped by the degree to which the co-interactant participates in the word search with the aphasic speaker. Laakso (2003) notes how the differences in participation shown by spouses and the speech and language therapists can, on the one hand, reflect the degree to which the speakers have shared experiences that might form the topic of conversation (posing an advantage in conversations between spouses, for example), but on the other hand, the reduced participation can derive from the institutional practice of the therapist whereby the efforts of self-repair are encouraged. Such practices, however, might allow for the apparent difficulties of one speaker to permeate as a prominent issue in the interaction while the joint construction of repair sequence could
deflect some of these limitations. Indeed, Laakso has questioned “could therapy offer opportunities and practice in joint production of the ideas the aphasic speaker wants to communicate” (p. 182).

As with speakers with aphasia, children with autism spectrum disorders often have a limited capacity for spoken interaction. However, unlike acquired aphasia, autism can pose specific challenges in regards the use of eye-gaze, gestures, facial expressions, and the implementation of semiotic resources due to the nature of the neurodevelopmental impairments which are fundamentally considered to affect the children’s overall capacity to engage in social interaction. I will consider next how autism has been approached through the conversation analytic framework. First, I will focus on talk related practices and then address autism spectrum disorders more broadly. I will introduce the conversation analytic studies regarding autism and non-vocal behaviours in a moment.

1.2.5.2 Interactions involving individuals with autism

The limited capacities to use talk for communicative purposes can often make everyday social interactions difficult for children with autism and those closest to them. The behaviours that are regarded as essentially idiosyncratic and repetitive such as “echolalia” (repeated talk) are generally considered as symptoms of the disorder. A range of educational treatment approaches is currently available for young children with autism, often based on differing views on the communicative properties of the behaviours that the children exhibit. A comprehensive review by an expert panel on ASD (National Research Council, 2001) concluded that, although a number of approaches have demonstrated positive outcomes, not all children benefit equally from any one approach. Thus, while studies have shown that early diagnosis and intervention can lead to significantly improved outcomes for children, no one approach seems to outperform in overall effectiveness.
The popular behaviour modification programmes used in the UK (e.g. Applied Behaviour Analysis [ABA], Lovaas method) but also in Finland, are based on a principle of reinforcement: certain behaviours are encouraged or discouraged depending on how appropriate or functional they are considered to be. For example, the stereotypical and repetitive behaviours are commonly regarded as symptomatic. Interpreting repeated talk or “echolalic” utterances as meaningless and non-communicative has led some researchers to suggest that such talk should be extinguished or modified by the use of therapeutic interventions (Coleman & Stedman, 1974; Schreck, Garito, Smith, & Weisenberger, 2004; Lovaas, Schreibman, & Koegel, 1974). By contrast, some literature drawing on the detailed interactional analysis of conversation analysis has examined the instances of repeated talk in terms of where they are placed in sequences of interaction - considering the way in which repeated talk is not merely symptomatic of underlying pathology, but rather in some way responsive or sensitive to the specific features of the interaction. Such research has considered how a child with autism can initiate a playful exchange by repeating a commonly known segment of a cartoon, for example (Tarplee & Barrow, 1999), and how they can pursue a response by repeating their prior (unresponded to) utterance (Stribling, Rae, & Dickerson, 2007; Stribling, Rae, Dickerson, & Dautenhahn, 2006). Further, in my recent work (Korkiakangas, Rae, & Dickerson, in press) I show how a young Finnish girl with autism uses prosody and temporal features when conversing with her teacher through the use of repeated talk. Rather than “echoing” in a non-communicative fashion, the child shows subtle competencies in her orientation to the interactional work (namely, acknowledgement or a repair initiation) of vocal repetitions and their prosodic features.

Clinical assessment situations are institutional interactions in their own right that merit some consideration. Previous conversation analytic inquiry by Maynard (2005) draws on
naturally occurring clinical assessment data involving a child with autism and a clinician.

Maynard illustrates the notion of *autistic intelligence* as an interactional practice: The child answers the questions in Brigance Diagnostic Inventory of Early Development subtest in a manner that shows a pattern of localised stimulus bound reasoning. According to Maynard, this reasoning is essentially different to the global “commonsensical” understanding revealed within the “standard” neurotypical responses that are routinely given to “*what do you do when X happens*” – type questions. Thus, through the question-answer sequences some kind of patterning of autistic thinking could be identified (Maynard, 2005). Further conversation analytic studies have been brought to bear on the interactions involving children with autism and their co-participants, such as parents, teachers, and learning support assistants. In the following, I will examine examples of such studies.

1.3 Autism Spectrum Disorders (ASD)

The purpose of this section is to provide a highly selective overview of some of the current concerns regarding autism. I will start by introducing some of the first documented observations of autism, and the arrival at the contemporary diagnostic criteria and some of its controversies. For clarity, I have adopted the term *autism* in reference to the individuals on the *autism spectrum*; in Chapter 2, I will outline the participant information regarding the present study, and provide the diagnostic information that was available for the children who all share the diagnosis of *autism*. In the subsections that follow, I will consider closely the evidence regarding those aspects that are relevant within the domain of this thesis, namely, gaze-related impairments, facial expressions (and the emotional competence), and problems with object-mediated interactions. Throughout the review, I remain attentive to the research methodologies that have been used to construct and advance the current understanding of the disorder. This is important insofar as the critical
consideration of the established research methodologies in autism research inevitably calls for new and innovative ways to examine naturally occurring interactions.

As the term autism spectrum disorder (ASD) suggests, the condition is contemporarily regarded as a wide heterogeneous spectrum with severe and mild forms. The first conceptualisation of early infantile autism derives from Kanner’s (1943) observations of children who shared particular features which seemingly left the children unable to form social relationships with others. The early classical descriptions of autism still underlies the general understanding of the condition, insofar as autism is often characterised in terms of autistic aloneness, desire for sameness, and the occurring islets of ability (for example, astonishing numerical abilities). In Kanner’s early descriptions, the relations to objects were considered as relatively intact insofar as the children appeared to be particularly interested in objects, while the social relations with people seemed to be profoundly disregarded.

Further pioneering accounts on autism came from Asperger (1944/1991) who, like Kanner, made observations about the particular behavioural and expressive problems that resulted in the children’s difficulties in integrating socially with other people, notably with peers. Some of the fascinating accounts of the children’s eye-gaze embodied what has been described as autistic aloneness, for example, the child “darted short ‘peripheral’ looks and glanced at both people and objects only fleetingly. It was as if he wasn’t there” (Asperger, 1944/1991, p. 42). Other behavioural features, such as the stereotypical body movements were described: “he would suddenly start to beat rhythmically on his thighs, bang loudly on the table, hit the wall” (Asperger, 1944/1991, p. 43). Asperger documented also the peculiar and often extremely heightened sensory experiences towards certain stimuli shown by these children. While these features do not fit with the social impairments fundamentally implicated in the disorder, the sensory phenomena have been placed in “a
ragbag of observations” (Frith, 2003, p. 10) with non-social connotations. I will return to the sensory features later on in this review (section 1.3.4).

Despite the shared features describing the condition, there is great variation within the spectrum, and Kanner’s early descriptions resulted in being distinguished from those proposed by Asperger. Thus, *Asperger syndrome* became a label used to refer to children with a high level of ability (language and intellectual abilities preserved and non-delayed) who nevertheless experienced social communicative difficulties that posed problems in peer integrations and forming social relationships. While the conceptualisation of such differences in autism and Asperger syndrome resulted in a particularly important diagnostic development, the debated nature of the two variants belonging to a single entity still divides opinion (Volkmar & Klin, 2000; Tanguay, Robertson, & Derrick, 1998).¹⁰

Some of the key findings in regards of the core symptomology were made by Wing and Gould (1979) who showed, that the social impairments can take different formats and vary with age, for example, very mild symptoms in a young child might become prominent when older and change for other types of symptoms. Importantly, however, it was found that the triad of impairments was present in all the children with autism – that is, deficits in social interaction, verbal and non-verbal communication, and the presence of impaired imagination and repetitive behaviours – which formed the cornerstone for understanding autism as a distinct syndrome unified by particular *core* impairments.

The diagnostic schemes offered in the *Diagnostic and Statistical Manual* (DSM; American Psychiatric Association [APA]) and in the *International Classification of Diseases* (ICD-10; World Health Organization [WHO] 1992), are taxonomic guides that undergo continuous revision. While autism falls under the concept of pervasive developmental disorders (PDD) in DSM-IV-TR (text revision, APA, 2000), the understanding of both the heterogeneous variation within the spectrum, and between
autism and other childhood developmental disorders, are not clear cut (see review by Volkmar, State, & Klin, 2009). One of these concerns relate to the close and paradoxically arbitrary relationship between autism and pervasive developmental disorder unspecified (PDD-Unspecified) and pervasive developmental disorder nototherwisespecified (PDD-NOS). I will take a moment to consider these issues and some of the problems in defining what “counts” as autism. The consideration is warranted through the case of “Ingrid” (a participant in the present research) whose diagnosis changed from PDD-Unspecified to autism shortly after her participation in this study (details provided in Chapter 2).

1.3.1 Pervasive Developmental Disorder-Unspecified/

Pervasive Developmental Disorder-Not Otherwise Specified and ASD

Pervasive developmental disorder (PDD) is a broad term which refers to a spectrum, including Autistic disorder, PDD-Not Otherwise Specified (in DSM-IV-TR), Asperger’s syndrome, Rett’s Disorder, Childhood Disintegrative Disorder, and Atypical Autism (in ICD-10). PDD-Unspecified (F84.9) is a category which appears in ICD-10 and is somewhat narrower than PDD-NOS which appears in DSM-IV-TR. However, a closer inspection of these descriptions reveals that, although PDD-NOS is a broader description, it corresponds to the combination of PDD-Unspecified and Atypical Autism which both appear in ICD-10. The space and focus prohibits a further discussion on the possible distinctions between these two descriptive categories. Instead, I will focus on their similarities with autism and for clarity, will treat both PDD-Unspecified and PDD-NOS as one and the same from here on in.

By definition, PDD-Unspecified/PDD-NOS include the symptoms of autism or Asperger’s syndrome, but there might be fewer symptoms present, and they can be milder. The impairments in social reciprocity, communication, and behavioural flexibility
highlight the similarities in the clinical descriptions between PDD-Unspecified/PDD-NOS and autism. The close similarities do not lie merely within the behavioural observations, but also emerge in the neuropsychological measures of joint attention and in the ventromedial prefrontal cortex and the dorsolateral frontal cortex function during task performances (Dawson, Munson, et al., 2002). Furthermore, the measured responses in event-related potentials, which are activated on viewing familiar and unfamiliar faces, were no different between PDD-NOS and autism groups, but both groups showed an atypical pattern as compared to a control group (Dawson, Carver et al., 2002).

However, the somewhat vague categorical description of PDD-Unspecified/PDD-NOS relates to the problematic distinction between the category itself and other syndromes (Tanguay et al., 1998). Tanguay et al. note, that the difficulty of creating threshold measures regarding the “required” amount of impairments in the areas of reciprocal social interaction, communication, and restricted behaviour patterns makes it a fairly arbitrary process to draw boundaries within a continuum and to impose a diagnosis. The idea of a continuum, without clear boundaries about the degree of impairments, poses always difficulties for any attempts to allocate a cut-off point on the spectrum and to fit an individual within one or the other conceptualised category. Waltz (2003) highlights the problem of labelling as an arbitrary yet simultaneously important practice by noting that “a person may start out with one diagnosis, such as PDD-NOS, and end up with another one several years later when new symptoms emerge or old ones disappear. There are many cases in which a very young child diagnosed with autistic disorder later ‘moved up’ to PDD-NOS or atypical PDD, or in a few cases, to no PDD diagnosis at all” (p. 14).\[11\]

The order of the PDD continuum in itself is yet unclear. Kurita (1997) argues that autism should be in the most severe end, followed by PDD-Unspecified/PDD-NOS, and finally Asperger’s syndrome at the mildest end; others (Prior et al., 1998) have debated
about the order between PDD-Unspecified/PDD-NOS and Aspergers’ syndrome. The
distinction and diagnosis between PDD-Unspecified/PDD-NOS and autism is thus
problematic; further problems are encountered when the allocation of a diagnostic label is
influenced by the experience and procedures used by a clinician, or as Waltz (2003)
argues, “how comfortable they are with the admittedly limited DSM-IV criteria” (p. 14).

The issues of definition and taxonomic categorisation are thus inherently difficult.
They are largely subjected to scientific paradigm shifts and to the changing
epistemological understandings of abnormality in general. The inclusion and exclusion of
disorders from the DSM throughout its history clearly reflects the evolving social
constructions of pathology and disability. For example, while in the current edition of
DSM-IV, PDD-NOS still appears as a separate diagnostic category, it will be subsumed
under Autistic disorder within the new DSM-5 revision (currently under consideration).
Despite the heterogeneous variation within the autism spectrum in general, the
impairments fundamentally associated with autism lie within the domain of social
interaction. I will move on to consider these impairments in more detail. In particular, I pay
attention to the methodologies that have been used to examine eye-gaze related
impairments.

1.3.2 Gaze-related impairments in autism

The unusual gaze related behaviours are perhaps among the most frequently cited
characteristics of the disorder. They featured already in the pioneering accounts of
Asperger (1944) and Kanner (1943), who described the eye-gaze of the children as
disengaged and “strikingly odd” (Asperger, 1944/1991, p. 42). Avoidance of mutual gaze
is typically the first behavioural characteristics of infants who later receive a diagnosis of
autism. For example, Osterling and Dawson (1994) examined home videos of the first
birthday parties of children (who had later received a diagnosis), and found that these children exhibited reduced social attention to other people, even when their names were called. Joint attention, that is, sharing a referent with another person and following their gaze, has been considered as one of the main socio-cognitive developmental turning points in the development of neurotypical infants. Children with autism show difficulties in the gaze following as a measure of joint attention skills (e.g. Carpenter, Pennington, & Rogers, 2002) which poses also this impairment as an early sign of autism. The aversion of eye-to-eye gaze constitutes a specific diagnostic criterion in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) which specifies this as part of the difficulties in the use of non-vocal behaviours for communicative purposes. I will consider some of the assessment measures that observe gaze-related behaviours in Chapters 5 and 8.

The vast amount of quantitative research involving coding of behaviours, such as whether or not eye-gaze occurs in interactions, has informed us about the distribution of gaze-related impairments in autism (e.g. Hobson & Lee, 1998; Swettenham, Baron-Cohen, Charman, Cox, et al., 1998) and pinpointed group differences between children with or without a clinical condition. One of the studies that examined the children’s averted gaze in face-to-face interactions was conducted by Hobson and Lee (1998). The authors coded eye-to-face contact in children with and without autism in spontaneous and prompted greeting contexts with an unfamiliar experimenter. While all but two children without autism made eye-to-face contact with the experimenter, only approximately half of the children with autism did so. Hobson and Lee concluded that as the children with autism made less eye-contact in the greeting context, this indicated not only quantitative but also qualitative differences. In particular, they suggested that gaze aversion reflected impaired affective social relatedness insofar as the children with autism appeared to afford less regard to other people in interactional situations. While some studies have shown that
familiarity (e.g. the face of a parent) affects the way in which individuals with autism process faces (Aylward et al., 2004; Pierce et al., 2004), other research shows that children with autism make characteristically less eye-contact even with people who are familiar and close to them (Volkmar & Mayes, 1990). Recently, diminished eye-gaze to mother’s eyes were also recorded in infant siblings, implying that reduced eye-gaze to eyes and faces can serve as an early indicator of risk for developing autism (Merin et al., 2007).

Broadly, there are two ways in which the underpinnings of the gaze related atypicalities have been explained in the field of autism research: either through active avoidance or more passive omission of eye contact (see a review by Senju & Johnson, 2009). The proponents of the former understand the atypical gaze behaviours (namely, gaze avoidance) as a result of the hyperarousal of the brain in response to perceived eye-gaze. This variant of the affective arousal model suggests that the perceived eye-gaze results in aversive brain arousal which implicates the affective neural circuitry and leads to fear reactions and negative emotions (Dalton et al., 2005; also, heightened arousal in skin conductance responses, see Kylliäinen & Hietanen, 2006). The avoidance of mutual gaze can thus serve as an adaptive way to reduce such activation and negative experiences. However, inconsistencies are found in the neuroscientific literature, as also reduced amygdala activation has been found in individuals with autism as a response to stimuli displaying emotional states within the eye-region of faces (Baron-Cohen, 1991). The hypoarousal model proposes that individuals with autism fail to attach reward value in the perceived eye-gaze which interferes more globally with the processing of social stimuli as a communicatively motivational matter (Dawson, Carver, et al., 2002; Dawson et al., 2005).

The gaze-related impairments have been examined specifically in relation to the social-cognitive development (e.g. Ruffman, Garnham, & Rideout, 2001; Senju, Southgate,
White, & Frith, 2009) and theory of mind abilities. These abilities refer to the neurotypical attributions made about mental states in other people and the use of such insight to predict social behaviour; theory of mind attributions have been shown to be difficult for children with autism in various experimental tasks that require insight for understanding social scenarios and deception (Baron-Cohen, 1995; Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997; Baron-Cohen, Leslie, & Frith, 1985; Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001; Ruffman, et al., 2001).

Some researchers have inferred that it is specifically the direction of eye-gaze that indicates social understanding, and that children with autism are less likely to look at the correct location in the tasks that require anticipation of the behaviour of others (Ruffman et al., 2001). One such task studying mental state understanding requires the participant to make attributions about different mental states to the photographs that only reveal the eye-region of faces (the Eyes Task). The implication is that eye-gaze alone conveys significant information about the emotional states in a face; individuals with autism and Asperger syndrome tend to show poorer performance as compared to neurotypical individuals with an intact ability to understand mental states in others (Baron-Cohen et al., 1997, 2001). This impairment has been suggested to mirror other related difficulties in joint attention and in making inferences about what another person is thinking as judged by the direction of the person’s gaze (Baron-Cohen et al., 1995; Baron-Cohen & Cross, 1992).

Baron-Cohen et al. (1997) have claimed that by means of tapping into the attributions made about eye-gaze alone, the Eyes Task represents a very advanced test of mental state understanding. Specifically, they have argued that the static photographic stimuli make the test easier as compared to ordinary social situations where eye-gaze and facial displays are constantly changing. Thus, the difficulties exhibited by individuals with autism in this test appear to indicate a pervasive impairment in the theory of mind abilities. By way of
contrast, the opposite could be argued about the nature of such stimuli. That is, the photographic stimuli can deviate from everyday situations where eye-gaze does not occur as a static abstraction but forms a dynamic concert with talk, gestures, body movement, and facial expressions, and for this reason it might make the test harder (some conversation analytic evidence for the concurrent use of multimodal resources involving gaze, facial expressions, and body movement, will be reviewed under section 1.2.2). Indeed, the limitations posed by stimulus materials have been recognised also within the experimental studies that employ eye-tracking technology. For example, Sterling, et al. (2008) acknowledge how

static black-and-white images are not equivalent to real-life situations in which faces are interactive. In interpersonal situations, individuals are expected to interpret and integrate nonverbal information such as facial expressions and speech, and respond in a timely, reciprocal, and appropriate manner. This is particularly challenging given the complexity of subtle but meaningful alterations in eye gaze, emotional expression, and tone of voice that may fluctuate concurrently. (p. 1673)

While the use of eye-tracking has the advantage of producing precise measurements of the spontaneous looking times and fixation patterns of the eyes, the social implications of eye-gaze should be also considered in detail. In another line of inquiry, this issue has been raised while calling for paradigms that might better capture gaze behaviours in more naturalistic settings which “simulate the demands of daily experience” (Klin et al., 2002, p. 809). In particular, attention has been drawn to the benefits of using eye-tracking equipment to examine the viewing patterns for dynamic faces presented in various social scenarios, such as in films. In the first exploratory study that recorded spontaneous viewing patterns for the digitised and socially rich scenes from the movie, “Who’s afraid of Virginia Woolf”, Klin et al. (2002) found that, while the individuals with autism fixated
mostly on the *mouth* region of the actors, this pattern predicted a higher level of social competence. Surprisingly, looking at the eye-region did not predict social competence in individuals with autism. The authors have proposed that there is a possibility that others’ eye-gaze has little meaning in terms of understanding social situations for these individuals who might “acquire a degree of perceptual expertise on mouths but not on eyes” (p. 814).

Subtle gaze-related social competencies were reported in a later study by Fletcher-Watson et al. (2009), who examined the viewing preferences of adolescents and adults with autism for static images. While the findings indicated that these participants, like their neurotypical counterparts, showed a preference for looking at *social* information (e.g. an image with a person present as opposed to objects or backgrounds) rather than non-social information, the first fixation point to the social elements was less strong or completely absent in individuals with autism, implying that the bias towards social information is nevertheless reduced (Fletcher-Watson et al., 2009). These important studies raise the question however, whether the viewing of scenes and images *without* any social participation might be different to the situations in which one actually participates in daily settings.

In everyday contexts, *gaze* does not simply fall into a neatly defined category, but rather gaze is systematically placed with talk and other non-vocal activities in order to accomplish interactionally meaningful actions. The paradigms that employ simple coding-categories or count frequencies of behaviours might under attend to the specific details of actual interactions, such as how eye-gaze occurs in response to some sequentially relevant work. To illustrate how behaviours might not be always captured in their interactional sense through coding, I want to briefly consider a study by Behne, Carpenter, and Tomasello (2005) that examined *neurotypical* infants’ ability to infer a communicative intent from gaze and pointing gestures as part of an experimental hiding-finding game. The
experimenter had hidden a toy inside one of two containers behind a screen and the communicative intent was elicited by using two types of deictic cues. First, the experimenter gazed repeatedly at the baited container and then back at the child, eliciting communicative intent by raising her eyebrows. In the second condition, the experimenter gazed in a similar fashion but now pointed at the container in which the toy was hidden. Infants as young as 12-months passed this task by searching the toy from a correct container and thus showed comprehension of the non-linguistic communication. However, the authors briefly noted some interesting gazing practices from infants who did not pass the tasks. Namely, while showing difficulties in finding the toy, some of these children, occasionally, gazed at the experimenter questioningly. It should be noted, that while not meriting a pass in the context of the experiment, gazing at another can be nevertheless a competent action. That is, gazing can be sequentially implicative insofar as it can make a response relevant from the party being gazed at. The coding paradigms might not always capture the events that occur and the lack of transcription of the experimental situations themselves might allow some actions to pass unnoticed that might, in fact, have interactional relevance. In the following, I will consider conversation analytic findings of the use of eye-gaze in naturalistic settings; these interactions involve children with autism.

1.3.2.1 Showing recipient-sensitivity through eye-gaze

Robins, Dickerson, Dautenhahn, and Stribling (2004) examined the use of eye-gaze in children with autism who were interacting with co-participants and toy robots. The authors observed that the children occasionally commented on the movements of the robot to the co-participating adults, using both gaze and gestures. The important finding was the way in which these actions occurred sequentially. For example, prior to producing a kicking leg movement, the child with autism first established mutual gaze with the co-participating
adult, and then shifted their gaze downwards so as to direct the co-participant’s gaze to their leg before producing the movement. Robins et al. note how the recipient-sensitivity is evident in such behaviour from the child. That is, the child does not simply begin the kicking gesture, but rather they orient to establish mutual focus of involvement first as the gesture occurs below the immediate view of the recipient.

In another study, where children with autism and the co-participating adults were interacting with toy robots, Dickerson, Rae, Stribling, Dautenhahn, and Werry (2005) showed how the child co-ordinated their gaze and talk in order to accomplish interactionally relevant work, as illustrated in Example 11 from their data. In line 4, Lenny, a boy with autism, produces some talk while observing the robot platform. A member of staff, Tina, is present but seated off camera.

Example 11 (Dickerson, Rae, Stribling, Dautenhahn, & Werry, 2005, p. 24)

[L=Lenny; R=Robot; T=Tina]

Lenny’s gaze is indicated above the line.

(lines 1-3 omitted for clarity)

4       L:       R→               Why’z it stopped

5       ...(Tina)

In the fragment above, Lenny has been observing the moving robot. In line 4, Lenny produces talk, namely, a question “Why’z it stopped”. While his question makes a response relevant, it does not in itself address any particular party as its recipient. However, upon coming to the end of his utterance, Lenny shifts his gaze to Tina, in line 5. Thus Lenny uses eye-gaze to select a recipient for his question at a transition relevance
place, and clearly expects a response from a particular party he has turned to look (see section 1.2.3 for further discussion on the relevance of gaze in nominating the next speaker, and gaze as a turn-design feature for pursuing a response). The co-ordination of talk and gaze thus provides evidence for Lenny’s competence to use eye-gaze for particular recipient sensitive work, routinely found in interactions involving neurotypical speakers.

The evidence from naturally occurring interactions suggests that when a child engages in social situations, they might have an interactional stake in the on-going activities whereby the use of gaze can become relevant. Conversation analysis has the potential to identify what some behaviour, such as eye-gaze is doing when it occurs; the sequential environment of the behaviour enables us to specify how behaviours might be responsive to the particular interactional contingencies, which is not always possible when behaviours are simply abstracted and coded. Next, I will move on to review some evidence regarding facial expressions and the understanding of emotions in autism, and then discuss their interactional connotations.

### 1.3.3 Facial expressions and emotions

The difficulties in attending to the information provided in the face (and in other non-vocal communication) are generally associated with the impaired emotional competence in autism. Within the early descriptions of autism Kanner (1943) emphasised the children’s inability to “form affective contact with other people” (p. 250). DSM-IV classification system refers to “marked impairments in the use of multiple nonverbal behaviours such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction” (APA, 1994, p. 72). The difficulties with facial expressions and eye-gaze are proposed to be closely linked with impairments in the aspects of emotional competence – perception, expression and understanding of emotional cues, and responding to these. In
this review, I will mainly focus on the evidence in relation to the expression and responsiveness for facial information, which are generally proposed for their socio-cognitive importance, but are also interactionally relevant phenomena.

Consider how some evidence shows that children and adolescents with autism orient less spontaneously not only to the eyes but to the human faces in general (Baranek, 1999; Begeer, Rieffe, Meerum Terwogt, & Stockmann, 2006; Clifford, Young, & Williamson, 2007; Gross, 2004; Werner & Dawson, 2005). While neurotypical children show responsiveness to human faces as early as the first hour of life (Meltzoff & Prinz, 2002), imitate facial expressions (e.g. Meltzoff & Moore, 1977, 1997), and smile in response to human faces already a few weeks after the birth (Lagattuta, 2005; Saarni, 1999), the lack of orientation and responsiveness to faces and eye-gaze often characterises infants who are later diagnosed with autism. The rapid matching of facial expressions generally found in neurotypical individuals has been suggested to be critical for the development of emotional competence (Moody, McIntosh, Mann, & Weisser, 2007). Deficits in producing such matching reactions have been reported in experimental studies involving individuals with autism, thus implying its significant role in the core impairments of the disorder (Hepburn & Stone, 2006; Moody & McIntosh, 2006). However, as discussed in relation to the studies of eye-gaze in the earlier section, caution should be taken when interpreting the findings obtained from the experimental settings, as the understanding of and responding to simulated emotions, for example, might not correspond to the social connotations and prevalence of emotional competence in real-life settings (Begeer, Koot, Rieffe et al., 2008).

The understanding of the emotional expressions in children with autism appears to be equally problematic, and variation has been shown between low and high functioning children. While infants with autism might not show pervasive deviation in expressiveness,
this seems to permeate with age, especially in relation to the spontaneity of expression and the social understanding of emotions (see review by Begeer et al., 2008). School aged high functioning children with autism, while sometimes reported as not being aware of their own emotions (Rieffe, Meerum Terwogt, & Kotronopoulou, 2007), have been also shown to be verbally able in expressing their emotions (Jaedicke, Storoschuk, & Lord, 1994), and showing adequate skills for emotional expression and attachment (review by Begeer et al., 2008).

The way in which emotions themselves are understood warrants further attention. Consider how the intrapsychic emotions are understood as embodied manifestations. The work by Ekman (1973) and Ekman and Friesen (1975) have been important in showing the universal recognisability of emotions in particular kinds of facial configurations. However, when emotions are brought into the realm of social, their occurrence should not be removed from the interactional contexts in which they occur. While some theories of emotion emphasise the social contexts in which emotions are expressed as particularly important (Fernandez-Dols & Ruiz-Belda, 1995; Hess, Banse, & Kappas, 1995; Kraut & Johnson, 1979; Ruiz-Belda et al., 2003), conversation analytic research examines the social context at the very micro-level of the sequences of action. Thus, emotions are not produced in a vacuum, but rather the way in which emotions are embedded in stretches of talk works through a multifaceted interactional process; for example, in psychotherapy talk, emotions are produced with a careful orientation to the expression, attentiveness, and responsiveness between the client and therapist (Voutilainen, Peräkylä, & Ruusuvuori, 2010). Already Sacks (1992) noted how emotions are worked up in conversations insofar as they have sequentially relevant places to emerge. Thus turns-at-talk are the environment where the expression of some emotion is situated, and the sequences of action can occasion emotion expressions, simultaneously creating a place for its response. Heath (2002) shows how
during medical consultations, patients enact their physical suffering through body movement and gesture while “attempting to provide the doctor with an appreciation of the particular intensity and character of their pain and suffering—qualities that may not be easily articulated within talk, and in some cases the sequential opportunities provided by the doctor” (p. 613). The importance is that the multimodal resources of the human body allow for the subjective experience and feeling, such as pain and suffering, to be momentarily brought to life. On revealing their existence the patient can work to legitimize the significance of their experience, something that might otherwise remain unseen by the doctor (Heath, 2002).

The way in which facial displays relate to the expressions of emotions warrants further specific consideration. Eye-gaze has been observed as an important means for accomplishing particular emotions and their valence: for example, grieving (Kidwell, 2006) and embarrassment (Goffman, 1956; Heath, 1988) have particular displays which involve a withdrawal from mutual gaze with a co-participant. The particular configurations of the face understood as the iconic psychological expressions of emotion (for example, smiling to show happiness and frowning to show anger) should be reconsidered for their interactional value in relation to talk (see Ruusuvuori and Peräkylä, 2009). Other work has examined the practices for enacting affective displays, such as crying (Hepburn, 2004; Hepburn & Potter, 2007), laughter (Haakana, 2001, 2002, 2010), surprise (Wilkinson & Kitzinger, 2006), and disappointment (Couper-Kuhlen, 2009) as interactional moves that can develop sequentially across several turns. More often than not, the displays of emotion and affect do not “spill out” but are rather systematically invoked orienting to the sequential unfolding of the interaction.

In an earlier section (1.2.4), I considered smiling and its interactional work in the context of assessments and stories; the smiling oriented to the recipient and occasioning a
response from them (Ruusuvuori & Peräkylä, 2009). Thus smiling did not emerge so much to index the mental state of the speaker but rather to show orientation to what was interactionally and *sequentially* at hand – occasionally as much as to *foreshadow* what the speaker might be saying next and how the recipient should orient to the talk. It is important to afford a detailed consideration for how facial expressions are used in the daily interactions involving children with autism. Moreover, to understand the actual work that facial expressions accomplish – that might deviate from traditional understanding of showing emotion – the occurring displays should be examined within the sequences of interaction: what interactional business is underway and how the facial expression are involved in it. To my knowledge, no conversation analytic research has yet looked at the use of facial expressions in children with autism; I will consider the displays of smiling and eye-gaze in Chapters 4 and 6.

To illustrate briefly how conversation analysis pays attention to the nuances of interaction where facial expressions occur, and how this approach might differ from the simple coding paradigms, let us consider the fragment below from my data (Example 12). The example shows a stretch of interaction between “Anna”, a ten-year-old girl with autism and her teacher, “Katja”. The participants are seated around a table, facing each other, and the teacher has initiated a greeting sequence. Space prevents including the whole Extract here (see Chapter 5, Extract 2). Before line 1, Anna has not verbally responded to the teacher’s greeting “hi Anna” and has her gaze averted. In line 1, the teacher produces a direct command for Anna to “look in the eyes”.

Example 12

(Full analysis is provided in chapter 5; line numbers omitted and altered for clarity).

[Anna=A; K=Katja (Teacher)]

Anna

1  K:   kat[so   silmiin
       loo[k in the eyes
  A:   [(unclear vocalisation)
       eyes closed — — — — —

((K strokes
lightly under
A’s chin once
with an index
finger))

Anna

2  (-------1)
   eyes closed

   ((K strokes
lightly
under A’s
chin with
an index
finger))

Anna

3  K:   katso   [silmiin
       look in [the eyes
  A:   [(laughter and
       “squealing”)
       down/left — — — — — — — — — — — — — — — — — — — — — — — — —

Throughout the extract, Anna averts mutual eye-gaze with her teacher; we might categorise Anna’s gaze as “not looking in the eyes” in a greeting context (both in spontaneous and prompted contexts; see Hobson & Lee, 1998). The coding categories, in their most narrow form (for example, whether or not mutual gaze occurs), would ignore Anna’s facial expressions and laughter as they co-occur with her averted gaze. On the other hand, the simple coding of the facial expressions alone might overlook the gaze
behaviour as it occurs in this interaction. The further detail regarding the sequential placement of the behaviours would also remain glossed. However, through examining the interaction sequentially (on a moment-by-moment basis) we can first see, that the teacher treats it that Anna should gaze at her; this in itself poses constraints for Anna to look at her. Despite the fact that Anna is gazing elsewhere, the detailed examination of this short fragment shows that she is very much engaged with her teacher. In particular, she shows orientation to the teacher’s actions and expectations for a response through smiling; the gaze-aversion here, as examined in concert with other actions and the sequential context in which it occurs, thus does not suggest lack of social orientation from Anna. The configuration of face alone might not be enough for the detailed understanding of what any one spell of smiling might be doing. Rather, the understanding of what the observed behaviours do when they occur requires a close examination of the actions of all parties involved in the interaction. I will move on to consider the evidence regarding the interactions with objects in autism, and how also object interactions involve orientation to the co-present parties.

1.3.4 On objects and gestures

Inexplicable interests and preoccupations with objects, and especially with their parts and details, frequently permeate in the behavioural repertoire of individuals with autism. In the DSM-IV these are characterised through the presence of “restrictive repetitive and stereotyped patterns of behaviour, interests and activities” (APA, 2000), suggesting a symptom of the disorder. While autism is fundamentally characterised by social impairments, the fascination and preoccupation with the inanimate world and objects appear to be a striking feature of many of individuals with autism.
The interest in objects and their particular features can be partly understood through the unusual sensory phenomena frequently experienced by individuals with autism. Unlike neurotypical individuals, it has been proposed that individuals with autism experience unfiltered perceptions which can result in an overwhelming sensation of the environmental stimuli; for example, a difficulty in distinguishing between foreground and background stimuli can create a simultaneous paradoxical experience of a detailed and holistic perception of the environment and surrounding objects (Bogdashina, 2010). Thus the heightened senses of hearing, vision, touch, smell, or taste might affect the way in which the child with autism processes the environmental information and materials, resulting in unusual responses and repetitive behaviours towards particular yet often mundane objects. Temple Grandin, a renowned designer and author with an autism spectrum disorder, describes how, as a child, she would spend hours of “observing how the sand flowed, or how long a jar lid would spin when propelled at different speeds” (Grandin, 1984, p. 156) while ignoring everything else, such as the people around her. These kinds of behaviours, fixations, and atypical responses – also immense fear (Bemporad, 1984) – for objects can be understood on the one hand as the child’s means to avoid particularly negative sensations produced by certain textures, sounds, colours, movements and the like; on the other hand, the children might seek out sensations and experiences from certain features and objects that provide intense enjoyment.

Despite the reported fascinations and fixations with objects, children with autism are often documented as having difficulties with the varied range of object uses. The childhood interactions with objects have been predominantly studied within the context of play; the earliest play of infants begins from the sensory explorations of objects (e.g. grasping, mouthing, waving, and banging). Neurotypical children’s object manipulation gradually develops into more elaborate play behaviours (Piaget, 1962; Vygotsky, 1978). In
functional play, children begin to use objects according to their conventional purposes, such as “feeding” the doll with a spoon, “driving” the car along the floor; the development of functional play in neurotypical children begins to emerge after their first birthday (Belsky & Most, 1981; Vondra & Belsky, 1989). Children with autism have been reported as engaging in functional play to a lesser degree, and the play tends to be impoverished, less elaborate, and often involves repetitive manipulation of toys and objects (e.g. Atlas, 1990; Baron-Cohen, 1987; Leslie, 1987; Sigman & Ungerer, 1984; Williams, Reddy, & Costall, 2001; Wing, Gould, Yeates, & Brierley, 1977). Children with autism display increased visual inspection of objects (Dahlgren & Gillberg, 1989; Wing, 1969), sniffing and mouthing of objects (Freeman, Ritvo, & Schroth, 1984; Mukhopadhyay, 2008), combining objects in non-functional ways (Dominguez, Ziviani, & Rodger, 2006), and overall, the play is marked by sensorimotor and exploratory behaviours (Libby, Powell, Messer, & Jordan, 1998; Williams, 2003).

The symbolic play of neurotypical children develops around 20 months, whereby objects begin to be treated with imagination. According to Leslie (1987), the ability to engage in symbolic play actions requires a metarepresentation, an understanding that the object is not really what the “actor” is pretending it to be. That is, mundane objects are pretended to be something else that they really are (object substitution), and through the attribution of false properties to inanimate objects, such as dolls, the toys are allowed to become more life-like (Leslie, 1987). The impairment in the capacity to engage in pretend play has been suggested to be specific to autism spectrum disorder (Stanley & Konstantareas, 2007); according to Leslie (1987), it derives from the children’s impaired ability to form a metarepresentation that is required for true pretence. While some evidence shows that spontaneous pretend play is absent in the repertoire of children with autism (e.g. Sigman & Ungerer, 1984; review by Wulff, 1985), some studies have documented abilities
to produce object substitutions and to name appropriate actions for objects when prompted with questions, such as “what else can you do with this?” (Charman & Baron-Cohen, 1997; Lewis & Boucher, 1988; Jarrold, Boucher, & Smith, 1996).

Critical discussion of these issues has been specifically concerned with the coding schemes that might have been too limited in capturing the play behaviours in previous research (Williams, Reddy, & Costall, 2001). Through detailing the categories for functional play behaviours (from simple to elaborated behaviours), Williams et al. (2001) showed that the play in children with autism, as compared to the controls, was less diverse, elaborated, and integrated, which they propose might be rooted in the problems of *acquisition* in producing functional actions on objects. Children learn such actions through social interactions with others – the diverse uses of objects might not be evident from the physical structures and features of the artefacts and have to be realised socially: while the direct instruction from adults is often important, children learn by observing others in everyday life (Williams & Kendell-Scott, 2006). Children with autism can require repeated demonstrations from others and might benefit from category-formation games that repeatedly go over various contextual uses of objects, for example, a cup is shown to be used for drinking and in another context the cup can be used to store pencils (Grandin, 2008). While the social contexts of learning about objects are thus important they can be also challenging. Indeed, Williams et al. (2001) propose that it is precisely the interdependent process between object interactions and social interactions that poses difficulties in autism.

Thus while the play behaviours and object interactions have been previously studied, the research has heavily relied on the more or less detailed coding of behaviours in terms of the context in which the behaviours occur. Coding practices are clearly important, especially, for the quantitative modes of analysis. However, the abstraction of a particular
kind of information can overlook the interactional detail such as the actions of co-present parties. Rowland and Schweigert (2009) note how “negotiating the physical environment involves initiating actions on objects, materials, equipment, and spaces and responding appropriately to the opportunities, problems and demands that they pose” (p. 518). It is important to note, however, that other people can play a crucial part in posing interactional opportunities and demands while objects are concerned. Material objects are not just “lying there” as inanimate entities waiting for implementation, but rather our orientation to the objects are accomplished in talk and other bodily conduct towards them; objects have interactional relevance and our actions do not always occur independently from such relevancies. Consider, for example, how Goodwin (2003a) shows that “Chil”, a speaker with aphasia, uses the semiotic resources and the meanings which are tied to the actions on objects, as a resource for doing some action through gesturing. Activity frameworks enable a particular gesture to be understood in various but meaningful ways so that, for example, when sitting around the breakfast table, Chil’s gesturing at bagels and newspapers makes relevant a number of different actions (Goodwin, 2003a).

Thus, the research problem that permeates from the previous literature involves the need to recognise how the bodies of other people might play a significant part in the organisation of conduct in relation to objects and materials at the very sequential level of interaction. I will consider next, how a previous conversation analytic study involving children with autism has examined particular actions, namely, tapping gestures which were recurrently produced on objects while the children interacted with their parents and teachers.
1.3.4.1 Tapping gesture as an interactional resource

Children with autism are often documented as having an impaired ability to use gestures for communicative as opposed to instrumental purposes (Baron-Cohen, 1989a, 1989b; Frith, 2003; Mundy, Siegman, & Kasari, 1990; Leekam, Lopez, & Moore, 2000). Further, these children often exhibit an array of rigid behaviours, or as characterised in DSM-IV, “stereotyped and repetitive motor mannerisms (e.g. hand or finger flapping or twisting or complex whole body movements)” (APA, 1994, p. 73). Previous research has largely considered such actions and gestures outside the sequential contexts in which they occur; bodily conduct and gestures in children with autism are often considered as somewhat self-contained activities, and relatively little is known, for example, precisely when the particular behaviours occur in sequences of action.

Some previous multimodal investigations of gestures have shown that gestures are related to gaze-behaviours so that they might elicit gaze or drive it away (Goodwin, 1986; Heath, 1984). Streeck (1993) considers a gesture as “an official utterance component” (p. 287) when the speaker directs gaze to their own gesture and thus marks it as a relevant feature to which the recipient should orient. Further, gestures can be modified once the recipient gaze has been secured, for example, in order to orient to the recipient’s misunderstandings (Streeck, 1994). Occasionally, the gesturing can be used for sense-making when the speaker is searching for a word and displays the search itself or depicts the referent (Streeck, 1995). Thus, gestures do not so much appear as stand-alone-actions that the hands and arms produce, but rather they elaborate and contribute to other actions that are underway, and are, ultimately, understood within the context of such on-going activities by the co-participants. While gestures are often thoroughly integrated with talk
they can be also autonomous, for example, when a party simply nods for a response to a question (Berger & Rae, under review).

Hand gestures can also project a next action: according to Streeck (2009) “Forward-gesturing works by providing a provisional sense of something that is scheduled to occupy the next slot” (p. 177). For example, pointing can be used to foreshadow turn-taking and thus work to self-select the next speaker, especially in multiparty settings while someone else is talking (Mondada, 2007). Telling can be projected by a motioning hand gesture and gaze at the open palm before taking the turn, foreshadowing that the agent wants to take a hold of the floor and has something to say (Streeck & Hartge, 1992).

The detailed conversation analytic examination from Dickerson, Stribling and Rae (2007) has pioneered in the identification of the systematic patterning of motor hand movements in two children with autism, where tapping gesture projected a next action from the child in the contexts of object naming and a Maths lesson. Interventions and educational settings involving children with autism often make use of objects, such as flashcards, letter or number boards that mediate pointing or tapping gestures as the primary medium for communication (see Dickerson et al., 2007; Mukhopadhyay, 2003; Ochs, Solomon, & Sterponi, 2005). This particular study considered in detail the sequential contexts in which the identified tapping actions on such objects occurred. This involved the examination of video-recorded interactions of two youngsters with an autism spectrum disorder, each engaged in separate interactions. In Example 13, I will consider a fragment of an interaction involving “Helen” during her participation in a Maths lesson with her class teacher and a learning support assistant. The tapping actions by Helen were repeated striking actions which she produced with the index finger on the Maths sum board (lines 14, 15, 18).
Example 13 (Dickerson, Stribling & Rae, 2007, pp. 283-284)

[N=Nigel (teacher); H=Helen]

1  N:  So we’ve got
   (- - - - - - - 1)

2  N:  number have
   (- - - - - - - 1)

3  N:  plus
   (- - - - - - - -)

4  N:  number five
   (- - - - - - - -)

5  H:  (that’s)=

6  N:  =equals
   (- - - - - - -)

7  (??):  Wooheah ((squeal))

8  (??):  °ten°
   (((began to tap board))

9  

10 

11 

12 (??):  >eight eight< (.)>eight eight<

13  

14  

15  

16  

17  N:  this
   [((hand lifted up)]
   [ [((hand taps down)]

18  H:  [(- - - -[])]
   [(((tap)]
   [ [((hand withdrawn)]

19  H:  >ten< ten [ten<

20  N:  ten (.) that’s right (.) we’ll done Helen
In the fragment above, Nigel presents Helen with a sum to complete (lines 1-7, 10) and a board which displays numbers. In line 15, Helen subsequently produces a response of “eight” and then corrects this to “ten”, in line 19 (Helen’s repetitions, see Dickerson et al., 2007). However, of particular analytical interest is how Helen designs her bodily actions in relation to the sequence at hand. Helen begins to tap the board during the gap between Nigel's instruction and her answer (lines 14-15). While the tapping overlaps with her response (in line 15) it stops after Helen has spoken out her response. Helen produces another spell of tapping the board (lines 18-19) before correcting her vocal response to “ten”. Thus by means of using this particular motor action Helen displays her ongoing attention to the object in front of her and to the sequential expectation of producing an answer. Rather than regarding the motor actions produced by Helen as stereotypical hand movements, they might be better understood as a communicative gestures which have an interactionally relevant function insofar as they occur at the particular locations and show orientation to the response that has been made relevant.

Consider how the gestures and actions produced on mundane objects are so embedded in our daily interactions that often their production might seem as trivial. In everyday settings we can implement objects for particular interactional business that have little to do with the canonical functions (Costall, 1997) of the objects that is, the uses they are designed for. Szokolsky (2006) has proposed that the “different” uses of objects – for example, tapping on the desk with pencils, using a chair prop to open a door – are recontextualised actions so that, occasionally in a particular context, they might be just the “proper” functions to accomplish a particular task. The everyday artefacts and objects can be also pushed around, shuffled, and adjusted in ways that have particular sequential relevance only for the parties involved in the stretch of interaction. In Chapter 7, I examine
such objects adjustments and the co-occurring eye-gaze, and the children’s orientation to such actions.

1.4 The aims of the study

The study was conducted in order to examine naturally occurring multimodal social interactions involving children with autism and their co-participants. While conversation analysis offers an innovative methodology to the study of social interactions, its full credentials in the domain of autism research are yet to be recognised (as a complementary approach to the dominating quantitative research methodologies). The aim was to produce a collection of studies that would, on the one hand, widen the scope of conversation analytic corpus in the area of autism spectrum disorders in general. On the other hand, my aim as a Finnish researcher was to make an opening contribution to the conversation analytic literature that involves Finnish children with autism and their familiars. The research questions that were shaped by the previous literature on autism and social interactions in general, involved the following among others:

(1) What interactional skills do children with autism, who often have a challenged capacity to use spoken language, exhibit in everyday settings?

(2) How do children with autism initiate interaction and respond to the actions of others? How do the children and their co-participants shape their interactional actions and participation in the light of the immediate local sequence of activity?

(3) Do the actions of co-participants (parents, teachers, siblings) occasion particular forms of interaction on the part of children with a challenged ability to use spoken language? What kinds of actions facilitate the interactional competence of children with autism? What kinds of actions hinder interactions? What are the educational interactions involving children with autism like?
(4) What kinds of actions on the part of the child that could be taken as being symptomatic of the disorder, could be in fact some way responsive to the local sequence of activity?

For the study which focuses on multimodal interactions it was essential to collect video data of natural everyday interactions involving children with autism and their co-participants (e.g. family/household members and teachers). Rather than seeking to test any generic theory about impairments in autism spectrum disorders, my research seeks to consider the ways in which the participants initiate and respond to interactional contingencies - that is, how they accomplish or do interaction. The details of the methodology and participants are provided in Chapter 2. In the next section, I will present the structure of the thesis in more detail.

1.5 The structure of the thesis

A common theme that runs through the empirical chapters is the eye-gaze practices of the children with autism and their co-participants. Instead of focusing on the activities and behaviours of the children in isolation – as an abstracted research interest – the chapters consider sequences of action as the basis of analysis. These are constructed through the collaborative actions between the participants involved in any given stretch of interaction.

Chapter 3 considers the shift of gaze in the sequences of initiating and responsive actions. In particular, I examine how eye-gaze can be used to elicit a response from a co-participant both in dyadic and multiparty interactions. As the opening empirical chapter it further sets the stage for the methodological framework.

In Chapter 4, I consider the interplay of eye-gaze and smiling in interactions. In particular, I examine how the smiling from the child with autism is essentially social, and can be recruited for interactional work in the sequences of interaction in which it occurs; the co-occurring eye-gaze to the co-participating adult emerges as particularly relevant.
Chapter 5 examines gaze aversion, namely, when the children with autism do not respond to mutual eye-gaze with their teachers. Rather than considering what gaze aversion might tell us about gaze-related impairments, I examine the sequential environment in which gaze aversion occurs, and how it is responded to by the teachers. This can consequentially inform us about the significance of mutual gaze in general, and in what kind of sequential contexts the lack of mutual gaze might become problematic.

In Chapter 6, I consider smiling and gaze aversion in concert and as they co-occur with other facial configurations (e.g. squint) and body focused actions (e.g. face touching). These constitute as displays of self-consciousness, namely, the vernacular characterisations of coyness and embarrassment. Rather than discussing the intrinsic nature of such states, I examine the construction of these displays within the sequences of action, and how they can imply interactional sensitivity from the child who exhibits them.

In Chapter 7, I consider interactions with material objects, and how particular adjustments of objects permeate as sequential contributions in the course of interaction. In particular, I examine how the children with autism show orientation to the relevance of objects, and how task-transitions within the educational settings can be facilitated through the particular adjustments of objects. Moreover, the way in which eye-gaze and body movement relates to these actions is an important consideration in terms of how the objects can have local interactional relevance for the participants.

In Chapter 8, I draw conclusions on the basis of the empirical chapters and the findings. I consider the role of eye-gaze as an interactional practice, and how the understanding of autism can benefit from the examination of naturally occurring everyday interactions where the actions of co-participants emerge as relevant. I discuss the implications and propose further conversation analytic research in the area of autism. I will further discuss how this particular framework could inform the educational and care
practice, and how its application could bring innovative contributions to the future clinical assessments of autism.

Chapter 1 – Notes

1 There is an analogy here with how the Wason Selection Task (a card selection task that requires deductive reasoning), which is notoriously difficult, can be passed when presented in richer more contextualised forms (Wason & Shapiro, 1971). I thank my supervisor Dr John Rae for making this connection.

2 Consider how Luff, Heath, and Jirotka (2000) explain the way in which body movement is used as a resource in the surveillance work conducted in the London Underground:

On panning across the foyer, the station supervisor sees a waft of smoke, he then pans down to find a possible source, for example, a group of men. This may suffice for making a general public announcement. However, on zooming in, the supervisor can see, if not one of them actually smoking at the time, the movements that would suggest smoking. Indeed, the station supervisor appears to delay making an announcement, and commences it just as the young man moves his arm up to his face. His subsequent announcement is further tied to and shaped by what he sees, providing him with the resources to identify and describe the individual, and to transform his announcement as the man can be seen to take the appropriate action. (pp. 201-202)

3 I wish to acknowledge here the extended mind thesis which suggests that social cognition does not merely reside in the mind but is extended to body movement and other affordances such as material objects and the environment (see Clark, 2008; Krueger, 2011).

4 Caution should be exercised when interpreting the term “multimodal” which I occasionally use. The term should be understood as one that aims to capture both talk and non-vocal actions (e.g. eye-gaze, facial expressions, body movement, and gestures) as interdependent aspects concerted action. Regardless that the term might in some ways imply that the modalities are separate and operate independently from each other, it is not my intention to use the term that way. On the contrary, my aim is to claim the opposite: For example, in order to understand what some spell of gazing is doing we cannot separate it from the other conduct that co-occurs – the talk, and perhaps facial expressions and movement of the body. I do not separate eye-gaze –
or indeed any other modality – to be examined in isolation, but rather examine it together with other conduct. It is in this interdependent sense that I use the term “multimodal” throughout this thesis.

5 Recently, conversation analytic research has examined the differences associated with the practices in mobile phone call and landline call openings (Arminen, 2005; Arminen & Leinonen, 2006).

6 Some early research on interpersonal behaviour considered mutual eye-gaze in terms of affective connection between individuals (e.g. Argyle & Cook, 1976; Kendon, 1967).

7 Sidnell (2006) has considered the use of talk, gaze, and gesture in neurotypical conversations involving reenactments.

8 In Finland, some of the main intervention and rehabilitation methods include TEACCH (Treatment and Education of Autistic and Communication handicapped Children) and Lovaas methods. These are holistic and structured intervention programs, centrally aimed to develop the child’s communication and language skills, and often used in pedagogic settings. Other methods that are incorporated to the everyday life at home involve, for example, activity schedules and consistent daily routines (Kuwanpiä, & Kerola, 1998). Some children with autism benefit from the use of symbolic and augmented communication (Augmented and Alternative Communication [AAC]) methods that can compensate and support the use of spoken language (e.g. Hakala, Hyrkkö, Manninen, Oesch, Salo, & Siikanen, 2001; Tetzhner & Martinsen, 1999; see also the use of AAC systems in the communication involving children with a broad range of disabilities that pose difficulties in face-to-face interactions, language, and literacy, Clarke & Wilkinson, 2008, 2005, 2010).

9 Space prohibits a detailed review of other conversation analytic studies involving children with autism spectrum disorders conducted to date. For a reference, some of the studies include: Daventhahn, Werry, Rae, Dickerson, Stribling, & Ogden (2002); Muskett, Perkins, Clegg, & Body (2010); Stribling, Rae, & Dickerson (2006, 2007, 2009); Wootton (2002); also see Ochs, Kremer-Sadlik, Gainer Sirola, & Solomon (2004) for an anthropological perspective on autism.

10 DSM-5 is currently under consideration (due 2013). The revision proposes that Asperger syndrome will be subsumed under Autistic Disorder.

11 In the case of “Ingrid” (see Chapter 2 for participant information), it is conceivable that her first diagnosis of PDD-Unspecified resembled a borderline characterisation in which particular autistic features were manifested more or less prominently. It should be also noted that the behavioural phenotype of girls with autism is somewhat different to that of boys, and consequently, girls can often receive an alternative diagnosis or no autism diagnosis at all (Kopp & Gillberg, 1992). Although Ingrid’s formal diagnosis at the
time of the data collection stood as PDD-Unspecified, she manifested many features of high-functioning autism, thus her diagnosis could be argued to lie on a fluid continuum, very close to that of autism. A month after the data collection, Ingrid underwent a revised assessment in which her diagnosis was changed from PDD-Unspecified to autism (F 84.0). As the diagnostic categories can be argued to be fairly arbitrary and often cumbersome, and the tests measure an individual’s performance against another arbitrary norm, I see that it is important to take an approach in which the diagnostic label given to Ingrid at the time should have not defined her as belonging to a clearly defined “group” outside in the scope of this thesis. I have not treated Ingrid as a “condition” any more than I have treated the other children who, in fact, had autism diagnosis at the time of data collection. Finally, it is important to note, that each of these children sharing the autism diagnosis are different to each other, just like those of us standing under the same umbrella of neurotypicality are all different to each other. Thus, the only similarity between these children could be understood in terms of their diagnostic label, which at one stage was not precisely the same, yet shared the same conceptual umbrella of Pervasive Developmental Disorders.

12 Carpenter, Pennington & Rogers (2002) propose that regardless of the impairments in joint attention in autism, the development of the skills seems to follow a neurotypical order: the development of sharing, following, and then directing others’ attention.
CHAPTER 2

METHODOLOGY

2.1 Data sources

The data consist of a corpus of naturally occurring interactions involving Finnish children with autism and their teachers and parents; a comparative corpus involves everyday interactions involving neurotypical children, youngsters and adults. The whole data corpus constitutes approximately 20 hours of video-recorded interactions. Approximately 10 hours of interactions involving children with autism were considered as the basis of the analyses presented in this thesis. Approximately 10 hours of video-recorded interactions involving neurotypical participants in a variety of settings (recorded in Finland and in the US) were used as a source of comparative data. In the following sections I will introduce the data sources, data collection, and the participants in more detail.

2.1.1 Interactions involving children with autism

The data source involving children with autism and their co-participants were recorded either in the participating school or at the participants’ home, in South-West Finland. I will outline the data collection procedures, describe the recorded interactions, and introduce the participants.
2.1.1.1 Data collection

The participants were recruited through contacting parents and teachers through a specialised school and associations, in Finland. I have used a small convenience sample of children whose parents and teachers were willing to volunteer in this study. This means that the children have not been selected on the basis of being either on the high or low end of the autism spectrum; however, the sample ended up being heterogeneous in terms what some might call the level of functioning. Informed consent from the parents/guardians was a requirement for any of the children to take part in the research. The children’s particular vulnerability and a limited capacity for verbal communication was taken into account by organising the data collection in the settings where they were being supervised by (the co-participating) parent or familiar teachers at all times; the careful monitoring of the child’s behaviour was taken as their consent for the data collection to take place. Informed consent was also obtained from the co-participating adults regarding their own personal involvement in the study; proxy consent from parents/guardians was requested for the participating siblings and peers. A specific consent for the use of transcripts and photographs in this thesis has been secured from the parties involved (proxy consent has been secured for the children) (sample consent and debrief forms in Appendix A-F).

The settings of data collection included one participating school, home, and an after school music club. Each child-teacher dyad was filmed individually in a small classroom across several days by using a single tripod-mounted video-camera. The settings involved either structured pair-work interactions or less structured tasks, such as completing puzzles, using a computer, reading storybooks, or simply having a break-time chat. The camera was lent to one of the participating families in order for the recordings to be made at home when it was the most convenient and natural for them. The recordings made at the music club involved one of the children (Ingrid) participating in a variety of musical tasks,
such as playing musical instruments, dancing, and singing with her peers and two music teachers. This research project was fully approved by an Investigational Review Board (Ethics Committee) of University of Roehampton.

2.1.1.2 Participants

In the following subsections, I will introduce the participants whose interactions are mainly considered in this thesis, namely, the children with autism and their co-participants (dyadic or multiparty interactions). Each participant has been allocated with a pseudonym; occasionally, a generic description has been used (“Mother” or teacher). All of these participants are native Finnish speakers. I will describe each participant and their relations to each other as relevant. The diagnostic information and other characteristics for the children are presented in Tables 1 and 2, at the end of the section. The comparative data source involving neurotypical participants will be introduced separately in section 2.1.2.

2.1.1.2.1 “Anna”

Anna was aged 10 years and 11 months at the time of recordings. She was diagnosed at the age of three with autism (F 84.0) by a clinician in Finland. Concerns about Anna’s delayed language development had guided her parents to seek assessment as, at the age of two, Anna did not utter any words. Anna’s diagnosis has comprised of a multi-disciplinary assessment, where medical and neurobiological (MRI; EEG) investigations yielded normal results, as did the chromosome and fragile-X-DNA investigations. Anna was also diagnosed with Esotropia Intermittens Alternans (H 50, 31) which seems to pose difficulties for her ability to direct attention.

Anna’s developmental assessment (Psychoeducational Profile-Revised [PEP-R]; Schopler et al., 1990) indicated main impairments in the areas of interaction and play at the
age of 4 years and 2 months. PEP-R evaluation assesses development in several different areas, including imitation, perception, fine motor skills, gross motor skills, eye-hand integration, cognitive performance and cognitive-verbal abilities. In addition to resulting in age equivalents for each of the areas, the instrument is used to identify emerging skills that can be used as goals for teaching. Overall, on the PEP-R assessment, Anna achieved an age equivalent of 2 years and 3 months. The specific areas of the assessment are summarised in Table 2.

Within the clinical profile of Anna it is noted that she demonstrates abilities to learn, nevertheless requires a lot of help in daily routines and rarely uses language for “communicative purposes”.¹ Her reactions to requests from others can vary, however she responds to short mandates from familiar others. She appears to initiate contact only according to her own needs or desires (e.g. will look into eyes when requesting a toy/object). While looking at books Anna frequently talks her “own language”,² and displays certain ritualistic behaviours such as spinning around, getting attached to a cup, or sits in front of a mirror an extensive period of time looking at her reflection and tilting her head. For the purpose of this study, Anna was recorded interacting with her teacher, whom I call Katja.

2.1.1.2.2 “Niko”

Niko was aged 11 at the time of recordings. He was diagnosed at the age of 2 years and 6 months with autism (F 84.0) including specific language impairments, by a clinician in Finland.³ Specific language impairments often involve particular problems with the inflection and word forms (such as leaving off endings when forming verb tenses) and difficulties with the incidental learning of new words from context and generalising a new syntactic form. Niko’s diagnosis with autism was based on the evaluations made with Childhood Autism Rating Scale (CARS; Schopler et al., 1986) and a developmental
assessment (Psychoeducational Profile-Revised [PEP-R]; Schopler et al., 1990). The details of these evaluations have not been available; some of the information concerning Niko can be found in Tables 1 and 2.

Niko was recorded while interacting with the teacher, Katja, in a small classroom. Casual observations of these interactions showed that Niko has a fairly good expressive vocabulary and that he frequently produces catch-phrases or idioms. The problems with grammatical and lexical aspects of speech were evident insofar as Niko often uttered verbs and pronouns in incorrect tense and used “mikä” (“which”, “what”), “mitä” (“what”), “missä” (“where”) interchangeably. Niko’s non-vocal behaviour could be characterised as socially proactive. For example, Niko frequently gazed and smiled at Katja (spontaneously and mostly when he produced his phrases or idioms), and displayed other facial expressions (such as frowning of the eyebrows) while talking to her.

2.1.1.2.3 “Liisa”

Liisa was 12-years old during the time of recordings, and has a diagnosis of autism (F84.0). Her diagnosis was based on the evaluations made with Childhood Autism Rating Scale (CARS; Schopler et al., 1986) and the developmental assessment (Psychoeducational Profile-Revised [PEP-R]; Schopler et al., 1990) (the details of these evaluations have not been available). Her medical and neurobiological (MRI; EEG) and chromosome and fragile-X-DNA investigations yielded normal results. Liisa’s particular difficulties relate to sentence formation and reading, and she displays some repetitive behaviour that have been characterised as “being stuck”.

Liisa was recorded while interacting in a small classroom with her teacher, whom I call Paula. The casual observations of these interactions showed that Liisa had a fairly limited expressive vocabulary. Occasionally she produced quiet utterances that some
literature describes as palilalic (self-repeated) talk. Liisa engaged in some repetitive bodily conduct such as finger and arm flapping; these hand movements often occurred with some vocalisations. Sometimes Liisa appeared to be disengaged as judged by her bowed head and posture, and as her gaze seemed to be fixed at the table or mid-distance. Liisa also engaged in mutual gaze with Paula, mostly when Paula explicitly pursued eye-contact, for example, by gently touching Liisa’s chin. Liisa demonstrated capacity to engage in augmented interactions and she occasionally pointed at the symbols for a response (in the context of a task). These responses were often facilitated by a prompt or gestural guidance from Paula.

2.1.1.2.4 “Ingrid”, “Mother” and “Erik”

Ingrid was 9-years old during the time of recordings. She was diagnosed at the age of five with a Pervasive Developmental Disorder-Unspecified (F 84.9) by a neurologist in Finland. The PDD-Unspecified subgroup belongs to Pervasive Developmental Disorders (PDD) and is described in terms of impairments in reciprocal social interaction and in verbal and/or non-verbal communication, the presence of repetitive or stereotypical behaviours, and restricted interests. Ingrid also has a semantic-pragmatic language disorder that affects the semantic processing and pragmatics of language use, and often involves echolalia. Ingrid’s diagnosis was changed into autism (F 84.0) in April 2009 (at the age of nine) as evaluated by a clinician and a neurologist in Finland. The change in the diagnosis occurred shortly after the data collection for this study.

Although Ingrid’s diagnosis was PDD-Unspecified at the time of the data collection (the diagnostic label changed as a result of reassessment approximately one month after the data collection) her clinical picture resembled very closely to that of autism, and Ingrid was, in fact, treated as having autism by many clinicians as well as her parents and teachers.
despite of her diagnosis of PDD-Unspecified. The associated impairments are very similar to those in autism and affect communication, social behaviour, emotion regulation, and interests (see further discussion in Chapter 1, section 1.2.1). Further details of Ingrid can be found in Tables 1 and 2. The video recorded data of Ingrid involves also her mother (whom I simply call Mother) and a younger brother, whom I call “Erik”. Erik is a neurotypical boy and he was 7-years old at the time of the recordings.

2.1.1.2.5 Teachers: “Katja”, “Paula”, and Music Teachers

Three of these children (Anna, Niko, and Liisa) were recruited from a school specialised in the care of children with ASD and other learning disabilities in Finland. Katja and Paula were the two female class teachers who participated in the study. The teachers have a training in the TEACHH (Treatment and Education of Autistic and Communication Handicapped Children) method which is used (among others methods) in the teaching of children with autism in the school. Katja was filmed while interacting with Niko and Anna, and Paula was filmed interacting with Liisa. Two female music teachers, who were leading an after-school music club where Ingrid participated, also took part in the study. While only one of the teachers is considered as part of a fragment of interaction, I will simply call her Music Teacher.
<table>
<thead>
<tr>
<th>Child</th>
<th>Age</th>
<th>Diagnosis</th>
<th>Age when diagnosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niko</td>
<td>11 years</td>
<td>Autism (F84.0)</td>
<td>2 years 6 months</td>
</tr>
<tr>
<td>Anna</td>
<td>10 years</td>
<td>Autism (F84.0)</td>
<td>3 years</td>
</tr>
<tr>
<td>Liisa</td>
<td>12 years</td>
<td>Autism (F84.0)</td>
<td>3 years</td>
</tr>
<tr>
<td>Ingrid</td>
<td>9 years</td>
<td>PDD-Unspecified (F84.9)</td>
<td>5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Autism (F84.0)</td>
<td>9 years</td>
</tr>
</tbody>
</table>

* Diagnosis corresponds to ICD-10 (WHO) criteria.
### Table 2. Participants’ assessments and performance (where details available).

<table>
<thead>
<tr>
<th>Child</th>
<th>Assessments</th>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niko</td>
<td>Childhood Autism Rating Scale (CARS; Schopler et al., 1986): <em>Details not available</em></td>
<td>Specific Language Difficulties</td>
</tr>
<tr>
<td></td>
<td>Psychoeducational Profile-Revised ([PEP-R]; Schopler et al., 1990): <em>Details not available</em></td>
<td></td>
</tr>
<tr>
<td>Anna</td>
<td>Psychoeducational Profile-Revised ([PEP-R]; Schopler et al., 1990):</td>
<td>Esotropia Intermittens Alternans (H50, 31)</td>
</tr>
<tr>
<td></td>
<td><em>Main impairments:</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Play and interaction</td>
<td>Medical and neurobiological assessments:</td>
</tr>
<tr>
<td></td>
<td><em>Overall age equivalent:</em></td>
<td>Normal results (MRI; EEG)</td>
</tr>
<tr>
<td></td>
<td>2 years, 3 months (Anna 4 years 2 months in test)</td>
<td>Chromosome and fragile-X-DNA: Normal results</td>
</tr>
<tr>
<td></td>
<td><em>Age equivalents:</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Imitation:</em> 2 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Considerable difficulties;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Does not imitate actions or sounds;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emerging ability to follow imitation situations</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Perception:</em> 3 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Fine Motor Skills:</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 years 2 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Eye-Hand Integration:</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 years 2 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age appropriate strength</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Cognitive non-verbal behaviour:</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Cognitive verbal behaviour:</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 year 6 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emerging ability to point and choose</td>
<td></td>
</tr>
<tr>
<td>Child</td>
<td>Assessments</td>
<td>Other information</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Ingrid</td>
<td>Speech comprehension tests&lt;br&gt;(Reynell Development Language Scales III [Finnish version]; Kortesmaa et al., 2001):&lt;br&gt;Two years below the mean age level&lt;br&gt;Displays of echolalia&lt;br&gt;Expressive vocabulary: one year below the mean age level&lt;br&gt;Psychological evaluations&lt;br&gt;(Wechsler Preschool and Primary Scale of Intelligence – Revised [WPPSI-R]; Wechsler, 1990, <em>Finnish version, 1995</em>):&lt;br&gt;Subtests:&lt;br&gt;Information,&lt;br&gt;Arithmetic,&lt;br&gt;Similarities,&lt;br&gt;Block Design,&lt;br&gt;Geometric Design:&lt;br&gt;below the age appropriate level.</td>
<td>Semantic-pragmatic language disorder</td>
</tr>
<tr>
<td></td>
<td>Occupational therapy assessment of developmental delay (Miller Assessment for Preschoolers [MAP]; Miller, 1988):&lt;br&gt;Achieved 94% in Neural Foundations Coordination (sensory and motor functions), 94% in Verbal and Non-Verbal (cognitive) Functions, and 99% in Complex Tasks (combined abilities).</td>
<td></td>
</tr>
<tr>
<td>Child</td>
<td>Assessments</td>
<td>Other information</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Ingrid</td>
<td>Sensory Integration and Praxis test (SIPT; Ayers, 1991) administered by Sensory Integration International (SII) certified occupational therapist: Cortical dyspraxial difficulties. Gross motor skills were below age appropriate level. Assessment of the developmental level of play (The Symbolic and Imaginative Play Developmental Checklist [SIPDC]; Stagnitti, 1998): Performance at the age of 6 had an age equivalent of 2-2.5 years. Developmental Test of Visual-Motor Integration (VMI; Beery, 1989): Low performance on integration of visual and motor abilities.</td>
<td></td>
</tr>
<tr>
<td>Liisa</td>
<td>Childhood Autism Rating Scale (CARS; Schopler et al., 1986): Details not available</td>
<td>Chromosome and fragile-X- DNA: Normal results</td>
</tr>
<tr>
<td></td>
<td>Psychoeducational Profile-Revised ([PEP-R]; Schopler et al., 1990): Details not available</td>
<td></td>
</tr>
</tbody>
</table>
2.1.2 Comparative neurotypical data

Comparative data of video-recorded play activities, family meals, and conversations involving Finnish neurotypical children, youngsters, and adults are also considered. The fragments used in this thesis involve dyadic conversations between a 14-year-old boy, “Jesse”, and his grandmother “Krisse”; multiparty dinner interaction involving “Krisse”, some of her family and guests; dyadic interaction between siblings, 10-year-old “Nora” and 7-year-old “Anton”; multiparty interaction involving “Kirsi” and her grandmother “Elisabeth” at hospital (mostly Kirsi and Elisabeth involved in a dyadic conversation). All names are pseudonyms.

Consent (or proxy consent) was requested from each party regarding their participation, and the participants had an opportunity to record their own data at the settings and times most convenient for them (sample consent form in Appendix G). The data collection contributed to the Conversation Analytic Data Bank project, which collects a body of everyday interactional data that can be used as a basis for specific explorations of non-vocal activity in itself and to provide fresh insights on other data (such as interactions involving children with autism). Further neurotypical data is drawn from a shared corpus of recordings made in the US with native English speakers in a psychotherapy setting, involving “Leif” (the client) and the female Therapist. More detailed descriptions of the particular settings and the participants are given in the Methodology section of the chapters where such data is used.

It should be noted, that these cases are not considered to be direct comparisons between the interactions involving participants with autism and those involving neurotypical participants. In particular, much of the data on which the thesis rests involves children with autism interacting with adults in educational settings. It has not been
possible to collect interactions involving neurotypical participants in similar settings. Rather, the cases have been selected on the basis of the phenomenon under investigation. While neurotypical competence will be illustrated through such data, it simply enables consideration of how the interactions involving a participant with autism might be similar or different to the import of the particular phenomenon (e.g. gazing to, or gazing away from a co-participant) at hand.

2.1.3 The context of interactions

The context of these interactions warrants further consideration. The educational contexts considered in this thesis are particular kinds of settings that shape the interactions of the participants. These are examples of institutional interactions that have their own relatively formal character and which differs from “the baseline of mundane conversational interaction” (Drew and Heritage, 1992, p. 26). For example, the task-related interactions in which Anna and Katja, and Liisa and Paula, are engaged involve distinctive forms of turn taking that consequently shape the opportunities and obligations for participation. The settings also highlight the asymmetry of these interactions. Namely, during pair-work tasks – and in classroom interactions generally – the person, who most frequently produces initiating actions, is the teacher, while the person who is expected to produce mostly responsive actions, is the child or pupil. The institutional fingerprint (Drew and Heritage, 1992) of these interactions is specifically produced through the practices of these interactions, such as the adjacently positioned actions that essentially, within the particular context of a task, builds the activity into being educational. The child’s participation and engagement is as important as the teacher’s for any education to take place: for example, whether specialised material objects such as augmented symbols manage to do their
educational work is dependent on the child’s production of responsive actions at sequentially relevant positions with and through these objects (see Chapter 7).

These structured educational contexts, on the one hand, can facilitate the interactions of children with autism who often find non-structured settings difficult and out-of-routine events distressing. On the other hand, they might occasionally constrain the interactions through the intrinsic asymmetry of participation. The more informal interactions such as when playing a game at home, or when taking a break from the educational activities (as considered in this thesis), can provide different kinds of opportunities for the interactional participation; the children can produce initiating actions more frequently, and perhaps initiate social interaction more “freely” with the co-present familiars. Thus often the actual settings in which the participants are in shape the conduct of the participants. For example, in a forthcoming paper (Korkiakangas et al., in press), my colleagues and I have considered a particular stretch of interaction that occurs during a break in the data of Anna and Katja. Here Anna initiates most of the interaction by producing utterances such as “höpö höpö höpö” (“blah blah blah”), “puperonokkia” (a non-word), and “se siitä sitten” (“that’s it then”). The interaction is rather conversational and follows a pattern whereby Katja repeats Anna’s utterances in the following turns (see also Tarplee and Barrow, 1999). This stretch of interaction occurs spontaneously while Anna is simply laying on the classroom sofa and it is observably enjoyable as evident from the shared laughter that occurs during this particular exchange. Thus also the child can be seen to co-participate differently in the activities that constitute some stretch of interaction educational or occasionally, conversational. In the present thesis, the diversity of settings (school, home, and music club) in which the data was collected lends itself to the examination of both structured and informal interactions. The neurotypical interactions, however, are instances of casual everyday interactions with the exception of a psychotherapy setting.
2.2 Analytic Approach

The study implements the methodology of conversation analysis (CA) which is essentially an inductive qualitative research methodology. The focus is on naturally occurring interaction: how the parties in interaction sequentially organise their activities and locally manage turn-taking, such as the next-speaker selection (Sacks et al., 1974). The interactional resources, both vocal (talk) and non-vocal (gaze, facial expressions, gestures, body orientation), are carefully transcribed from the video data so that the inspection of their systematic employment for the sequential composition of actions becomes possible. Thus the analytic foci are directed at sequences of interaction that is, the organisation of initiating and responsive actions. Conversation analysis emphasises the collaborative nature of conversations (Schegloff, 1982), thus the analysis pays attention to the actions of all the parties in the sequences of action and does not focus on the child’s behaviour in isolation.

2.2.1 The analytical orientation of conversation analysis

The main concern for conversation analysts is the analysis of action, and specifically, the sequential organisation of action. Actions do not exist by themselves but are generally responses to something that has been done in interaction and are themselves subsequently responded to; the interest in sequences flows from the interest in actions. The ways in which the participants’ themselves orient to and treat each others’ conduct serve as an important evidence for any analytical claims made about the parties’ conduct in interaction. Sacks, Schegloff, and Jefferson (1974) called this the proof procedure, namely, that a speaker’s next turn in a sequence displays their understanding of the prior turns. Thus for the analysis of sequence, it is important to note what occurs before and after a
particular utterance, for example; the way in which a participant understands a particular stretch of talk is not the analyst’s interpretation but rather an analysis of how the participant themself orients to what might (or might not) have occurred. This orientation, treatment, and understanding is displayed in their subsequent conduct and response to some prior talk. In this sense, any action is consequential to the unfolding of interaction, and what parties do in interactions.

One way in which conversation analysts have evidenced the underlying practices that participants use to engage in orderly social interactions are the so called deviant cases that disrupt some interactional regularity (Maynard & Clayman, 2003). For example, when a response to a preceding question remains absent, the participants can nevertheless treat the response as expectable, thereby showing orientation to the condition relevance produced by the first action and its consequentiality. These underlying expectations – namely, to respond when the initiating action makes it relevant – that organise our interactional conduct are powerfully oriented to by the participants when they provide an account for a missing spoken response. For example, through nodding or gesturing, a party can show orientation to a question that has been addressed to them while chewing a forkful of food.

It is important to note that in multimodal interactions, many of the non-vocal behaviours that are of analytical interest occur concurrently with turns at talk; “next turn” might not be relevant for the non-turn organised practices such as eye-gaze. Thus orientation to these actions also grounds claims made about parties’ conduct in interaction. When and where sequentially, for example, a party’s gaze occurs in relation to some ongoing talk is an important determinant of what that gaze and talk are doing. The way in which we come to understand analytically the import of a particular instance of gaze (or “gazing at X”) or other action (e.g. smiling) is in relation to talk (if any) that co-occurs. In this sense, the co-participants’ actions are an important part of evidencing the claims that
are being made. As an example, recall Goodwin’s (2000) demonstration of the activities of Cathy and Ann, provided in Chapter 1, Example 6. Upon starting her utterance, Cathy noted that Ann was not gazing at her but elsewhere. On seeing this, Cathy cut off her talk, restarted (and modified) the utterance, and in doing so, elicited Ann’s gaze to her. Ann’s shift of gaze at that particular moment when it occurred could be only understood in relation to, or as a response to, what Cathy was doing first.

It is not so that action X in and through its occurrence is important, but rather, the analyst shows through the conduct of the parties in interaction, that in particular sequential contexts, action X is important for the parties themselves. CA researchers are alert to the potential of any practice to have meaning for the participants but this does not amount to the assumption that everything that happens in interaction are of interactional significance. Furthermore, the focus of conversation analysis is to identify the points of order within social interaction, not to speculate about the inherent meaningfulness of isolated events. The detailed engagement with just how participants respond to each other is a powerful resource for the development of an analysis and a powerful constraint on speculative theorising.

Transcription is an essential part of documenting the actual interactions because of the need to capture empirical detail. Both, the video itself and the transcription of the video enable us to represent the original interaction that has occurred, and to capture any fleeting moment that might have otherwise passed unnoticed or got lost without documentation. Moreover, transcription enables the visibility of any claims that are arrived at in the analysis and leaves them to open to the reader. I will consider transcription in more detail in section 2.2.2 and outline the conventions used in this thesis.
2.2.2 Transcription

Conversation analytic transcription captures a range of detail in talk and non-vocal behaviours during a stretch of interaction. Not only does it document the talk that the participants produce, but the transcripts also include gaps and silences in talk (measured in tenth of seconds), non-lexical items (“erm”, “mmh” etc.), prosody, emphasis, intonation, laughter and “smiley voice”, in breaths, and out breaths, overlapping talk, and the like. For non-vocal behaviours, eye-gaze, facial expressions, gestures and body movement are transcribed. The talk and other vocal contributions are transcribed according to the conventions described by Jefferson (in Atkinson & Heritage, 1984); non-vocal behaviours (e.g. eye-gaze) follow mostly the transcription convention developed by Goodwin (1981). The transcripts show the gaze (and other non-vocal actions) of a speaking party always above the line of their spoken utterances, and the gaze (and other non-vocal actions) of a recipient below the spoken utterances. The reason for the detailed transcription lies within its importance as a methodological and intellectual procedure: It is the details of interaction where the actions are occasioned and accomplished. They are partly achieved through what we say or utter, but also through the way we say it (whatever it is), how we might use intonation, whether we smile, frown, or gaze at the co-participant, and precisely when we do all this sequentially in interaction. No feature, however mundane, seemingly irrelevant, or dysfluent are ignored as otherwise the important interactional details of real-life interactions would be missed (Sacks, 1992). I have included the transcription conventions in Tables 3 and 4.
Table 3. Transcription conventions for speech.

Spoken data is transcribed according to the transcription conventions described by Jefferson (in Atkinson & Heritage, 1984).

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>. (period)</td>
<td>preceding talk is falling, stopping</td>
</tr>
<tr>
<td>, (comma)</td>
<td>preceding talk as falling-rising (continuing intonation)</td>
</tr>
<tr>
<td>? (question mark)</td>
<td>preceding talk is rising</td>
</tr>
<tr>
<td>! (exclamation mark)</td>
<td>preceding talk is animated</td>
</tr>
<tr>
<td>↑ (up arrow)</td>
<td>following talk goes up suddenly</td>
</tr>
<tr>
<td>↓ (down arrow)</td>
<td>following talk goes down suddenly</td>
</tr>
<tr>
<td>: (colon)</td>
<td>preceding sound is lengthened</td>
</tr>
<tr>
<td>(text in parentheses)</td>
<td>uncertain transcription</td>
</tr>
<tr>
<td>°° (degree sign)</td>
<td>following talk is soft and quiet or is whispered</td>
</tr>
<tr>
<td>((word in double parentheses))</td>
<td>transcription comment or non-vocal action</td>
</tr>
<tr>
<td>_word (underlining) _</td>
<td>spoken with emphasis</td>
</tr>
<tr>
<td>WORD (capitals)</td>
<td>spoken with increased volume</td>
</tr>
<tr>
<td>(-----)</td>
<td>pause: timed to nearest tenth of a second</td>
</tr>
<tr>
<td>(.)</td>
<td>pause: cannot be timed (less than 0.2 seconds)</td>
</tr>
<tr>
<td>[text]</td>
<td>adjacent lines overlap</td>
</tr>
<tr>
<td>[text]</td>
<td></td>
</tr>
<tr>
<td>&lt;text&gt;</td>
<td>talk spoken at slower pace than surrounding talk</td>
</tr>
<tr>
<td>&gt;text&lt;</td>
<td>talk spoken at faster pace than surrounding talk</td>
</tr>
<tr>
<td>$$</td>
<td>smiley voice</td>
</tr>
<tr>
<td>.hh (degree sign or stop)</td>
<td>inbreath</td>
</tr>
<tr>
<td>hh</td>
<td>outbreath</td>
</tr>
</tbody>
</table>
Table 4. Transcription conventions for eye-gaze.

Eye-gaze of a *speaking* party is always shown above their utterances; the gaze of a *recipient* is always shown below these utterances. Additional non-vocal activities (e.g. object manoeuvres, body orientation, gestures, and facial expressions) appear within parenthesis above or below the eye-gaze of the speaker and recipient, respectively.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>_______</td>
<td>A line indicates that a party is gazing towards the co-participant.</td>
</tr>
<tr>
<td>--.--.--</td>
<td>The cut line indicates that a party is not gazing towards the co-participant. The object or direction of gaze will be described above the cut line.</td>
</tr>
<tr>
<td>x</td>
<td>X marks the specific point where gaze reaches the co-participant.</td>
</tr>
<tr>
<td>,, ,</td>
<td>Commas indicate dropping or withdrawing gaze.</td>
</tr>
<tr>
<td>. . .</td>
<td>Dots mark the movement that brings a party’s gaze towards the other.</td>
</tr>
</tbody>
</table>

2.2.3 Photographs

Photographs are provided about the activities in progress; each frame illustrates an action that occurs during a line of transcription and is always placed *below* the particular line it depicts. Occasionally, when a line of transcription involves several non-vocal actions (e.g. change in the shift of gaze or facial expression), two or three photographs are placed adjacently under the line. An arrow from the photo will indicate the corresponding moment on the line of transcription where the action occurs. Consent or proxy-consent has been secured from each party involved in the photographs regarding their use in this thesis.
2.2.4 The selection of cases

The analysis began by inspecting the collected video data closely during a period of unmotivated looking. This initial step involved identifying potential phenomena for the analysis; eye-gaze related phenomena – such as, gazing to, or gazing away from, the co-participant – emerged recurrently in these interactions, and I decided to examine these in detail. From each recurring phenomena that was identified I built a collection of transcribed cases in order to proceed into an analysis of eye-gaze as part of sequences of activity.

Early on while working with the data, I noted that some of the children recurrently shifted their gaze to their co-participant, and I wanted to examine the sequential context in which this occurred. I identified that the shift of gaze was located at particular sequential locations where the business of interaction made it relevant for the child to look at their co-participant. I pursued a detailed examination of the kind of interactional environments where mutual gaze between the children and their co-participants could be demonstrated. While most of the cases involved a base adjacency pair structure, eye-gaze seemed to also play a part in the organisation of three-part sequences which are a pervasive feature in educational settings: that is, after a response has been produced to an initiated action (e.g. to a question), the third position has particular relevance for the acknowledgement or confirmation of that response (normally from the teacher who asked the question).

Contrasting gaze-related phenomena also emerged, namely, the children averted gaze from their teachers. Occasionally, in such cases, the teachers embarked on the explicit pursuit of gaze, for example, by gently summoning the child to “look in the eyes”, delicately lifting the child’s chin with an index finger, or lightly tapping on their arm. Through the examination of the data corpus, I noted that such gaze pursuit did not occur every time a child had their gaze averted. Thus, I decided to examine in detail, what kind
of sequential environments appeared to make the averted gaze relevant for the ongoing interaction so much that it became treated as problematic.

Another recurring feature was smiling in the interactions between the children and their teachers. I noted how Niko smiled frequently, but selectively, during his interaction with Katja. His smiles were broad and clearly social and directed to Katja, thus I decided to examine their sequential placement. In order to understand Niko’s smiling, it was essential that I turned to neurotypical interactions alike. I examined what people actually do when they speak and then smile and gaze to another (note that I have examined different types of talk and not only assessments and stories as in Ruusuvuori and Peräkylä, 2009), and why a recipient smile— but no talk necessarily— often occurs as a response to such actions. What follows, in Chapter 4, are some exploratory findings of how we might understand some of the specific work that smiling can accomplish in interaction. Moreover, the chapter demonstrates how the child with autism has the capacity to use smiling as an interactional resource.

Building on the observations on smiling, I noted how smiling and gaze aversion sometimes occurred so as to display self-consciousness, or what is vernacularly understood as coyness, abashment, or embarrassment. Due to the limited data corpus these instances are only a few, but what they offer is another intriguing opportunity to examine facial expressions, smiling, and gazing, in children with autism who are characterised as being impaired in the capacity to produce and understand them. Moreover, they allow for another examination of how displays of emotion can be understood as being sequentially occasioned and thus interactional by nature. In Chapter 6, I have selected these particular cases for a detailed examination and consider parallel cases from neurotypical interactions.

In Chapter 7, I have built a collection of cases that involve the use of objects in interaction. While inspecting the educational interactions where the use of various material
objects play a significant role, I noted how the teachers often adjusted the objects on the table in a manner that did not relate to the actual use of these objects. I will examine such instances in detail as well as some canonical manipulation of objects. Eye-gaze and body movement occur as an important aspect of these object-based interactions. I will now move on to these inquiries, starting with the first empirical Chapter 3. In the chapter, I examine how the children shift their gaze to the co-participating adult in particular sequential environments.

Chapter 2 – Notes

1,2 As quoted in the clinical notes of Anna.

3 See discussion on the close link and co-morbidity between Specific Language Difficulties (SLI) and autism (e.g., Bishop, 2003; Comti-Ramsden, Simkin, & Botting, 2006; Leyfer et al., 2008).

4 See discussion on the close link between Semantic Pragmatic Language disorder and autism (e.g., Bishop, Whitehouse, Watt, & Line, 2008; Shields, Varley, Broks, & Simpson, 1996).
CHAPTER 3

THE INTERACTIONAL USE OF EYE-GAZE

The well-known impairments in the social use of eye-gaze by children with autism have been chiefly explored through experimental methods. In the present analysis, I aim to contribute to the naturalistic analysis of social interaction and eye-gaze in ordinary settings – at school and at home. The chapter involves video recorded data from three children with a diagnosis of autism, Niko, Ingrid, and Anna, each interacting with familiar others. I consider how the children engage in mutual eye-gaze with their co-participants in the context of initiating and responsive actions. The chapter shows that a detailed analysis of naturally occurring social interaction, using conversation analysis, can identify how some children with autism exhibit gaze-related competencies.

3.1 Introduction

Eye-gaze is a fundamental resource for social interaction among sighted people, as Frith (2003) puts it, “within the face it is the eyes that provide the most important social cues” (p. 104). Autism involves impairment in sharing mutual eye-gaze with others, which is considered to reflect a fundamental difficulty in social engagement. Unusual gaze-related behaviours were noted in the pioneering accounts of Asperger (Asperger, 1944) and Kanner (Kanner, 1943) so that, for example, eye-gaze was described as disengaged and “strikingly odd” (Asperger, 1944/1991, p. 42). Subsequent quantitative research involving the coding of behaviours, such as whether or not eye-gaze occurs in interactions, has increased our understanding of the distribution of gaze-related impairments as they relate to autism (e.g. Hobson & Lee, 1998; Swettenham, Baron-Cohen, Charman, Cox, et al., 1998).
A distinction can be made between two different research concerns. Some research examines eye-gaze to social stimuli (to static or dynamic faces) in order to delineate attentional preference and communicative competence (e.g. Fletcher-Watson, Leekam, Benson, Frank, Findlay, 2009; Jones, Carr, & Klin, 2008; Klin, Jones, Schultz, Volkmar, & Cohen, 2002; Norbury, Brock, Cragg, Einav, Griffiths, & Nation, 2009). By contrast, some research approaches spontaneous eye-gaze (e.g. looking-time measures) as an index of mental state understanding and social insight (e.g. Ruffman, Garnham, & Rideout, 2001; Senju, Southgate, White, & Frith, 2009). Difficulties in making inferences about other people have been explored extensively in terms of ability with respect to theory of mind, and numerous studies in this area have shown that children with autism have difficulties in their capacity to attribute separate mental states to other people (Baron-Cohen, 1995; Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997; Baron-Cohen, Leslie, & Frith, 1985; Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001; Ruffman et al., 2001). These attributions have been widely examined through responses to stimulus materials consisting of photographs of the eye-region of different faces, as eye-gaze has been understood to provide important information of one’s knowledge, beliefs and emotions. In some research, the direction of child’s eye-gaze has been taken to be a measure of their social understanding, and children with autism have been shown to be less likely to look at the correct location in tasks requiring the anticipation of others’ behaviour (Ruffman et al., 2001).

Recently, Klin et al. (2002) have called for paradigms that might better capture eye-gaze behaviour in detail in more naturalistic and life-like settings. In particular, they draw attention to the benefits of using eye-tracking equipment to examine children’s spontaneous viewing patterns for dynamic faces in social scenarios. Reduced social interest and impaired capacity for reciprocal interaction that is characteristic for autism is implicated in
less frequent mutual gaze with others, even at their face and eye-region (Dalton, Nacewicz, Johnstone, Schaefer et al., 2005; Hobson & Lee, 1998; Klin et al., 2002; Swettenham et al., 1998; Volkmar & Mayes, 1990). Nevertheless, the evidence appears to be inconsistent and subtle gaze related competencies have been recently found. Fletcher-Watson et al. (2009) employed eye-tracking to study the viewing preferences of adolescents and adults with autism for static images. They found that these participants, like their neurotypical counterparts, showed a preference for looking at social information (e.g. an image with a person present). However, in individuals with autism the first fixation point to the social elements was less strong or absent, indicating that the attentional bias towards social information is reduced in autism (Fletcher-Watson et al., 2009).

The viewing of social scenes and elements without any social participation with others might be different to social situations in which one actually participates. Thus, while engaging in social situations, a child with autism might have interactional stake in the ongoing activities whereby the use of gaze can become relevant. Naturalistic settings offer an important complement to standardized settings precisely because children’s (and their co-interactants’) behaviours are more likely to be spontaneous and as such they provide an opportunity to examine children’s actual behaviours when doing familiar things in familiar settings. The present report aims to demonstrate how a particular method of interactional analysis, namely conversation analysis (CA), can contribute to the examination of the interactions in which the children themselves participate.

Conversation analysis offers an interactional approach to the study of eye-gaze and has the potential to identify what eye-gaze is doing when it occurs and to specify the interactional occasions within which eye-gaze, or gaze aversion, occurs. While the coding and quantification of eye-gaze phenomena have helped us to understand the frequencies and distribution of eye-gaze phenomena, a detailed interactional analysis can identify and
explain the interactional contingencies under which eye-gaze arises. Conversation analysis considers how social interaction is built at the micro-level from talk and non-vocal behaviours; placing particular emphasis on how participants produce sequences of action through turns at talk. This means that a specific action by one party can have particular implications for other parties’ conduct, for example, a question or invitation can place tight constraints on how addressees should respond. It is not simply that an answer or acceptance should be produced but also when it should be sequentially produced. In interactions among neurotypical people, non-vocal actions, such as eye-gaze, gestures, and body movement are systematically incorporated alongside talk so that, for example, the speaking party routinely gazes at the recipient in order to address and nominate them as to speak next (e.g. when asking a question). This eye-gaze characteristically occurs at a specific place: near the end of the turn and where the transition to the next speaker becomes sequentially relevant (Heath, 1984; Lerner, 2003; Sacks, Scheglof, & Jefferson, 1974). By contrast, there are actions that do not make a response relevant: When we do things such as noticing, assessments, and tellings, we do not place tight sequential constraints for a recipient to say anything in response to our talk. Eye-gaze, as it emerges, can be used as an important means to elicit a response in these constraint-free environments. Thus, upon producing a turn we can mobilise a response by shifting our gaze to the recipient (Stivers & Rossano, 2010).

The placement of eye-gaze with talk and other non-vocal actions – where and when it sequentially occurs – can be crucial in terms of delineating what action any given instance of gazing is doing. Such non-vocal practices have particular implications for the persons who have a limited capacity for verbal communication. Conversation analytic work on interactions involving participants with aphasia has illustrated how the participants’ adaptations to conversation can be facilitated when we refrain from coding or judging
“whether an utterance is successful or adequate in terms of communication” (Beeke, Maxim & Wilkinson, 2007, p. 136) and examine instead the situated production of talk in sequential environments. This can reveal how the identified conversational practices (e.g. the way in which questions are asked) work for the individual speakers with aphasia and their partners in everyday conversations (e.g. Beeke et al., 2007; Lock, Wilkinson & Bryan, 2001). Previous applications of conversation analysis to interactions involving children with autism have similarly shown that, at least on some occasions and for some children, behaviours that might seem irrelevant to the progression of an interaction when considered in isolation, are actually of interactional significance and might work to compensate for a challenged capacity to use linguistic resources when considered in the sequential contexts of impending actions (e.g. tapping, Dickerson, Stribling, & Rae, 2007; gaze, Dickerson, Rae, Stribling, Dautenhahn, & Werry, 2004; repetition, Stribling, Rae, & Dickerson, 2007).

Clearly, eye-gaze behaviours are not just of social importance alongside talk, but are also important independently, a fact which is of both phylogenetic as well as ontogenetic importance. Tomasello (2007) notes that the ability to follow another person’s gaze can be beneficial for the parties in interaction: “If we are gathering berries to share, with one of us pulling down a branch and the other harvesting the fruit, it would be useful – especially before language evolved – for us to coordinate our activities and communicate our plans, using our eyes and perhaps other visually based gestures” (Tomasello, 2007). Thus eye-gaze in interactional settings can have implications in terms of what activity one party is engaged in and what, if anything, might be relevant for another party to do with respect to it. In other words, a person's eye-gaze can reveal their orientation, stance, and attention to co-present parties, and this can subsequently shape the actions of others.
The analysis of *initiated* and *responsive* actions informs us about the precise sequential environments, and the way in which eye-gaze is placed with respect to these actions does not merely implicate the expressions of internal states or motivations. Thus the interactional implications of gazing practices do not simply inhere in the properties of the gaze itself (such as its duration and steadiness, the openness of the eyelids, or the orientation of the eyes relative to head); it is important to consider where the gaze is located with respect to ongoing events. Consequently, "*gazing at X*", (where X is part of a person or object) cannot be fully captured within a discrete category, but rather it needs to be characterized in terms of *when* it occurs, namely, *where* we are *sequentially* in interaction. Thus, in actual social interaction eye-gaze occurs alongside other behaviours. In certain sequential environments, eye-gaze can accomplish work that talk alone might fail to do, such as eliciting a response from another when weak constraints (or no constraints) are placed upon them to speak. From this it follows that we must identify what the other parties are doing just prior to another's gaze is reaching them, or when another looks away, to understand what has been interactionally occasioned. Thus the *sequential* conditions under which gazing, or not-gazing, occurs can show the relevance of these actions for what it is that we want to accomplish.

This study aims to examine occurrences of eye-gaze at another's eye-region in children diagnosed as having autism in mundane interactions with familiar co-participants (teachers, parents, and siblings). The analytic focus is on the sequential location of these gazing practices, that is, the extent to which they occur with respect to the interactional demands of the moment. The aim is thereby to arrive at a more detailed understanding of the use of social eye-gaze in children with autism in naturally occurring social interaction in which the children themselves participate in with familiar others.
3.2 Methodology

In order to examine spontaneous gazing practices in children with autism, the present study involves a detailed interactional analysis of a sample of naturally occurring behaviour. The analytical framework explicates the details of the sequential organisation of talk, and non-vocal behaviours, in social interaction (see Chapter 2 for a detailed description of conversation analysis).

3.2.1 Data

The data consist of video recordings made of three children with autism and their co-interactants. Two children with an autism diagnosis were filmed individually when interacting with their teacher in a small classroom across two days. These children are an 11-year-old boy, Niko, 9-year-old girl Ingrid and a 10-year-old girl, Anna (see detailed participant information and description of data sources, in Chapter 2). The female teacher, Katja, who interacts with both Niko and Anna, respectively, is a qualified school teacher and trained in TEACHH (Treatment and Education of Autistic and Communication Handicapped Children) method. The video data considered of Ingrid involves also her mother (whom I simply call Mother) and a younger brother, Erik, was recorded at home during a memory game session. Consequently, a specific interaction was identified for each child that formed the focus of this analysis, as explained below.

3.2.2 Selection of cases for detailed analysis

The analysis began by inspecting the video data from Anna closely during a period of unmotivated looking. This initial step involved identifying potential phenomena for analysis. It was noted that the children recurrently shifted their gaze to their co-participant, and it was decided to make this the focus of the present analysis. An interaction was then
selected for each child, during which the nature of the activity underway made it relevant for them to look at the co-participant. The interactions selected involve Niko’s break time interaction with his teacher (11 minutes); a memory game session between Ingrid, her mother and a brother (19 minutes); and a TEACCH pair-work task between Anna and her teacher (10 minutes). Note that the nature of data collection does not aim to yield an overall measure of each child’s tendency to engage in eye-gaze, but rather to identify instances of eye-gaze competence for detailed analysis. The analysis will be concerned with a detailed structural examination of instances of eye-gaze, rather than a statistical analysis of the frequency and duration of eye-gaze. A simple frequency count would provide information about the number of times a child looked at their teacher or parent, but would not provide information about what the gaze was doing when it occurred (e.g. what action was initiated and/or to what action the gaze was responsive to). In general, simple frequency data takes phenomena out of the context in which they occur; by contrast, in the present analysis instances of eye-gaze were transcribed and a collection of cases was built up in order to examine the shifts of gaze within the sequences of activity in which they occur.

3.2.3 Transcription

The interactional resources, both vocal (talk) and non-vocal (gaze, gesture, body orientation), are carefully transcribed from the video data so that the inspection of their systematic employment and the composition of sequentially organized activities become possible. CA emphasises the collaborative nature of conversations (Schegloff, 1982), thus the analysis pays attention to the actions of all the parties in interaction and does not focus on the child’s behaviour in isolation. The data is transcribed according to the transcription conventions described by Jefferson (in Atkinson & Heritage, 1984). The non-vocal
behaviours (i.e. eye-gaze) follow mostly the transcription convention developed by Goodwin (1981). Additional non-vocal activities (i.e. body orientation; gestures) have been also included and their descriptions appear in parenthesis within the transcripts. The transcripts show the gaze of a speaking party always above the line of spoken utterances, and the gaze of a recipient below the spoken utterances. Photographs are embedded within the transcripts so that each frame appears below the line of transcription which it depicts. For a more detailed discussion about transcription and the transcription conventions, please refer to Chapter 2.

3.3 Analysis

The analysis will focus on the children’s shift of gaze to their co-participants during naturally occurring interactions. I will be concerned with eye-gaze practices that occur in the course of three interactional phenomena: (a) selecting a next speaker, (b) eliciting a response, and (c) eliciting feedback.

3.3.1 Gaze shift: Nominating the recipient and allocating the next speaker

In this first section, I will examine the speaker’s eye-gaze to the recipient when allocating them as the next speaker. Extract 1 involves an interaction between Niko and his teacher, Katja, and I focus on Niko’s shift of gaze to her. Niko is sitting in front of a computer desk and Katja is sitting next to Niko on his left, facing him. Niko is looking up at a wall calendar (off camera) with his head turned to his right and slightly upwards. In line 1, Niko talks (“shall we turn over May”) and as he begins the last lexical item “May” (“toukokuu”) he rotates his head and shifts his gaze to Katja; I focus on this as follows.
Extract 1 [Niko & Katja "shall we turn over to May"]

[N=Niko; K=Katja (Teacher)]

gazes up at wall

**►**

1  N: ↑käännetäänkö ↑touko↓kuu
    shall we turn over to May
    Niko___________________

↑(frame 1)  ↑(frame 2)

Frame 2: Niko’s gaze to Katja
Katja

(-------1-------2)

Niko

↑ (frame 3)

Niko’s utterance (line 1) is a question-type proposal and sequentially it implements an adjacency pair structure: the first pair-part (the proposal) places a constraint for the teacher to speak next and respond to his proposal. Niko does not only design his talk so as to address Katja but also turns his head and shifts his gaze to her; he carefully co-ordinates these actions at an interactionally relevant moment. As has been noted in neurotypical conversations, the shift of gaze towards a nominated next speaker routinely occurs when
the current speaker comes to the end of their turn; this is where the transition to the next speaker becomes relevant (Heath, 1984; Sacks et al., 1974). For example, consider Heath’s (1984) analysis of a dyadic doctor-patient interaction (illustrated in Extract 2). As the doctor first speaks his gaze is directed down at the patient records; as he comes to the projected end of his utterance he \textit{shifts his gaze to the patient}.

\begin{center}
Extract 2 (from Heath, 1984)

[D=Doctor; P=Patient]

\begin{tabular}{ll}
 reads records & shifts gaze to P \\
\hline
D: & ( & - & - & - & - & - & - & 1) & howav:: you bee:n:
\end{tabular}
\end{center}

Heath’s analysis shows how the doctor’s gaze shifts to the patient as he begins to address them for a response; thus the timing of his gaze is \textit{relevant} in selecting the patient to speak next. In a similar fashion Niko shifts his gaze from the wall calendar to Katja near the turn completion when it would be relevant for her to respond.

In line 2, Niko \textit{sustains} his gaze at Katja through the transition place, and this clearly shows that Niko is monitoring her response to his proposal. In line 3, Katja speaks (“is there a wrong month”) and shifts her gaze from Niko to the wall calendar. This is when Niko turns his gaze back to the calendar so as to follow her gaze: this occurs at the particular interactional juncture where the teacher has embarked on her response and mutual visual focus can be established. In Extract 1, it is the \textit{timing} of Niko’s gaze with respect to talk that marks his eye-gaze to Katja as a relevant interactional action.
3.3.2 Shift of gaze as a resource for eliciting a response in a multiparty setting

This section involves a case of recipient addressing as displayed by Ingrid. I consider instances of Ingrid’s shift of gaze as it co-occurs with her talk in a multiparty setting. In Extracts 3 and 4, she is playing a memory-game with her mother and a younger brother, Erik.

**Extract 3** [Ingrid “have to guess which the picture”]

[I=Ingrid; M=Mother; E=Erik]

```
((hands cards to I)) ((brings right hand up to her temple & scratches))
```

```
cards _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
```

1  M:  tos on [sullekin there’s [for you too
I:  [°pitää° arvata MIKÄ SE KUVA [ have to guess which the picture
```
cards _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
```

```
((places cards on the table))
```

↑(frame 1)  ↑(frame 2)
I shifts gaze to M
|   gaze reaches M
|   gaze
. . x to M

M gazes cards

↑(frame 3)

I drops gaze

↑(frame 4)

M gazes at I

M: nii : : i
yeah
I gazes
at cards
In Extract 3, the participants are sitting around a table. In line 1, Mother is handing out cards, and Ingrid begins to speak in a slight overlap with Mother’s turn-in-progress.

Ingrid’s utterance “have to guess which the picture it then is” (“pitää arvata mikä se kuva se sit on”) is a telling, delivered in the context of the game. This talk has a rather unusual syntax; it appears not to be “(you) have to guess which picture it is then”, which would be a confirmation check. Rather, it appears to be a telling which has weak sequential constraints but probably makes an acknowledgement relevant. As her turn is coming to an end (specifically, at the point when she produces the lexical item “it”, line 2) Ingrid shifts her gaze from the cards (on the table) to Mother, and sustains it until the completion of her turn. A similar example of Ingrid’s gaze shift is given in Extract 4.

**Extract 4** [Ingrid “the sun is in the blue sky”]

[I=Ingrid; M=Mother; E=Erik]

\[shifts \text{gaze to I}\]

\[\text{cards } _-_-_-_-_-_-_-_-_-_\]

1 E: \{"mä söin jo kaikki kark[it]\}  
I ate already all the sweets  
\[-_-_-__-__-__-_-_cards_\]

I: \{[\text{aurinko} [\text{the sun}\}

M: \text{Erik}

↑(frame 1)
I shifts gaze to M
| gaze reaches M
|   |   |
. . x Mother

2
I: on siin sinises taivaas
is in the blue sky
M: . . x
| gaze at I
| gaze reaches I
| M shifts gaze to I
M gazes at E
E: Ingrid

↑(frame 2)

drops gaze
I: ___ . .’’’
3
(--- --- ---)
M: Ingrid , ,
E: Ingrid , ,

↑(frame 3)
In Extract 4, Ingrid produces an utterance “the sun is in the blue sky” (lines 1-2); this telling does not in itself make a response relevant from any present party. However, as her turn is reaching its completion (“the blue sky”) Ingrid shifts her gaze to the mother. I shall consider next how these particular shifts of gaze (in Extracts 3 and 4) are interactionally relevant.
The design of Ingrid’s talk does not project tight sequential constraints for any specific party to do or say something. Her utterances are not, for example, questions which would project tight constraints for an answer to be a relevant next action. Nevertheless, Ingrid’s shift of gaze clearly shows that she is addressing her mother to speak next. In their detailed analysis of neurotypical conversations, Stivers and Rossano (2010) have shown that when a response from the recipient is not conditionally relevant nor is its absence accountable, the speaker can nevertheless use gaze to a recipient in order to elicit a response. This is precisely how Ingrid designs her gaze in concert with her talk: she invites her mother to deliver an uptake (i.e. acknowledgement) to her talk, and this is indeed what the mother does: “yeah” (Extract 3, line 4); “mmm…hmm” (Extract 4, line 4).

Addressing another party by gaze in multiparty settings is dependent on the selected party and the co-present others seeing who has been nominated (Lerner, 2003). Ingrid shows particular sensitivity to this ambiguity: she does not drop her gaze until the mother has engaged in mutual eye-gaze with her and seen that she has been addressed. Thus, the timing and duration of Ingrid’s gaze demonstrates her competence in solving a potential speaker-selection ambiguity in a multiparty setting. Consider how her talk is lacking elements (e.g. names) that would indicate that it is her mother (and not her brother) who is the nominated party and who should respond; thus Ingrid’s gaze accomplishes work that her talk alone might not achieve.
3.3.3 Gaze shift as a resource for feedback elicitation

Finally, I show how Anna’s shift of gaze to the teacher co-occurs with her task-related responses. In Extracts 5 and 6, Anna and her teacher, Katja, are sitting around a classroom table with a worksheet in front of them. The current pair-work session involves a task in which Anna is expected to respond to the teacher’s questions about the time. The different time-options are written on small cards, and Anna’s task is to read them out and match them to the worksheet.

**Extract 5** [Anna & Katja “what is the time now”]

[A=Anna; K=Katja (Teacher)]

1. K: paljonko kello on ↑
   what is the time now
   worksheet  _ _ _ _ _ _ _

↑(frame 1)
((picks up card))

A: cards on the left of sheet
    (--------1--------2--------3--------4)

K: cards on the left of sheet _ _ _ _ _ _

↑(frame 2)

((holds card))

A: card
   mm°(.)→kahdeksan°<
   mm (.) eight
   card_ _ _ _ _ _ _

↑(frame 3)
((A holds card))

A gazes at the card
shifts gaze to K
gaze reaches K

A: - -...x

K: _card_ _

↑(frame 4)
In Extract 5, Katja asks a question “what is the time now” (line 1) and sequentially this makes a response relevant from Anna. In line 2, Anna silently gazes at the cards for the duration of four seconds, and three seconds in she picks one up with her right hand. Then she responds “mm (.) eight” (line 3). A short silent interval follows, and then Anna swiftly
shifts her gaze up to Katja while holding the card (line 4). The teacher’s next turn is
directly responsive to Anna’s gaze as she produces an affirmative vocalisation “mmh hm”
and slightly nods her head (line 5). This indicates Katja’s analysis of Anna’s gaze eliciting
a feedback response from her. As a response to this vocalisation, Anna’s drops her gaze
down, releases her suspended arm movement, and attaches the card to the worksheet. A
similar shift of gaze occurs in Extract 6.

**Extract 6** [Anna & Katja “*the time is half five*”]

[A=Anna; K=Katja (Teacher)]

```
((picks up card))

1   A:  ke
    llo  the time
    card_ _ _

↑(frame 1)
```

```
((holds card))

2   A:  card_ _ _
    (-------1)

   K:  card_ _ _
```
(moves card over sheet))

3  A: (on) <puije> viisi
(is) half five
(card_ _ _ _ _ _ _

↑(frame 2)

((attaches
((holds card card to over sheet)) sheet))

shifts gaze to K
gaze reaches K
drops gaze down

4  K: [°hyvä::°
[ good

↑

(frame 3)  ↑(frame 4)
In Extract 6, Anna holds a card and reads out: “the time is half five” (lines 1-3). At the end of the last lexical item “five” she begins to move the card over the worksheet. In line 4, Anna holds her arm in place for a short while – card over the sheet – and swiftly shifts her gaze up to Katja and back down again. Katja responds to her gaze by producing praise “good”, after which Anna resumes her arm and attaches the card to the worksheet. Note that, in Extracts 5 and 6, Anna suspends her arm movement until she has elicited the teacher’s affirming response with her gaze; it is not until after the feedback response that Anna attaches the card to the sheet. Thus Anna’s gaze and body movement occur systematically in the positions where they elicit a relevant feedback response from the teacher. As such, Anna’s actions are a design for interactionally purposeful work whereby she displays to Katja what she pursues and what she is about to do next. Thus while Anna’s gaze is an invitation for Katja to do something in response to that gaze, the simultaneous suspension of the arm movement displays that Anna stops proceeding until she has secured a feedback response that she needs to shape her next actions.
3.4 Discussion

Rather than undertaking a distributional analysis of the extent to which social eye-gaze does, or does not occur, in children with autism, the present chapter has aimed to examine the interactional environments in which a sample of these children engage in gazing at another party, and to identify what action this gazing contributes to. A detailed sequential analysis of the naturally occurring interactions involving these children showed competence with respect to mutual gaze when addressing the co-participant and when eliciting a response from them. This is not to say that mutual gaze only occurs in such environments, or that it always occurs in these environments, but that these are sequential environments in which competence with respect to mutual gaze has been demonstrated.

The precise timing (the onset and duration) of eye-gaze, and the simultaneous talk, gesture, and body movement, were strong evidence for the children’s actions being interactionally relevant rather than merely expressive on internal states. When Niko engaged in mutual gaze with his teacher, he addressed her as the recipient of his proposal; he maintained his gaze to monitor her response. Niko followed the teacher’s gaze at an interactionally relevant moment; his shift of gaze did not occur so as to merely show an interest in the teacher’s focus of attention, but it also showed Niko’s orientation to the teacher’s responsiveness to what he had initiated. In a similar fashion, Ingrid used eye-gaze to address a selected party (Mother) and to nominate her as the next speaker. She complemented the design of her talk by using eye-gaze so that, while her talk did not make a response relevant, she shifted her gaze to the mother so as to seek it (see Stivers & Rossano, 2010). Thus, Ingrid used eye-gaze to accomplish this specific interactional work that her talk alone might have not achieved. By deploying her gaze precisely this way Ingrid also displayed a sophisticated problem solving in terms of orienting to the ambiguity
that participants in multiparty settings are faced with when a recipient nomination occurs (see Lerner, 2003).

Thus while autism involves fundamental impairments in the social use of eye-gaze, a detailed interactional analysis has the potential to examine the kind of work that is underway if and when the parties do gaze at each other. Consider how the natural and routine settings (such as those examined in this chapter) are fundamentally different to the experimental contexts where eye-gaze in individuals with autism has been broadly investigated (e.g. Fletcher-Watson et al., 2009; Klin et al., 2002). The viewing of static images or dynamic scenes might not easily translate to the use of gaze in real-life settings. Klin et al. (2002) note that the “manifestations of core social deficits in autism are more pronounced in everyday settings than in explicit experimental tasks” (p. 809), nevertheless, the opposite can be demonstrated also. Namely, that the social deficits can be “reduced” in everyday settings where some interactional business is at hand – for example, a pursuit of a response from another. The present chapter has particularly shown, through the naturally occurring instances, that the children engaged in mutual gaze with another (or what some might call their gaze towards social stimuli, e.g. Dawson et al., 1998; Fletcher-Watson et al., 2009) in order to get the co-participant to do something, namely, to respond. In this sense, eye-gaze can be systematic and recurring rather than random or fleeting also in children with autism; the most mundane interactions can be the richest of source for identifying competence.

Tomasello’s (2007) position that eye-gaze has evolved to serve cooperative activities between humans echoes the notion that eye-gaze can be seen to facilitate social interaction. However, conversation analytic work specifically shows that eye-gaze itself is a practice in its own right. The routine and systematic ways in which eye-gaze is used suggest that, rather than construing eye-gaze as manifesting internal states that are waiting to be picked-
up, it might be better understood as part of the business of social interaction. Consequently it is not so much that the eyes are a “window” of the mind through which our internal states, such as beliefs and emotions, become reflected, but rather that eye-gaze is an interactional practice that is systematically employed in concert with talk and gestures.

One only has to look at one party’s treatment of another party’s gaze in order to see how they themselves orient to eye-gaze and what is occasioned when, where, or whom a party is gazing at. For example, when Anna shifted her gaze to the teacher this did not reveal her private state of mind, but rather it was evident that Anna accomplished a socially purposeful action with that gaze of hers. Consequently, Katja treated Anna’s gaze as an invitation to do something in response to that gaze; it elicited a specific feedback response that was directly relevant to the impending sequence of activity. Goodwin (2010) talks about the co-operation of separate actors who contribute different parts to the progression of action by using different modalities (e.g. talk, gaze, gesture, body movement); at the heart of this lies an understanding of what another is about to do when they do something. Thus we see that Anna co-produces the task completion with her teacher by using eye-gaze and gesture. Anna’s actions create an environment for the teacher’s talk; this talk becomes consequential to what Anna does next as she releases her arm movement and brings the task into completion.

Importantly, however, this practical use of eye-gaze showed also Anna’s direct orientation to Katja as a person with a separate state of knowledge. Namely, Anna gazed at Katja for feedback and thus oriented to her as a more knowledgeable party; simultaneously, Anna embodied her own “mental agenda” to Katja through her gaze and gesture as she called for feedback to her task-related response. Krueger (2011) notes how young learners often use their body and hands when acting out their state of understanding, and therefore a teacher, “rather than having to guess or inferentially work out the inner
content of her student’s mind, can instead directly perceive the learning process
dynamically play out within the spatial arrangements of student’s gestures” (p. 650). Thus
this particular exchange between Anna and Katja highlights how the orientation to another
person’s separate perspective is accomplished interactionally through bodily conduct, such
as eye-gaze. In consequence, the direct action that shows understanding of the separate
dispositions during interaction can be unlike the attribution of mental states in
experimental tasks which children with autism seem to find difficult (e.g. Baron-Cohen,
1995).

The present analysis is limited with respect to the nature of the video recording, the
sample size, and the comprehensiveness of the phenomena studied. Firstly, interactions
were filmed using a single tripod-mounted camera, thus the determination of participants’
eye-gaze direction can be sometimes a matter of judgement. Portable eye-tracking
equipment is becoming more easy to use and such technology could make an important
contribution to naturalistic settings. Secondly, the present study, through being based on
only three participants with autism places constraints on the extent to which the observed
competencies can be generalized to other children with autism and does not allow an
assessment of how these children differ from neurotypical children. Thirdly, it has been
beyond the scope of the present analysis to examine the consistency with which the
participants exhibit the competencies that have been identified. Despite these limitations,
the analysis demonstrates that detailed interactional analysis can contribute to our
understanding of the interactional circumstances under which children with autism show
competence in the production of mutual gaze, and develop a detailed understanding of the
behavioural repertoire of individual children.

While some children with autism might not have a propensity to engage in mutual
gaze with others, for example, when greeting them (Hobson & Lee, 1998), I propose that it
is equally important to consider whether mutual gaze is *needed* at a particular moment, and if so, which party seems to need it. Thus it can have little meaning to talk about the amount of or how frequently parties generally engage in mutual eye-gaze in social interactions. For example, while face-to-face situations such as greetings can routinely involve mutual eye-gaze between neurotypical individuals, this is not to say that it always occurs or that greetings could not be exchanged without mutual gaze. The present findings resonate with those previously reported by Dickerson et al. (2005) with regards to the co-ordination of gaze and talk in children with autism in naturalistic settings and highlight a particular competence on part of these children. However, further conversation analytic research could identify whether children with autism have other means at their disposal, for example, when pursuing a response from another *without* shifting their gaze to them.

Rather than attempting to offer a general explanation of the social use of eye-gaze in autism, the chapter demonstrates the kind of detail that can be obtained by using conversation analysis in natural interactions in which the children participate. The present study shows how, despite these children’s difficulties, areas of competence can be identified, in particular, the way in which they have used gaze to the co-participant at the transition relevance place. As such, these children demonstrate understanding of the interactional work that gazing at another can accomplish, namely, to elicit a response from them, and have mobilised this in a timely manner. While eye-gaze to a co-participant can increase the response implicativeness of even fairly low-constraint talk (as was the case with Ingrid) I will examine next, in Chapter 4, the co-occurrence of eye-gaze and smiling. In particular, I will consider how smiling can show orientation to the implications that gazing at the co-participant can have.
CHAPTER 4

SMILING AS AN INTERACTIONAL RESOURCE

Recent conversation analytic work examining the placement of facial expressions (e.g. smiling), in relation to other events (e.g. talk and eye-gaze), suggests that they can be interactional resources rather than merely expressions of internal emotions (Ruusuvuori & Peräkylä, 2009). These interpersonal phenomena are fundamental in face-to-face interaction in neurotypical people; impairments in the capacity to produce and comprehend them are one characteristic of autism. In this chapter, I examine smiling in social interaction, and the capacity to use smiling as an interactional resource by Niko, a boy with autism. I examine recurrent instances where Niko shifts his gaze from the computer screen to his teacher and smiles. I use conversation analytic framework to delineate the interactional work that these actions accomplish. In order to understand his smiling, it is essential to draw on neurotypical interactions alike and consider what people do when they speak something and gaze and smile at another; orientation to the sequential constraints emerges as part of the work that smiling appears to accomplish.

4.1 Introduction

The emotional expressions that are visible in the face are often thought to correspond to an underlying emotional experience. The term “expression” in itself suggests the existence of something that is manifested. It has been suggested that the peripheral non-vocal signals on the face correspond to our internal feelings, such as a smile showing that we are in a state of happiness (Ekman, Davidson, Friesen, 1990; Ekman, Levenson, Friesen, 1983; Frank, Ekman, & Friesen, 1993). Neurotypical children show recognition of
emotions already in early infancy and the general responsiveness to human faces begins as early as the first hour of life (Meltzoff & Prinz, 2002). Particularly, *smiling* in response to human faces begins a few weeks after the birth (Lagattuta, 2005; Saarni, 1999), although this does not in itself show response to emotional expressions themselves. Neurotypical infants imitate the facial expressions they see (e.g. Meltzoff & Moore, 1977, 1997) and appear to be drawn to the human face spontaneously; this can ground the later development of emotional understanding and social interaction.

Autism involves impairments in reciprocal social interaction; children with autism are often considered to have difficulties in the understanding and expression of emotions, in particular. *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) classification system refers to “marked impairments in the use of multiple nonverbal behaviours such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction”, “a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people”, and “a lack of social or emotional reciprocity” (APA, 1994, p. 72) as the indicators of the impaired emotional competence in autism. A bulk of quantitative evidence suggests that there might be a difficulty in reading emotions in others, as children and adolescents with autism tend to orient less spontaneously to human faces and the eye region (Baranek, 1999; Begeer, Rieffe, Meerum Terwogt, & Stockmann, 2006; Clifford, Young, & Williamson, 2007; Gross, 2004; Werner & Dawson, 2005). Further, children with autism have been shown to have difficulties in global facial perception (Gross, 2005; Sasson, 2006) and in the simultaneous integration of multiple vocal, non-vocal, and contextual cues (Koning & Magill-Evans, 2001). Children with autism are also poorer at recognising emotional expressions in photographs (Hobson, Ouston, & Lee, 1988) which appears to be associated with their atypical perception of faces in general.
However, research in more naturalistic settings has shown that children with autism also show displays of affection in social interactions with their familiars. Dawson, Hill, Spencer, Galpert and Watson (1990) examined interactions between two groups of children (neurotypical and children with autism) and their mothers during free-playtime, a more structured situation which posed a communicative demand on the child (“put the toys away” situation), and a face-to-face snack time. The smiles and direction of eye-gaze of the children and their mothers were coded for frequency and duration from the videotapes. While the groups of children did not show a difference in the frequency of smiling, the children with autism gazed at their mother less often as they smiled. Thus Dawson et al. concluded that a particular difficulty in autism might reside in the manner in which the emotional displays are communicated with eye-gaze:

The abnormality in the use of eye contact and emotional expression commonly observed in autistic children is not quantitative in nature. Rather, the abnormality appears to be a qualitative one: The autistic child often fails to combine emotion and eye contact in a single act that conveys communicative intent. (p. 344)

This notion has parallels with the naturalistic observations by Reddy, Williams and Vaughan (2002) involving children with autism, Down’s syndrome, and neurotypical controls. The authors reported that while the children with autism did not differ in the frequency of engagement in laughter and humorous interactions at home, the differences were evident in terms of the social and shared aspects of laughter. For example, these children less often joined in others’ laughter and more often displayed bouts of unshared or inappropriate laughter in interactional situations. Recently, the interpersonal element has been further attributed to the direction of eye-gaze that accompanies the emotional expressions in the face (Davies, 2011). In their functional magnetic resonance imaging (fMRI) study involving children, Davies et al. found that where the neurotypical control
group showed a marked increase in the brain activation in response to images depicting negative emotions with a direct gaze (as opposed to averted gaze), the children with autism did not show such activation. The authors propose that through the direction of gaze the “negative affect is perceived to be directly relevant to the individual” (p. 8); however the children with autism do not seem to respond to the communicative significance of such cues.

Facial expressions, such as smiling, are clearly important means for emotional communication, while some facial movements such as those that occur during speaking, chewing, and blinking can be easily distinguished from communicative value (Niedenthal, Krauth-Gruber, & Ric, 2006). Different kinds of smiles have been identified and they convey distinct meanings. Duchenne smiles which implicate both the mouth and the eye region and are understood as spontaneous smiles of true happiness (Ekman et al., 1990). Not only is their visible display distinctively different from non-Duchenne smiles (“forced” mouth-only smiles), but also in self-reported accounts it is only the Duchenne smiles that are associated with positive emotions (e.g. Frank, Ekman, & Friesen, 1993). According to Ekman (1973) there is strong evidence to show that humans exhibit their internal states in the face, and that six basic facial expressions (anger, happiness, fear, surprise, disgust and sadness) are universally recognized across very different cultures (Ekman, 1973; Ekman & Friesen, 1971). The implication is that these facial expressions are innate rather than socially and culturally learned, while the judgements of expressions are not a methodological artefact but also present “when respondents offer answers of their own choosing rather than based on experimenters’ terms” (Keltner & Ekman, 2003, p. 412).

This poses the question: why does something constructed so inherently internal to an individual constitute nevertheless an integral part of everyday social interaction, thus appearing more social than private? It seems very likely that facial expressions are a
fundamental resource in the management of interpersonal relationships. Consider how certain facial expressions of emotion are present in showing attachment with one another. For example, the affiliating cues that are displayed in the face (smiles), gestures, and body movement (forward leans, head nods, and open hand gestures), were uniquely found to correlate with self-reports of love and commitment (Gonzaga, Keltner, Londahl, & Smith, 2001). Facial expressions can be seen to be social insofar as the displays of emotion are carefully regulated according to the contexts; the presence of others has been associated with the frequency and the intensity of the expressions (Fernandez-Dols & Ruiz-Belda, 1995; Hess, Banse, & Kappas, 1995; Kraut & Johnson, 1979; Ruiz-Belda et al., 2003). This suggests that the emotional displays might not depend so much on the actual internal feelings but on the social context in which they occur.

Conversation analytic (CA) literature has shown that there are relevant places for emotions to occur in conversations. Sacks (1992) notes that while the recipients “express an appropriate emotion, they do a series of other things first” (p. 572), such as express surprise on hearing news that the speaker has some joy or sorrow about. Thus the displays of emotion do not occur at random but rather they are worked-up at particular places in talk. This way they might be better understood as interactional resources that are responsive to what is being said; their organization is about the way we do things rather than the way we, necessarily, feel about things.

Consider how within their detailed analysis of the expression of surprise, Wilkinson and Kitzinger (2006) show that the production of surprise is a collaboration between speakers; surprise has a specific place where it is produced after being developed across turns and thus “the surprise token is responsive to an interactant’s prior talk, and not to direct sensory impressions of the world” (p. 156). Freese and Maynard (1998) have noted how also prosody is an important aspect that displays the emotional valence of some bit of
news as being either good or bad; the emotional valence is actively accomplished in interactions rather than simply conveyed or expressed. Thus when examining the interactional detail, the emotional expressions, such as being in a state of surprise, joy, or sorrow, are recruited for some orderly business between the speakers. As such, their use can contribute to the way in which the speakers show affiliation with each other rather than simply revealing the internal states of the speakers.

A particular interactional property of facial expressions is that they can display a recipient's response to a speaker during the course of the production of a turn-at-talk (Goodwin, 1981). As such, facial expressions can work as a distinctive interactional resource. Consider how the turn-taking system only makes responding through talk relevant when the turn reaches a transition relevance place; through a facial expression a recipient can however engage in conduct that foreshadows their response outside and before a TRP. Ruusuvuori and Peräkylä (2009) have examined in detail how facial expressions, such as smiling and frowning, are used to display a speaker’s stance that foreshadows what they are about to say next and how they expect their recipient to respond to them. For example, a speaker can invite a positive assessment from a recipient by smiling so that the smile elicits a reciprocation of the positive stance (Ruusuvuori & Peräkylä, 2009). The sequential organisation of vocal and non-vocal actions (for example, eye-gaze and smiling) has specifically shown that emotion displays are worked up at relevant places and there are practices by which particularly sensitive situations are managed. Consider, as an example, how during medical examinations, patients routinely position their eye-gaze to middle distance, away from the doctor, as to appear inattentive to the ongoing procedures while mitigating self-consciousness and embarrassment (Heath, 1988). This has parallels with the activity of grieving: Gaze aversion systematically occurs with crying and implies that grieving is privatised by withdrawing from mutual gaze with
co-interactants (Kidwell, 2006). Haakana (2001, 2010) on the other hand observes how patients use laughter to display an awareness of the delicate nature of their talk (talk that is some way problematic, e.g. describing physical complaints, problematising doctor’s suggestions). Thus, laughter and smiling can be vehicles for conducting sensitive interactional business and are not simply markers of something humorous or amusing.

The present report arising from a study of children with autism in multimodal interactions aims to examine further how smiling may not simply function as an emotionally laden signal of how the participants in interaction feel, but rather the way in which smiling can accomplish specific interactional actions; the concurrent use of eye-gaze emerges as an important indicator of this. The focus is on the co-occurring eye-gaze and smile as displayed by Niko who has a diagnosis of autism. He is engaged in a dyadic interaction with his teacher, Katja, in a small classroom while using the classroom computer. I show specific cases where Niko turns his gaze from the computer screen to Katja, and smiles. These actions occur as he has produced a turn that does not place constraints for the teacher to produce a response to it.

However, in order to fully understand the smiling between Niko and Katja, I will also turn to instances of smiling as displayed by neurotypical participants (other than Katja). The role of smiling and gazing become under an analytical scrutiny in the particular contexts where the speaker’s talk does not put constraints upon the co-interactant to respond; this environment can make smiling relevant. It is of interest, how Niko might use smiling as a resource for interaction: the timing and placement of his smiles imply that they are fundamentally social and have a specific recipient-sensitive function. The sequential environment is crucial in understanding what his smile is doing alongside his gaze and this is where I use conversation analysis (CA).
While CA has contributed to our understanding of some of the interactional work of emotional expressions, central for CA is to identify and explain how social actions and practices are organised at the *sequential* level of interaction. Thus talk is organised in terms of *actions*; the actions are ultimately part of larger interactional *practices* that organise our social world and the way we interact. We routinely find that the initiating actions, such as questions, invitations, and offers yield canonical responses (answer to question; acceptance/decline of invitation or offer); should a response be delayed or remain absent we recognize that there might be a problem in hearing or understanding, or that a delay projects the production of a dispreferred or declining response (Pomerantz, 1984). As already considered in Chapter 3, eye-gaze, gestures, and body movement can be systematically incorporated within the sequences of talk so that, for example, the speaking party routinely gazes at the recipient in order to *address* and *nominate* them to speak next; the gaze occurs at a systematic place where the transition to the next speaker becomes relevant (Heath, 1984; Lerner, 2003; Sacks, Schegloff, & Jefferson, 1974). Talk and eye-gaze are thus *resources* that are drawn into the systematic employment; facial expressions, such as smiles, are no exception of such resources. Thus while eye-gaze can be used to address a recipient and to elicit a response from them (Heath, 1984; Lerner, 2003; Stivers & Rossano, 2010), the particular facial expression that accompanies gazing can display what *kind* of response, and perhaps to what *degree* a response is expected occur.

The majority of studies of emotion have been conducted in experimental contexts which might not directly tell us how the findings relate to the real life situations. Begeer et al. (2008) remind us that in experimental contexts the focus is usually on isolated skills such as “children’s attention to emotional expressions on a computer screen” (p. 344). Russell (1994) has raised important questions about the contextual elements when attributing emotional states to facial expressions and notes that “the research strategy of
focusing exclusively on judgements of the face alone is of questionable generality to naturally occurring situations” (p. 124). He further explicates that,

whereas a smile in the context of just having received a gift might be interpreted as a sign of pleasure, a smile in the context of just having spilled soup might be interpreted as a sign of embarrassment, and a smile in the context of greeting an adversary might be interpreted as an act of politeness. To refer to a specific facial expression as a signal requires that the expression communicate the hypothesized message not only when the face is seen alone, but when seen embedded in a reasonable range of naturally occurring contexts. (p. 123)

The present study takes context to the level of interactional detail. While the coding and quantification of facial expressions can be useful in terms of identifying frequencies and distribution of particular phenomena, detailed interactional analysis can show, for example, what is accomplished by a particular smile and in turn, how the smile is responded to. Consider how the coding and self-report measures of emotion displays do not inform us about the specific work that is done at the particular moment of interaction when, for example, a speaker turns to gaze at a recipient and smiles at them. The lack of transcriptions of recorded real-time interactions does not allow us to explore these important elements even when everyday contexts are emphasised or when we ask participants to rate their own feelings. While self-report measures of emotional states can be, as Wilkinson and Kitzinger (2000) warn, “taken as offering more or less accurate depictions of speakers’ psychological states” (p. 797), in reality they might not serve as a clear-cut evidence of felt emotions beyond the actual words.

Thus in this chapter, I consider smiling as a resource for accomplishing specific interactional work, rather than exhibiting internally experienced feelings. This narrows the context into the environment which unfolds on a turn-by-turn basis within the real-time
interaction. I explore how smiling occurs within particular sequential contexts: what action, if any, has been launched, and what kind of response, if any, is occasioned from a recipient. I am inclined to understand the *resourcefulness* of the child in question, but also how facial expressions are part of the general interactional work; as Peräkylä (2004) puts it, “the contribution of CA is to show the specific ways in which they [emotion displays] are part of the business of interaction” (p. 2). Central to the present chapter is the understanding of the smiling as it co-occurs with *eye-gaze*. Crucial is the identification of the distinct interactional work that smiling can accomplish but that gazing *alone* cannot, and whether particular sequential environments can make smiling relevant. Looking into the systematic placement of the smile and eye-gaze in a child with autism has implications in terms of identifying the competencies that he has when engaging in the regular yet specific business of everyday interaction, and whether we can understand his conduct through the interactions where he is engaged.

### 4.2 Methodology

#### 4.2.1 Data

The data consist of recordings of Niko, an 11-year-old boy with an autism diagnosis, interacting with his teacher, Katja, while using a classroom computer. The participant details and characteristics have been described in Chapter 2. The comparative neurotypical data considered in this chapter involves a dyadic conversation between a 14-year old boy, Jesse, and his grandmother Krisse; an interaction between siblings, 10-year-old Nora and 7-year-old Anton; and a conversation between Kirsi and her grandmother, Elisabeth. Further data is drawn from a shared corpus of recordings made in the US with native English speakers in a psychotherapy setting, involving Leif (the client) and the female Therapist. All participants have been allocated with pseudonyms.
4.2.2 Selection of cases for detailed analysis

The analysis began by inspecting the video data from Niko using the classroom computer. It was noted that he recurrently shifted his gaze to his teacher, Katja, and *smiled*. These instances involved first some talk from Niko, then a shift of gaze to Katja and a smile at her. It was noted that Katja routinely responded with a recipient smile to Niko, without producing a spoken response. These observations lead into the examination of comparative cases in neurotypical interactions in order to understand in detail, what such instances of smiling might be doing. The analysis will be concerned with a detailed structural examination of these instances of eye-gaze and smiling, rather than a statistical analysis of the frequency and duration of these phenomena. The aim is to understand smiling in relation to the talk and eye-gaze that accompany it, and why the recipients frequently respond with a smile (and maybe with some short laughter), but not with any particular talk. Through considering also what such instances of smiling accomplish in neurotypical interactions, we are more equipped to understand Niko’s smiling and how also his smiles can be essential social.

4.3 Analysis

I will begin by examining the stretches of interaction between Niko and his teacher, Katja, where Niko recurrently shifted his gaze to Katja and smiled at her while using the computer. It is of interest, how we can understand Niko’s smiling through its sequential location in relation to some bit of talk that he, or on occasion, Katja produces. In order to examine these situations, and how the smiling is organised with respect to other phenomena, I will first give an outline of three instances (Extracts 1, 2 and 3) where Niko
turns to gaze at Katja and smiles, and set out the interactional environment where these smiles occur.

I will then draw on cases from neurotypical interactions (Extract 4, 5, and 6) in order to understand how smiling is commonly used in interactions. I shall then return to a closer analysis of Niko’s smiling in the light of the neurotypical considerations, and discuss what kind of resource his smiling appears to be. In Extract 7, I will present a further case of Niko’s gaze to Katja that occurs *without* smiling for comparative purposes.
4.3.1 Two environments of Niko’s smiling

Let us begin by briefly specifying the two environments where Niko’s smiling can be identified in Extracts 1, 2 and 3.

(1) As a unit of talk reaches a close and with gaze at co-participant.

Extract 1 [Niko & Katja “must cheer up (.) cheer up”]

[N=Niko; K=Katja (Teacher)]

((right hand holds the mouse / left hand hovers over keyboard))  ((opens mouth into a broad smile))

shifts gaze to K  (K off camera)

1  N: °tarvitsee° p:°iristyä (.) <°PIRIStyä> must cheer up (.) cheer up

↑(frame 1) ↑(frame 2)

(frame 3)
((swiftly rotates his head to the screen / stops smiling))

shifts gaze to screen

''_ o pi - o

↑(frame 4)

((opens mouth slightly as to take an in-breath / moves his left hand fingers on the keyboard))

screen

(-----1-----2)

↑(frame 5)
In line 1, while gazing at the screen and hovering his hand over the keyboard, Niko produces an utterance “must cheer up (. ) cheer up” (““tarvitsee” p:↑iristyä (. ) <↑PIRISTyä>”). Half way into the last lexical item “cheer up” (“<↑PIRISTyä>”) Niko rotates his head and eye-gaze to the left (in the direction of Katja who is momentarily off camera) and opens his mouth into a wide smile. In line 2, Niko swiftly rotates his head and eye-gaze back to the computer screen while producing a quiet minimal vocalisation (““pi””). This is audible as a reiteration of the preceding lexical item (“piristyä”) which he abruptly cuts-off, and simultaneously, as he turns to the screen he stops smiling. In line 3, a silent interval occurs during which Niko makes a slight in-breath and then he moves his left-hand fingers over the keyboard so as to continue typing. Thus here we have a first case of Niko turning to Katja and smiling at her at the end of his telling.

**Extract 2 [Niko & Katja Vocalisation]**

[N=Niko; K=Katja (Teacher)]

1

| N: | screen
|---|---
| (---------) |

| K: | Niko

↑(frame 1)
((opens ((broad mouth)) smile))

_ _ _ _ _ . . .x Katja

N: ↑m::↓↓m::↓ee::hh::

((broad smile/ bows head))

(frame 2) (frame 3)

((smiles))

3 N: (j↑:::a:: l::↑entä:vä:)

((smiles))

↑(frame 4)
In Extract 2, while Niko types on the keyboard, Katja is sitting next to him, gazing at his activities (line 1). Throughout the spell of typing Niko has a neutral expression on his face; then, in line 2, he produces a melodic vocalisation “↑m::↓::↑m::↓ee::hh::”, turns his gaze to Katja, and smiles. Niko opens his mouth at the moment he starts to shift his gaze; the smile transforms into a broad full-blown smile on meeting Katja’s eye while he utters the last part of his vocalisation. Katja, in turn, starts to smile at the precise moment Niko’s gaze reaches her and mutual gaze occurs. Her smile is broad like Niko’s, and while she sustains her gaze at Niko, she bows her head at the moment her smile is displayed. Thus here, in Extract 2, we have a similar case to that in Extract 1, where Niko gazes and smiles at Katja as a unit of his talk (vocalisation) reaches a close.

(2) Smiling as a responsive action: Following a continuer and with gaze at co-participant.

In Extract 3, I outline a further case of Niko smiling, which occurs in a different sequential environment, namely, following a vocal action from Katja.

Extract 3 [Niko & Katja “circus master”]

[N=Niko; K=Katja (Teacher)]

1  K: onks Niko kiva: olla (. ) sirkustirehtööri is it Niko fun to be ( . ) a circus master

((N holds hands over keyboard))

↑(frame 1)
3  K:  kevätjuhlassa
    at the spring party

4  N:  ↑joo
    ↑yeah

5  K:  ↑mm↓hh↑m<
((moves his right index ((smiles & finger to holds index his bottom finger to his lip)) bottom lip)) N: - - - ...x Katja_____[Niko_____] 6 (--------1--------2) K: Niko________ ((K smiles & shrugs))

↑↑(frame 4) (frame 5)

7 K: olik sulla jotain vaatteita päällä were you wearing some clothes Katja

((smiles / index finger on his bottom lip and teeth))

↑(frame 6)
Niko holds his hands over the keyboard and gazes at the screen but is not actually typing anything. During lines 1-3, Katja asks a question “is it Niko fun to be (.) a circus master (.) at the spring party” (“onks Niko kiva: olla (.) sirkustirehtööri (.) kevätjuhlassa”). Her talk is presumably a prompt for something that Niko might write about, rather than a question to be answered. In line 4, Niko responds “yeah” (“↑joo”). While he does not undertake the suggested action of writing, he nevertheless sustains his gaze at the screen suggesting ongoing engagement with the task. In line 5, Katja produces “>↑mm↓hh↑m<” which works in two ways. Firstly, it acknowledges that Niko has produced an answer to her question, but secondly, it treats Niko’s response as somewhat incomplete with respect to the action that her question was seeking; it works as a continuer proposing that Niko should proceed in some way. Indeed, by sustaining her gaze at Niko she monitors his response to the suggested course of action. A silent interval of two seconds occurs during which Niko embodies an orientation to the suggested task. He does a postural realignment,
moves his right index finger to his bottom lip, then, turns to gaze at Katja and smiles (line 6). Thus here Niko’s smiling occurs in an environment where it appears to be a responsive to Katja’s continuer that prompts him to proceed in some way.

This suggests that Niko’s smiles are clearly social insofar as they occur in concert with his eye-gaze to Katja; Niko does not smile to himself. Before moving onto a closer consideration of what his smiling seems to be doing, and what kind of competence it is, it is important to consider some of the ways in which smiling is used in neurotypical interactions.

4.3.2 Comparative analysis of smiling in social interaction

It is a recurrent phenomenon in face-to-face interactions that a speaker’s smile can elicit a smiling response from the recipient. Recently, Ruusuvuori and Peräkylä (2009) have reported that, when a speaker produces assessments and tells stories, their smile invites the recipient to affiliate with their stance and to reciprocate it. Thus for example, when the speaker is telling the story punch-line and then smiles, the recipient is invited to affiliate with the humorous stance of the talk. In their data, the recipients not only smile in response, but also produce secondary assessments or affiliating comments on the talk – thus both vocal and non-vocal responses. In Extract 4, I consider a case of smiling in such environment. This is a fragment from the beginning of a therapy session recorded in the US. Leif is the client and he is explaining to his Therapist about a new wireless facility.
Extract 4 [Leif & Therapist "mac"]

[L=Leif; T=Therapist]

<table>
<thead>
<tr>
<th>shifts gaze to T</th>
</tr>
</thead>
<tbody>
<tr>
<td>gaze down ...</td>
</tr>
</tbody>
</table>

1. L: basically the way the this thing would
   Leif

   ((lifts left hand
   & extends arm to
   point))

   Therapist

2. work: is that you'd have a wireless
   Leif

   Therapist

3. linkup with your:
   Leif

   ((L raises
   eyebrows))
   ((typing gesture))

   Therapist

4. (---------1---------2)
   Leif
   ((T lifts
   her chin))

   Leif

5. T: <oh : : :>
   Therapist
Leif is in the middle of his telling (lines 1-3) but then, in line 4, he stops talking and a lengthy gap of two seconds occurs. Leif gazes at Therapist and lifts his eyebrows, and then embarks on a typing gesture. While Leif’s turn in line 3 projects that further talk is coming, Therapist responds with a quiet “oh::” and lifts her chin up during mutual gaze with Leif, in line 5. She provides a token of understanding which is responsive to the gesture during the silent interval; she orients to it as if the gesture was used to compensate Leif’s talk and to overcome his difficulty in finding a word. “Oh” is a routine way to inform such a change-of-state in knowledge (Heritage, 1984b), that is, to claim knowledge of understanding of something that one did not know or understand before. Thus Therapist’s response conveys that she has produced an understanding of the gesture despite the
absence of further talk – she understands what Leif might mean. However, what follows is talk from Leif that nevertheless completes his story, as he utters “<m:↑a↓::c(h)>”, in line 7. There has been no smiling until the story reaches its completion (upon Leif uttering “Mac”); Therapist’s recipient smile fills the sequential slot for an invited response that Leif pursues for the now completed story (lines 7-8).

However, there also appear to be cases where only a smiling response is produced by the recipient as the unit of talk comes to completion and the speaker gazes and smiles at the recipient. Consider, for example, how in Extract 5, Kirsi is offering her grandmother, Elisabeth, some chocolates. We join the interaction after Kirsi has specified the several types of chocolates that are contained in the box that she is holding open for Elisabeth. Despite going through the variety of different flavours on offer, Elisabeth has not indicated which one she would like to have – the only response Kirsi received on uttering “chocolate truffle” (“suklaatryffeli”), just before line 1, was a mere quiet acknowledgement from Elisabeth “yeah” (“joo::”). Kirsi continues reading out the flavours, and in line 1, she says “hazelnut” (“hasselpähkinä”).
Extract 5 [Kirsi & Elisabeth "hazelnut"]

[K=Kirsi; E=Elisabeth]

►
  ((smiles))

<table>
<thead>
<tr>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>K: hasselpähkinä hazelnut</td>
</tr>
<tr>
<td>box ...xE_____________</td>
</tr>
</tbody>
</table>

↑(frame 1)

((laughter))

►
  ((smiles))

<table>
<thead>
<tr>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>K: Elisabeth</td>
</tr>
<tr>
<td>(--1----)</td>
</tr>
<tr>
<td>E: Kirsi, , box __</td>
</tr>
</tbody>
</table>

►
  ((short laughter))

↑(frame 2) ↑(frame 3)
In line 1, Kirsi does not merely specify the type of chocolate to Elisabeth, but rather she offers her the “hazelnut” (“hasselpähkinä”) flavour; on gazing and smiling at Elisabeth, Kirsi appears to invite Elisabeth to accept her offer. Elisabeth shifts her gaze from the box to Kirsi but does not produce a spoken response; however, on meeting Kirsi’s smile Elisabeth responds with a recipient smile. Thus what Elisabeth does in line 2, is fulfilling the slot for an invited response while avoiding speaking out an acceptance or rejection for the chocolate. During line 2, Elisabeth produces a short quiet laughter to which Kirsi joins in: Elisabeth shows further orientation to the offer which has not received a spoken response from her. Thus, it is not so that the type of chocolate is making Elisabeth and Kirsi smile (and laugh), but rather the participants show orientation to the action that is underway whereby Kirsi is offering, and Elisabeth is declining to produce a relevant spoken response when it would be relevant.¹

Let us consider a further case of smiling as it occurs after a turn. In Extract 6, two siblings, Nora and Anton, are playing a game of chess. Just prior to line 1, Anton has commented on his prior move to a particular square. We join the interaction in line 1, where Nora asks “why” (“miks”) Anton made his move there.
Extract 6 [Nora & Anton "because I want to eat you"]

[N=Nora; A=Anton]

1 N: game
  mik
  why
  game

↑(frame 1)

2 A: ↑siks (. ) koska mä haluun syödä sut.
  because (. ) I want to       eat    you
  game

↑(frame 2)

{(Nora adjusts position)}
Nora, , ,
A: teheehee
(game_ _ _ )

((mild smile/ takes hand on the game))
Anton replies to Nora’s question about his move, “because (. ) I want to eat you” (“siks (. ) koska mä haluun syödä sut”) (line 2). While he speaks he gazes downwards at the game, but in line 3, he shifts his gaze to Nora and smiles at her. Nora, notwithstanding her gaze directed down at the game, begins to mildly smile back. In line 4, Anton produces a spell of snickering while Nora, without saying a word, takes her hand on the board to make a subsequent move. Thus in this short stretch of interaction between the siblings, we have an account from Anton that he is after Nora’s pawn in order to “eat” it, followed by Anton’s gaze to Nora, and smiling from both parties. But exactly what occasions their smiling?

The way in which Anton’s smile is located directly after his turn appears to indicate a somewhat humorous stance towards his response. He shows that he has a benign disposition and that his talk – and his competitive chess move – should not be taken too seriously, the game context notwithstanding. This begs a further question, whether Nora
smiles simply because she affiliates with Anton and is amused by his somewhat cheeky account? Sequentially, the smiling from both Anton and Nora, respectively, occurs in an environment where nothing is conditionally relevant in respect to Anton’s talk which was a response to Nora’s question “why”. However, directly after his talk, Anton’s gaze and smile to Nora appears to invite her to respond some way (line 3). Gaze, in particular, can be used to pursue an uptake from the recipient (Stivers & Rossano, 2010); in line 4, we find that while Nora does not speak she nevertheless smiles in response to Anton’s actions. Thus while smiling can make a recipient smiling relevant (see Ruusuvuori & Peräkylä, 2009), Nora’s actions suggest that smiling alone can be the sufficient response that fulfils such invitation. Indeed, while no talk is produced by Nora, Anton accepts the smile as a response as he turns his gaze back down to the chess board.

The possibility that when talk itself does not implicate a conditionally relevant response, but the speaker smiles and gazes at the recipient, then smiling can be the only response to the invited response. Thus while Nora’s smile is clearly occasioned by Anton, it does not simply implicate that she affiliates with Anton’s talk. Rather, while it might acknowledge its humorous edge, it simultaneously fulfills the invitation for a response while passing the production of any spoken response.

In Extract 7, I consider a final case where smiling response has been elicited. Jesse is chatting with his grandmother, Krisse. We join the interaction as Jesse starts talking about a daffodil plant on the table, asking Krisse to have a look what is written on the flowerpot. The flower was a present to Krisse who had recently returned from a three-week holiday in Japan.
Extract 7 [Jesse & Krisse flowerpot]

[J=Jesse; K=Krisse]

1. ((extends arm to point at a flower pot (retracts on the table)) point)

flower_pot... . Krisse

J: kato mitä tos lukee
look what it says there

((searching gaze))

K: - - -

2. (-----)

J: Krisse

3. (, , f/pot _)

K: >missä<
where
Krisse

4. J: tos kasvis:
that plant
flower_pot_

((leans back to her right))

↑(frame 1)
((smiles))

shifts gaze to J

,, x J

5  K:  j u u:::

yeah

Krisse

↑(frame 2)

((smiles))

K:  Jesse

(--------1-----)

___, , 'right _

↓(frame 3)
After a short spell of searching for the referent with her gaze, Krisse locates a note on the flowerpot and says “yeah” (“juu:’”). She begins to shift his gaze to Jesse and smiles (line 5). Krisse’s talk can be seen to be doing two things: firstly, it acknowledges the referent on the flowerpot, and second, it indicates that not only has she read it, but that she has produced an analysis of it. It seems quite clear that rather than simply being amused by what was written, a sentiment has been extended to her, probably a note to the effect that she had been badly missed while away, and she finds this endearing and perhaps mildly embarrassing. Thus while producing a minimal response “yeah” to Jesse’s earlier talk, she also smiles at him.

While Krisse shows that her stance towards the referent is clearly positive, her gaze and smile to Jesse appear to be doing more than this as she invites a response from Jesse to reciprocate the evaluation that was, in fact, instigated by Jesse on directing her attention to the note on the pot. A silent interval of one second and a half occurs, during which both Jesse and Krisse simply smile; Jesse has withdrawn his gaze and passed an opportunity to produce any spoken response, and uses smiling as the response to fulfil Krisse’s invitation for an uptake.

In sum, these observations of neurotypical interactions suggest that, on the one hand, (1) eye-gaze to a co-participant can implicate a response from them, and (2) when the gaze is accompanied by smiling this seems to make a smiling response relevant. Let us return to Extracts 1, 2, and 3, and consider how we might understand Niko’s smiling in the light of these observations.
4.3.3 Niko’s gaze and smiling

The first environment where Niko smiled occurred as a unit of talk was coming to close (Extracts 1 and 2). As Katja is not visible for the camera in Extract 1, her activities are not available for the analysis. In spite of this, I will focus on Niko’s smiling and consider how we can understand what Niko is doing at the moment when he turns to gaze at her.

Extract 1 [Niko & Katja “must cheer up (.) cheer up”]

[N=Niko; K=Katja (Teacher)]

```
| ((right hand holds the mouse / left hand hovers over keyboard)) | ((opens mouth into a broad smile)) |
| shifts gaze to K | (K off camera) |
```

1 N: must cheer up (.) cheer up

↑ (frame 1) | ↑ (frame 2) | ↑ (frame 3)
Niko’s talk “must cheer up, cheer up” does not seem to relate to any talk or action that has occurred directly before it. His utterance is at best understood as an announcement or a note-to-self that has occurred somewhat out of the blue during a non-focused interaction, where both, him and Katja are engaged in different activities: Katja is taking materials out from a cupboard and Niko is using the computer. Further, Niko’s talk does not place any sequential constraints to Katja to speak next. That is, Niko does not produce, for example, a question that should make an answer conditionally relevant from Katja.

However, the way in which Niko shifts his gaze towards Katja at the end of his utterance suggests that he is seeking some sort of response from her. Routinely, speakers gaze at the addressed recipient when they come to the end of their turn and the transition to the next speaker becomes relevant (Heath, 1984; Sacks, Schegloff, & Jefferson, 1974). Where a response from the recipient is not conditionally relevant nor is its absence accountable, a speaker can nevertheless gaze at the recipient in an attempt to elicit an
uptake from them (Stivers & Rossano, 2010). Thus here, while Niko’s talk in itself does not place pressure on Katja to respond, his gaze seems to implicate that a response is being invited. Although we cannot be sure of Katja’s gazing activities at the precise moment Niko gazes at her, it is evident that there is no immediately forthcoming talk from her, and in line 2, Niko shifts his gaze back to the screen. The timing of his gaze in relation to his talk suggests that he gazes so as to monitor Katja for a response.

The way in which his smiling co-occurs with his gaze is systematic. It occurs precisely with his shift of gaze to Katja, and is clearly directed at her; Niko did not smile when he gazed at the computer screen and typed. Thus his smile is social insofar as it starts as he looks at the direction of his teacher and stops as he looks away. His smiling seems to imply that simply a smiling response would be sufficient, especially where his talk did not place constraints for Katja to speak in response. Let us further consider Extract 2.

**Extract 2** [Niko & Katja Vocalisation]

[N=Niko; K=Katja (Teacher)]

```
1
N: screen_ _ _ _ _
   (---------1----)

K: Niko
```

↑(frame 1)
Like his utterance in Extract 1, Niko’s present vocalisation, in line 2, does not make a response conditionally relevant from Katja. Like in Extract 1, this vocalisation appears to be self-directed (akin to humming) and does not relate to anything that had been in progress before its production. Nevertheless, it becomes interactional by virtue of Niko’s shift of gaze to Katja and his smiling. Thus while his vocalisation does not make a spoken response relevant, the way in which he turns to gaze at Katja near its completion appears to
impose such invitation on her. This suggests that smiling can relate to the way in which Niko shows orientation to his own actions.

Consider how gazing at someone and then withdrawing the gaze can be done to simply monitor what they are doing, rather than showing them that you are interested in their activities or inviting them to respond. While on some occasions gaze can be used to monitor a co-participant without such interactional purposes, this nevertheless raises the question of what it is that they are being monitored for. If a person is being monitored, does that not mean they should respond? In other words, is the “respond!” force of gazing at someone based on the fact that they are being monitored?

Niko’s smile is particularly interesting insofar as it suggests his orientation to what his gaze to Katja is doing (that is, implicating a response), and there is an intriguing possibility that smiling might be used to relax any pressure imposed to produce a vocal response – rather, smiling would be sufficient. Indeed, in Extract 2, this is what Katja does as she smiles back at Niko and does not produce a vocal response. Her smile begins precisely at the moment when Niko’s gaze reaches her, thus she treats his gaze as a response implicative. It thus seems that she orients to his smile as simply inviting a smiling response and uses this opportunity to merely smile as a response. On receiving Katja’s smile, Niko takes his gaze back to the screen and produces another melodic utterance “(j↑::↓ä::l::↑entä↓vä:)” implying that the smiling response was treated as sufficient by him. Let us move on to Extract 3.
Extract 3 [Niko & Katja “circus master”]

[N= Niko; K= Katja (Teacher)]

1  K: onks Niko kiva: olla (.sirkustirehtööri
Is it Niko fun to be (.a circus master

((N holds hands over keyboard))

2

3  K: kevätjuhlassa
at the spring party

4  N: ↑joo
↑yeah

5  K: >↑mm↑hh↑m<
((moves his right index ((smiles & finger to holds index his bottom finger to his lip)) bottom lip))

N: - - - ...x Katja ________

6

K: Niko

((K smiles & shrugs))

↑ ↑ (frame 4) (frame 5)

Niko

7 K: olik sulla jotain vaatteita päällä were you wearing some clothes Katja

((smiles / index finger on his bottom lip and teeth))

((places hands on the edge of the desk/ index finger leans backwards from his lip in his chair / stops smiling))

,, mid-distance

8 N: joo (.) otin: solmio yeah (.) took a tie Katja
As noted earlier, Katja’s question “is it Niko fun to be (. ) a circus master (. ) at the spring party” (“onks Niko kiva: olla (. ) sirkustirehtööri (. ) keväjuhllassa”) prompts Niko to write something about it, rather than simply to produce an answer to the question. Niko responds “yeah” and then produces a finger-to-lip gesture. The way in which the gesture co-occurs with his gaze and smile is interactionally relevant. Niko shows that he is doing thinking, and while having nothing immediately supply, his smiling seems to be produced as a response to Katja. His gaze to Katja implies, however, that Katja should now do something to progress the free-floating sequence (sequence that was initiated by her suggestion but which has not yet resulted in Niko supplying anything).

Thus here Niko displays that he himself is working on what to write but has not yet got anything together and uses gaze to Katja to imply that Katja should now do something in response. At precisely the place where a response to this (from Katja to Niko) – that supplies something about how to proceed – might be relevant, Katja smiles back at him and shrugs her shoulders. She shows that she has got nothing to offer – thereby turning the task back over to Niko. Her smile seems to be a way of showing that, while she pursues a further course of activity from Niko, the “countering” of Niko’s invite for her to do something, is benign rather than sharp. As no further response is forthcoming from Niko, Katja speaks in line 7, “were you wearing some clothes” (“olik sulla jotain ↑vaatteita päällä”). This talk is clearly related to the initiated topic and to the preceding spell of smiling and Niko’s display of thinking: it works as a further prompt for something that Niko might now write about, and the spell of smiling ceases as Niko withdraws his gaze and responds in line 8, “yeah (. ) took a tie” (“joo (. ) "otin:º ↑solmio”).

Thus in Extract 3, Niko smiles as a response to Katja’s continuer which suggests he should progress the course of activity in some way; smiling constitutes a responsive action from Niko to Katja while having nothing further to supply. As such, the two sequential
environments where Niko smiles suggest something about the way in which smiling is fundamentally a recipient-sensitive activity, placed in particular sequential locations in relation to the co-participant’s actions. Niko’s smiling is selective; he does not always smile as he talks to Katja and shifts his gaze to her. To further illustrate this, let us consider the final Extract 7, where Niko produces a responsive action without smiling. Katja has asked a question whether Niko remembered what they had for lunch at a school trip on the previous day. We join the interaction in line 1 where Niko begins his response.

**Extract 7** [Niko & Katja “mashed potatoes”]

[N= Nico; K= Katja (Teacher)]

1    N: eiku (.) muu- (.)
     no (.) ma- (.)
     Niko

↑(frame 1)
shifts gaze to Katja

2  N:  pjerunamuusi- a ja liha[pull]ia
    mashed potatoes and meat[ball]s

K:  [nii:] [yeh ]

Niko

↑(frame 2)  ↑(frame 3)

3  K:  niin
    yeah
  x____
    gaze to Katja

↑(frame 4)

This fragment provides further evidence what gaze alone appears to accomplish, namely, when gazing occurs without smiling. In this particular sequential environment, Niko produces a responsive action to Katja’s question (in lines 1-2) and specifies what he had to eat for lunch on the school trip. As such, his talk does not in itself place tight constraints for Katja to respond to it (it might invite a post-expansion acknowledgement
from Katja – as she initiated the sequence by asking the question in the first place – but the absence would not be treated as accountable). However, having completed his turn, Niko’s gaze to Katja evidently seeks a response from her, in line 2. The gaze shift after turn occurs here in a similar sequential environment than to the gaze and smile produced by Anton to Nora, in Extract 6. Here, however, Niko does not smile, and as he begins to move his gaze to Katja, she responds (“yeh”). As Niko’s gaze reaches her and mutual gaze occurs, she further repeats her acknowledgement (“yeah”). Thus while Katja offered an acknowledgement already during line 2, in a slight overlap with Niko, she shows orientation to Niko’s gaze as a response-implicative and thus repeats her response in the clear (in line 3).

As such, this seems to suggest something about the way in which smiling can accomplish specific interactional work that gazing alone might not accomplish. Smiling can pursue smiling as the only response, and the recipient-smiling can perhaps sometimes avoid the production of a spoken response. Consequently, smiling is often treated as a sufficient response by the co-participant. Thus the way in which gaze and smiling are routinely used in interactions, and as shown by the cases from neurotypical interactions, implies that also Niko has a capacity to use smiling selectively for interactional purposes.

4.4 Discussion

In the present chapter, I have used conversation analysis to delineate the work of naturally occurring smiles and shifts of gaze to recipients as they emerge as part of and to accomplish specific actions in social interaction. The analysis has shown that eye-gaze that co-occurs with smiling can be an important determiner of what that smiling is doing. Notably, where gaze to a co-participant can implicate a response from them to some prior talk, smiling and gazing together seems to make a smiling response relevant. Niko, a boy
with autism, has shown a routine capacity to smile at his co-participant as he produced some bit of talk, but also as he produced a responsive action to his teacher. His smiling occurred in two sequential environments, namely, as an utterance reached completion, and when a response from him was relevant. As they occur in neurotypical interactions alike, these appear to be standard practices and not autism-specific. As such, the way in which Niko coordinated smiling with a gaze to his co-participant, his autism does not appear to be located in his capacity to smile, but rather in other aspects of his conduct (e.g. his self-directed talk). It should be noted, however, that these findings are exploratory insofar as the database is fairly limited; further research on smiling could test and consolidate these findings further.

While bringing eye-gaze to another party routinely implicates that they should respond in some way, there is an intriguing possibility that Niko used smiling to imply that a vocal response was not required to some of his utterances. Recall how Niko turned to look at his teacher as he was coming to the end of his utterance that did not project constraints for her to produce a response to it. Consider, for example, how a question projects that an answer to that question is a relevant next action. Thus, the first speaker occasions a particular action from the recipient by virtue of the first pair-part, the question, itself. By contrast to an utterance that is a part of such adjacency structure, Niko produced a relatively self-directed utterance or a melodic vocalisation, which did not occasion any talk from Katja as to be relevant. Within this environment (relatively constraint-free in terms of his talk) he turned to look at Katja and smiled (see Stivers & Rossano, 2010, for a discussion of different levels of sequential implicativeness and turn-design features). Thus while his gaze was used as the means for seeking uptake, smiling appeared to scale down this implication and merely invite a smiling response from Katja as to be relevant and sufficient.
Traditional psychological explanations, such as those fundamentally advanced by Ekman, have argued that there is a close relationship between internal emotions and their corresponding expressions in the face, while the strand of emotion research that emphasises the sociality emotions would be more inclined to take into consideration the context in which a facial expression occurs (e.g. Russell, 1994). The varied degrees of sociality in different situations (such as the mere presence of others) can influence what is emotionally displayed and to what extent (Fernandez-Dols & Ruiz-Belda, 1995; Hess et al., 1995; Kraut & Johnson, 1979; Ruiz-Belda et al., 2003). Nevertheless, also these approaches have relied on self-reports and the coding of emotion displays, and inherently imply that there is an underlying experience that “leaks out” in a more or less controlled manner. While Niko’s facial expressions have doubtlessly resembled Duchenne smiles – implicating both the mouth and the eye region (Ekman et al., 1990) – it is not so that Niko was simply displaying bouts of true happiness when he smiled at Katja. Rather, his smiling oriented to what he was interactionally doing in her co-presence. The employment of smiling in coordination with gazing implies thus Niko’s fine-tuned sensitivity towards his co-interactant, especially in terms of his talk that was produced and the response-implicativeness of his eye-gaze (e.g., Heath, 1984; Lerner, 2003; Stivers & Rossano, 2010). This way, smiling can be understood essentially as an interactional resource, rather than simply the outward manifestation of an emotional state – a resource which is also in the skilful use of Niko.

The understanding of emotion expression in the field of autism research has also relied mainly on experimental methods, such as the coding of, and the recognition of facial expressions which might not correspond to the real-life settings where facial expressions are used to manage the moment-by-moment occurring business of interaction. Russell (1994) has drawn attention to the methodological dilemmas which are inherent within the
judgement studies of facial expressions and emotion. His review has raised numerous questions about the definitions that are in use and about the discrimination between emotions and their labels. He has also raised the concern of how well should posed photographs represent supposed emotions, and highlights the problems of abstracting facial expressions from their contexts. Conversation analytic inquiry, however, is concerned with the way in which the micro-interactional detail might become glossed over in the study of facial expressions; the judgements made about static facial expressions can blur the understanding of facial expressions as a resource for a routine interactional labour within the sequentially unfolding interactions where some action is underway. In parallel with the limitations that are present in the paradigms that examine eye-gaze through the looking-time responses to social or non-social stimuli, the examination of facial expressions through photographic stimuli might not directly translate to the real-life contexts. This means that the sequential position of the facial expression is important, not the displayed expression in isolation. Notably, Niko’s competent use of smiling in the interaction with Katja has emerged when his smiles were not isolated from the sequential environments and when considering what his eye-gaze was doing.

The present findings have direct relevance for research involving children with autism. While some observational studies have reported affective interactions to be present in the daily interactions involving children with autism (Reddy, Williams, & Vaughan, 2002) and semi-structured observational tasks (Dawson et al, 1990), differences are nevertheless shown in the understanding of emotions, as reported in the experimental research in particular. The context of interactions can be a crucial consideration. Observational paradigms that employ semi-structured tasks can often limit the spontaneous interactions; the naturally occurring familiar interactions at home or at school with familiar teachers can provide more opportunities for the displays of affection and laughter as compared to
unusual settings in particular. One of the main limitations of the predominant autism literature on facial expressions is however their reliance on emotion recognition paradigms; the studies examining the actual use of facial expressions in naturalistic interactions is almost non-existing. Thus while several studies have suggested that individuals with autism show atypical processing of emotions, the implications are widely based on studies where the participant is viewing emotionally salient stimuli (e.g. Davies et al., 2011; Hobson, Ouston, & Lee, 1988).

The extent to which facial expressions relate (or rather, might not relate) to underlying emotions is a matter that has been hardly considered in the predominant experimental research. The viewing of stimuli might not correspond to the interactional situations where the use of facial expressions relates to some interactional business rather than to an emotional expression *per se*. The present study takes the particular point of divergence in the notion that facial expressions are resources rather than expressions of internal states (Peräkylä, 2004; Ruusuvuori & Peräkylä, 2009). In the present chapter, I have shown that smiling became relevant in relation to the concurrent talk and gaze activities of the participants. In particular, the display of a canonical expression of *Duchenne smile* was located at a relatively constraint-free environment and, in consequence, made a smiling response relevant from the co-participant.

The importance of eye-gaze that accompanies facial expressions has been raised in previous research (e.g. Davies et al., 2011; Dawson et al., 1990). Nevertheless, there appears to be an underlying implication that they are *emotions* that are communicated through facial expressions and eye-gaze (e.g. Dawson et al., 1990). In the present study, I have shown that whilst smiling and eye-gaze *co-occur*, they can accomplish distinctively *different* actions. It is thus notable that also the child with autism treated smiling as an
interactional matter insofar as he simultaneously oriented to the vocal activities and eye-gaze that co-occurred with his smile.

Clearly, the present chapter can at best offer a case study of one child, Niko, and his competencies in a familiar context. However, by doing so it highlights the importance of conducting detailed conversation analytic work in the field of autism and of examining the use of facial expressions as opposed to the child’s responsiveness to static images of emotional faces. As such, the detailed analysis of behaviours in their interactional context can contribute to our understanding of the communicational capacities of an individual who has a disorder that is partially characterised in terms of an impaired capacity for interacting with others. In this chapter, I have proposed that what a facial expression, such as smiling is doing, can be consequential to what the co-interactant does as a response to it. Smiling, as was noted in both neurotypical interactions, and in the case of Niko, was routinely taken as an opportunity to respond to the speaker only with a recipient smile, while no spoken uptake was produced. From this it follows that smiling, and other facial expressions, such as frowning, might not merely be discrete opposites in terms of their embodied dispositions, but rather they should be considered in terms of the interactional business they pursue. As a consequence, gazing and smiling, as opposed to gazing and frowning, for example, are likely to be responded to differently by a recipient who has been so addressed.

While in Chapters 3 and 4, I have focused on the children’s gaze at the co-participating adult, in the next chapter, I will examine gaze aversion as it occurs in the interactions with children with autism.
Chapter 4 – Notes

1 Some moments after this exchange (specifically, after another round of Kirsi describing the chocolates and making another offer) Elisabeth indicated that, in fact, she did not want a chocolate.

2 Compare, how in Extract 5, Kirsi’s offer of the chocolates makes a response conditionally relevant from Elisabeth. While only a smiling response is produced, Kirsi appears to accept it but then pursues her engagement with the chocolates and a moment later makes another offer to Elisabeth. Thus it appears that where Kirsi’s talk placed stronger constraint for a particular response from her grandmother, the smiling response was not treated as entirely sufficient. However, it is important to note that Extract 5 is concerned with object-based actions and as such, Kirsi’s offer of a chocolate does not primarily implicate talk but also the taking of a chocolate, thus Elisabeth could respond to the box Kirsi is holding. I consider object-mediated interactions in Chapter 7.
CHAPTER 5

THE SEQUENTIAL LOCATION OF GAZE AVERSION

This chapter examines the children’s gaze aversion in face-to-face interactions, and in particular, the sequential location of averted gaze, and how the teachers respond to it. The data examined involve three children with a diagnosis of autism, Anna, Niko, and Liisa, each interacting with one of two teachers, Katja and Paula. Further data is drawn from a dyadic neurotypical interaction to examine a case where the recipient has their gaze averted from the speaker. The aim is to discuss the significance of mutual gaze in interactions in general and, in particular, to identify and describe some of the specific sequential environments where the aversion of mutual gaze becomes treated as problematic.

5.1. Introduction

Children with autism are widely documented as having impairments in the social use of eye-gaze (Hobson & Lee, 1998; Volkmar & Mayes, 1990), even with people who are familiar to them. Gaze aversion is typically one of the characteristics of infants who later receive a diagnosis of autism. Osterling & Dawson (1994) examined home videos of the first birthday parties of such children and found that the children showed reduced social attention to other people, even when their names were called. The tendency to avoid eye-contact is considered as one of the most pervasive traits among children with autism children, and this is suggested to inhibit the development of the capacity to socialise and
communicate in a neurotypical way. In *Diagnostic and Statistic Manual of Mental Disorders (DSM-IV)* a “marked impairment in the use of multiple non-verbal behaviours such as eye-to-eye-gaze, facial expression, body postures and gestures to regulate social interaction” (APA, 1994, p.70) appears as one of the indicators, implying that the gaze-related atypicalities can be symptomatic of the disorder.

The observations about eye-gaze behaviours constitute an integral part of numerous standardized checklists and rating scales used to detect autism. For example, *Gilliam Autism Rating Scale (GARS, Gilliam, 1995)*, a questionnaire measuring the probability and severity of autism, requires parents and carers to rate the child’s current behaviours in a typical six-hour period on different subscales. Gaze behaviours are observed at least on two scales: the subscale measuring the child’s ability for social interaction includes an item “avoids eye-contact (looks away when someone looks at him or her)”; a subscale measuring the presence of stereotyped behaviours includes an item “avoids establishing eye contact (e.g. looks away when eye contact is made)”. In *Childhood Autism Rating Scale (CARS, Schopler et al., 1980)* the severity of autism is measured by comparing the child’s behaviour to that of non-autistic children in fifteen different areas; eye-gaze observations appear in the areas, such as relating to people, wherein “a child may avoid looking the adult in the eye, avoid the adult, or become fussy if interaction is forced”. Further diagnostic instruments that consider the use of eye-gaze during semi-structured interactional episodes include *The Early Social-Communication Scales (ESCS, Mundy et al., 2003)*, *The Communication and Symbolic Behavior Scales (CSBS, Wetherby, & Prizant, 1992)*, and *The Autism Diagnostic Observation Schedule-Generic (ADOS-G, Lord et al., 2000)* which codes the child’s gazing behaviours in response to different antecedents (e.g. when calling the child’s name).
Various explanations have attempted to explain how gaze-related atypicalities might relate and contribute to the fundamental social disabilities in autism. Consider how the understanding and prediction of others’ behaviour are central for any ordinary social interaction. The eyes in particular are considered to be the crucial provider of important social cues, therefore gazing at others, especially at their eyes and faces, would be essential for gaining insight into the mental states of others and to determine their behaviour (Baron-Cohen, 1995; Frith, 2003). Neurotypical children appear to be naturally drawn to human faces as early as the first hour of life (Meltzoff & Prinz, 2002). Young infants, only a few days old, show imitation of facial expressions, such as mouth opening and tongue protrusion (e.g. Meltzoff & Moore, 1977, 1983, 1992, 1997), and begin to smile in response to human faces a few weeks after the birth (Lagattuta, 2005; Saarni, 1999). While the spontaneous interest in the human face and eyes seems to ground the later social development in neurotypical children, the lack of attention to other’s eye-gaze has been suggested to relate to the weakened social-cognitive development in children with autism (Baron-Cohen, 1995).

In the recent years, a vast amount of quantitative research exploring eye-gaze in autism has used eye-tracking technology to examine spontaneous viewing and fixation patterns in order to understand which parts of images, containing people and faces, children on the autistic spectrum are attending to. In the research where looking-time measures are taken as an implicit index of social-cognitive development (e.g. Ruffman, et al., 2001; Senju, Southgate, White, & Frith, 2009) core impairments have been found in relation to social understanding and mental state insight. For example, a failure to preferentially detect direct gaze has been suggested to imply impaired understanding of the communicative significance of another person’s eye-gaze (Senju, Yaguchi, Tojo, & Hasegawa, 2003). The atypical direction of children’s own gaze has been taken to index
impaired understanding and anticipation of others’ behaviour in the standardised tasks measuring mental state understanding (Ruffman et al., 2001; Senju et al., 2009; Senju et al., 2010). For example, Ruffman et al. (2001) found that children with autism were less likely to look to the correct location when anticipating the return of the story character; as these children looked to the correct location in a non-social probability task, the findings have been taken to suggest that eye-gaze indexes social mental state understanding, which is impaired in these children.

In some research it is proposed that the autism-specific difficulties might lie in the spontaneous ability to attend to relevant facial information. López, Donnelly, Hadwin and Leekam (2004) found that the performance in face recognition tasks increased when a verbal cue instructed the participants with autism to attend to the certain features in the face. However, the findings of the eye-tracking studies focusing on the attentional preference to social stimuli (e.g. static or dynamic faces) are somewhat inconsistent (e.g. Fletcher-Watson, Leekam, Benson, Frank, Findlay, 2009; Jones, Carr, & Klin, 2008; Klin, Jones, Schultz, Volkmar, & Cohen, 2002; Norbury, Brock, Cragg, Einav, Griffiths, & Nation, 2009). Recently, Fletcher-Watson et al. (2009) have reported that individuals with autism showed preferential viewing of social elements presented in static images – a bias that is generally shown in neurotypical individuals. Nevertheless, their viewing patterns showed a decreased or absent first fixation to these elements, which appears to imply an ingrained social impairment.

The aversion of mutual gaze is not pathological per se. In some research it has been suggested that the patterns of gaze that move to and away from the face of an interlocutor reflect various social, emotional, and cognitive states. Already in one of the pioneering descriptive studies of face-to-face interactions, Kendon (1967) detailed the systematic movement of gaze, whereby the speaker tends to look away as they begin to talk and shifts
their gaze to the hearer near the end of their utterance. Eye-gaze has been understood as a functional means to collect information about others’ verbal and non-verbal behaviour that can be used to synchronise interaction (Argyle, 1983; Argyle & Cook, 1976; Goffman, 1963; Kendon, 1967; Kendon & Ferber, 1973). Thus the withdrawal of gaze from the visual stimuli (e.g. facial information) has been proposed to help speakers to concentrate on their own thoughts, memory retrieval, and speech planning.

Recent studies have shown that neurotypical children often avert gaze when being asked questions, proposing a link between gaze aversion and cognitive engagement (Doherty-Sneddon, Bruce, Bonner, Longbotham & Doyle, 2002). Doherty-Sneddon and Phelps (2005) suggest that both social and cognitive factors can play a role in gaze aversion; nevertheless the children’s gaze aversion appears to increase with the difficulty of questions. Currently such research examines whether individuals with neurodevelopmental disorders such as autism might use gaze aversion for cognitive load management, in parallel with neurotypical individuals. Recent brain imaging studies have reported an overactive brain area in response to face processing in autism. Dalton, Nacewicz, Johnstone et al. (2005) found a heightened activation of the amygdala, the emotion centre of the brain, in response to faces – even to familiar and non-threatening. The study suggests that the characteristically diminished attention to faces and eyes in individuals with autism might work to reduce the over-arousal within the part of the brain associated with the experience of negative feelings (e.g. threat) that might arise upon viewing facial information. Taken together, the lesser degree to which gaze fixation occurs across a variety of contexts in individuals with autism raise the possibility that a difficulty might lie within the perception of social information that can somewhat overwhelm the brain. As a consequence, the avoidance of mutual gaze might contribute to the development of social impairments that fundamentally characterise the disorder.
Those who interact with individuals with autism are often faced with a dilemma of determining when to explicitly request mutual eye-contact in interactions. Stewart (2000) raises this as a globally controversial issue, insofar as the insisting of eye-contact might interfere with the way in which some individuals with autism process information and more generally, enforce them in interaction that is “very social, almost intimate” (p.3) and perhaps uncomfortable. Many therapeutic intervention programmes and techniques (e.g. ABA, Discrete Trial) for children with autism begin with a cue (e.g. “look at me”) from the therapist in order to establish eye-contact before the tasks proceed. These settings often deploy face-to-face participation frameworks between the therapist and the child, and as such, constitute a default orientation favoured in Euro-American practice and everyday participation configurations between caregivers and children (Ochs, Solomon, & Sterponi, 2005). More generally, however, this poses the question, when is mutual gaze needed for the accomplishment of certain interactional tasks; why exactly might we need each other’s gaze?

Gaze is clearly an integral resource in face-to-face interactions; mutual eye-gaze between individuals is generally the first move on entering into interaction (Goffman, 1963). Consider further, how during conversations, speakers and hearers do not continuously gaze at each other, but rather at some moments the engagement in mutual gaze can become relevant (Goodwin, 1981). For example, a gaze at a speaker can display engagement as the recipient shows that they are listening to the speaker. Occasionally, when eye-gaze is not immediately possible, other non-vocal resources, such as gestures and head nods, can be used to display that the recipient continues to be interactionally present (Goodwin, 1981, 1984). It is, however, equally possible to produce a responsive action in a conversation without gazing at the co-participant and without losing the appearance of interactional engagement – something I will also consider in this chapter.
A persistent look away can nevertheless become treated as problematic when the recipient fails to respond. Caregivers often treat misbehaving children’s refusal to engage in mutual gaze as a sanctionable activity in its own right (Kidwell, 2003, as cited in Kidwell, 2005). Prolonged gaze withdrawal can be generally problematic insofar as the recipient can – by gazing away from the speaker – refuse to show recipiency to the speaker, and more broadly, refuse to engage in interaction with them. In her detailed analysis of a police-citizen interaction, Kidwell (2006) shows how the averted gaze of a woman, who is being calmed down by the officers, becomes “a readable evidence of her persisting hysteria and inability and/or unwillingness to become calm” (p. 746). Consequently, the main interactional activity for the police becomes the pursuit of her gaze and the management of her hysteria through the use of directives (“look”, “look at me”) and embodied summons (e.g. tap on the arm). Occasionally then, the judgements about the relevance of the co-interactant’s gaze becomes at issue. While a recipient, who is gazing at elsewhere might be still listening, this poses the question when does the speaker treat it that the recipient should look at them, and if they do not, when does it become problematic.

While looking away from a questioner might signal cognitive engagement (Doherty-Sneddon et al., 2002; Doherty-Sneddon & Phelps, 2005; Glenberg, Schroeder, & Robertson, 1998; Phelps, Doherty-Sneddon, & Warnock, 2006), gaze aversion can be also responsive to the sequential demands in interaction. Conversation analytic approach treats any interaction building out of initiating and responsive actions that form sequences of action. Talk is organised around sequences in such manner that the constraints imposed by an initiating action (e.g. a question) determine how and when the co-participants in interaction should do something (e.g. to produce an answer). The way in which eye-gaze occurs within interactional sequences is not simply so as to collect information about another speaker. Gazing at another can have various interactional bearings, as evident from
the routine use of gaze, for example, in showing what a speaker is referring to, or whom they are addressing for a response (e.g. Heath, 1984; Lerner, 2003; Stivers & Rossano, 2010). As such, one participant’s use of gaze can have implications for the others participating in terms of what action, if any, might be relevant for them to carry out.

It is in relation to such sequential constraints that we recognize a problem on an occasion, for example, when a response does not occur but rather, a silence emerges. Eye-gaze, in particular, can be used by one participant to show that a responsive action produced by another had not adequately completed a sequence. For example, Rossano (2005) shows that following an answer to a question, a questioner may sustain their gaze at the answerer in the pursuit of further talk and showing that the answer they received was not sufficient. Thus, a sustained gaze at certain sequential locations can display some kind of interactional problem that needs to be repaired with further talk. From this it follows, that the constraints imposed say, in a question-answer sequence, can be partly managed by averting gaze from the speaker. This way the recipient who is due to respond, but has not done so immediately following the question, can display thinking by withdrawing from mutual gaze in the emerging post-question silence (Dickerson, 2002). In this manner the recipient can project to the questioner, that a response which has not yet occurred is nevertheless up-coming.

In order to understand the eye-gaze behaviours of children with autism, we must also better understand the sequential environments where we might consider that the child should look at us. That is, when do we consider that the lack of mutual gaze, that characterises autism, becomes a problem when interacting with the child? The investigation of spontaneous eye-gaze in naturalistic settings offers an important complement to the quantitative research because the exhibited behaviours, such as gaze aversion, can be examined as part of the ongoing sequence of activity whereby the actions
of co-present parties can emerge as important. As Doherty-Sneddon and Phelps (2005) underscore the need for researching natural classroom interactions to understand how teachers interpret and respond to children’s gaze aversion, I contribute with a parallel investigation of naturalistic interactions involving children with autism. I further draw on the interactions involving neurotypical speakers to examine why in some sequential environments the lack of mutual gaze is treated as problematic, and in some, only a minor concern – if a concern at all.

5.2 Methodology

In order to examine averted gaze in children with autism, the present study involves a detailed interactional analysis of naturally occurring instances in face-to-face interactions with the teachers. The analytical framework of conversation analysis, which involves the detailing of the sequential organisation of talk and non-vocal behaviours, and the transcription, has been introduced in Chapter 2.

5.2.1 Data

The data consist of video recordings made of three children with autism and their teachers interacting at school. These children are Niko, Anna, and Liisa. The two female teachers, Katja, who interacts with both Niko and Anna, respectively, and Paula, who interact with Liisa, are qualified school teachers and trained in TEACHH (Treatment and Education of Autistic and Communication Handicapped Children) method. Neurotypical data is presented form a video-recorded casual conversation between a 14-year old boy, Jesse, and his grandmother, Krisse. The detailed participant information and the description of data sources have been provided in Chapter 2. Specific fragments of
interaction were identified for each child that formed the focus of this analysis, as explained below.

5.2.2 Selection of cases for detailed analysis

The present chapter aims to demonstrate how conversation analysis can identify the particular interactional junctures where the child’s gaze away from the teacher becomes essentially problematic. I consider how eye-gaze can become relevant in relation to the unfolding interactional pursuits, such as in seeking a response to a question. However, in order to fully understand why mutual gaze constitutes such a fundamental aspect in interaction, we must consider its sequential relevance to the other ongoing actions in general; this can help us to understand the locations where the lack of mutual gaze with a child becomes problematic, in particular. The micro-analytic approach to the data analysis enables us to consider two types of interactional dimensions: On the one hand, in what kinds of sequential environments a child with autism does not engage in mutual gaze with a familiar adult (e.g. does not shift their gaze to the adult or withdraws from already established eye-contact) and what such gaze aversion might be doing; and on the other hand, what kind of bearings the child’s non-engagement in mutual gaze can have for the progression of mundane everyday interactions.

The interactions involving Anna and Katja show fragments where Katja has initiated a sequence of interaction (either a greeting, or a question) and to which Anna does not produce a spoken response; not only does Anna not respond, she also has her gaze averted from Katja, or she withdraws her gaze from her. In the fragment involving Niko and Katja, I consider a similar case where Katja initiates a sequence by asking a question, and Niko does not respond and his gaze is occupied elsewhere. Finally, the fragment involving Liisa and Paula, show how Liisa has her gaze averted while Paula initiates interaction with her.
In each of these cases, the teachers embark on explicit pursuit of the child’s gaze, by using both vocal and non-vocal means.

For comparative purposes, I first examine an instance where averted gaze occurs in an everyday interaction involving neurotypical participants: the recipient has their gaze averted while the speaker initiates a sequence of interaction. While no instances of explicit gaze pursuit occurs in this fragment, the analysis shows that there is something quite different in the sequential organisation of this interaction and the fragments involving Anna, Niko, Liisa, and their teachers, gaze aversion notwithstanding.

5.3 Analysis

The analysis will focus on the children’s averted gaze from their teacher during naturally occurring interactions. I will begin, however, with a fragment showing a stretch of interaction involving neurotypical speakers, where similarly, the recipient has their gaze averted from the speaker who initiates a stretch of talk (Extract 1). I will then move on to consider the particular instances of interaction where the child with autism averts gaze from the teacher who initiates a sequence of action. In Extracts 2, 3 and 4, I consider instances where the child already has their gaze averted at the turn beginning as the teacher begins to speak. In Extract 5, I will consider an instance where the child withdraws from mutual gaze following the teacher’s question. I will be concerned with the sequential location of the averted gaze, that is, when it becomes problematic, and how the gaze aversion is responded to by the teacher, and what the child is doing when they look away from the teacher.

5.3.1 The sequential environment of averted gaze

In everyday conversations, speakers do not continuously gaze at each other, as illustrated in Extract 1. Jesse is having a conversation with his grandmother, Krisse. He has
his gaze averted from Krisse as she asks him a question, and he sustains his gaze averted from Krisse throughout the fragment.

**Extract 1** [Jesse & Krisse "didn’t your friend go there"]

[J=Jesse; K=Krisse]

1  K: eiksün *kaveri ollu* siellä.  
    didn’t your friend go there

↑(frame 1)

2  (.)

3  J:  *joo* (.)* ne oli åskön siel*  
    yeah (.)* they were recently there

↑(frame 2)
Jesse came just on Monday back to school.

Jesse: He came just on Monday back to school.

K: Jesse,

Jesse: (*---*)

K: How did he like it?

Jesse: (*---*)

Jesse: Mid-distance.
Jesse

did he tell anything

↑(frame 5)

Jesse

(no one) siel mittää(.) erikoista ollu

well no there was nothing special

↑(frame 6)
In line 1, Krisse asks a question about a friend of Jesse’s who had recently been on holiday abroad: “didn’t your friend go there.” (“eiksen kaveri ollu siellä.”). Her question makes a response conditionally relevant from Jesse, and her body movement – slight postural alignment – suggests that she is monitoring Jesse for a response. In line 3, Jesse responds “yeah (.) they were recently there” (“joo ne oli äskön siel”) and thus fulfils the expected response to Krisses’s question. Thus here is a sequence of interaction where the speaker, Krisse, initiates a first pair part of an adjacency pair and Jesse produces the second pair part by answering her question. The sequence was initiated in the absence of mutual gaze; on completing the responsive action, Jesse still has not shifted his gaze to Krisse. As we have talk from Jesse in response to the question that was put out to him, it seems that mutual gaze, as such, is not a requirement for the completion of a sequence of action. Furthermore, in line 7, Krisse initiates another sequence and pursues the talk further; Jesse duly produces the second pair part (in line 11), yet without shifting his gaze to her. Throughout Extract 1, Jesse has his gaze averted from Krisse; however, as talk has been preserved between the speakers, the absence of mutual gaze has not resulted in being problematic.

I move on to examine instances of interaction where the child with autism has their gaze averted from the teacher, and why here their gaze might become problematic. I examine where sequentially – that is, in relation to talk and other activities – the averted gaze is located, and how it becomes a relevant matter in these particular sequences of interaction. In Extract 2, Niko is interacting with Katja in a small classroom where he has been granted the use of a computer. He is typing on the keyboard, gazing at the screen, and the teacher is seated beside Niko so that her profile is visible from the left. While Niko types Katja asks him a question, in line 1.
Extract 2 [Niko & Katja "Were you Niko tired"]

[N=Niko; K=Katja (Teacher)]

1 K: olikäs Niko illsalla vää:nyt
were you Niko tired in the evening

((N types))

↑(frame 1)

Niko

kun sä menit kotiin
when you went home

((N types))

↑(frame 2)
3  
K:  \textit{Niko} \\
    \underline{-------------1-------------2-------------3)} \\
N:  \underline{screen} \\
    \underline{---} \\
    ((smiles))

\textbf{\textsuperscript{↑}(frame 3)}

4  
K:  \textit{Niko} \\
    \textit{he↑i::°=} \\
    hey \\
    \underline{screen} \\
    \underline{---} \\
    ((smiles / begins to tilt head))

\textbf{\textsuperscript{↑}(frame 4)}
Niko

5
K:  
=katos tännepäin
look this way
screen

((tilts his head to left shoulder))

↑(frame 5)

6

(.)

Niko

7
K:  
keskustellaan vähän
let’s converse a bit
screen

((tilts his head to left shoulder))

↑(frame 6)
Katja’s question “were you Niko tired in the evening when you went home” (lines 1-2) makes a response relevant from Niko. However, a substantial silent interval of three seconds follows as Niko does not respond but continues typing and gazing at the screen. Post-question silences may occasionally delay responding when the addressee is occupied with something else (Jefferson, 1989). Here the silent interval enforces the expectation for Niko to speak and the emerging gap, in line 3, makes Niko’s response as noticeably absent.

Approximately 2.5 seconds into this silent interval, the corner of Niko’s mouth makes a slight twitch upwards as he begins to smile. This is when Katja breaks the silence and first softly elicits Niko’s attention “hey” (“he↑i::”), and continues, “look this way” (“katos ↑tännepain”) (lines 4-5). Thus here we have an environment in which Katja has initiated a sequence by producing a question to Niko but to which Niko has not responded. Then, we have further talk from Katja that implicates the direction of Niko’s gaze with the command “look this way”. Consider how Katja could have simply repeated her question had Niko not heard the question. However, instead of repeating herself, Katja explicitly requests Niko’s gaze to her.

The temporal position of her command for Niko to “look this way” suggests that it is directly responsive to Niko’s smile. As such, her command seems to treat Niko’s smile displaying that, although Niko has not responded to the question, he has nevertheless heard it. Indeed, while Niko is occupied with the computer, he could have produced an answer without the need to abandon his gaze from the screen. However, as his response has not occurred, this results in Katja commanding Niko’s gaze to her; Katja does not target Niko’s problems of hearing, but rather his resistance in showing recipiency and producing a response to her question.
Thus, here we have an environment that is different to the interaction between Jesse and Krisse, in Extract 1. Consider how Krisse received a response from Jesse (who fulfilled his sequential obligations); here Niko has *not* produced a conditionally relevant response to the initiated action. Katja treats Niko as withholding his response with full awareness that it would be relevant from him to respond; although he types this should not prevent him from responding. Furthermore, as Niko smiles, he begins to tilt his head on the left shoulder which appears to show orientation to the issue at hand – his recipiency. Namely, Niko “points” his head in Katja’s direction so as to physically *orient towards* her, while sustaining his gaze at the screen. In line 7, Katja prompts “let’s converse a bit” (“keskustellaan vähän”) which works in two ways. Firstly, while it pursues Niko’s attention, it simultaneously provides an account as to why she pursues Niko’s gaze to her: *in order to converse with him*. As such, Katja’s conduct demonstrates that (at least on occasion) participants require mutual gaze with co-participants when engaging in talk.

So far, this analysis has focused on two contrasting cases in which an initiating action from a co-participant either gets a response (Extract 1) or does not get a response (Extract 2). When the display of recipiency poses problems, namely, non-responsiveness from a co-participant, this can result in the momentary halting of the main line of activity and in the explicit request of mutual gaze. In Extract 3, Paula deals with Liisa’s averted gaze and a motionless posture that poses difficulties in her getting Liisa to engage with a puzzle. She has encouraged Liisa to remove puzzle pieces from the box and place them on the table. While Liisa has occasionally picked up a piece, she holds the piece in her hand rather than moves it onto the table. In line 1, Paula prompts Liisa to move the piece by using talk and gesture. While Liisa shifts her gaze to follow Paula’s tapping gesture on the surface, she does not immediately respond by placing the piece on the table. Through lines 2-3, Paula
leans over and realigns her posture to the level of Liisa; she takes Liisa by her hand, and gently calls her name (line 4).

Extract 3 [Liisa & Paula “peekaboo”]

[L=Liisa; P=Paula (teacher)]

((taps on the table))

1 P:
°tähän°
°here°
P’s hand

↑(frame 1)

((P leans over the table to realign posture with L / take’s L’s hand))

2 P:
Liisa
(----)------

L: table _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 

((P leans over the table / holds L’s hand))

3 P:
Liisa
(----)

L: table _ _ _ _ _ _ _ _ _ 

((P leans over the table / holds L’s hand))

Liisa

4  P:  \( ^> \)Liisa\( ^< \) table  _ _ _

((P leans over the table holding L’s hand
/ releases a piece from L’s right hand))

5  P:  Liisa

L:  table  _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

((P leans over the table / holds L’s hand))

6  P:  \( ^> \)Liisa\( ^< \)(. ) katse  tänne
    Liisa    gaze  here
    table  _ _ _ _ _ _ _ _ _ _ _

↑(frame 3)
((P leans over the table / holds L’s hand))

\[ \text{P: Liisa} \]

\[ \text{7} \]

\[ \text{L: table...left...left...} \]

((P leans over the table / makes a waving motion with L’s arm))

\[ \text{Liisa} \]

\[ \text{8} \]

\[ \text{P: \( \uparrow \text{ku \, \downarrow \, kkuu::} \)} \]

\[ \text{peekaboo} \]

\[ \text{table...left...left...} \]

((L realigns posture up / turns slightly to her left))

\[ \uparrow \text{(frame 3)} \]
((P leans over the table / holds L’s arm up))

9  

P:  

Liisa

- - - - - - - - 1

L:  

... table _ _ _ _ _

((L aligns posture up & turns slightly to her left / opens & closes palms / shakes wrists))

↑(frame 4)

((P leans over the table / holds L’s hand))

10  

P:  

º>↑Liisi↓sa<º  

table _ _ _ _ _

((stops shaking hands / orients hands / orients towards table))
((L opens & closes palms as in grasping gesture / wrist movement))

((P leans over the table / holds L's hand))

↑(frame 5)

((P realigns posture up; smiles; lets go of L's hand & brushes hair behind her ear))

↑(frame 6)

((L bows head & gently pulls to release her hand that Paula was holding, touches her nose & brings hand down in the puzzle box))
Until line 4, Paula has allowed time for Liisa to follow her prompt “here” ("tähän") to place the puzzle pieces on the table. While Liisa shifts her gaze to follow Paula’s gesture, she does not take the proposed course of action and thus Paula realigns her posture to the level of Liisa to track her gaze and calls her name (lines 2-4). This is an example of the teacher producing a “second strike” in order to elicit a response from the child, similar to Katja’s “hey”, in Extract 2 (line 4). Thus while within this interactional environment, Paula (like Katja) appears to orient to Liisa’s averted gaze as some way accountable for the responsive action that is noticeable absent (notably, through the way in which she leans in towards Liisa), she does not yet explicitly request Liisa’s gaze to her. In line 5, a silent interval occurs and Liisa does not move; Paula gently removes the piece from Liisa’s hand and places it on the table. Then, in line 6, Paula explicitly directs “Liisa gaze here” (”>Liisa< (. katse ↑tänne”) which now addresses Liisa’s recipiency and makes the realignment of gaze relevant from Liisa.

In line 7, during a further silent interval, Liisa does not shift her gaze but keeps looking down; then, in line 8, Paula takes Liisa’s hand and waves her arm up, and says “↑peeka↓boo::” (“↑ku↓kuu::”) while leaning in to track Liisa’s gaze. Paula orients to Liisa’s gaze and unresponsiveness and takes this course of action to explicitly awaken a mutual focus of involvement with Liisa; almost by literally “shaking” Liisa gently by her hand. Thus here Paula tries to get Liisa to do an embodied – rather than a vocal – action, namely, to shift her gaze as a response. As a consequence, the proceeding with the main activity (placing the pieces on the table) is momentarily halted in order to pursue the child’s involvement with the teacher.
While Liisa does not realign her gaze, she nevertheless shows responsiveness to Paula’s actions as she begins to wave her arms slightly, and opens and closes her palms. Then, Liisa realigns her posture upright and begins to turn her gaze to the left, to which Paula responds by another call of Liisa’s name (line 10). In line 11, Liisa swiftly responds to this by uttering “↑t:e↓ttetyy::” (“tweet tweet”), while shaking her wrists and opening and closing her palms. Liisa shows orientation to Paula, and the design of her turn almost mimics Paula’s earlier actions, in line 8. Her melodic prosody is akin to Paula’s earlier “↑peeka↓boo::” (“↑ku↓kkuu::”) and Liisa flails her hands in the manner which Paula had waved her arm. Thus here Liisa gives a response that is fitted to the scenario that was mobilised in getting her gaze by means of producing the game response in “peekaboo”. As such, Liisa’s conduct demonstrates that while she has not realigned her gaze to Paula, she orients to Paula’s talk and to the sequential expectations placed upon her, and finds another way of responding.

In line 12, in conjunction to Liisa’s actions, Paula begins to smile, releases Liisa’s hand, and moves her posture upwards. The pursuit of Liisa’s gaze has ceased as Paula accepts Liisa’s preceding actions as a display of recipiency, notwithstanding Liisa’s gaze remains averted. Consequently, Paula apparently abandons the attempt at getting Liisa’s gaze and tips the pieces out of the box in order to proceed with the puzzle.

In this extract, I have considered an example of the teacher stopping doing something that was in progress in order to elicit the child’s gaze to her. In the following section, I consider further such cases where the ongoing activity is halted and the pursuit of the child’s gaze becomes the main line of activity. In these cases, the teacher can use escalating embodied actions to manage such situations.
5.3.2 Gaze aversion and the management of resistance

When the teacher treats the child’s gaze aversion as a resistance to show recipiency during interaction, it might become necessary to stop the ongoing activities in order to seek embodied engagement, namely, mutual eye-gaze. Occasionally, this might involve gently contacting the child’s body in order to elicit their attention and bring the child in mutual engagement. Extract 4 considers a dyadic interaction between Anna and Katja at the start of a pair-work session in the classroom. The participants have seated themselves around the table and are facing each other. We join the interaction in line 1, where Katja initiates a sequence by producing a greeting.

Extract 4 [Anna & Katja “Hi Anna”]

[Anna=A; K=Katja (Teacher)]

1 K: ↑moi Anna
   hi Anna
   ►
   down
   ((leans head in palms))

↑(frame 1)
((head shake))

down

((unclear vocalisation))

Anna

↑(frame 2)

((moves right-hand fingers to her upper lip))

mid-distance/down

Anna

↑(frame 3)
((leans to right))

4

K:
moi Anna
hi Anna
mid-distance

((touches upper lip))

↑(frame 4)

((touches upper lip))

mid-distance
(---------)

Anna
((moves left hand towards A’s arm))

Anna

6 K: katnso silmiin look in the eyes mid-distance ((withdraws hand from her face))

↑(frame 5)

((A rotates body straight & towards her right))

7 Anna

↑(frame 6)
Anna

K: kat[so silmiin
    loo[k in the eyes
A: [(unclear vocalisation)
    eyes closed_________________________

↑(frame 7)

((K strokes lightly under A’s chin once with an index finger))

Anna

(---------1)
    eyes closed___

↑(frame 8)
((K strokes lightly under A’s chin with an index finger))

Anna____________________

10 K: katso [silmiin look in [the eyes
A: [(laughter & “squealing”)

↑(frame 9)

((holds A’s chin with index finger))

K: Anna

11 (--------1--------2)
A: eyes_closed

((smiles))

↑(frame 10)
((K releases A’s chin/ moves index finger towards her own eye))

Anna

12  K: ↑Anna:: (.) >↑Anna< katso silmiin
Anna  (.) Anna look in the eyes
down  _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

((smiles))

((points at her own left eye / takes hand towards A’s chin / withdraws hand))

Anna

13  (--------1---)
     . . . . x

    | gaze reaches K
    | shifts gaze to K

↑(frame 11)
In line 1, Anna’s gaze is directed downwards as Katja produces a greeting “hi Anna” (“moi Anna”). The greeting itself is a sequence initiating action, a first pair part that makes a response relevant from Anna. Thus the talk produces tight sequential constraints in terms of what Anna should do next: produce a reciprocal greeting, a second pair part to the initiated action. In line 2, Anna produces audibly a quiet and unclear vocalisation, which could be a response to the greeting, but which nevertheless goes unnoticed, or which is not treated as a completed response (as evident in line 4, where Katja repeats her greeting). A substantial silence of 2.5 seconds follows during the slot where Katja is expecting talk from Anna; the interval enforces the sequential constraint for Anna to greet her in response. Anna sustains her gaze directed downwards, slightly to her right. She leans to her palms, then moves her right-hand fingers to her upper lip and touches it lightly. Katja sustains her gaze at Anna, expecting the response that is due; as Anna remains silent, Katja
re-initiates the sequence “hi Anna” (“moi An†na”) and leans in to her right to track Anna’s line of gaze, in line 4.

By means of re-initiating the greeting, Katja orients to Anna’s response as being noticeably absent and embarks on a reparative action to pursue it. Furthermore, Katja orients to Anna’s averted gaze while not explicitly addressing it, as in lines 3-4, she leans in and aligns her posture to the level of Anna in order to elicit her gaze. Thus, so far in this stretch of interaction, the conditionally relevant response is treated as being noticeable absent, and the reparative action is launched by Katja repeating the greeting which allows a second opportunity for Anna to return the greeting. Although Anna does not shift her gaze to Katja, she orients to Katja’s body movement as she lifts her chin slightly upwards and directs her gaze to mid-distance.

It seems that the embedded methods, such as posture shifts that can be used to elicit gaze and preserve the talk between the speakers as the main activity, orient to the averted gaze only as a minor concern. That is, where a spoken response to the initiated action occurs and thus fulfils the imposed sequential constraints, mutual gaze is not required for showing interactional involvement (as seen in Extract 1). However, in the present Extract 4, as Anna does not respond to the repeated greeting (the “second strike”) nor realign her gaze, Katja produces a direct command “katso silmiin” (“look in the eyes”) and taps lightly on Anna’s arm (line 6). The search of Anna’s eye-gaze has now become the main line of activity.

In line 8, Katja reiterates her command “look in the eyes”, which now overlaps with Anna’s vocalisation, and then in line 9, Katja brushes lightly underneath Anna’s chin with her index finger. Anna smiles but maintains her gaze downwards and averted; at the onset of line 10, Katja produces a third reiteration “look in the eyes” and re-does the brush under
Anna’s chin. Anna responds to this by laughing and “squealing” and leans over her crossed arms, eyelids almost closed.

Anna’s laughter and smiling should not be overlooked at this specific moment of interaction. It is plausible that Anna laughs in response to the sensation of Katja contacting her face; however her conduct is also responsive to the situation where Katja now uses these actions – Katja treats Anna as resisting recipiency to her. Indeed, Anna’s produces squealing sequentially where a response to Katja’s request for gaze would be relevant. In line 12, Katja further pursues Anna’s gaze, and then releases Anna’s chin. She points at her own eye, and Anna begins to shift her gaze to Katja, in line 13. Mutual gaze is secured in line 14 – and only then, with Anna showing recipiency to her, Katja re-initiates the greeting “hi” and receives a reciprocal greeting from Anna (line 15).

Thus, in Extract 4, Anna has not only failed to produce the expected response to the greeting, but her averted gaze was treated as a resistance to comply with the sequential constraints placed upon her – not a minor concern, but a fairly fundamental one. Kidwell (2006) has considered how averted gaze can become an issue at those specific interactional moments when the recipient’s gaze would be relevant in showing that they are listening, such as in Example 1 from her data:

Example 1 (from Kidwell, 2006)

[O1 = Officer 1; IM = Ida Marie]

O1 tracks IM’s gaze shift
IM shifts gaze to right to move out of line of O1’s tracking
X

1 O1: Do me a favor listen to me [lis-
IM: [((sniff))]
2 O1: >>Look at me look at [me look (it/at me) look (it)<<. [((cough))=hm! ((cry))= 
3 IM:
Example 1 shows how, in order to pursue engagement or compliance, the officer uses direct commands to explicitly pursue Ida Marie’s eye-gaze that is treated as an indicator of her refusal to show recipiency and her unwillingness to calm down in front of the police. Embodied actions of gaze summoning, such as touch, are often used with talk when eliciting the attention of another. Thus we see that, in Extract 4, Katja pursues Anna’s gaze by using a similar directive, and a tap on the arm, to which Anna clearly responds by withdrawing her hand from her face and moving her posture slightly upright (lines 6-7). However, as her gaze remains directed away from Katja, Anna fails to respond to the directive that seeks the realignment of gaze and a display of recipiency. It is specifically Anna’s failure to carry out the second pair-part to the re-initiated greeting (the “second strike”) that subsequently results in her averted gaze to become treated as problematic, preventing the progression of the sequence. Katja’s use of multiple strategies (e.g. re-doing of greeting, direct summons of gaze, and tapping gesture) embodies that she treats Anna’s resistance of recipiency as a fundamental hindrance for the progression of their interaction. Thus “look in the eyes” overrides the pursuit of the return greeting (“hi Anna”) that was the initial business of interaction; the pursuit of gaze becomes a pursuit of compliance for Anna to show interactional availability – a crucial pre-requisite for the progression of the sequence any further.¹

Not unlike the methods of gaze pursuit discussed by Kidwell (2006), the methods used by the teachers deal, on the one hand, with the disrupted speaker-listener alignment, but also have a more fundamental concern of having another showing recipiency in order to pursue the interaction further. The child’s resistance to produce a spoken response to the teacher’s sequence initiating action – dealing with the noticeably absent response – is first addressed by means of pursuing talk as the main line of activity with less obtrusive methods (“hey” or repeat of the first pair part). This provides a second opportunity for the
child to respond. The resistance is only addressed when these fail and might involve more explicit methods and direct requests for gaze. In Extract 5, Katja and Anna are continuing the pair-work interaction shortly after the greeting exchange. Mutual gaze is secured, and Katja asks a question in line 1; Anna begins to avert her gaze during line 2.

**Extract 5** [Anna & Katja "What is your surname?"]

[A=Anna; K=Katja (Teacher)]

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>K:</td>
</tr>
<tr>
<td></td>
<td>.hh mi:ikä on sinun sukunimi.</td>
</tr>
<tr>
<td></td>
<td>hh what is your surname</td>
</tr>
</tbody>
</table>

Katja

(leans cheek to her left palm)

↑(frame 1)
K: Anna
(---------1---------2---------3)
A: Katja "''" - -
    gaze to left
drops gaze down

↑(frame 2)

K: Anna
(---------4------)
A: down/left _ _ _
((moves posture upright
to her right & smiles))

↑(frame 3)
4 K:  
"An↑na°
↓down_ _
↑(frame 4)

5 K:  
Anna
(--------1)
↑
A: 
↓down/left_ _

```
lifts A’s chin with left index finger
```
```
releases chin
```

6 K:  
↓kat↑so
look
.....x_
```
gaze to K
```
shifts gaze up

↑(frame 5)
Katja asks a question “.hh what is your surname” (“.hh m:ikä on sinun suunimi.”) during a period of mutual eye-gaze (line 1). This is shortly followed by Anna averting her gaze downwards to the left, and a silent interval of approximately four seconds emerges (lines 2-3). Generally, when a response does not occur, a silence of one second or over signals some kind of problem in responding to the first pair part, often resulting in a repair to tackle possible mishearing or misunderstanding (Jefferson, 1988). Dickerson (2002) however observes that gaze withdrawal within a lengthy post-question silence – following a spell of mutual gaze with the questioner – can project an upcoming response as the recipient shows that they are doing thinking. The possibility, however, that gaze aversion can also show resistance to respond can pose a dilemma in determining what a spell of averted gaze is doing when it occurs in a post-question silence.

During line 3, Anna adjusts her posture and, while her gaze sustains averted downwards to the left, she begins to smile. As in Extract 2, where Niko smiled, Anna’s smile in the present Extract is particularly important as it displays her orientation to the
violated expectation to produce a sequentially relevant next action. It is not so that Anna is
doing thinking, but rather that she is resisting the production of the expected response. In
line 4, Katja reorganises her actions in a direct response to Anna’s bodily conduct and
gently calls Anna by her name (in line 4) and with a rising prosody (°An↑na°) she imposes
a gentle warning while summoning her attention with the “second strike”. She treats
Anna’s actions – her resistance – as a violation produced with full awareness that a
response is being expected from her. Then, upon meeting no change in Anna’s conduct,
Katja embarks on a direct command to pursue Anna’s gaze. She says “look” (“katso”),
brings her hand up to Anna’s chin and lifts it lightly with her index finger (line 6).

Goodwin (1981) notes how participants “utilize both their bodies and a variety of
vocal phenomena to show each other the type of attention they are giving to the events of
the moment, and, reciprocally, the type of orientation they expect from others” (p. 124).
Katja’s actions suggest that Anna’s full attention to her is now relevant but also expected
in order to progress the interaction any further; Anna’s gaze has become problematic after
the remediating actions (e.g. calling attention by name) have failed to elicit a response
from her. Thus resistance to display recipiency has been implicated in the averted gaze that
occurs in an environment where the child’s response seems to be unforthcoming. Thus eye-
gaze becomes treated a pre-requisite for the establishment of mutual involvement as
merely the repeating of the sequence initiating action (e.g. the question) would not be
enough; after involvement has been secured, the sequence can be further pursued. Indeed,
in line 6, as Anna re-aligns her gaze to Katja, the sequence is re-initiated during mutual
gaze, in line 7.

The analysis of Extract 2, 3, 4, and 5, has shown that mutual gaze can become a
relevant matter when dealing with the issue of co-participant’s recipiency. The averted
gaze does not become immediately problematic, but rather the juncture where gaze
becomes relevant is where the teacher’s response-eliciting actions have failed the second round. Rather than treating gaze aversion as a marker of the child’s interactional impairment, here it has been treated as a deliberate resistance to produce a conditionally relevant response from them. In Extracts 2, 4, and 5, the child’s smiling was particularly important insofar as it displayed their own stance towards what was interactionally at hand. While Niko might have been occupied with the computer, and Anna just unwilling to respond, both explicitly showed that they had nevertheless heard Katja’s question.

Eye-gaze appears to be particularly relevant in seeking the recipient’s orientation to the speaker’s talk but also, in a more rudimentary fashion, showing that one is a competent interactant who shows regard to another (Kidwell, 2006). Form this it follows, that eye-gaze might not be always needed between the speakers, especially if talk can be preserved as the main line of activity. Rather, when the sequential violations are evident – for example, when a conditionally relevant response is not forthcoming – we are likely to orient to averted gaze as some way problematic and elicit realignment of gaze from the recipient before returning to the business at hand.

In this analysis, I have considered how the pursuit of the child’s gaze essentially targets the establishment of mutual involvement in order to complete the initiated sequence, or to further another course of activity that is in progress (e.g. proceeding with the puzzle). The analysis suggests that, while averted gaze is not problematic per se, it can become treated as a particular interactional trouble when the displays of recipiency are at issue – often evident in the environment where the child does not respond to the second prompts from the teacher. The realignment of gaze was first elicited to preserve talk, such as through calling the child’s name; only after these failed, the teacher changed the course of action to pursue mutual gaze through a directive to look and occasionally, contacting the child’s face (e.g. lifting their chin up). The sequential location of the averted gaze showed
that looking away from or refusing to align one’s gaze to the co-participant can be a way to resist the imposed sequential expectations and thus recipiency to another. Thus, rather than being a marker of an interactional impairment, gaze aversion in children with autism can, at least occasionally, be interactionally occasioned. For the teachers, the requesting of gaze thus constitutes work that goes back and excavates² to a more fundamental level of interaction in the pursuit of the child’s recipiency to them.

5.4 Discussion

A detailed sequential analysis of the dyadic interactions involving children with autism and their teachers has identified a location where the absence of mutual gaze from the child can become problematic, namely, for the progression of the initiated sequence. Rather than presenting a distributional analysis of the children’s gaze aversion from the teachers, the present report contributes to our understanding of the relevance of eye-gaze to the ongoing interactional business. As Goodwin (1981) notes, in face-to-face interactions, the speakers and hearers alternate between the stages of gazing at each other and gazing at elsewhere; it is the specific interactional demands that can make mutual gaze relevant, such as in showing mutual engagement and recipiency to the speaker. While children with autism are often documented as having impairments in the social use of eye-gaze, this chapter has aimed to consider, at the sequential level, where the teachers orient that mutual gaze from the child is particularly needed.

The analysis has shown that the teachers do not require pervasive gaze from the children, but rather there are certain interactional junctures where they treat gaze as being necessary and, consequently, explicitly seek the child’s gaze. The environment where gaze was treated as necessary was not simply one where a responsive action from the child was relevant, but one where it was relevant and had not been produced. The standard case
followed the teachers’ previous attempt(s) for getting the child to produce the responsive action to an initiated action. The teachers provided a “second strike” for the children to respond; gaze aversion became problematic when these failed and a response was unforthcoming. As such, the requesting of gaze appears to become an abandonment of the previous sequence (e.g. greeting-greeting or question-answer) while the teacher steps back to deal with a more fundamental aspect of recipiency in interaction. From this it follows that the requirement of eye-gaze from the child is a property of specific sequential environments rather than a property of specific tasks. Put another way, and as was shown in the fragment of Krisse and Jesse, responding to an initiated action can be accomplished without a gaze to another. Rather, it is a failed second attempt of an initiating action that here constituted the environment where gaze became at issue.

Some researchers have tentatively suggested that a link might exist with the characteristic gaze aversion in autism as a response to a cognitive overload (see Doherty-Sneddon et al., 2002; Doherty-Sneddon & Phelps, 2005) or a heightened emotional arousal (e.g. Dalton et al., 2005). However, a conversation analytic approach enables us to examine the spells of gaze aversion in terms of where they are placed in sequences of naturally occurring interaction – considering the way in which averted gaze might not be merely indicative of cognitive processing or avoidance of the intense stimuli from the perceived eye-gaze, but rather in some way responsive or sensitive to the specific features of interaction. Previous conversation analytic work has suggested that gaze aversion can perform several distinct actions in face-to-face interactions – display of thinking (Dickerson, 2002), disengagement (Goodwin, 1981), or non-compliance (Kidwell, 2006) – which, on the one hand can pose a problem for the teacher whom the child is not gazing. If the child’s gaze aversion in a post-question silence is doing thinking, then it is relevant for the teacher to allow room for the child to compose their response without interfering. If,
however, the child displays some difficulty in responding, then it is relevant for the teacher to manage this by prompting, repeating, or perhaps otherwise repairing aspects of their question by producing further talk. If the gaze aversion is doing some kind of disengagement or outright resistance to show recipiency, then it might be relevant for the teacher to cut back and excavate to a more fundamental level and to elicit the child’s embodied recipiency.

As such, the present findings also highlight the competencies that the teachers have when interacting with children with autism. Following the sequence initiating actions, the teachers allowed a substantial time for the child’s response to occur; orientation was displayed to the length of silence and to the bodily conduct of the child; for example, the smiling was treated as the child’s deliberate resistance to respond. Specifically, Anna’s squealing and Niko’s head-tilt appeared to resist the constraints placed upon them by doing a non-relevant action when a responsive action would have been relevant. As such, the resistance of the sequential constraints can indicate a more fundamental resistance to show recipiency to another.

Redoing the prior talk or calling the child’s name can be used to indirectly elicit the realignment of gaze which avoids the explicit, or more intrusive, requests that coordinates or contacts with the body in some way (see Kidwell, 2006). These were used to provide the second opportunity for the child to respond and show engagement. As these failed, the averted gaze was treated as part of the resistance and consequently, explicitly addressed, while arresting the furthering of the sequence that was in progress. From this it follows, that the teachers are dealing with the very rudimentary aspects of interaction which nevertheless involves skilled work and judgement; simply repeating the initial question or action would not be productive, but rather the teacher has to revert and seek the recipiency of the child through their gaze.
Conversation analysis can complement research on gaze aversion by examining naturally occurring situations where eye-gaze is used. The newsworthiness of such analysis lies within its scope in identifying how the child’s gaze away from the teacher can become problematic through its particular location in a sequence of activity, not through its occurrence *per se*. Thus while the present study is not able to provide an account of what it is about these situations that might lead into gaze aversion (or resistance of recipiency) with these children, the analysis has specified those moments where mutual gaze is treated as necessary for interaction and how the teachers deal with these instances.

As such, further conversation analytic study of video-recorded interactions could offer a complement to the traditional diagnostic tools where impairments of social interaction are often categorised in terms of the child’s gaze aversion. While the coding of the spells of averted gaze helps us to understand the frequencies of gazing activity during a certain time period, for example (e.g. *GARS*, Gilliam, 1995), it is equally important to identify exactly *when* – sequentially – the child withdraws their gaze or does not shift their gaze to a co-interactant. Further, the child’s simultaneous non-vocal or vocal behaviours, such as facial expressions and body movement, can give an indication as to how the child themselves orient to their conduct and what their gaze aversion might be doing. In this sense, looking away from the co-participant might not always show insensitivity to the social cues or display avoidance of negative emotional saliency of the eye-gaze. On the contrary, the present analysis has identified interactional *competence* in the manner which the children themselves showed orientation to their averted gaze from the teacher. That is, their refusal to realign their gaze to the teacher displayed their understanding of and orientation to what was expected of them, and how their eye-gaze constituted partly to the violation of the normative obligation to produce a responsive action.
In the next chapter, I will consider smiling and gazing in another kind of context where they appear to display self-consciousness – vernacularly characterised as coyness or embarrassment – as a response to some talk from the co-participating adult. A notable feature of such embodied conduct is the way in which gaze is averted from the co-participant.

**Chapter 5 – Notes**

¹ The way in which one activity (here the pursuit of the child’s gaze) overrides another (the initiated sequence) has parallels with Jefferson’s (1987) notion of *exposed correction* which momentarily arrests the progression of the business-at-hand. As Jefferson puts it “Whatever has been going on prior to the correction is discontinued. That is, ‘correcting’ is now the interactional business of these interchanges” (Jefferson, 1987, p. 88). Exposed correction then appears to deal with a more fundamental aspect of some bit of interaction which has to be addressed, before the participants can progress any further. Thus, we find that the teacher discontinues the pursuit of a response to the initiated sequence and the interaction becomes concerned with “correcting” something about the child’s conduct.

² I am grateful to my supervisor Dr John Rae for suggesting this term.
CHAPTER 6

DISPLAYS OF SELF-CONSCIOUSNESS

AS INTERACTIONAL RESOURCES

The emotional displays that accompany the feeling of self-consciousness are characterised as common responses to unwanted and/or excessive social attention, evaluations of the self, untoward predicaments, and social faux-pas; impairments in the capacity to understand and display complex emotions, such as embarrassment, have been considered as one of the characteristics of autism. In this chapter, I examine the displays of self-consciousness – akin to coyness and embarrassment – from two children with autism, Liisa and Niko, in sequences of interaction where a co-participating adult is expecting a response from them to an initiating action, such as a question. In terms of bodily conduct, these particular displays involve gaze aversion, smiles (and inhibited smiles), and body focused actions such as face-touching. I will further draw on neurotypical interactions to examine how the exhibited display of self-consciousness can be an interactional resource in complex sequential environments. I use conversation analysis to describe the sequential environments where these displays are situated, and how they can be shown to be interactionally occasioned insofar as they show mutual orientation to something that the child is expected to do, namely, to respond to an initiating action.

6.1 Introduction

Many emotions are considered as being social by nature. That is, emotions can socially be occasioned, for example, by an event that involves others (e.g. Higuchi & Fukada, 2002; Parkinson, 1996; Salovey, 2003). Emotions are frequently communicated to other people (e.g. Fridlund, 1991; Rimé, Finkenauer, Luminet, Zech, & Philippot, 1998)
and generally, emotions are exhibited more often and intensively when others are present (Fernandez-Dols & Ruiz-Belda, 1995; Hess, Banse, & Kappas, 1995; Kraut & Johnson, 1979; Ruiz-Belda et al., 2003). The perceptions that others might have of the self (Bennett & Matthews, 2000) – whether real or imagined – often reside at the root of self-conscious emotions. Broadly, such emotions (for example, coyness and embarrassment) have been understood as to derive from social attention towards the self (Leary, Britt, & Cutlip, 1992; Lewis, Sullivan, Stanger, & Weiss, 1989; also, the mirror image of the self, Reddy, 2000), or from the public performance and the evaluations from others (Lewis et al., 1989).

Thus self-consciousness implies an experience that is some way mediated through others, such as when being the object of others’ attention. While it is be beyond the scope and purpose of this chapter to contribute to any theoretical explanations of the development of self-other awareness, or to account how it might be affected in autism (see e.g. Frith & Happé, 1999; Hobson, 2002, 2010; Hobson & Meyer, 2005), some of these issues should be briefly acknowledged. The conventional views of cognitive developmental psychology suggest that the awareness of others’ attention to the self requires higher order representational capacities. These representations seem to require an understanding of the attentional capacity and perspectives of others, and are suggested to develop at around 12 months of age, through joint attention to the external world and objects with a caregiver. Autism is characteristically described in terms of an impaired capacity to think how somebody else might perceive a situation or the self. As a consequence, this can pose difficulties for the understanding and showing of complex social emotions which have been proposed to hinge on such awareness and capacity to locate the self in the eyes of others.

These representations implicate theory of mind skills as particularly relevant for emotional understanding. Children with autism are often characterised in terms of
fundamental difficulties in attributing mental states to others (Baron-Cohen, 1995; Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997; Baron-Cohen, Leslie, & Frith, 1985; Baron-Cohen, Wheelwright, Hill et al., 2001; Ruffman, Garnham, & Rideout, 2001) and in representing the self as separate from the other. While the expression and understanding of simple emotions (e.g. being happy or being sad) is not entirely absent in children with autism (Baron-Cohen, 1991), it is the capacity for complex emotions that has been suggested to be impaired. For example, Kasari, Sigman, Baumgartner, and Stipek (1993) reported that children with autism showed pride in a contextually appropriate manner when mastering a new skill, however they did not turn to monitor the reactions of others; neurotypical children, on the other hand, showed interest in what others thought of their performance. Experiencing self-consciousness can be thus dependent on the ability to imagine how others might think or perceive the self or one’s social performance. As Begeer et al. (2008) note, “a child may feel hurt or sad when falling down, but will only feel embarrassed when it imagines what somebody else thinks about the event” (p. 354). The mirror is a particular source that enables one to see how others might perceive the self; the way in which children with autism engage with their own mirror image has implied that, rather than relating socially with the self in a mirror – and displaying occasional coyness (as shown in the conduct of neurotypical children and children with Down syndrome) – the reflection of the self is better treated as a mere target of attention (Reddy, Williams, Costantini, & Lang, 2010).

While self-consciousness has been suggested to implicate the development of higher order cognitive abilities, infants as young as 2 months of age have been reported as displaying coyness (involving coy smiles and gaze and head aversion) in the interactions with familiar adults and in response to a mirror image of oneself (Reddy, 2000). Reddy (2003) argues that the underpinnings of such early social awareness could be understood
through *mutual attention* between infants and caregivers as experienced from very early on. This attention can be directly experienced by the infant in a manner which constitutes the self as the *object* of attention; later on, infants begin to show awareness of others’ attention to their own actions as such objects. As Reddy (2003) puts it, “perceiving attention in others could emerge from the experience of being an object of attention, just as perceiving an object gives shape to attention itself” (p. 399). The possibility that attention to oneself can be experienced directly in interactions rather than through cognitive representations consequently places greater emphasis on how self-consciousness could be understood through social interactions themselves, and how such awareness is produced between participants.

Indeed, self-conscious emotions have been widely considered in the realm of the *social* rather than the *private*. In particular, the predicaments that induce embarrassment often involve disruptions in the flow of social interaction or communication (e.g. Grace, 2007; Higuchi & Fukada, 2002), resulting into a conspicuous experience that is generally described as being at the heart of self-consciousness. The *dramaturgic model* of embarrassment (Silver, Sabini, & Parrott, 1987; Sabini, Garvey, & Hall, 2001) proposes that a failure in the impression management leaves the agent (or *actor*) unable to talk or act, causing fluster and embarrassment as when losing one’s script (Goffman, 1956). For Goffman (1956), however “embarrassment is not an irrational impulse breaking through socially prescribed behavior but part of this orderly behavior itself” (p. 271). This implies that emotions can serve particular functions in interactions rather than simply spill out internal experiences of those who display them.

Some conversation analytic literature has examined the way in which emotions are worked up systematically for some interactional business at particular places in conversations (Peräkylä, 2004). Such literature suggests, for example, that there are
practices by which sensitive situations are managed, and which provide relevant places in
talk where emotions are routinely invoked and “expressed”. Consider further how in
everyday conversations speakers continuously orient to the preference structure in terms of
producing agreements and disagreements to the prior talk (Pomerantz, 1984). For example,
on receiving excess acclaim from another, the recipients of such praise often disagree with
it. By means of downgrading the received praise the recipient avoids engaging in self-
praise or bragging, which might be perceived as having rather negative social implications.
From this it follows that embarrassment, or at least a bashful response to the prior
evaluation, might be produced with a careful orientation to the preferred response
occasioned by the first speaker’s talk itself.

Thus the orientation to the preference structure can serve a broader function for
maintaining solidarity and affiliation between the interactants. As Miller (1996) puts it,
“others will like us and treat us better if we do become embarrassed than they will if we
remain unruffled, cool, and calm” (p. 152). Haakana (2001, 2010) has observed how also
laughter can be used to display awareness of the delicate nature of some talk. He shows
how, for example, in medical encounters, the patient can laugh on describing their physical
complaints or when problematising the suggestions from the doctor. This suggests that
laughter and smiling can be invoked as interactional resources when sensitive matters are
at issue. There might be sequentially relevant places for also coyness and embarrassment to
be displayed in interactions insofar as they orient to some normative and orderly features
of interactions. This raises the possibility that when talk is perceived in some way delicate
and personal, it can occasionally make a display of self-consciousness relevant, if not
someway preferred.

Heath (1988) has noted that, in particular, contradicting sequential demands imposed
on an interactant can induce embarrassment. For example, his research on medical
examinations has shown that the moment when the patient is to present themselves available for the examination, they might simultaneously attempt to conceal their body from the received attention from the doctor. Thus it is the orientation to the interaction itself that can result in the spells of embarrassment, insofar as “the individual who suffers embarrassment does not so much ‘flood out’ but becomes over-immersed in the sequential constraints at hand” (Heath, 1988, p. 146, italics added). In the present chapter, I consider such stretches of interaction where the children with autism show bodily conduct akin to displays of self-consciousness which can be vernacularly characterised as coyness or occasionally, embarrassment. Central to these interactions appears to be the way in which the participants orient to some bit of talk that has been produced and the response that has been made relevant from the recipient. Rather than making inferences about the children’s understanding of mental states in others, or attempting to provide an account of self-consciousness as such, this study aims to provide an analytic description of how and where sequentially such a display occurs as a response to the interactional contingencies. This involves consideration of how the display of self-consciousness shows orientation to the sequential demands at hand – for example, what the child should do in the next turn.

Thus, being the object of attention might involve more than being simply looked at by another, for example. I am inclined to examine how such awareness and display of self-consciousness might implicate a responsive action from the person who exhibits some kind of fluster; the aim is to describe how we might understand the production of self-conscious awareness interactionally, for example, through the child’s difficulty in responding to an initiating action. Thus being in some way conspicuous and the object of another’s attention can be produced in interactions, akin to how awareness and noticing have been understood through interactions (Heath, Svensson, Hindmarsh, Luff, & vom Lehn, 2002). As Heath et al. (2002) have proposed, awareness is not simply an internal cognitive state as such, but is
accomplished interactionally, imposing sequential relevance for the conduct of the co-present parties who “are sensitive to actions and activities which might, in various ways, have implications for their own conduct, and in particular serve to render relevant specific activities” (p. 344). In this study, I examine how we might understand the displays of self-consciousness and the awareness of being the object of another’s attention, as a sequentially occasioned activity, and how this might occur in locations where orientation to a projected next action or course of activity is at hand. The way in which the co-participating adult responds to gaze aversion and bodily conduct from the child can be an important contribution to the embodiment of self-consciousness.

6.2 Methodology

6.2.1 Data

The data consist of recordings of Liisa, a 12-year old girl with autism, interacting with her teacher Paula; and Niko, an 11-year-old boy with autism, interacting with his teacher, Katja, while using a classroom computer. The participant details and characteristics have been described in Chapter 2. These data are drawn from a corpus of approximately 10 hours of video data involving naturally occurring interactions of children with autism and their teachers and parents as recorded in Finland. Comparative data is drawn from the corpus of approximately 10 hours of neurotypical interactions. The data fragments considered in this chapter have been taken from a conversation between a 14-year old boy, Jesse, and his grandmother Krisse. All participants have been allocated with pseudonyms.

6.2.2 Selection of cases for detailed analysis

The analysis began by inspecting the video data from Niko where it was noted that on some occasions he displayed prototypical displays of self-consciousness. Such particular
displays of characteristically involve *non-Duchenne smiles* (mouth only smiles), downward gaze, blushing, blinking, and face touching, which are among the most iconic signs of embarrassment (Drummond, 2001; Goffman, 1956; Keltner, 1995; Miller, 2004). Indeed, it was noted how Niko smiled and squinted, averted his gaze from Katja, and engaged in body focused actions (e.g. scratching his cheek). These instances involved first a sequence initiating action from Katja which made a response relevant from Niko but which he did not produce in the immediately following turn. These observations lead into the examination of further cases where such particular displays of were evident, and these were found from the data of Liisa interacting with Paula. I decided to examine in detail how the particular sequential placement – after the sequence initiating action from the teacher – might occasion a display of self-consciousness. It became necessary to examine comparative cases from the neurotypical interactions in order to understand in detail, what such instances of coyness, embarrassment, or awkwardness might be doing when they occur in interactions.

### 6.3 Analysis

The analysis will focus on face-to-face situations where a teacher has initiated a sequence of action but the child does not produce an immediate response to it. I will examine the design of the child’s actions during the emerging silent interval and how these actions become treated as displays of self-consciousness – what can be vernacularly characterised as coyness or embarrassment.¹ I delineate the sequential environment in which the displays occur; notably they involve gaze aversion, facial expressions, body movement, and body focused actions. I will also examine how the participants work through the sequences which involve the displays of the self-consciousness.
The aim is to understand how these emotional displays can be seen to be interactional resources – occasioned by the co-participant’s actions – and how the children with autism display sensitivity to the occasionally complex sequential demands where some difficulty is at hand. In the first section, I will focus on the display of coyness in response to the teacher’s questions from the data involving Liisa and Niko, respectively. A comparative case is presented from an interaction involving neurotypical participants, Jesse and his grandmother, Krisse. In the second section, I consider data from Jesse and Niko, respectively, where their bodily conduct can be characterised as embodying embarrassment. It will be beyond the scope of this study to definitely account these cases as coyness or embarrassment. However, I have decided to use these vernacular concepts for their convenience and familiarity, and for clarity, I consider them in separate sections.

6.3.1 Showing coyness before responding to a co-participant’s question

I begin by examining an interaction between Liisa, and her teacher, Paula, who are sitting around a table in the classroom and assembling a puzzle. Paula holds the lid of the puzzle box showing the finalised picture they are trying to get together. In line 1, Paula initiates a sequence of talk as she points at the picture and asks a question from Liisa. I will focus on the design of Liisa’s actions before she produces a response to the question, in line 10.
**Extract 1** [Liisa & Paula "favourite colour"]

[L=Liisa; P=Paula (Teacher)]

1 P: >sitte< (.). minkäs värinen pallo. then (.). what colour balloon

2 (.).
Liisa

3 P: sun lempiväri.
your favourite colour

↑(frame 2)

4 P: Liisa
 L: pieces

↑(frame 3)

("mouths" as if to speak,
then smiles)
P: mikä: (. ) mikä se oli:: what (. ) what was it
pieces______________
((smiles))

↑(frame 4)

P: ((smiles))
 Liisa

L: pieces__
((smiles))

↑(frame 5)
((smiles))

Liisa

"mikä se oli:"
what was it

pieces _ _ _ _

((smiles))

↑(frame 6)

((smiles))

...lid _ _

L: puri::

Liisa

((smiles))

↑(frame 7)
P: "$\text{mikä värin}" what colour

\[\text{Liisa}\]

\[\text{((smiles))}\]

↑(frame 8)

L: "$\text{punainen}\" red

\[\text{Liisa}\]

\[\text{((smiles))}\]

↑(frame 9)
Paula initiates a sequence by asking “then what colour balloon (. ) your favourite colour.” (“sitte< (. ) minkäs värinen pallo.( .) sun lempiväri.”) (lines 1-3). She points at the picture (a red balloon held by a teddy bear), and makes a response relevant from Liisa. Liisa shifts her gaze to follow Paula’s point at the lid, and then moves her gaze back down to the pieces. In line 4, Liisa opens her mouth slightly as if to speak, but rather than responding she begins to smile while keeping her head bowed. In line 5, Paula pursues Liisa’s response by asking “what (. ) what was it” (“↑mikä:: (. ) mikä se oli::”) and leans in towards Liisa. As Liisa remains quiet, Paula further prompts, in line 7, “what was it” (““mikä se oli:””), orienting to Liisa as having a response in mind which she might have attempted to voice in line 4. Paula’s prompt is delivered in a quiet and whispering manner so as to elicit a response that Liisa could whisper in return should she be coy about saying it out loud. Thus here, the pursuit of the response is at issue in a manner which is apparently sensitive to Liisa’s actions and bodily conduct. In line 8, Liisa shifts her gaze up
to the picture on the lid and indeed responds with a quiet vocalisation, “puri:::”. Then Paula initiates a repair “what colour” (“mikä väri:”) by using a smiley voice that orients to Liisa’s vocalisation as an attempted albeit incomplete response. In line 10, Liisa repairs her earlier response and articulates clearly “red” (“punainen”). As she speaks, she smiles and brings her hand up to her temple so as to lean on it as she proceeds with the puzzle.

Thus here we have a stretch of interaction where Paula has made a response relevant from Liisa, but Liisa does not immediately respond but rather exhibits some kind of difficulty, or at least a delay, in responding. Liisa’s bodily conduct appears to embody some kind of self-consciousness (coyness, in particular) as suggested by her smile and downward gaze, in line 4. Note how Liisa shifts her gaze to see what Paula is pointing at and sees the red balloon in line 1, but does not yet smile – thus, it is not so that Liisa simply smiles about the colour of the balloon. Rather she begins to smile in line 4, after Paula’s prompt “your favourite colour” (line 3), which further creates the place where it would be relevant for her to speak next. Thus while Liisa has not produced a spoken response to the question, her bodily conduct embodies orientation to the normative expectation that is yet to be fulfilled – the production of the second pair-part to Paula’s question.

Put another way, although Liisa has not responded to the question and has directed her gaze downwards to the table, she does not show indifference to what is interactionally at hand. Rather, Liisa’s actions embody that, while she has heard the question and has not responded to it, she is engaged with it. It seems that Liisa treats Paula’s prompt (in line 3) as posing her some way conspicuous through pointing out, that it is not simply some colour to be named, but Liisa’s favourite colour. On the other hand, this suggests something about the way in which the awareness of being made conspicuous is interactionally produced: Paula ‘notices’ something about the colour which implicates personal significance to Liisa,
and Liisa responds to this by taking a stance towards what Paula is doing. Thus Liisa’s conduct can be characterised as a form of coyness, a stance towards what is interactionally at hand with Paula. This further creates sequential complexity whereby a response has been made relevant from her but which she has not produced. Note further, how Paula treats Liisa as being coy rather than unwilling to respond or resisting recipiency to her (compare to gaze aversion in Chapter 5). Liisa’s averted gaze is not being addressed but rather the vocal response is pursued insofar as Paula furthers the progression of the interaction at hand (question-answer sequence), rather than cutting back and excavating Liisa’s recipiency to her.

In Extract 2, I take up another instance of the display of coyness which occurs as a response to the question from the teacher. Niko is about to have a short break during which he can engage in an activity of his choice. The break time activities might involve looking at picture books, playing games and the like. In the following fragment, he is standing face-to-face with his teacher, Katja, who asks him what he would like to do (in line 1). I focus on Niko’s actions that follow Katja’s question before he produces his response (in line 6).
Extract 2 [Niko and Katja "What do you want to do?"
[N=Niko; K=Katja (Teacher)]

1 K: mitä haluat tehdä:<
   what do you want to do

   ((scratches his cheek, lowers gaze & begins to turn to his right))

   ↑(frame 1)   ↑(frame 2)

   ((scratches cheek/ turns to right head down, glances at the computer off camera))

2 N: right/down
   (-----1------2)

   K: Niko

   ↑(frame 3)
((scratches cheek &
takes a step towards
the computer))

| gaze to computer |
|                  |
|                  |
|                  |
|                  |

_ _ _ _
3 N: 

>m m ::`
Niko _______

↑  ↑
(frame 4) (frame 5)

((pulls both
hands behind
((stops his back))
scratching
cheek))

N: 

down _ _ _ _

(-------1)

4
K: Niko

↑ (frame 6)
((takes a step towards Niko & computer))

Niko

mitä haluat
what do you want
down

((hands behind his back))

↑(frame 7)

K:

((N rotates head / shifts his gaze to K & smiles))

Katja

tie:tokoneella
with computer

↑(frame 8)

Niko
In line 1, Katja initiates a sequence by asking a question “what do you want to do” during mutual gaze with Niko. After her question, Niko withdraws his gaze, begins to turn to his left while scratching his cheek – an iconic gesture used to display thinking. In line 2, a silent interval occurs during which Niko continues scratching his cheek, bows his head down, and glances at a computer (off camera). Then he takes a step towards it and gives a quiet minimal response “mm:” while holding his gaze down and his body aligned towards the computer (line 3). Although the vocalisation does not produce an answer to the question, it displays Niko’s continuous orientation to what has been occasioned from him – the production of a second pair part to the question. Then, in line 4, while Niko maintains his head bowed, he stops contacting his cheek, pulls both hands behind his back, and aligns his gaze to the computer.

The way which Niko orients his body towards the computer and lifts his gaze to it, suggests that he is not so much thinking but rather, he has an answer ready but is somewhat coy about voicing it. Consider how Katja’s question is not simply a question to be
answered, but rather it invites a proposition from Niko – a course of activity that he would like to do on his break. It is not so that Niko is simply thinking of his response when he averts his gaze and scratches his cheek, but rather his movement and gaze towards the computer suggests that he already knows what he would like to do; yet some kind of difficulty in responding appears to be at hand.

It should be noted that while both, the displays of coyness and thinking, can orient to a response that has been made relevant, they are fairly different activities. Consider how, in Extract 3, following a question from Katja, Niko withdraws his gaze and turns his body slightly before his response is produced; Niko shows that he is thinking.

**Extract 3** [Niko & Katja "what else was nice on the trip"]

[N=Niko; K=Katja (Teacher)]

1

K:  
look Niko this way when I’m asking you that
(screen)

((types on the keyboard))

Niko

2

what else was nice on the trip
(screen)

((types on the keyboard))
((withdraws hands from the keyboard & turns to K))

& extends index finger & points shifts gaze to K at the screen))

N: N

--- --- --- .. x ___ (-------1-------2

K: Niko

((an exaggerated shrug with arms crossed))

↑(frame 2)

shifts gaze to the left

N: , , --- --- --- --- ---

--- --- ---3--- --- ---4)

K: Niko

↑(frame 3)
Niko has been typing on the keyboard, then upon being summoned to look “this way” and asked a question about the school trip (lines 1-2), Niko ceases typing, crosses his arms, turns to Katja and briefly gazes at her (line 3). Having met Niko’s gaze Katja crossed her arms and adjusts her position, which embody her recipiency to Niko’s response. Then, in line 4, Niko withdraws his gaze and shifts it to the left. Niko has not produced any talk as a response to the question and has remained silent for four seconds. Although he has averted his gaze from Katja, he is not showing disengagement or coyness; the withdrawal from mutual gaze routinely occurs in post-question silences to show that the agent is thinking and that the response is forthcoming (Dickerson, 2002).

Thus Niko shows that he has no answer ready to her question about the trip but is now thinking what to say. In line 5, Katja produces further talk “what do you remember about the trip”. While this orients to the absent response, her reference to “remembering” implies that she treats Niko as already engaged in thinking and does not confuse the delay with a possibility that Niko might, for example, be dismissing her question. Thus the way in
which Katja modifies and downgrades her question attempts to elicit *some* talk from Niko; this relaxes the constraint for him to elaborate and simply prompts him to state something that he remembers.

This suggests that the children do not pervasively display coy responses when they have not produced a relevant responsive action, but rather it appears to be selective. In Extract 2, Niko’s display can be understood as a *relevant* contribution insofar as it shows to Katja, that Niko has some difficulty in responding - but not because he does not *know* what he would like to do. Rather, the difficulty might orient to the consequentiality of his response. Consider how in Extract 3, Niko’s response about the school trip would *not* be in any way consequential and has no sensitive edge to it. Furthermore, Niko’s response makes no further talk relevant from Katja (apart from, perhaps an acknowledgement) insofar as there is no preferred response from Katja to which Niko might show orientation. By contrast, in Extract 2, Niko’s bodily conduct suggests a form of coyness that orients to his response about the break-time activity being some way consequential to the way in which Katja might subsequently respond to it – namely, it will determine what Niko ends up doing. The element of coyness seems to embody that, rather than coming outright and stating what he wants to do, Niko orients to his own response as a *request* to do something.\(^3\) As such, coyness might not simply manifest a dispositional state, but rather an orientation towards the co-participant in terms of what they might do with the agent’s response once voiced.

Consider how neurotypical speakers orient to the preference structure and consequences of their talk. In Extract 4, Jesse is conversing with his grandmother, Krisse, who has put on her new glasses. Jesse’s apparent coyness (lines 4-6) – although in a different context to Extract 2 – is similarly recruited to manage the delicate, if not awkward, nature of producing a response to Krisse’s question in line 1.
Extract 4 [Jesse & Krisse Glasses]

[J=Jesse; K=Krisse]

1. **J**: sellanen [niinku sort of like]
   **K**: [eik mulle ↓ sovi. ↓ don’t they suit me.

   ((tilts her head))

   ↑(frame 1)

2. **J**: (---------1)
   **K**: ↓(frame 2)
shifts gaze to camera shifts gaze to J

', ' camera_ _ _ _ _ _ _ _ _ ..

eiks mulle sovi tämmöset
don’t they suit me these sorts of
Krisse_________________________

↑(frame 3)

((J gazes down (J scratches & closes eyes)) his temple))

', ' _ _ _ .. x Krisse

((leans cheek to her hand))

↑(frame 4)

,J: no kyl ne sopii mut
well yea they suit but
x Jesse_________________________

((leans cheek to her hand))
((J strokes his hair))

.. x Krisse

5  J: siis ne on vähä
I mean they are a bit

Jesse

↑(frame 5)

((J strokes his hair))

6  J: Krisse
(-----)

K: Jesse

↑(frame 6)
During line 1, Krisse asks about her new glasses: “don’t they suit me”. She weakly ascertains that the glasses suit her, and invites Jesse to confirm or disconfirm this with a preference for confirmation. A silent interval of one second follows her question, projecting a dispreferred response from Jesse (see Pomerantz, 1984). Then Krisse re-asks her question: “don’t they suit me these sorts of” (line 3). In line 4, as Jesse begins his response “well yea they suit but”, he withdraws from mutual gaze, closes his eyes, and begins to scratch his head by the right temple.

“Well” is a preface that routinely signals a dispreferred response, and the conjunction “but” is used to conjoin the contrasting components of disagreement and agreement within a turn (Pomerantz, 1984); both “well” and “but” occur in Jesses turn, in line 4. While his head-scratching gesture might give an appearance of thinking, it is not so that Jesse is pondering whether Krisse’s glasses suit her or not – rather his conduct embodies that he already has an answer to this but that there is also some difficulty with him voicing it. Jesse’s body focused gestures, lowered gaze, and closed eyes display a form of
awkwardness in delivering a disconfirming response to Krisse. As such, Jesse’s display orients to the interactionally delicate issue whereby the transgression of the preference structure might position the participants in social disaffiliation. The embodiment of such concerns makes the orientation to this explicit and can seek to attenuate the possible interactional discord.

In line 5, Jesse continues “I mean they are a bit”, opens his eyes, gazes at Krisse, and begins to stroke his hair. There is a short pause during which Jesse strokes his hair (line 6), and then he continues “like (sil-) strange looking” (line 7), completing the dispreferred response that was projected throughout lines 4-7. Jesse employs what Jefferson (1974) calls an error correction format: he is about say “tyhmä” or “typerä” (“silly”) but replaces the word with “outo” (“strange”) apparently to minimise causing offence to Krisse. At the onset of this utterance Jesse grabs a strand of his hair and squints, then releases it, and drops his hands on his lap; the display of awkwardness ceases upon completing the assessment. Thus, Jesse’s response, that Krisse’s glasses are strange looking, is developed across a turn during which Jesse withdraws his gaze, scratches his head, and pulls his hair. Thus a form of self-consciousness – showing that one feels awkward, hesitant, or uncomfortable what they are about to say – can be recruited to attenuate or scale-down the negative stance that the co-participant might take in response to what is said.

Let us return to Extract 2, where also Niko seems to orient to Katja’s possible treatment of his (yet to be voiced) response with respect to what he would like to do. Recall how, in Extract 3, Niko displayed thinking prior producing a response to a question and how this was interactionally different to the display of coyness. Niko’s response (in Extract 3) would not be consequential in any particular way insofar as he could simply state what he remembers about the school trip. In Extract 2, Niko’s response has different interactional bearings as, should he request to do something, Katja’s subsequent response
might be consequential to what Niko ends up doing on his break. As such, the display of coyness can be relevant in showing orientation to what might be interactionally at stake and how they might wish the co-participant to respond.

In line 5, Katja orients to Niko’s display of coyness: she partially reiterates her question “what do you want” and takes a step towards Niko and the computer so as to prompt Niko to respond. Her prompt and movement embodies an orientation to the way in which Niko gazes at the computer and stands his body rotated towards it. Rather than treating Niko’s turning away as a dismissal of her question, Katja orients to Niko having an answer ready – he wants to use the computer. Furthermore, her prompt and movement embodies that she is ready to grant the course of activity should Niko now voice it. In line 6, in swift conjunction to her prompt and movement, Niko responds “with computer”, and turns to Katja. There is now a clear change in his bodily conduct as he turns to engage in mutual eye-gaze with Katja and smiles. The display of coyness appears to have ceased in response to Katja’s actions which first recognised him as doing coyness and secondly, fended off the impression that Niko’s request would be rejected.

The inspection of Extracts 1, 2 and 4, suggest that one environment where a display of self-consciousness, namely coyness or awkwardness, can occur is prior to responding to a question. Coyness might not simply constitute an experience, but can also work as an interactional resource that is recruited to communicate that the agent is not dismissing the question even though the response has not (yet) been produced. As such, coyness can orient to something that the agent is doing, namely, not responding when it would be relevant and thus can show some kind of difficulty in responding. Further, coyness can make explicit the agent’s orientation to the possible consequences of their response, either for themselves or for the co-participant. The teachers have oriented to the children as displaying some kind of self-consciousness and have not taken the child’s bodily conduct
and gaze aversion, in particular, as a resistance or lack of recipiency in the environment where a relevant response has not been produced (compare to Chapter 5). As such, the children display a difficulty in responding rather than resist the sequential constraints placed upon them to respond; in consequence, the teacher’s pursue the main line of activity – the sequence at hand.

Occasionally, however the teacher might have to revert to seek the child’s recipiency in order to bring the child out of recurring displays of coyness or abashment. However, even in such a case, as shown in Extract 5, the teacher does not treat the child as resisting the sequential constraints imposed on them but orient to the difficulty in responding. We join the interaction between Liisa and Paula as they have completed the puzzle. In line 1, Paula initiates a stretch of talk about Liisa’s birthday which spins off from the picture on the puzzle which depicts a birthday party of a teddy bear.

**Extract 5** [Liisa & Paula “birthday”]

[L=Liisa; P=Paula (Teacher)]

((takes L’s hand))

1 P: muistaksä koska sun (.). Liisa (.).
d’you remember when your (.). Liisa (.).

((smiles)

↑

(frame 1)
((pulls L’s arm down /aligns posture
down to track L’s gaze))

Liisa

2 P: muistaksä koska sinun syntymä-
d’you remember when your birth-

↑(frame 3)

down__ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 

Liisa

3 P: syntymäpäivä on
birthday is

down,, down/left

↑(frame 4)

L: Liisa_

4 (----- )

_ _ _ _ _

↑(frame 4)
5  P: muistatko
d’you remember

((posture up
/smiles))

P: Liisa

6  Liisa

((--1--2)

L: down _ _ _, up/right

((posture up
/smiles))

↑(frame 5)

((aligns posture up to track L’s gaze / smiles))

7  P: Liisa (.) koska sinun syntymäpäivä on

Liisa (.) when your birthday is

((smiles))
Liisa
muistatko
d’you remember

[shifts gaze sharply to left & smiles]

↑(frame 6)

P:
Liisa
(--------1)

L:
left_ _ _

((smiles))

((smiles / covers face with l/arm))

↑(frame 7)

L:
he he he:

((smiles))

 Liisa
((pulls arm away))

L: left_ _ _, right_ _ (--------1--------2)

P: Liisa

((pulls L’s arm up))

↑(frame 8) ↑(frame 9)

((aligns posture to left))

12 P: °Liisa° „„ down

↑(frame 10)

13 Liisa (--------1--------2) down _ _ _ _ _ _ _ _
((touches L’s arm))

14 P: $$katso minua$$ (.) koska sinun look at me (.) when your 
down_ _ . . . Paula

↑(frame 11)

15 P: syntymäpäivä on "muistatko" birthday is d’you remeber 
Paula_ _ _ _ _ _ _ _ _ , down_ _ 
((takes L by her wrist))

16 P: Liisa_ _ _ _ _ _ _ _
L: down_ _

17 P: "olikse" kesällä was it in the summer 
down_ _ _ _ _ _ _ _ _ _ _ _ _

↑(frame 12)
18

\[\text{Liisa} \quad \text{(------)}\]
\[\text{down} \quad _\]

((covers face with hand))

19

L: \[\text{Syntymäpäivä: birthday}\]

P: \[\text{onkse elokuussa} \quad \text{is it in August}\]

((smiles/takes hand to brush hair))

20

(.

21

\[\text{Liisa} \quad \text{onkse elokuussa} \quad \text{is it in August}\]

((smiles/takes hand to brush hair))
Paula asks Liisa “d’you remember when your birth- birthday is” (lines 1-3). She uses cut-offs and restarts to elicit Liisa’s gaze as Liisa has begun to smile and avert her gaze, shifting it downwards to the table. Paula’s question about Liisa’s birthday makes a response relevant from Liisa; however, Liisa does not respond but rather, she smiles and sustains her gaze averted downwards away from Paula. Paula pursues the question again, and then, in line 6, Liisa realigns her posture and directs her gaze upwards to her right, still smiling. Although Liisa does not respond to the question, she embodies orientation to it. Her smiling is an important indicator that she has not dismissed the question although her gaze is averted and posture aligned slightly away from Paula.

In line 8, Paula further prompts “d’you remember”, and Liisa shifts her gaze sharply to the right while smiling. Up until line 8, while Paula has not received a response to her question, she has pursued the main line of activity – the talk about Liisa’s birthday – by means of re-doing the question and producing a prompt. Thus while Liisa has not responded, Paula treats Liisa as engaged with the question while having some kind of
difficulty in responding. In line 10, Liisa brings her arm up to cover her face and utters “ehhh:::”, akin to an iconic display of abashment. Liisa makes a great deal of effort in shielding her face from Paula and avoids looking at her; in line 11, Paula attempts to remove Liisa’s arm from her face, to which Liisa responds by releasing her arm, turning her gaze to her right and then back down to the table.

At this stage, Paula has changed a strategy, and attempts to elicit Liisa’s gaze to her by calling her name (line 12) and then explicitly requests Liisa’s gaze, in line 14, while touching her arm. These actions are responsive to the recurring displays of abashment from Liisa in response to her questions, and now she targets Liisa’s recipiency through the realignment of gaze. Sequentially, this occurs when her preceding two attempts of the question “d’you remember when your birthday is” (lines 1-3; 7-8) had failed to elicit a response, and thus a third attempt might not work either (compare to Chapter 5). However, when requesting Liisa’s recipiency, Paula uses smiley voice which embodies her orientation to Liisa’s display of fluster and difficulty, rather than of resistance.

In line 17, Liisa responds to the request and shifts her gaze to Paula after which Paula re-does the question and prompts “was it in the summer”. Liisa displays yet a further spell of abashment and utters “↓syn::: ↑te::::”, turns her gaze to the left, smiles and covers her face with her hand. Liisa embodies fluster on attempting to utter “syntymäpäivä”, not just any word, but her birthday, and the topic that Paula pursues. In line 21, Paula returns to the main line of activity and produces a further prompt and asks “was it in August”, to which Liisa responds by turning her gaze away from Paula and covering her face with her hand. Liisa bows her head and produces a vocalisations “e:::ah::: e:::ah::: e:::ah:::”, showing yet a third spell of abashment, while stroking her hair in a circular motion with both hands (line 22). At this stage Paula apparently abandons further talk about Liisa’s birthday in response to her escalated enactments, and proceeds to put the puzzle away.
In the extracts considered so far, the child’s gaze aversion and bodily conduct, as it occurs within the slot where a response is expected, has not been treated as the child’s resistance to respond. Rather, the self-consciousness embodied by the children implies some kind of difficulty in responding to which the both participants display careful orientation. In the next section, I will look at the sequential environment in which the display of another characteristically self-conscious emotion – embarrassment – occurs.

6.3.2 Display of embarrassment as a sequentially-occasioned response

In this section, I present an analysis of two interactions where one of the participants shows a display that can be vernacularly characterised as embarrassment. I begin by examining an instance from a neurotypical interaction where Jesse displays embarrassment in response to Krisse’s talk (Extract 6). I consider the sequential contingencies of embarrassment, and then move on to examine a stretch of interaction involving Niko and Katja (Extract 7).

In neurotypical interactions, it is a common phenomenon that positive acclaim, praise, or compliments can be responded to with the displays of embarrassment. In Extract 6, praise from Krisse sends Jesse off to display embarrassment as a response to her evaluation about his enthusiasm for swimming. In line 1, Jesse withdraws from mutual eye-gaze, produces a vocalisation, and then covers his eyes.
Extract 6 [Krisse & Jesse "you were a hard swimmer"]

[K=Krisse; J=Jesse]

((A head-shake))

Jesse

1  K:  sä olit kova uimaan [pienenä]
you were a hard swimmer when you were little
J:  [hhh::h:

mid/down

((opens mouth to "laugh"/ brings hand closes eyes)) to forehead)

↑
(frame 1)

((leans in towards J))

Jesse

2  K:  hur:ja
furious

((hand over eyes))

↑
(frame 2)
In line 1, Krisse produces an evaluation of Jesse “you were a hard swimmer when you were little”, and shakes her head. Jesse gazes down at the table and smiles; as Krisse says “when you were little” Jesse closes his eyes and begins an out-breath vocalisation (“hhh:::h:)”) that mimics the particles of laughter but is not actually laughter. Then he squints and brings the right hand over his face and covers his eyes. Krisse leans towards Jesse and upgrades her assessment to “furious” while Jesse keeps his eyes covered (line 2). Jesse’s bodily conduct appears to suggest that a form of embarrassment has been displayed as a response to Krisse’s remark about him.

Praise of one’s own features from another speaker is commonly minimised in interactions. Pomerantz (1978) calls this self-praise avoidance, and one such case is illustrated in R’s response to C’s compliment from her data (in Example 1):

Example 1 (Pomerantz, 1978)
The referent is an athletic award R has received.

C: Well we’ll haftuh frame that.
R: Yee- Uhghh it’s not worth fra(hh)mi(h)ng,

Thus a disagreement, such as shown by R in response to C’s compliment of the award, is a common way to respond so as to propose that the acclaim is somewhat exaggerated; disagreement becomes a relevant thing to do to avoid self-praise that has a “violative status” (Pomerantz, 1978, p. 92). The display of embarrassment can be a way to show a stance towards the actions of the co-participant which have posed the agent as conspicuous, and this can be embodied in the bodily conduct and gaze aversion from the speaker of the compliment. Thus while Jesse’s embarrassment response acknowledges that
Krisse has posed him as conspicuous, her talk has made it relevant for Jesse to orient to the self-praise avoidance. His response simultaneously deals with the sequential complexity of the situation with respect to the preference structure of agreements and disagreements. That is, “the preferences of (a) avoiding self-praise and (b) accepting and agreeing with the compliment are at odds with another” (Pomerantz, 1978, p. 92). Thus the interactional dilemma of the conflicting sequential bearings might constitute a display of embarrassment as a resource that orients to the complex demands imposed on a recipient who has to respond in some way to the actions of the co-participant.

Therefore, it is of interest how a child with autism responds in a parallel situation where an evaluation can be seen to pose their actions as noticeable and consequently, as accountable. In Extract 7, Niko is typing on the keyboard and in lines 6-8 he displays gaze withdrawal and squinting smile that are akin to a display of embarrassment. Firstly, I show how Niko’s eye-gaze and smile at Katja are interactionally occasioned in line 6; then, how the changing contingencies during line 6 send him off to exhibit a display that can be characterised as embarrassment. I inspect the sequence of actions in which Niko’s embarrassment is situated, and how his display of embarrassment might be a relevant response to Katja’s actions and constitute mutually produced awareness of something that he has not done.
**Extract 7** [Niko & Katja “blank paper”]

[N=Niko; K=Katja (Teacher)]

shifts gaze to screen

1 K: mitä sä: kirjotat.
what are you writing

1 (types)

↑(frame 1)

2 Niko
(-----)

↑(frame 2)

3 N: tei mitään
nothing

↑(frame 2)
4 K: no >kirjota nyt< jotain.
    well write now something

    screen____________________

    (frame 3)

5 N: screen____________________
    (-------1--------2----------3
K: Niko

    (frame 4)
((stops typing & swiftly gazes at K with a corner of his eye)) shifts gaze to K & smiles
withdraws gaze

N:

---x---...x____,
----------4----------5)

K:

Niko

((nods & ((drops smiles)) smile))

(frame 5)  (frame 6)  (frame 7)
Niko
sliin on ihan tyh:jä pape:ri
there’s a completely blank paper
down
((bows his head, face downwards, smiles & squints his eye))

↑(frame 8)

Niko
(laughter)
down
((squints eye &
brings hands over
the keyboard))

↑(frame 9)
Niko types on the computer keyboard and has his gaze directed at the screen. Katja is seated next to him and leans over the desk occupied with writing her notes. In line 1, she asks a question “what are you writing” and looks up to the screen. In line 3, Niko responds “nothing”, gazing at the screen, to which Katja responds with a prompt “well write now something” (line 4). As she speaks, she halts writing her notes and straightens posture, while Niko maintains his gaze at the screen. A silent interval of five seconds occurs during which neither Niko nor Katja speaks (lines 5-6). Niko moves his fingers over the keyboard, and then approximately three seconds into this interval he stops, and swiftly looks at Katja from the corner of his eye (line 6).
His glance displays an orientation to Katja who is gazing at him and monitoring his activities. Heath (1988) observes how staring, when separated from a stretch of activity, can render the object of stare as noticeable and accountable; here the teacher has suspended writing her notes and thus her stare proposes that Niko’s activities are now under her scrutiny (see also “the look”, Kidwell, 2005). Niko marks his awareness of this and rotates his head to Katja, gazes at her, and smiles so as to fully respond to her gaze. The moment their eyes meet, Katja smiles back, but then very swiftly, she drops her smile, nods towards the screen and says “there’s a completely blank paper” (line 7). As a response to her altered facial expression, Niko withdraws his gaze, bows his head, and begins to squint so that his eyes appear partially closed and his smile somewhat inhibited.

While the source of embarrassment often resides in disruption of social interaction, a negative evaluation, in particular, might position the participants in an interpersonal disaffiliation. Consider how during line 6, Niko first turns to look at Katja and smiles, and Katja first responds with a recipient smile: smiling and laughter are often responded to with a recipient smiling and laughter (Haakana, 2010; Jefferson, 1979; also, see Chapter 4). Consequently, when a recipient laughter does not occur, it is often treated as interactionally problematic (Jefferson, 1979); the stances taken can be different and show disaffiliation between the participants. Thus we see that, in line 6, Katja’s smile is exceptionally short-lived and she drops it almost instantly. This embodies a change in her stance and foreshadows the noticing that Niko has a completely blank paper in front of him. As such, her noticing is not so much communicating what she sees (or rather, does not see) on the screen, but rather her talk renders Niko’s actions as noticeable and accountable. This follows her earlier prompt for Niko to write something and to which Niko has not apparently responded to. Thus Katja changes a strategy by means of
producing a noticing and an embedded complaint in order to pursue Niko to remedy the situation by doing something about it.

While the situation itself – that Niko has not typed anything – does not have negative valence *per se*, the awareness of it as somewhat unsatisfactory has been worked up interactionally between the participants. The display of embarrassment can thus become *relevant* from Niko. In recognising, that a responsive action should be produced while having nothing immediately to supply, Niko orients to the contradicting situation they are now in – a situation, where his activities has been made rather conspicuous and accountable. From this it follows, that what might appear as a flustered interruption of one’s interactional performance (Goffman, 1956) – not knowing how to act or what to say – can be the actual response to an unexpected predicament, attention, or evaluation, that has sequentially contradictory bearings.

Consider how, following the complaint from Katja, Niko does not say or type anything as a response. He does not refute or contest Katja’s stance towards his activities. Rather, he embodies an *agreement* to the evaluation by displaying embarrassment. Recall how an agreement is a preferred response to assessments and evaluations insofar as the agreement aligns with the first pair-part; there are exceptions however when a dispreferred response might be preferred, such as in self-deprecating assessments (see Pomerantz, 1984; Schegloff, 2007) (see also Extract 5, involving Jesse and Krisse). In the present Extract, Niko shows that he is abashed or embarrassed through agreeing with the notion that he has a blank screen in front of him and acknowledges the complaint made about it. Niko’s actions are not so much a confused reaction to the situation, but rather a relevant adjustment to the sequential complexity and the expectation that he should remedy and progress the interaction in some way.
The display of embarrassment can thus reverse such constraint for Niko having to respond in other ways; in line 8, Katja laughs and prompts Niko simply to “write something” (line 9) which appears to divert the sequence away from the embarrassment predicament. Indeed, while still squinting, Niko brings his hands on the keyboard so as to continue his engagement with the computer. Thus the interactional demands of the situation, and the sequential constraints placed upon the participants, can be important aspects to which participants in interaction show orientation when one party displays self-consciousness, such as embarrassment.

6.4 Discussion

In this chapter, I have examined a category of cases where the child averts their gaze, smiles, and does not immediately respond to the teacher’s initiating actions. These cases were different to the cases of gaze aversion examined in Chapter 5, where the teachers explicitly requested mutual gaze with the child. In the present chapter, the teachers did not address the child’s gaze (except in Extract 5), but rather pursued the sequence at hand as the main line of activity. Although these displays involved gaze aversion and turning away at the moment it would have been relevant for the child to respond to the teacher, this conduct did not embody resistance or dismissal of the teacher’s prior talk, but rather some difficulty with responding that was akin to the vernacular concept of self-consciousness.

Rather than providing a definite account of self-consciousness, the aim of this chapter has been to describe where these displays – characterised by gaze aversion, smiling, and body focused actions (cheek scratching; hair stroking) – occur sequentially, and how such displays of self-consciousness orient to the sequential demands that can be occasionally complex (see e.g. Heath, 1988). Thus, rather than simply orienting towards the self, the display of coyness or awkwardness can orient towards the yet unspoken response that has
been made relevant from the child; the bodily conduct appears to provide a resource for making these concerns explicit to the co-participant. The agent, while showing coyness, can occasionally orient to the delicate edge in their response or project that their response might be someway consequential in the way it might become treated.

Both Liisa and Niko have demonstrated competence in displaying self-consciousness at such sequential locations, despite the fact that autism has been characteristically described in terms of an impaired capacity for showing complex social emotions (e.g. Begeer, et al. 2008). While the predicaments that relate to coyness and embarrassment clearly involve a degree of disruption to the interactional flow (e.g. Grace, 2007; Higuchi & Fukada, 2002), these can be realised at the very level of initiating and responsive actions. Recall how, Niko displayed embarrassment after Katja had negatively evaluated him for not having typed anything on the computer screen. By displaying embarrassment, Niko showed that he agreed with her noticing; he recognised and affiliated with the complaint made about his activities. Thus while in response to such evaluation Niko did not actually say anything, he embodied a relevant emotional display within the environment where he was expected to remedy the situation while having nothing immediately to supply. This suggests that by means of displaying embarrassment and withdrawing his face from the “public” display (see Kidwell, 2006) Niko did not simply lose the “script” in his abashment, but rather showed orientation to the very response that was expected from him.

The interactional analysis of the displays of emotion can contribute to our understanding of the communicational capacities that the children with autism might have in everyday contexts. Multimodal resources, such as eye-gaze, facial expressions and body movement are thus resources both for the adults and children to draw on when orienting to sequentially relevant next actions. The present analysis suggests that Liisa and Niko’s
autism does not, as such, relate to their understanding of how another speaker’s talk has sequential relevance to them. Consequently, the children’s conduct appears to display that to be some way conspicuous or self-conscious, is not simply dependent on another’s attention to oneself, but rather on how this attention relates to the response-implicativeness placed on the self as a recipient. Self-consciousness can be thus embodied when these sequential realisations occur and there is a difficulty in producing the responsive action when it is due. The way in which these children’s conduct could be characterised as some way atypical could be seen occasionally in other aspects of these interactions. For example, while Paula attempted to bring out Liisa from her displays of abashment (Extract 5) through reverting to seek her recipiency, Liisa’s displays of self-consciousness seemed to escalate to stronger enactments, resulting in Paula abandoning further talk about the topic in the end. Intriguing observation, however, was the way in which these enactments were systematically located as a response to Paula’s questions.

As such, the display of self-consciousness can relate to something that the child is doing, namely, not responding. Thus, an awareness of the self not undertaking (at least not immediately) something that would be relevant, and the mutual attention to such concerns, can be realised directly from the expectations that another’s talk might place upon us. The way in which the teachers understand the embodied conduct of the child – such as gaze aversion and other bodily conduct – is yet another example of the mundane but skilled work that these interactions involve, in particular, when facilitating the child’s difficulty with responding to an initiating action during interaction.

Chapter 6 – Notes

Occasionally I will adopt terms such as awkward or abashed in an attempt to come up with close characterisations of the kind of self-consciousness that appears to be displayed.
2 It has been noted throughout the data corpus that the teachers occasionally produce ungrammatical talk which can be characterised as vernacular. The simplified grammar has also the sense of being a form of child-directed talk. Here Paula’s talk is lacking a verb. The usual way of asking the question would be “Sitten, minkä värinen tämä pallo on?” (“Now then, what colour is this balloon?”).

3 In ordinary conversations, requesting is oriented to as a dispreferred activity (Schegloff, 1990). The display of coyness can be seen to orient, on the one hand, to the voicing of what Niko requests but also to the way in which Katja’s response might be consequential to his subsequent activities. That is, his request – his response – would make a subsequent action relevant from Katja to either grant or reject it.

4 A word should be said about Niko’s typing, and why the exchange between lines 3–4 has occurred. While Niko appears to be busy typing on the keyboard, he simply types (a random) string of letters and then erases it by pressing the back-space button. This appears to explain his response that he is typing “nothing”, and why Katja, in response to the blank screen prompts Niko to “write now something”.

5 Heath, Svensson, Hindmarsh, Luff, & vom Lehn (2002) have examined how awareness is produced as a feature of systematic practical action. For example, they have examined how in organisational environments, such as in the control rooms, a colleague renders information on a particular monitor as ‘noticeable’ (e.g. through bodily conduct and particular kinds of “looks”). This, as a consequence, has sequential relevance for the actions that the recipient can undertake in response. The authors note how “an individual encourages a colleague to look at and notice particular feature of local milieu, and in having the other see the object in particular way, they produce organisationally relevant conduct. The interaction between the participants is not simply ‘mediated’ through the environment, rather the environment is constituted, momentarily, in a particular way, and serves to render an event noticeable and accountable” (p.332). This has relevance for our understanding of the way in which Katja renders the “blank paper” as noticeable. Her talk and nod towards the screen, while noticing that the screen is apparently blank, also renders Niko’s actions (or what he has not done, namely, typing) as seen in particular way. Further, such ‘noticing’ from Katja suggests that Niko should remedy the situation by writing and thus undertake a course of action. Niko shows orientation to this, and produces his own awareness about Katja’s attention through his conduct that follows.

6 Wootton (2006) discusses how the psychological attributions about co-participant’s psychological states are associated with the turn design in different sequential positions (for example, see Chapter 1, section 1.2.1). In the present chapter, the way in which the teachers treat the children’s conduct as displaying self-consciousness, is associated with the way in which they respond to the absent response from the child.
CHAPTER 7

MAKING OBJECTS RELEVANT IN SEQUENCES OF Interaction

This chapter considers how objects can be adjusted and manipulated – often in subtle ways – to direct attention to, or away from, an object; the handling of objects is integrally related to the participants’ eye-gaze and body movement. The analysis draws on different settings involving three children with autism and their co-participants. The dyadic interactions between two different teachers and two children with autism, Liisa and Anna respectively, occur in a classroom during structured pair-work interactions and implement task-related materials. The settings involving Ingrid consider her participation in a music club, where the manipulation of musical instruments is the business at hand. Secondly, Ingrid’s participation in a multiparty interaction at home with Mother and a younger brother, Erik, will be considered during a memory game session. Further data is presented from an everyday interaction involving neurotypical adults in order to consider the movement of an object and eye-gaze to a co-participant.

7.1 Introduction

Virtually every aspect of human life is concerned with the use of objects. Anthropological and ethnographic accounts of human social life have described material objects as an integral part of human interactions, as well as of interactions between humans and their environment (e.g. Goodwin, 2003b, 2007; Ingold, 1987, 1996). Jensen de López (2006) gives fascinating examples of how the range of possibilities to use an object is essentially embedded within socio-cultural contexts and habitats: For example, a long woven shawl of the Zapotec women – a garment worn over their shoulders – affords
protection from the sun when placed over the head, a cushion when transporting a basket on the head, and enables the women to carry their infants, firewood, and other materials on their backs. Thus the object use, as it emerges, cannot be simply determined from the physical features of any object alone – some of the possibilities might not be apparent without the appropriate knowledge or cultural familiarity. Consider, how even the most mundane objects can be co-opted for a range of purposes, “as when I need a hammer on pebble beach and pick up the stone that best fits in my hand and has a good percussive surface” (Ingold, 1996, pp. 172-173). In a similar fashion, while a spoon is designed for transporting food from a plate to the mouth, it can be also used as a measure in cooking, or a tool that enables digging, for example. The affordances (Gibson, 1979), that is, a set of possibilities to use an object for some purpose are not only available for humans but also for animals “depending on the nature of their project: for example a tree affords movement to a squirrel, but places of rest to a bird” (Ingold, 1987, p. 3).

While different material objects provide the means and tools that facilitate – if not make possible – our everyday life, they also permeate in our interactions with others in rather specific ways, depending on the interactional pursuits that are underway. That is, whether we manipulate objects by taking turns, demonstrate a proper use of an object to another, transfer objects to each other, gesture or gaze at, or simply talk about objects – each time, the object in question is made relevant in a particular way to that interaction. Thus while objects can be used in solitude often, however, they are used in the realm of social. The way in which also children learn about objects and begin to master their use should be understood as an interpersonal matter.

The many new material objects that children encounter in the environment gain meaning through the child’s interactions with others; the predominant context in which the object interactions have been examined in children has been play and the manipulation of
toys and mundane objects. While all play begins from the sensory explorations – grasping, mouthing, and banging of objects – the more sophisticated manipulation of objects occurs with age and gradually develops into more elaborate play behaviours (Piaget, 1962; Vygotsky, 1978). However, one area of difficulty often reported in children with autism relates the range of object uses (Williams, Kendell-Scott & Costall, 2005) – from playing with toys to the functional use of everyday objects. The play of children with autism is often characterised as being repetitive and unconventional, and the handling of objects often involves increased visual inspection and other sensory exploration of the objects (see e.g. Atlas, 1990; Dahlgren & Gillberg, 1989; Dominguez, Ziviani, & Rodger, 2006; Richler, Bishop, Kleinke, & Lord, 2007; Williams, 2003). In this respect, Williams, Costall, and Reddy (1999) have proposed, that the difficulties in object use might be associated with the impairments in social interaction that children with autism experience, and as such, can limit their ability to learn about “objects within the realm of the ‘social’” (p. 373).

In spite of the documented difficulties, many material objects – both specialised and mundane – are used to facilitate communication and social interaction in the daily interactions involving children with autism. For example, the Augmented and Alternative Communication (AAC) systems have been developed to facilitate the communication for children with little or no spoken language; the systems can either supplement (augment) the existing resources or to provide the primary (alternative) means for expressive communication. Some of these systems, such as the Picture Exchange Communication System (PECS), use pictures of objects to aid reciprocal communication: the child hands over a picture in an exchange for a desired object. Other systems such as language and number boards support communication of children who are not yet speaking but have some form of literacy. The boards include words such as “yes”, “no”, and specific vocabulary to
a particular activity, such as an educational task or meal time. Recently, Stribling and Rae (2010) have considered the use of plastic blocks in a Mathematics lesson involving a teenage girl with autism, whereby the movement of the blocks provided “Helen” a further communicative resource in addition to the use of a number board. The educational activities for children with autism also make a use of less specialised objects such as art and craft materials, computers, puzzles, games, and other mundane objects; many of the interactions considered in this chapter involve both augmented symbols and other objects, such as notebooks and playing cards.

While material objects clearly afford both conventional and co-opted functions in their implementation, there is a further aspect, namely, their relevance in interactions which I will consider closely in this chapter. Rather than focusing on the actual uses of objects, I mostly examine particular adjustments – miniscule and seemingly innocuous movements – that hands produce on objects while not performing a conventional action or using the object for its purpose. That is, the objects can be pushed, pulled, or their orientation adjusted in ways which do not constitute as movements of their use per se, but rather, these movements can have particular interactional relevance in pursuing the attention and involvement of another. Further, a conventional manipulation of an object can occasionally embody one’s own engagement in the interaction, rather than merely use the object for its purpose. This way, the movement or manipulation of an object can occur as a response to particular interactional contingencies – where the participants are within a sequence of action and what has been occasioned or projected to occur next.

In a recent study involving children with autism and objects, Dickerson et al. (2007) examined particular motor actions, namely, tapping gestures that the children produced on number boards or flash cards during focused interactions with their teachers or parents. These actions, rather than being stereotypical hand movements, had particular interactional
relevance as the tapping of an object occurred just \textit{before} the child would produce a vocal response (e.g. a sum or a name of the picture). Thus the gestures were used to foreshadow the upcoming talk and embodied the child’s orientation to the normative expectation to respond and their engagement with the ongoing interaction.

As such, the possibility of objects playing part in eliciting another’s involvement and attention, which I will consider in this chapter, adds to what is already known about the significance of objects in face-to-face interactions. The educational settings, like many other institutional contexts where objects are implemented, involve particular kinds of concerns to which participants pay careful orientation – be it orientation to one another, objects, or to one’s surroundings\textsuperscript{1} (e.g. Goodwin, 2007; Heath, 1986; Hindmarsh & Heath, 2000; Hindmarsh, Reynolds, & Dunne, 2011; Koschmann, LeBaron, Goodwin, & Feltovich, 2011). For example, Heath (1986) notes how the particular context of medical consultation “requires a curious fluidity of involvement, a continual shifting between various concerns, be they in the foreground or the background of the participants’ attention” (p. 50). Heath shows how certain objects, such as the medical records, can play a crucial part in determining the doctor’s involvement with the patient, in particular, during the trajectory from preliminary preparations onto the actual business of consultation. Heath notes that while patients might often remain uncertain as to whether the doctor has dealt with the necessary preliminary matters, the direction of \textit{eye-gaze} is routinely treated as an implication of the co-participant’s interactional involvement. Patients often design their talk, body movement, and posture shifts, in juxtaposition to the gaze activities of the doctor; talk is routinely withheld while doctor is visibly engaged in reading the medical records (Heath, 1986).

Body movement and gaze are thus resources for showing the understanding of the relevance of objects and courses of action, and ultimately, one’s \textit{engagement} in interaction
(see e.g., Hindmarsh and Heath, 2000; Hindmarsh et al.; 2011; Mondada, 2011). This involves not only using one’s own body and eye-gaze in order to contribute to the interactions, but also to monitor and orient to the conduct of others in order to bring about co-ordinated action. Recently, Hindmarsh et al. (2011) have examined how body movement, eye-gaze, and the use of objects are integral for displaying understanding during dental training: For example, the way in which the demonstrator moves the position of a mirror in the patient’s mouth affords visual inspection of a cracked tooth and thus enables the establishment of a mutual focus of scrutiny with the student. What Hindmarsh et al. note, however, is that the display of understanding is not simply accomplished through verbal claims (e.g. “yeah:”) produced by the student, but also the way in which they move their body closer and lean in to examine the tooth.

From this it follows that objects might not be handled and manipulated merely for their functional purposes – for example, using a mirror to show a cracked tooth to a student in the context of training (see Hindmarsh et al., 2011). Rather, where the parties gaze at and the way in which they use and position their bodies in relation to the activities and objects are interactionally important. Bodily conduct contributes to the anticipation of next actions and enables the accomplishment of mundane yet seamlessly orchestrated actions, such as the passing of objects to another. As Hindmarsh and Pilnick (2007) have put it in reference to team work in an operation theatre, “The smooth production of these identifiable ‘routine’ collaborative sequences rests in part on the abilities of participants to make sense of, to recognize, the emerging conduct of colleagues and the relevance of that conduct for their own work” (p. 1406). As such, the multimodal resources and bodily conduct are particularly relevant in the participation frameworks required for joint activities be it at a work place, during an educational task between teachers and children, or virtually in any mundane setting where we interact with each other; these frameworks
concern the simultaneous division of attention and involvement with objects and co-participants, and the activities in progress (see Goodwin, 2007).

Thus, while objects clearly provide an important resource for the accomplishment of functional or professional activities, the parties also continuously monitor each other’s bodily conduct within the transitions between engagement, disengagement, and re-engagement in order to establish joint attention and bring about mutually co-ordinated action. One of the earliest detectors of autism – and as it relates to the interactions with objects and people – appears to be the lack of joint attention with another to the objects in the environment. In children’s development, the sharing of a mutual referent in the environment has been considered as an important turning point, and according to Frith (2003) the child is “not only sharing another person’s interest, they also get clues about the other person’s feelings” (p. 101). However, children with autism seem to rarely look at a caregiver before approaching a novel object, or pointing at an interesting object to direct a caregiver’s attention to it (Carpenter, Nagell, & Tomasello, 1998; Frith, 2003). While these children might gesture at objects and toys, the gestures are mainly suggested to serve instrumental purpose (to obtain the object) rather than sharing an experience or feeling towards the referent (Baron-Cohen, 1989a, 1989b; Frith, 2003; Mundy, Siegman, & Kasari, 1990; Leekam, Lopez, & Moore, 2000). Thus, in the interactions involving children with autism, the particular difficulties might lie in the establishment of joint involvement to an activity, for example, and such instances will be further considered in this chapter.

The establishment of joint attention becomes crucial during task transitions as a teacher or caregiver attempts to direct the child’s attention to a new object or activity – in other words, when a task ends and another one is about to begin. These transitions routinely involve the movement of various objects as the teachers organise the relevant
materials for implementation. When joint attention is required to a particular object, one concern for the adults might be the way in which this can be established with a child with autism, especially if the child has their attention directed elsewhere. It is important to acknowledge, that the research on orientation and attention has suggested that individuals with autism have problems in disengagement and the shifting of attention, especially towards social stimuli (e.g. Dawson et al., 1998; Dawson et al., 2004; Landry & Bryson, 2004; Leekam & Moore, 2001). However, the evidence does not consistently suggest a general impairment in the disengagement process per se, and recently it has been proposed that the stimulus interest can be a contributing factor to the speed of disengagement shown in individuals with autism (Marshall, 2011). It is not the purpose of the present study to contribute to such investigations, however, the naturalistic examination affords the detailing of cases where the issues of child’s attention and engagement are at hand. In particular, I will focus on the movement and adjustment of material objects which can serve as particular kinds of gestures when eliciting the child’s attention; occasionally, the movement of an object can work as an alternative to an overt pointing gesture, for example. In parallel with the adjustment of objects, also the child’s conventional manipulation of an object (e.g. playing the drums) can compose itself into an action that responds to the establishment of interactional involvement with the co-present parties. On these occasions, the accompanying eye-gaze and body movement of the participants emerge as particularly relevant.

Joint attention and mutual involvement are built in collaboration through monitoring, paying attention, and responding to each others’ activities such as to gestures at or actions on objects in line of sight. While pointing out or showing an object to another can locate a referent in the environment and render it relevant in a particular way (e.g. Hindmarsh & Heath, 2000) – and thus constitute as a conventional instance of joint attention between
participants – the mutual involvement in itself is a matter of joint attention that is routinely pursued in interactions to subsequently undertake some course of activity. Such pursuits can be often rather subtle. Consider, for example, how upon finding another occupied with something else we might stop talking to them, restart our utterance, gesture, or move our body in order to elicit their gaze; when mutual gaze with another has been secured, we then recuperate our talk and proceed some specific business at hand, be it conversation between friends or a formal setting such as a consultation (Goodwin, 1981; Heath, 1986). In conversation analytic literature, the resources that are used to build joint attention with another – talk, gaze and gesture – are understood in terms of their interactional bearings; joint attention is accomplished as a sequential action, and thereby, might not manifest purely cognitive processes but serves as a facet of essentially practical action. As Kidwell and Zimmerman (2007) put it, “the practices of achieving mutual attention to an object also project a place for a response” (p. 609). This means that the accomplishment of mutual attention to something requires not only the initiating action that directs another’s attention (for example, through gazing and gesturing), but that it also creates an environment for a responsive action. Thus joint attention is seen as an activity accomplished through mutual understanding and involvement, initiated by an “action that is for something” (Kidwell & Zimmerman, 2007, p. 594). In the present chapter, I examine how the adjustment of objects can be used as a particular type of gesture in the pursuit of interactional involvement and how, occasionally, the subtle adjustments can escalate onto more conspicuous manipulation of objects in the pursuit of another’s orientation to what is a relevant next thing to do.

In this sense, the analysis considers an aspect of embodied projection: the way in which body movement, gaze, and gestures are used to foreshadow the next action and, ultimately, to synchronize interactional engagement (Streeck, 1995, 2009). Streeck (2008)
notes the way “we see hands picking up, holding, handing over, and putting down generic things. To hold things in place or get them from one place to another are among the most frequent jobs that our hands do on a typical day” (p. 293). It is these sorts of actions, and other lesser movements that hands produce on objects, that can, at particular moments of interaction, seek another’s attention, pursue involvement, and facilitate a response, while gaze emerges as an important accompaniment of such movements. It is of interest of how children with autism – who can be characterised as having impairments in social interaction and the use of objects (see Williams et al., 1999) – orient to the adjustments and movements of particular interactional relevance, and how the children themselves manipulate objects to pursue particular interactional actions.

7.2 Methodology

7.2.1 Data

The data considered in this chapter consist of video recordings made of three children with autism, Liisa, Anna, and Ingrid and their co-interactants. The dyadic interactions involving Liisa and Anna interacting with their teachers, Paula and Katja respectively, were filmed individually in a small classroom during pair-work interactions or when doing other activities, such as completing a puzzle. The video recorded data of Ingrid interacting at home involves also her mother and a younger brother, whom I call Erik. This multiparty setting involves the participants playing a session of a memory game. Further data is drawn from a music club, and the particular fragment considered in this chapter involves Ingrid and one of the two music teachers. One fragment drawn from the corpus of neurotypical interactions is provided for an illustrative purpose. This involves a multiparty
interaction around a coffee table. The details of both data sources and the participants are provided in Chapter 2.

7.2.2 Selection of cases for detailed analysis

The analysis began by inspecting the video data from Liisa and Paula, and Anna and Katja, during the pair-work interactions at school. It was noted that while various objects (e.g. augmented symbols, worksheets, notebooks) were used during the structured tasks, the teachers often pushed, moved, and adjusted the materials on the table, often in rather subtle ways. These adjustments were recurrently accompanied by a shift of gaze to the child, which implicated the actions as interactionally relevant. Further inspection of other interactions involving these children (e.g. Liisa and Paula completing a puzzle) revealed that similar object movements were produced with a gaze to the co-participant: for example, Paula subtly pushed the puzzle box on the table or slid the pieces on the table while gazing at Liisa. These movements did not produce any particular functional action with the objects but rather appeared to orient to the child’s direction of gaze and bodily conduct; following these actions the teachers often produced a more conspicuous action either with or without the object. It was decided to make these kinds of adjustments the focus of the present analysis and examine their interactional work during these episodes of interaction. The data was further inspected for how the children themselves moved or produced actions on objects. The data from Ingrid revealed that Ingrid produced such subtle movements (e.g. with playing cards) but also manipulated an object (the drums) in a canonical way that nevertheless showed her orientation to the particular interactional details of the moment.

I use conversation analysis to examine these actions on objects within the particular interactional sequences in which they occur – exactly where the subtle push, lift,
adjustment or manipulation occurs in relation to other activities, such as the eye-gaze, body orientation, and talk (if any talk is produced) of the participants. Should these actions have interactional relevance for the participants, especially as implicated through eye-gaze, then it should be carefully analysed as to how the children with autism orient and respond to these actions.

7.3 Analysis

As discussed in the introduction, objects can have diverse functions and are integral resources in interactions, such as when they are used during educational tasks. In the present analysis, I examine somewhat subtle manual movements of the objects that have been laid on the table in front of the participants. These include augmented folders, worksheets, notebooks, baskets, boxes, puzzle pieces (some of these objects are task-specific for the pair-work sessions at school). Rather than considering movements that are part of the functional uses of these objects per se, the focus is on the seemingly miniscule movements, such as a gentle push or adjustment of an object that occurred at specific sequential locations – I will call these collectively as object adjustments. While one functional use of musical instrument (the drums) will be considered, the analysis will delineate that also this object manipulation is designed for internationally distinct work insofar as it responds to the particular features of the moment and the body movement of a co-interactant.

7.3.1 Object adjustments as part of preliminary activities

Object adjustments can constitute an important resource for the transition from the preliminary stages to the actual business of some specific interaction. Particularly, the
performed body movement can *project* the next course of action (Streeck, 1995; Streeck & Jordan, 2009) and accomplish *preparation work* that embodies the beginning of a new stage in interaction (Dausendschön-Gay & Krafft, 2009). While the preliminaries in the institutional interactions routinely involve the preparation of materials for their implementation, the objects can be further moved and adjusted in a subtle manner so as to contribute to the progression of a particular task. The present analysis examines not only the relevance of an object to some stretch of interaction, but particularly the relevance of the *movement* that the hands occasion at specific interactional locations – as we see “body movements as being ‘about’ something more than the movement itself” (Streeck & Jordan, 2009, p. 98).

Objects themselves can make a response relevant in various ways. Responding through an object demonstrates an understanding of their relevance at specific sequential junctures, but also within the wider sequences of action in which the participants are situated. In the following sections, I consider different objects and their movements produced by the teachers as well as the children. First (7.3.1.1) I consider object adjustments as part of a practice by which the teachers elicit the child’s involvement for a proposed course of action; second (7.3.1.2) I consider how the canonical manipulation of an object by the child can be designed for interactional purposes. In the third section (7.3.1.3) I consider how the movement of the object can be used to facilitate a response from a co-participant.

**7.3.1.1 Gearing up to a new activity through object adjustments**

In focused face-to-face interactions mutual gaze is routinely used to show interactional engagement with another. However, as discussed in the introduction, also body movement, gestures, and gaze at objects can be relevant in showing interactional engagement. The
educational interactions involving children with autism are frequently organized through taking turns with various objects, such as augmented symbols and worksheets. Routinely, as the teachers move from one task to another, they are faced with a concern of sustaining or eliciting the child’s attention to the relevant object in order to proceed with a new task. I begin by examining the object adjustments that are produced when involving a specific object as relevant for the pair-work interaction and while other objects within the close proximity might be pushed aside. I show how these adjustments are not simply a matter of reorganizing the objects and the workspace, but rather, they are preliminaries that gear up for co-ordinated action in an interactionally sensitive way.

In Extract 1, the object adjustments are produced by a teacher, Paula, when interacting with Liisa. Before line 1, Paula and Liisa have been engaged in a range of pair-work activities and are now moving onto a task that makes only use of an illustrated worksheet. Until line 1, the particular sheet and a folder depicting augmented symbols have been side by side on the table facing Liisa. In line 1, Paula pushes the augmented folder aside and picks up the worksheet with her left hand. I will focus on the importance of these actions within the transition to a new task.
Extract 1 [Liisa & Paula folder & worksheet]

[L=Liisa; P=Paula (Teacher)]

((pushes ((picks up folder to worksheet the right)) with LH))

► shifts gaze to Liisa
gaze to Liisa
drops gaze to sheet

P: ► folder...x , , , _ _ _
1 (--------1--------2)
L: _ _ _ _ _ _ _ _ _ _ _ _ _

↑ ↑
(frame 1) (frame 2)

Frame 2: Paula’s gaze to Liisa
P: worksheet (---------3--------4)

L: P’s hand/worksheet _

↑ (frame 3)

P: worksheet down (---------5--------6)

L: worksheet _ down _

↑ (frame 4)
Here the stretch of interaction between Paula and Liisa is concerned with task-related activities that are happening in an embodied situation. Generally, the moving of objects in sight can have practical implications in the interactions involving children. For example, when children are being taught about the use of objects, or their canonical functions (Costall, 1997), the child’s attention has to be drawn to the object in question; thus other objects in the close proximity might be placed out of sight to prevent distractions in the process. Thus, the objects themselves, and the configuration of actions, can facilitate the tasks that are about to start – as in here, the educational task that makes a use of the illustrated worksheet. However, in line 1, Paula’s push of the augmented folder aside deals with a more complex issue than simply removing a potential distraction. While the push embodies that the folder will not be used during the next task, it further displays that Paula orients to its location as being some way accountable. Thus here the teacher adjusts the position of an object in order to deselect it as being relevant and Liisa appears to understand this, as evident from her gaze to Paula’s hands rather than to the new location of the folder.

Liisa’s attention to these unfolding actions is available to the analyst, but is only partially available to Paula because of her own involvement with the object in question. However, Paula monitors Liisa’s attention at a particular place, namely, following the movement of the folder and as she picks up the worksheet. On the one hand, this is a window of opportunity for the teacher but secondly, this is a crucial place to monitor what Liisa is making of these actions. The push of the folder aside is not an isolated action but a part of the transition from one task to another – a component of a trajectory to moving onto a new activity. Thus Paula’s gaze to Liisa is particularly relevant insofar as it displays her concern with regards to Liisa’s attention and understanding of the consequentiality of the
movement: The action *itself* – the push of an object aside – embodies a that *this* particular object will *not* be implemented for the time being. Consider how the augmented folder, even when pushed aside, is not entirely out of sight of Liisa, but rather its removal embodies a sense that its accountability to the ongoing activities is now being handled. As such, rather than simply being the absence of the object, it is the act of removal that is important at this particular moment, and is composed through the semiotic modalities of body movement (push), gaze, and the physical object itself.

In her glance to Liisa, Paula can see that Liisa is relevantly orienting to the activities in progress. Firstly, Liisa does not attend to the out-of-use folder and secondly, she monitors the worksheet in Paula’s hand as it is being prepared (in line 2). Thus, here Liisa’s gaze to the sheet in Paula’s hand is taken as her awareness of the relevance of the object during the course of transition, which is subsequently followed by Paula continuing with its preparation. Liisa co-participates in the unfolding course of action by orienting in a relevant way to the manipulation of objects that constitute the trajectory of the teacher’s work that culminates in the worksheet being brought towards her. Most conspicuously, Liisa displays her understanding of the relevance of the object and the activities about start by moving her head down to follow as the sheet is brought towards her (line 3).

Thus while the reorganisation of the workspace can be accomplished without particular interactional connotations, as when one moves objects and materials on the desk without requiring any participation from a co-present party, it is the gaze to another that can, at least occasionally, make such actions interactionally relevant. As such, gaze can embody these actions as something that another should attend to. Further, the movement of the folder embodies a clearance for a fresh start as part of the transition, and its removal has left an empty space on the desk immediately in front of Liisa; upon commencing the
new task and bringing the worksheet back on the table it can be presented “in the clear” for Liisa.

In Extract 2, I will take up another instance of an object adjustment during a routine educational task when the teacher is getting the child to read. While in Extract 1 an object was pushed aside to deselect it as relevant for the commencing task, some objects that have already been established as relevant can be further *adjusted* with small movements upon bringing them into the focus of the child, as will be shown in Extract 2. Here Anna and her teacher, Katja, are beginning a pair-work session and the teacher is taking out a notebook from a basket that contains a selection of pair-work materials. She brings the notebook onto the table, opens it, and places it in front of Anna (lines 1-3). The movements that Katja produces to adjust the notebook occur in line 3.

**Extract 2** [Anna & Katja “the reading notebook”]

[A=Anna; K=Katja (Teacher)]

((takes notebook out from basket))

1 K: otetaas ensin lukuvihko let’s first take the reading notebook

↑↑

(frame 1) (frame 2)
((places notebook on the table)

2
luetaan
let’s read
’,’table _ _
shifts gaze to the table

((opens the notebook & places on the table facing A))

| | ((pushes basket to the right))
| | ((adjusts notebook with both hands))

3
K: notebook_. ..x Anna
(--------1-------2)
A: _ notebook_ _ _ _ _ _

↑ ↑
(frame 3) (frame 4)

Frame 4: Object adjustment and gaze to Anna
Katja is engaged in sorting out the materials for the new pair-work task, and her focus is momentarily directed on the basket at the side of the table. Her talk, in lines 1-2, “let’s first take the reading notebook” and “let’s read”, narrates her actions as she takes the notebook out from the basket. While the talk provides an account of what is next on the schedule, it simultaneously warrants her momentary shift of attention away from Anna to the basket. However, upon uttering “let’s read”, she briefly shifts her gaze to Anna so as to monitor Anna’s engagement with the proceedings (frame 2). Sorting out the materials is here a necessary preliminary to the commencing reading task; as the notebook is placed on the table, Anna shifts her gaze to follow it and displays relevant orientation to these actions (line 2). In line 3, Katja opens the notebook and turns it around facing Anna. Then she gently pushes the basket on the right side of the table (frame 3), and brings her hands palms down on the notebook and adjusts (or “shuffles”) it while gazing at Anna (frame 4).
Here the object manipulation takes the form of an adjustment of the notebook that the child is already attending to, and might be concerned with sustaining their involvement with the relevant object. As such, these adjustments form part of a gearing-up phase, culminating with the instructions “then begins” and “read”. That is, the teacher does not simply produce an instruction “Read!” in order to push the movement onto the business of reading. Rather, the moment when it would be relevant for Anna to begin reading, has been arrived at through the preliminary adjustments, which allow the teacher to sustain the child’s involvement with the object before launching the actual sequence initiating action.

In the extracts considered so far (Extracts 1 and 2), the children have shown to be attentive to the objects the adults have made relevant: Liisa sits quietly and gazes at Paula’s handling of the folder and the worksheet (Extract 1); Anna shifts her gaze to follow the notebook when it is placed on the table (Extract 2). While it is essential that the children are attentive to these objects, it is also essential that they have understood the objects’ consequentiality for their implementation during a new task. Thus, the object adjustments offer additional resources for the adults to design their actions so that the gearing up to the business of using the objects are mediated through the objects themselves.

One way to accomplish this is to push other objects aside to deselect them as relevant; having secured the attention of the child on the relevant object, further adjustments on the orientation of the object can be made in order to sustain the child’s attention on the verge of commencing the task. This way, the movement of objects offer an opportunity for the child to orient themselves before the sequence – that makes some task-related response relevant from them – is launched.
7.3.1.2 Escalation of object adjustments

While the children have shown a capacity to attend to the relevant objects, occasionally this is not the case. In this section, I shall examine the teachers’ conduct when the child does not show relevant orientation during the transition from one task to another. In Extract 3, Paula and Liisa are engaged with a puzzle. The pieces are still inside the box and in order to proceed with the activity, Paula pursues Liisa to remove the pieces out from the box and onto the table. Before line 1, Paula has verbally instructed Liisa to take the pieces out, and although Liisa has taken a piece into her hand and looked at it, she puts it back in the box. Paula takes action to demonstrate what Liisa should do: she takes a piece out from the box, places it on the table and says “let’s take the pieces out, like this”. Liisa follows by putting her hand back in the box, but rather than taking the pieces out she appears to stir them gently inside the box. Paula attempts to take Liisa’s hand but Liisa withdraws it. We join the interaction in line 1, where Liisa leans over the box, takes another piece in her hand and gazes at it. The analytical interest is on Paula’s actions whereby she first moves the puzzle box slightly with a gentle push (line 1) and then taps on the table (line 2).
Extract 3 [Paula & Liisa Puzzle]

[P=Paula (Teacher); L=Liisa]

((extends index ((gently finger & pushes the withdraws it)) box))

1

P: Liisa

(--------1--------2)

L: pieces

((stirs pieces ((holds a & picks one up)) piece))

↑

(frame 1)

((taps on the table))

down, ', 'L "t ä h ä n" here

', P's hand_

↑

(frame 2)
In line 1, Paula gazes at Liisa who moves her hand inside the box and then grabs a few pieces. Paula rests her hand on the table, then subtly extends her index finger but then withdraws so as to stop an intervening action as Liisa directs her gaze back to the box. As Liisa picks up a new piece and gazes at it, Paula reaches over and takes a hold of the corner of the box, and with one subtle gesture she moves the box an inch to the side. Here the movement of the object has followed an initial preparation of moving it, which Paula first abandoned by withdrawing her hand as Liisa’s gaze was directed back to the very object. Thus, the actual push of the box occurs only when Liisa’s gaze is elsewhere, that is, on the piece she is holding. In this manner, the teacher appears to try and bring about that the box is out of the way, but she avoids doing so while Liisa is gazing at it. Thus the adjustment of the object, which deselects it as relevant, is here designed not to be monitored by the recipient; indeed the adjuster appears to take the opportunity to move the object when the recipient’s gaze is elsewhere.

In line 2, directly following the push, Paula taps on the table first with an index finger and then with her whole palm and says “here” (“tähän”). Liisa turns her head slightly and shifts her gaze to Paula’s gesturing. Paula taps the table apparently proposing that Liisa should place a piece there and gives her a “look”. Unlike a monitoring glance, the look is designed to be seen by the recipient and apparently proposes that the recipient’s conduct is some way inspectable (see Kidwell, 2005); here Liisa’s conduct appears to be inspectable in terms of something that she has not done, namely, placed the piece on the table. Thus here, by means of moving the object subtly aside and then tapping on the table and producing a verbal instruction, Paula has used an escalated strategy – from a less conspicuous action to a more conspicuous one – in order to direct Liisa’s attention to a relevant object (the table surface) onto which Liisa should lay down the pieces.
This suggests that such mundane actions on objects – for example, moving an object slightly to one side – are not simply produced in order to reorganize their orientation or change their physical location. Rather, they can be used as strategies that either deselect an object as relevant (Extract 1 and 3) or highlight it as relevant (Extract 2). Furthermore, the teacher’s conduct in Extract 3 suggests, that the subtle movement can be escalated to a more conspicuous action in an attempt to direct the child’s attention to a different object or location and to push movement onto a next activity or to something the child should do.

In Extract 4, I consider further such escalating movements that are used to pursue the child’s involvement and attention to the relevant object. Having placed the puzzle pieces on the table, Paula and Liisa are involved in turning the pieces over with the picture side up. Paula is doing the turning, and by using broad arm movements, she simultaneously spreads the pieces evenly across the table. Liisa has not engaged with the turning, but rather holds her head bowed, gazes down at the table, and makes subtle movement with her fingers (frame 1). In line 1, Paula stops turning the pieces and starts sliding them so as to gather them towards the middle and closer to Liisa. I will focus on Paula’s conduct and the escalating strategy in pursuing Liisa’s engagement with the next step of actually assembling the puzzle.
Extract 4 [Paula & Liisa “corner pieces”]

[L=Liisa; P=Paula (Teacher)]

((gathers pieces from ((brings the side hand up & towards the brushes hair middle)) behind her ear))

drops gaze

P:

pieces...

1

---------

2

L:

pieces

((hands on the table))

↑↑ (frame 2) (frame 3)

((brings hand ((slides the down on pieces gently the table)) with palms down))

P:

pieces...

2

---------

3

4

L:

pieces

((hands on the table))

↑ (frame 4)
((brings hand on the box & pushes it gently))
((slides the pieces gently with palms down))

P: pieces

3

L: pieces

((hands on the table))

(frame 5)

((hand over a piece; (bows head leans & picks up towards L)) a piece)

P: ...x Liisa,..., piece

4

L: pieces

((hands on the table; head-turn))

(frame 6) (frame 7)
((holds up a piece with her right hand))

pieces_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ __

5  P: aloitetaan kulmapaloista
let’s start with the corner pieces
L: pieces_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ __

((orientation to the piece; lifts hand slightly off the table))

(frame 8)

((brings hand forward to give the piece to L))

P: pieces_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ __
(--------1)

6  L: pieces_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ __

((brings hand forward to receive the piece))

(frame 7)
In line 1, with all the pieces turned over, Paula gathers the pieces towards the middle by sliding them on the table, and briefly shifts her gaze to Liisa. Paula adjusts the position of the pieces apparently in order to elicit Liisa’s engagement with them; at this moment it would be relevant to move on to the task itself - assembling the puzzle. Upon seeing that Liisa is preoccupied with gazing downwards at the table, Paula withdraws her gaze from Liisa, lifts her hand up to brush hair behind her ear, and then resumes moving the pieces furthermore. I consider next how these movements of the pieces are not without interactional significance, but rather they are produced with a careful orientation to Liisa.

Consider how Paula does not begin to talk, for example, prompt Liisa to start working the puzzle. Upon showing her availability to Liisa, and being met with Liisa’s motionless posture and bowed head – rather than talking to her – Paula drops her gaze and brings her hand up to brush her hair; then, she places her hand back down on the table to move the pieces further more. Heath (1986) notes how the display of availability does not push another to initiate an action but rather shows that the actor is “ready when the other is” (p.33). Here Paula withdraws her gaze and produces a body focused action which refrains from pursuing the actual task while treating Liisa as seemingly not ready to proceed. In line 2, Paula makes a further slide of the pieces on the table, then reaches over to the puzzle box and pushes it gently. Then, she returns to slide the pieces on the table so as to adjust them one last time (line 3). Through moving of the pieces Paula provides an opportunity for Liisa to orient herself to the start of the activity on her own accord.

On seeing, however, that the object adjustments so far have not engaged Liisa (her gaze remains directed down at the table), Paula uses a second strategy, namely, she leans in and picks up a piece (line 4). Her actions have now escalated to a more conspicuous one which – unlike the earlier monitoring of Liisa’s availability and the suggestive adjustments
of the pieces on the table – makes a responsive action relevant from the co-participant (see Heath, 1986). The escalated action is successful as Liisa shows early evidence of orienting to the piece by turning her head and making preparatory movement with her hands as Paula manipulates the piece. Then, in line 5, Paula speaks “let’s start with the corner pieces” (“aloitetaan †kulmapaloista”) and slightly lifts the piece up in her hand. While Paula speaks, Liisa subtly lifts her hand up from the table with palm closed and shows her availability for the next action (an object transfer) foreshadowed by Paula; as Paula stops speaking, Liisa opens her hand and reaches over to receive the piece while Paula moves her hand to pass the piece over resulting in co-ordinated object transfer (line 6).

While Liisa might have appeared to be disengaged from Paula – as judged by her motionless posture and bowed head throughout lines 1-5 – she has shown careful sensitivity to Paula’s gaze and escalated movements that were used to elicit her involvement with the pieces. Goodwin (1981) notes that while in face-to-face interactions disengaged participants show apparent lack of orientation to each other (e.g. during lapses of conversation) they are, in fact, carefully monitoring and analysing each other’s actions, and consequently orienting to the possible reengagement with one another. Thus in the present Extract 4, we find that (1) as Paula ceases sliding the pieces and shifts her gaze to Liisa, Liisa subtly lifts her bowed head; (2) as Paula bows her head at the level of Liisa’s and picks up the piece, Liisa shifts her gaze to Paula’s hand. Notwithstanding the apparent lack of gaze to Paula (that is, to Paula’s face or eyes) Liisa has monitored and analysed Paula’s actions which have accomplished her to build a finely coordinated action of receiving the piece at the precise moment it was being offered to her.6

The analysis so far suggests that the teachers do not simply move from one task to another once the materials have been made ready. Rather, the preliminaries involve some monitoring of the child’s engagement; should there be a concern of the establishment of
mutual focus of involvement with the child, this can be remedied with alternate strategies before the actual task begins. On the one hand, some objects can be pushed aside to enable other objects to permeate as relevant, and so that the child’s attention and engagement can be further pursued. Thus the teachers orient to the progression from the preliminaries to the business of some activity in response to the embodied conduct and gaze of the child. Essentially, the subtle or inconspicuous object movements, which are produced first, can work as the teacher’s means for providing an opportunity for the child to orient to the task beginning before the sequence initiating action is launched – as such, the movements appear to avoid an explicit summons of engagement or gaze from the child. When these actions fail, however, the teacher can change a strategy and pursue the child’s engagement with more conspicuous actions. In Extract 5, I shall examine a further instance of the escalation strategy used by the teacher when the child’s attention remains on the out-of-use object, namely, on the notebook that was used on the reading-task that has now come to an end. We join the interaction in line 1, where Anna reads out the last written item from the page. I will focus on Katja’s strategies to direct Anna’s attention to herself in order to commence a new task which requires Anna naming different things that Katja first performs (e.g. “sitting down”; “standing up”; “jumping”).
**Extract 5** [Anna & Katja closing the notebook]

[A=Anna; K=Katja (Teacher)]

1. A: laskee (. laskee mäkeä slides (. slides down the hill

2. K: mm::hm
((takes a hold of the corners of the notebook))

Anna

3

K: sit vielä (.) katso
now then (.) look
notebook_ _ _ _ _ _ _

↑

(frame 2)

((pulls the notebook towards herself))

Anna ((leans back))

4

K: mitä †minä teen.
what am I doing
notebook_ _ _ _ _ _ _

↑

(frame 3)
5  A:  notebook
   (- - - - -)

K:  Anna

↑  (frame 4)

((begins to turn a page))

6  A:  notebook
    (mitä minä)
    (what am I)

Anna

↑  (frame 5)

((sharp posture- shift up))
((reaches over to the notebook))

K:

notebook
katso
look
notebook

↑
(frame 6)

((closes the notebook))

K:

Anna
(- - - - -)

A:

notebook_ _

↑
(frame 7)
Anna

((leans back / drops hands on her lap))

9 K: >mitä minä teen<
what am I doing

(notebook)

↑

(frame 8)

((points at her chest))

10 K: Anna

(- - - - -)

A: ...x____

     gaze to Katja

↑

(frame 9)
In line 3, Katja says “now then look” (“sitte vielä katso”) and takes a hold of the corners of the notebook; she pulls the notebook very slightly towards herself as she says “what am I doing” (“mitä minä teen”) (line 4). This micro-adjustment of the object that accompanies her talk deselects the notebook as relevant for the new task; by means of pulling it away from Anna it further proposes that Anna should realign her gaze to Katja and name what she is doing (e.g. “sitting down”). Thus here, the rather subtle action of pulling the corners of the notebook offers an opportunity for the child to disengage from it as the reading task has finished. However, Anna’s gaze remains at the notebook, and in line 6, although Anna repeats Katja’s utterance “what am I doing” (“mitä minä teen”) – and thereby showing that she has heard the question – she begins to turn a page on the notebook. Katja responds to this swiftly by reaching over across the table and closing the notebook in front of Anna (line 8). This is followed by Katja repeating the task-related
question “what am I doing” (“mitä minä teen”) and pointing at herself, and Anna shifts her
gaze to Katja, in line 10.

Thus, in this stretch of interaction, Katja uses an escalated strategy in order to pursue
Anna’s engagement with the new task. When the micro-adjustment of the object (pulling
the corners) does not succeed, Katja uses more powerful a method of acting on the object
that Anna is gazing at. The analysis of the escalation of actions during the task transitions
suggests a preference structure, whereby the subtle or inconspicuous action is produced
first to offer an opportunity for the child to direct their attention to the relevant object or
location. When these do not work, the escalating actions – which do “more of the same”
and/or are more conspicuous – are more powerfully used to pursue the child’s attention. As
such, they provide further evidence for the interactional relevance of the subtle actions that
were produced first.

### 7.3.1.3 Showing readiness for action

The canonical manipulation of objects, that is, the use of objects according to their
*proper functions*, can also occur as a response to the particular nuances of interaction, as
shown in Extract 6. This episode captures a fragment of Ingrid at the after school music
club where the children are getting ready for playing as a band with various instruments. In
line 1, Ingrid is readily sitting behind a drum kit some moments before the ensemble is due
to begin. Two music teachers are leading the session; they are occupied with preparing the
children and remain off camera until line 2.
**Extract 6** [Ingrid the drums]

[I=Ingrid; MT=Music Teacher]

((sits behind a drum kit))

I: drum

1

```
---------
1---------2
```

↑

(frame 1)

((walks towards the drum kit))

2 MT: NO: N↑II:N

so

I: drums

↑

(frame 2)
((begins to
  drum))

    shifts gaze up to MT

I:   ►
drums _ ..x_MT
     (--------1--------2)

MT:     right _ _ _ _ _ _ _

((walks towards
  the drum kit))

↑

(frame 3)
Ingrid is sitting behind the drums, holding the sticks, and has her gaze directed downwards at the drums (line 1). In line 2, the music teacher appears on camera while calling “so” (“NO: N↑II:n”) which is designed to elicit the attention of the group and projects the movement onto the ensemble. The teacher walks towards the drums while gazing to her right, across the classroom. In line 3, Ingrid shifts her gaze up to the approaching teacher and begins to drum. At this point it might seem as though Ingrid has started playing too early to the rest of the band, however, the moment she brings her hands up to commence the drumming follows precisely the teacher’s collective call of attention and movement towards Ingrid.

Up until now the teacher has been occupied with preparing other children and their instruments; as she approaches the drums, Ingrid orients to her movement by shifting gaze
to her and engaging in drumming. Ingrid is not drumming without orientation to the events around her but very much the opposite: Ingrid displays that she is *co-operative* in her awareness of the preliminary preparations that have been in progress. She has been sitting quietly behind the drums for some time, but now as the teacher is approaching her Ingrid demonstrates her readiness to play the drums which might become under the teacher’s scrutiny.

Ingrid’s drumming is warranted by the preliminary stage to which she is attentive and responsive; by gazing at the teacher while drumming Ingrid offers a demonstration of her readiness for the course of action that is about to begin, and seeks the teacher to notice her actions. Clearly, *noticing* is here dependent on the co-participant seeing what the other is doing so that a response can be produced. Ingrid’s offer of her demonstration appears to pass unnoticed with the teacher’s gaze directed across the room; as the teacher takes a position in front of the drums facing the class, Ingrid slows down and then *stops* drumming (line 4). Thus, the precise onset and duration of the drumming, and the accompanying gaze to the teacher are strong evidence that Ingrid manipulates the drums in order to show that she is ready to take the course of action and move onto the business that is about to begin. As the failure of becoming noticed seems to have occurred, Ingrid abandons her demonstration which underscores the interactional grounds of her actions.

The analysis considered in the previous two sections has shown firstly how objects can be moved and adjusted to prepare the child for a course of activity. While such movements from the adults prepare the child for action – with gazing to monitor whether the movements are oriented to and to pursue a collaborative involvement through escalating actions on objects – the child, on the other hand, can manipulate an object in order to show their own readiness for activities that are about to begin. On such occasion, also Ingrid pursued noticing and attention by means of shifting her gaze to the teacher.
7.3.2 Facilitating a response through object adjustments

In this section, I move on to consider object adjustments as part of the sequences where a response is searched from the co-participant. Rather than always using the objects to perform conventional action, these movements in respect to objects can be rather subtle, and they gain their meaning through the sequential slots in which they occur. In Extract 7, Liisa and Paula are engaged in a pair-work task which implements the augmented folder depicting different pictures and symbols. Paula has specified the pictures (e.g. “happy”, “sad”, “tired”) to Liisa. In line 1, she begins the task by asking a question.

Extract 7 [Liisa and Paula “how are you feeling”]

[L=Liisa; P=Paula (Teacher)]

((hand
(places hand opens
on the side along
of folder)) side of
folder))

shifts gaze to L

folder_ _ _ _ _ _ _ _ _ _ ..

1 P: millainen olo sinulla on
how are you feeling
folder_ _ _ _ _ _ _ _ _ _
((pushes folder slightly towards L))
   ((second push of folder))
       ((releases folder & places hand on table))
           ((tilts head))
    ►
    gaze to L
    drops gaze
P: ..x_____folder_____-
(--------1----------2)
L: folder____-
    ►
      ((L lifts left hand on table & takes P’s middle finger))

(frame 1) (frame 2)

Frame 1: Push of folder and gaze to Liisa
P:  

```
folder_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
```

(3-4-5)

L:  

```
folder_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
```

((takes P’s hand over the folder))

(frame 3)

((points a picture with P’s middle finger))

(folder_ _

(unclear)

(folder_ _

(frame 4)
In line 1, Paula’s question “how are you feeling”, makes a response relevant from Liisa. As Paula speaks, she shifts her gaze to Liisa and moves her hand along the side of the folder so that the pictures presented on the page are in the full view of Liisa. Paula has used two types of turn-design to compose her sequence initiating action, namely, a first pair part of an adjacency pair that implicates a second pair part, and a gaze shift to Liisa near the transition relevance place. A silent interval of two seconds occurs as Liisa does not respond; Paula engages in a further action by pushing the folder gently towards Liisa (line 2). While the folder is already placed under Liisa’s gaze, there is no particular need to move it closer to Liisa – the movement is subtle and appears as a somewhat innocuous push of the folder. However, the location where it occurs indicates that the gesture has particular interactional implications.

The miniscule push of the folder is placed at the specific juncture of a transition relevance place where Paula is expecting a response from Liisa. The pushing gestures themselves are not part of the functional use of the augmented folder (which invites pointing at the pictures and symbols) nor are they used to transfer the folder from one to another. Rather, the pushes are doing specific interactional work from Paula that appears to facilitate a response from Liisa through the movement of the folder. The page contains various pictures nevertheless its function is not simply to display pictures, but to offer options for Liisa from which to choose her response and to indicate it by pointing. Thus, the subtle pushes of the folder works to embody a turn allocation and creates a context in which Liisa’s response is prompted through and to the folder. As such, and due to the nature of the task which requires Liisa to point out her response, pointing at the folder from Paula would not work as an appropriate action. Thus, the manipulation of the object might work as an alternative to pointing in facilitating a response from Liisa. The pushing of the
folder towards Liisa is thus composed in a manner that offers are routinely mediated through objects. As an example of such non-vocal offers, consider how, in Extract 8, Krisse subtly moves a tray when initiating an offer of some baked goods while sitting around a coffee with her guests.

**Extract 8** [Krisse “Mince pies”]

((extends arm towards ((takes a hold of the tray)) of the edge of the tray))

1 K: mä en nyt <tiedä> (.)
I don’t now know (.)

((holds the edge of the tray & makes a subtle move to lift it))

2 tosson <noita> (.)
there are some of those (.)

((lifts the edge of the tray & moves the tray gently towards O))

► . . . xOlavi

3 joulutorttujä.
mince pies

As Krisse subtly extends her arm towards the edge of the tray, she gazes at the tray and says “I don’t now know” “there are some of those (.)” (“mä en nyt <tiedä> ()”tosson <noita> (.)” lines 1-2). Her hesitation projects that while more talk is due it is some way
problematic. In line 3, upon uttering “mince pies” (“joulutorttuja”) Krisse lifts the edge of the tray and gazes at Olavi.7

Krisse has displayed a difficulty in making an offer of the mince pies to Olavi who is known to have diabetes and should avoid the consumption of products containing sugar. Thus, by virtue of the sugar content of the goods, Krisse’s difficulty is to do with designing her actions so as to accomplish an offer without coming out as being some way inappropriate towards her guest. The offer itself is mediated through the subtle movement of the tray and a shift of gaze to Olavi. Particularly, by means of lifting the tray upon uttering “mince pies”, Krisse avoids having to speak out an explicit canonical offer (such as, would you like some mince pies). While it is the non-spoken resources that compose the actual offering, Krisse’s talk is relevant in projecting the offer while enabling her to remain mindful about Olavi’s condition.

While, in Extract 8, Krisse seeks a response to the tray full of mince pies, in Extract 7, Paula moves the augmented folder to facilitate a response to what is on offer on its display. Both movements make a response to the object relevant insofar as they offer the recipient something: should Olavi accept the offer of a mince pie, the relevant response would be to the tray.8 Liisa, on the other hand, should respond to the augmented folder by choosing a picture. In Extract 6, after the second push, Paula releases the folder and places her hand on the side of it, shifting her gaze form Liisa to the folder (line 2). It is precisely at this location, during line 2, that Liisa produces a responsive action: she lifts her hand up (from her lap) and brings it on the table and takes it over Paula’s hand.

She gently grabs a hold of her middle finger, and begins to guide Paula’s hand over the folder (line 3). In line 4, Liisa produces a vocalisation and points with Paula’s finger at a picture on the folder – rather than pointing with her own finger, Liisa responds by pointing with the hand of her co-participant. While this composition might be somewhat unusual, it
is however a sequentially relevant action to the subtle push of the folder that was designed to facilitate a response to the object.

In Extract 9, I consider a further instance of a subtle manoeuvre of an object produced by Ingrid which pursues a particular response from her mother. Ingrid, Mother, and Ingrid’s younger brother, Erik are playing a memory game around a table. The game involves turning over cards in an attempt to find two of the same that make up a pair – the player with the highest amount of pairs wins. The game proceeds by taking turns and moving on clockwise. During lines 1 and 2, it is Ingrid’s turn to select two cards: she has picked up one with a frog on it and now proceeds to turn another card.

**Extract 9** [Ingrid, Mother & Erik “you take now mum”]

[I=Ingrid; M=Mother; E=Erik]

```
1 M: samm::akko ja siel on
    a frog  and there’s
I: cards  _ _ _ _ _ _ _ _
    ((I picks up a card))
E: cards  _ _ _ _ _ _ _ _

↑
(frame 1)
```
((places card back down on table))

2 I: mik- ssä se sammakko sit on=
wha- ere the frog then is
M: cards _ _ _ _ _ _ _ _ _ _
E: cards _ _ _ _ _ _ _ _ _ _

((points at the card))

3 I: =↑tossako
there
M: cards _ _
E: cards _ _

↑
(frame 2)
((I moves card slightly with the pointing finger))

 shifts gaze to M

I: ___.x

(-----)

M: card_

E: card_

↑

(frame 3)
shifts gaze to M
drops gaze

5  E:  ↑EI:!
    NO
I:  M
    ((sustains finger on card))
M:  cards_
    ⬆
(frame 4)

Frame 4: Points at card with gaze to Mother
(moves
card
slightly((gentle
with push	hree of ((withdraws
fingers))card))hand))

►

►  M, , card_ _ _ _ _ _

6  I:  ota sinä [äiti nyt
you take [now mum
I’s finger/card_ _ _ _
M: [mä en tiedä
[I don’t know
([M shrugs &
  lifts a hands
to turn a card])

E:  I’s finger/card_ _ _ _

↑ (frame 5)  ↑ (frame 6)

Frame 5: Pushes the card with gaze to Mother
In line 2, as Ingrid turns the second card and fails to find another frog, she places the cards back on the table while uttering “wha- ere the frog then is” (“mik- ssä se sammakko sit on”). In line 3, she places her index finger on a card so as to point, and produces further talk in a manner of a question-type proposal “there” (“↑tossako”) while gazing at the card. Ingrid’s talk does not appear to be addressed to any particular party, however, shortly after she shifts her gaze to Mother and subtly moves the card with her pointing finger (line 4).

Erik, who has been gazing at Ingrid’s finger on the card, shrieks “NO” (“↑EI!:!”) as a response to Ingrid’s shift of gaze to Mother (line 5): Ingrid is now addressing Mother so as to offer her a suggestion of which card to pick, and Erik treats this as a violation. The use of pitch and rising volume essentially compose Erik’s turn as an affective stance taken towards Ingrid’s conduct (see Goodwin & Goodwin, 2000). Thus by shrieking out and swiftly glancing at Mother, he criticises Ingrid’s actions within the framework of the game and instructs her to stop what she is doing.

In line 6, Ingrid prompts Mother to proceed with her turn by saying “you take now mum” (“ota sinä äiti nyt”). As she speaks, she drops her gaze down to the cards and – rather than pointing – Ingrid now pushes the card gently with her fingertips which is suggestive that Mother should turn that card and find the frog. Similarly to Krisse, who oriented her talk as being some way problematic and avoided explicitly producing an offer (in Extract 8), Ingrid refrains from making an explicit proposition for Mother to pick up this particular card, which would be inappropriate within the context of the game. Rather, Ingrid produces a generic prompt for Mother to proceed with her turn; it is the subtle moving of the card that offers Mother the suggestion.

The way in which Ingrid transforms her pointing gesture to a subtle pushing movement with her fingertips and simultaneously withdraws her gaze from Mother, orients to the
specific interactional demands of the moment within the participation triad between herself, Mother, and Erik who is observing her actions. That is, Ingrid artfully manages the problematic edge of her actions in response to Erik, and apparently attempts to conceal the connotations of allying with Mother by subsequently taking her hand off the card right after the push. In this manner, while Ingrid first elicits Mother’s response to the particular card on the table, she then relinquishes her engagement with the card with an alternative movement in response to her brother.\textsuperscript{10} This suggests, that while engaging with an object can be done by manipulating or adjusting it – rather than merely pointing at it or looking at it (compare tapping actions, Dickerson et al., 2007) – also relinquishing the engagement with an object might involve not merely taking your hand off the object, but rather touching it, and then taking your hand off it – showing that you are finished handling it.

### 7.4 Discussion

In focused face-to-face interactions one issue seems to be concerned with where the co-participant is gazing at when establishing mutual focus of involvement. For example, the display of interactional engagement might not be always shown through mutual gaze between participants, but rather through a relevant orientation to the material objects. In order to get another party to do something – for example, to show engagement or to respond to an initiating action – might be concerned with the manipulation of objects according to their relevance to the ongoing interaction. The present chapter has on the one hand considered particular kinds of object-related gestures – namely, movements or adjustments – that the teachers produce when they pursue the child’s attention and engagement to an object, or an activity that is about to start, or when they facilitate a child’s response to an object that is being used during a task. Two cases were considered where, firstly, the child (Ingrid) moved an object (the card) to elicit a co-participant’s
response to it and then relinquished engagement with the object, and secondly, she
manipulated an object (the drums) canonically in order to display her own interactional
engagement with the task about to commence. Eye-gaze to a co-participant emerged as a
significant accompaniment of such manipulations or object adjustments.

In Extracts 1 and 2, the teachers produced movements of objects (augmented folder or
notebook) on the table as part of the preliminary proceedings between tasks; the
movements constituted not only as the setting up of relevant materials, but also as the
means for gearing up to the start of a new activity. The movements were used to deselect
or select relevant objects, and while produced, allowed an opportunity for the teachers to
monitor the child’s attention – where they were gazing at. As such, the child’s gaze to the
relevant object enabled the teachers to proceed with the relevant preliminaries (e.g. prepare
a worksheet); the slight adjustment of the relevant object (notebook) that the child was
already gazing at worked to sustain their attention on the object just before the actual task
(e.g. reading task) commenced. The understanding of the teacher’s actions on the objects
as interactionally relevant compositions cannot be inferred from the gestures alone, but
from the accompanying gaze to the child at the moment these movements occurred.

When the direction of the child’s gaze posed a concern for the establishment of mutual
focus of involvement, the teachers used escalating actions on the objects in order to pursue
the child’s orientation to the relevant location (e.g. from the notebook to the teacher), or to
get the child to do something with the objects (e.g. place puzzle pieces on the table or
assemble the puzzle). Thus, while the micro-adjustments (that is, the subtle or
inconspicuous movements of the objects) provided the child with an initial opportunity to
display orientation, the adjustments escalated into more conspicuous actions when the
child failed to show engagement with the relevant object or task. As such, this suggests a
*preference structure* whereby the teachers pursue the attention and involvement through
the subtle actions first, allowing the child to show orientation on their own accord. The monitoring of the child’s response to these adjustments enables the teachers to change the strategy (that is, produce more conspicuous actions) in the pursuit of the child’s involvement, where necessary.

This suggests that the object adjustments can work in a similar manner that gestures and body movement are routinely used when eliciting the involvement of another. Heath (1986) notes how it is particularly the subtlety of the movement that serves to elicit the co-participant’s recipiency rather than their attention to the movement itself:

The movements in question are very ordinary – postural shifts, gestures, leg taps; little of the remarkable or the dramatic. If, however, the sole concern of such movements was to attract the attention to another, then one might well expect to find more theatrical manoeuvres. A person would have little difficulty in attracting the attention of the other if he were to thump the desk, thrust his hands in front of another’s eyes, or whip the medical records from under his nose.” (p. 73)

While the movements might occasionally fail to elicit the child’s orientation prior commencing the actual task, the children nevertheless showed monitoring of the actions and responded to them especially as the actions escalated. Perhaps the clearest evidence of such monitoring came from Liisa, her bowed head and preoccupied gaze at the table notwithstanding. At the precise moment Paula had picked up a corner piece and produced an utterance, Liisa extended her arm to receive the piece from Paula, producing a cooperative action in a timely manner. The data here suggests that it is not only the teachers who carefully monitor the child, but the child also monitors the movements of the teacher, even though they had not realigned their gaze in response to the first subtle adjustments.

In this way the chapter raises further questions for our understanding of the relevance of eye-gaze in the multimodal interactions between teachers and children with autism, and
how we understand the displays of joint attention. Clearly, the teachers treat eye-gaze as an indication of the child’s engagement and involvement in the joint affairs. Similarly to the observations made about gaze aversion in Chapter 5, the present chapter further suggest that the lack of gaze to a relevant object or location from the child seems to pose a concern for the teachers during task transitions, namely, in terms of the child’s display of recipiency to the activities at hand.

The present analysis proposes that object adjustments not only enable the teachers to direct the child’s attention to, and away from, certain objects, but the movements also serve as resources which facilitate the child’s understanding of how the particular objects should be seen in terms of their relevance for the course of activity. These movements are thus important even during the most familiar and routine educational activities which nevertheless involve co-ordinated action between the participants. As such, the adjustment of a notebook or a push of a folder can have interactional significance in the same manner as “the seemingly trivial twiddling of a pen in the hand can turn out to have import for the ways in which an object is presented to another” (Hindmarsh & Heath, 2000, p. 1868). Hence, even the most routine tasks, such as getting a child to read or assemble a puzzle involve mundane yet very skilled work from the teachers. The way in which these objects are being handled are unlikely to be in any way autism-specific practices – yet the subtle adjustment of the objects on the table can offer a crucial resource for gearing up to a co-ordinated action with the child.

The analysis of two extracts involving Ingrid demonstrated that also the child used object manipulation for interactionally relevant purposes which were concerned with the body movement and gaze of her co-participants. Ingrid manipulated the drums in juxtaposition to the music teacher’s collective call of attention and her physical movement through the classroom towards Ingrid. Thus Ingrid was not merely playing the drums for
the sake of playing (or playing too early), but rather she oriented to the possibility of her readiness becoming the scrutiny of the teacher as part of the preliminary preparations, and thus displayed her readiness to play the instrument. Ingrid’s gaze to the teacher was particularly relevant insofar as it pursued the teacher’s noticing of Ingrid; as her drumming seemed to pass unnoticed she relinquished her engagement with the drums. This suggests that even the canonical manipulations, when produced with a gaze to another, can be used for interactional work that seeks to render something about the actor (e.g. their readiness for action) – rather than simply the act itself – as noticeable.

In Extract 9, in response to Erik’s objection of Ingrid’s ostensive pointing at a card and gaze at Mother, Ingrid transformed her point into a subtle movement of the card with her fingertips while prompting Mother to proceed with her turn. By means of averting her gaze while altering her point into a subtle push and then removing her hand, Ingrid artfully masked the appearance of allying with Mother (that is, showing the card which Mother could turn and find a frog) – which could be seen to have violating status in the context of the game and particularly, in the eyes of Erik – through relinquishing her engagement with the object.

The specific interactional business implicated in the actions on physical objects can be only understood through the specific sequential locations in which they occur, and in relation to the degree of constraints that are imposed – for example, whether there is a constraint for one party to respond to a question or an offer. Thus gestures do not stand alone from the sequential business of interaction (Goodwin, 2003a); the way in which objects are occasionally moved is no exception of other gestures. The particular movements of objects considered in this chapter can be seen as resources for both child and co-participating adults when establishing a mutual focus of involvement prior moving onto a joint activity and when facilitating a response from another.
The present analysis has identified competencies on the part of the children with autism to monitor such subtle movements and respond to them, or respond to the escalation of the movements, in a sequentially relevant manner. Ingrid was also found to produce actions on objects to mediate her own interactional pursuits when interacting at home or at the music club. The teachers’ conduct, and the children’s gaze and body movement, can thus provide a test of the interactional competencies as well as the areas of difficulty that these children have. Simultaneously, however, they provide a test of the teachers’ expertise in facilitating the child’s participation in educational activities.

The conversation analytic examination can also contribute to the understanding of the moments in interaction where the child’s attention and engagement seems to be at issue. The present findings are based on a limited database and are thus exploratory, however they give indications of the kind of issues that might be involved, at least occasionally, when the child displays slower disengagement from an object. For example, the case of Anna (in Extract 5) suggests that the micro-adjustments did not disengage Anna from the notebook; rather Katja had to use more conspicuous actions and actually close the notebook in front of her. In this case, however, Anna was still engaged with the notebook (e.g. turning a page) at the end of the reading task which might indicate as to why she did not swiftly disengage from it. Compare how, in Extract 2, Anna had no difficulty in directing her attention to the notebook the moment it was taken out from the basket; in this case, Anna was not engaged in anything particular. In a similar fashion, the data from Liisa suggested that when Liisa was not engaged in anything in particular, she showed relevant orientation to the worksheet Paula was handling (Extract 1). Her engagement with the puzzle box and pieces however seemed to indicate at least slower movement onto the activity itself (e.g. laying the pieces down on the table) (Extract 3). These imply that some of the difficulties during task transitions might be associated with the child’s already
established engagement elsewhere. This has parallels with the recently proposed aspect of interest (see Marshall, 2011) which might slow down the child’s disengagement from an object they are gazing at. Further conversation analytic research with a larger sample could consolidate and delineate the kinds of interactional environments where the child disengagement seems to be some way problematic. Such areas of difficulty, but also the children’s competent understanding of the object mediated interactions, could be thus captured through the close examination of everyday interactions, where participants demonstrate their own treatment of each others’ eye-gaze and the movement of hands, bodies, and physical objects.

Chapter 7 – Notes

¹ Recently, Koschmann, LeBaron, Goodwin and Feltovich (2011) have considered the institutional procedures (in an operation theatre), and gestures and motions made with surgical instruments during the operation. For example, in the search of a mutual object of reference – here, the cystic artery – gestures can be modified while orienting to the responses from a recipient (a colleague), such as a claim of recognition of the referent in question. Occasionally, a “pointing” gesture can be accomplished by a withdrawal movement of the hand and the instrument after locating the referent in the environment (the patient’s body).

² The way in which the passing of objects relates to the talk of participants has been recently considered by Rae and Guimaraes (2010) and Hyland (2011).

³ For example, Mondada and Broth (2011) have recently considered the way in which participants accomplish walking away following a period of standing together during face-to-face interactions. They show that when participants reach a topic or activity completion, rather than walking away individually, walking away together is accomplished through a sequence of bodily activities (initiation of the movement; first steps; following) that gear-up for the accomplishment of co-ordinated and collaborative action.

⁴ Kidwell (2005) writes about the difference between a “merely look” and “the look” in relation to other activities that are in progress. While the former can constitute a glance that simply monitors another, the latter is used as a response-implicative gaze as it occurs while halting other activities in progress.
While body focused actions, such as face touching, are routinely disattended to by co-participants (Goodwin, 1986), they can also synchronize interactional engagement. For example, the “mirroring” of co-participants body-focused actions enables the participants to enter in mutual self-involvement (Streeck, 1995). On the other hand, Goodwin (1981) talks about how the added segments of non-vocal units – like when involving oneself to “repair” a lighter upon finding the co-participant (who asked for the light) shifting their engagement elsewhere – can be used to modify the emerging action. This enables the achievement of a collaborative action at the right time when the co-participant becomes available again. In Extract 4, Paula appears to treat Liisa as some way disengaged (or at least, not engaged with the pieces), and through refraining and modifying her actions, she can delay the commencing task and gear up until Liisa might show readiness to proceed. Thus, while Paula’s resumed engagement with the pieces does not require Liisa’s participation as yet – it is the escalation of these actions that appears to prepare Liisa for becoming available.

It is possible that Liisa might have been monitoring the sliding of the pieces over her glasses, her downward gaze at the table notwithstanding. Unfortunately, the quality of the video does not allow this to be confirmed. Crucial, however, in the present analysis is the way in which Paula manages to engage Liisa to do something with the pieces through the escalation of her own actions on the objects in question. On the other hand, however, this raises some generally important questions about the way in which joint attention has been conventionally understood, and how we might have to broaden our understanding of joint attention as an orientation to different aspects of multimodality. I am grateful to Professor Douglas Maynard for raising this for a discussion at the tenth conference of the International Institute for Ethnomethodology and Conversation Analysis, University of Fribourg, Fribourg, Switzerland, July 10-14, 2011, where a paper based on this chapter was presented.

Joulutorttu (literally Christmas [Yule] tart) is a sweet pastry, a traditional Finnish Christmas good which I have decided to call a mince pie.

Olavi declines the offer of a mince pie, but the present analysis does not cover his response to the offer. Rather, the focus is on how Krisse composes her offer through moving the tray and shifting her gaze to Olavi.

Goodwin’s (2000a) conceptualisation of the framework of action is relevant for understanding the conduct of the players during the memory game; games provide a framework for participation and organise conduct according to the rules of the game. For example, Goodwin notes how a painted hopscotch grid on a playground is not only a material but also a semiotic structure which provides one such framework for action.
He notes that “Like a map, the hopscotch grid does not produce single actions (a particular “out” for example), but instead provides a public framework for the constitution of diverse, game-relevant classes of action (outs, successful jumps, etc.). Moreover, the medium in which it exists is crucial for the specific kinds of action that actors perform, such as jumping through it and visually inspecting the feet of other actors to see if a line has been stepped on etc.” (p. 1505). When Ingrid’s eye-gaze shifts to Mother during her pointing at the card, Erik treats this as “stepping over” the line of fair game and thus objects to it. Ingrid’s subsequent actions, namely, the way in which she relinquishes her engagement with the card (the push of the card with fingertips rather than pointing, withdrawal of gaze from Mother, and withdrawal of hand), can be understood as a shared orientation to what is fair within this particular framework for the players.

Lerner and Zimmerman (2003) have described the interactional organisation of teasing in the interactions involving very young neurotypical children. The teasing conduct involves showing a toy to another, and then withdrawing the toy as the other child reaches over to receive it. Although these actions are different to the actions of Ingrid, the relevance lies within recognising how some actions on objects can be important in giving an appearance of doing something, while doing deception. It can be proposed that by means of relinquishing her engagement with the card, Ingrid simultaneously produces a suggestive movement to Mother that is less conspicuous than the overt pointing of the card.
CHAPTER 8

CONCLUSIONS

In this collection of studies, I have examined the use of talk, eye-gaze, and other non-vocal behaviours, such as smiling, body movement, and actions on objects, in the interactions involving children with autism. While the impairments in the use of talk and non-vocal resources are considered to affect the ability to “regulate social interaction” in autism (APA, 1994, p. 72), I have described in detail, how these multimodal resources can be at the children’s disposal. The detailed analyses in Chapters 3-7 have focused on different phenomena: (1) gazing at the co-participant, (2) gazing and smiling at the co-participant, (3) averting gaze from the co-participant, (4) displaying self-consciousness to the co-participant, and (5) the relevance of physical objects in interactions. The use of eye-gaze has permeated as a fundamental interactional element in each of the analyses. Rather than studying eye-gaze as an isolated phenomenon, I have examined it in concert with other bodily conduct and talk, and the way in which these are used to accomplish interactionally relevant actions.

In this final concluding chapter, I will focus on two aspects. Namely, I will (1) re-think the interactional competence of the children with autism and (2) offer a critical methodological appraisal of previous research in the field of autism and consider the contributions of conversation analysis. I will begin by discussing the interactional competence in terms of the immediate sequential context of activity. I will then summarise the key findings of my studies, consider the social implications of these findings, and discuss previous literature. Thereafter, I will consider the methodologies used in the field of autism research, and discuss the strengths and weaknesses of conversation analysis, and
the limitations of this study. I will conclude this chapter with suggestions for further research and propose how conversation analysis could be applied in clinical settings.

8.1 Re-thinking interactional competence

The attention to the micro-level details of social interaction has revealed competencies on the part of children with autism who participated in this study. Namely, gaze related behaviours and other aspects of non-vocal conduct that should be characteristically impaired, have been identified during the children’s interactions with their familiars. Furthermore, the particular difficulties characteristically encountered in the interactions involving children with autism, for example, when the absence of mutual gaze hinders the progression of interaction has been examined. However, it is essential to take a moment to consider what we mean by interactional competence, and how it can be delineated through conversation analysis. For this reason, in the summary of findings that will follow, I will discuss how the use of eye-gaze relates to such interactional competence at the level of initiated and responsive actions. This consideration provides us with a framework for the understanding of the interactional sensitivity of the children in this study.

8.1.1 Immediate context of sequence of activity: Initiating and responsive actions

All interaction is built out of sequences of action. In Chapter 1, I covered in detail the turn-taking system and the sequence organisation of everyday talk (1.2.1), and how the multimodal resources are organised in the sequences of action (1.2.2). Recall how, an initiating action makes a responsive action relevant from the co-participant. Thus, what follows an action such as a question or greeting, is a slot where the normatively expected and type specific response should be produced – for example, an answer to the question or a return greeting to the greeting. Parties in interaction continuously orient to these
expectations and the constraints their talk places upon another; when a responsive action does not occur where it is expected, the response is treated as being noticeably absent. As a consequence, this absence becomes accountable as the absent responses are often treated as interactionally problematic; when a response is unforthcoming, a repair activity is routinely launched to address the trouble source and to work towards solving the problem.

Thus, a competent interaction can be characterised in terms of continuous monitoring of turn-taking and what has been occasioned in the sequences of action – in multiparty settings, who has been addressed has to be inferred – and a response should be produced in a sound manner that progresses the sequence of action further. In the present study, the children with autism embodied orientation to the sequential constraints placed upon them by their co-participants. Whether they responded to the initiating actions or did not fulfil the normative expectations to respond to such actions, their eye-gaze and other bodily conduct displayed an understanding of what was expected from them. This finding is important insofar as it delineates some of the work that eye-gaze does in interaction in general, and how also these children with autism used eye-gaze for interactional purposes. In the following section, I will summarise the key findings from Chapters 3-7, and discuss in more detail how the interactional competence – the sequential orientation – has been revealed in the multimodal actions of the participants. Essential is to consider how the use of eye-gaze embodies the children’s interactional competence in the ongoing sequences of action.
8.1.2 Summary of findings

8.1.2.1 Gazing at the co-participant

Mutual eye-gaze can become relevant in particular sequential environments. In Chapter 3, Niko shifted his gaze to his teacher, Katja, when producing a question-type proposal about turning a page on a wall calendar. Thus while his talk already placed sequential constraints for Katja to respond, Niko shifted his gaze to her near the turn completion where the speaker transition became relevant. Ingrid, on the other hand, while participating in a memory game session with Mother and her younger brother, shifted her gaze to Mother upon producing utterances that were relatively constraint-free. That is, Ingrid spoke some utterances about the pictures on the cards (“the sun is in the blue sky”) or the rules of the game (“have to guess which the picture it is then”). As such, her talk did not place constraints for anyone to respond – however, it was her gaze that selected Mother as the addressee of these utterances and invited an uptake from her.

Anna used a shift of gaze to pursue feedback from Katja at the third turn position, following her own response that specified the times in a pair-work task. Having given her response, Anna gazed up to Katja who then responded to her gaze and produced an acknowledgement or affirmation. All of these children oriented to the degree of sequential constraints occasioned in their own talk, whether the talk was an interrogative proposal (high constraints), a constraint-free utterance (low constraints), or a response in a structured task (low constraints); the child shifted their gaze to the addressee precisely at the moment where it would have been relevant for the recipient to respond. Thus, the orientation to their own eye-gaze as an interactionally significant matter was embodied in the shift of gaze to complement, or to accomplish, the pursuit of a response from the co-participant. From this it follows, that these children demonstrated an understanding of the way in which their own actions can shape the following actions from another, and further,
that the multimodal design of turns can increase the response-implicativeness of their talk (especially important where their talk had low constraints for another party to respond to it) (see Stivers & Rossano, 2010).

The timing – that is the positioning – of gaze was important insofar as it became a relevant accompaniment for their talk and served a particular purpose: to seek a response from another. In the case of Ingrid, eye-gaze worked as a resource that accomplished work that her relatively constraint-free talk might have not accomplished alone. In Chapter 4, I examined further such constraint-free environments and the co-occurrence of gazing and smiling. Niko turned to gaze at Katja to invite a response from her to his constraint-free – somewhat out-of-the-blue – utterances. While smiling can make a smiling response relevant, it appeared that Niko’s smiling could have also scaled down the invitation for a spoken response. Thus, there is an intriguing possibility that Niko’s smiling could be understood as an interactional gesture that relieved any pressure placed upon Katja to say something that might have been implicated in his gaze to her. Thus, unlike his talk, Niko’s smiling did not occur out of the blue, but was systematically placed with his gaze to Katja and was used for interactional purposes.

8.1.2.2 Gazing away from the co-participant

In Chapters 3 and 4, the children’s competence was shown in their gaze to the co-participant where it had some particular interactional relevance. Oftentimes, however, the children were found to be gazing at elsewhere and withdrawing from mutual gaze in a manner that generally characterises the behavioural repertoire in autism. In Chapter 5, I examined the sequential location of gaze aversion so as it followed the initiating actions from the teachers; often the children’s gaze remained averted throughout the stretches of interaction. The slot that followed Katja’s initiating action was an important environment:
Anna and Niko did not produce the response that had been made relevant from them, thus their responses remained noticeably absent. Their averted gaze, however, was not treated as problematic per se. Further, the averted gaze was not treated as problematic immediately following the initiating action (greeting or question). Rather, the averted gaze was only addressed after Katja had failed to elicit a response through other means that provided a “second strike” for the child (namely, by re-doing the greeting or calling the child’s name). Thus, the averted gaze became treated as problematic and explicitly addressed (“look in the eyes”, “look this way”) when the expected second-pair part was unforthcoming.

In everyday interactions, looking away from a co-participant’s eyes or face can be a relevant resource to display disengagement or resistance for engaging in collaborative action with another (Goodwin, 1981; Kendon, 1990). Anna and Niko used gaze aversion so as to resist the sequential constraints placed upon them by Katja’s questions or greeting to Anna. This resistance did not however indicate the children’s impaired social orientation but on the contrary, showed these children’s orientation to gaze as an interactionally significant matter. Further, this implies their capacity to do teasing by means of withholding the realignment of gaze to Katja in sequentially relevant places. Their looking away was not the only means to resist the constraints placed upon them: Both Anna and Niko smiled so as to show their orientation to the expectations for a response which they were violating. Thus, through gazing at elsewhere Anna and Niko deliberately refused to respond to the actions initiated by Katja. As a consequence – and perhaps paradoxically – these findings indicate that also gaze aversion can show (at least occasionally) interactional engagement from the children; the passive resistance of producing a response was here actively executed through the use of multimodal resources of gaze aversion, smiling, and a head gesture, in the case of Niko.
The findings build up a case for these children having a capacity to show not only their understanding of the sequential obligations occasioned by the initiating actions from another, but also their orientation to such constraints when the expected response has not been produced. Liisa showed particular sensitivity in this respect. She did not so much resist the sequential constraints placed upon her (that is, unlike Anna and Niko, Liisa did not “tease” Paula by not realigning her gaze to her). Rather, her motionless posture and downward gaze appeared to characterise – on the surface – disengagement or lack of orientation to Paula and the activity with the puzzle. However, the detailed examination of Liisa’s responsive actions moments later showed her orientation to Paula’s pursuit of her gaze: Liisa flailed her hands and opened and closed her palms, and responded with an utterance akin the melodic prosody of Paula’s earlier utterance (“peekaboo”) that elicited her attention. Thus these were sequentially relevant contributions from Liisa: she showed understanding and orientation that a responsive action was relevant from her, notwithstanding she sustained her gaze averted from Paula. This indicates, that even when the child’s bodily conduct might appear to show lack of orientation to another, the child can be interactionally engaged and have the capacity to show their regard for another through other means in the absence of mutual gaze.

Gaze aversion was also part of the displays that characterised self-consciousness – coyness and embarrassment. In Chapter 6, I examined how these displays were also sequentially occasioned, namely, when a response had been made relevant from the child, but the child had some difficulty in responding. Thus sequentially, the context was similar to that in Chapter 5, insofar as the child did not fulfil the expected second pair part to the initiated action. However, the children’s gaze aversion, in Chapter 6, was treated differently to those cases examined in Chapter 5, which further indicates that the use of
eye-gaze has different interactional implications and does not always imply, for example, the child’s resistance to respond.

The displays of self-consciousness showed competencies in the children’s orientation to a response that had been made relevant from them and to which they had not immediately responded. Their bodily conduct and averted gaze occurred sequentially in the slot where they should have produced the response. In the case of Niko, coyness appeared to show his orientation to what Katja might have done with his response and request to use the classroom computer. While self-consciousness has been generally characterised in terms of the regard for how another person might perceive the self, such awareness can be produced at the very level of initiating and responsive actions. As Heath (1988) has proposed, complex sequential environments which impose contradicting demands on the agent can induce self-consciousness, namely, embarrassment; here the children appeared to orient to the fact that a response should be produced while not immediately doing so or having anything instantly to supply. This suggests that displaying self-consciousness might become a “relevant” response in such environments.

The findings in this study have also shown that the interactional detail is important for the teachers when they draw inferences about the child’s bodily conduct and gaze. The detail can be especially important when the responsive action from the child has not been produced. From this it follows, that in order to understand fully what is going on between the participants – or what the child is doing with their non-vocal conduct – the direction of eye-gaze *per se* (for example, gaze aversion from the teacher) cannot be isolated from the sequences of interaction in which it occurs. These findings raise broader questions to be considered when studying the interactions involving children with autism: (1) *when* is mutual gaze needed in interactions (and *who* needs it) and (2) does the child have other means for showing interactional engagement when mutual gaze does *not* occur.
Clearly, some individuals with autism might have a propensity for not fixating in the eyes and at faces, notwithstanding the underpinnings of gaze “atypicalities” remain a topic of scientific debate (e.g. review by Senju & Johnson, 2009). The findings by Klin et al. (2002) are interesting insofar as they showed that individuals with autism, while fixating less on the eyes of the actors in a film (suggested to imply impaired processing of social stimuli), the percentage time they spent focusing on the mouth region was associated with higher social competence. More generally, this implies that the conventional displays of interactional engagement (e.g. mutual gaze with co-interactants) might not directly tell us about the competencies an individual has; the present findings suggest that the child with autism can use different facets of multimodality (e.g. body movement; gaze to objects; monitoring the co-participant’s actions and movements) as resources when participating in everyday interactions with others.

Stewart (2000) has called in question whether eye-contact should be insisted at all, for example, in therapeutic and educational contexts if the individual with autism does not align gaze on their own accord. Indeed, some of the innovative interventions for children with severe autism employ side-by-side participation frameworks where direct mutual gaze is not requested, but rather the gaze of the child and the therapist is directed to a focal object, such as a workbook or letter board (Ochs et al., 2005). In her commentary, Stewart (2000) quotes a gentleman with Asperger’s syndrome, who rather beautifully sums up his own experience of making eye contact in social situations: "If you insist that I make eye contact with you, when I'm finished I'll be able to tell you how many millimeters your pupils changed while I looked into your eyes" (p. 2).¹ Thus while the present research has found competencies in the spontaneous use of gaze in four children with autism, the intention is not to claim that no differences exist as compared to the neurotypical use of eye-gaze in social interactions. Rather, the study contributes by detailing some of the ways
in which these children participate and use eye-gaze in social interactions. As a consequence, the study demonstrates the sensitivity offered by the conversation analytic framework, and how the detailed interactional analysis can increase our understanding of the instances where mutual gaze occurs, or does not occur, in relation to the ongoing interactional contingencies.

Therefore, I wish to argue that the frequencies or direction of eye-gaze per se might not determine interactional competence or incompetence, but rather it is the placement of gaze and other conduct in the ongoing sequence of activity that is important. Further, the child can be interactionally engaged even when they do not engage in mutual gaze with their co-participant; when the normatively expected response was delayed or noticeably absent, the children in this study showed recipient-sensitivity by means of adapting their behaviour, even when having no immediate spoken response to supply. The findings from Chapter 7 further engendered the importance of the sequential context when the teachers oriented to the child’s gaze and bodily conduct during task transitions. Physical objects, gaze, and body movement were at the teacher’s disposal when eliciting attention and involvement of the children. In these cases, where objects were implemented, mutual gaze was not relevant, but rather gaze to the material objects was relevant.

During task-transitions, the teachers produced adjustments of these objects and gazed at the child in order to monitor their attention. When the child’s gaze and bodily conduct embodied their attention to a non-relevant object (e.g. the out-of-use notebook) the teachers used more conspicuous actions on the objects to direct their attention to what was, in fact, relevant. The subtle actions provided an opportunity for the child to show orientation on their own accord. Consider how in everyday interactions it might be impolite to interrupt another’s occupation with some activity or when a person is simply immersed in their own thoughts. Indeed, the establishment of mutual focus of involvement
is routinely approached as somewhat delicate a matter: The subtle means of gaze and posture shifts are often used to elicit involvement and to push the movement onto the actual business of interaction – especially when the co-participant is overtly engaged with something else (Heath, 1986). The educational interactions considered in this thesis have also involved such conduct from the participants. Thus while the routine and mundane tasks might often involve some pushing and pulling of objects, these gestures and movements are also a part of the skilled work that the teachers conduct. Namely, they were produced with careful orientation to the children’s gaze and body movement in order to bring about co-ordinated action; moreover, the subtlety of the first adjustments seemed to indicate a preference for allowing the child to show orientation on their own accord.

This also sheds some light on the understanding some of those situations where the child might show slower disengagement from an object, namely, when the child was overtly engaged with and gazing at an object (e.g. notebook or a puzzle piece or box). Although these are only limited exploratory findings, they indicate that further conversation analytic research could delineate the kind of contingencies that are associated with the conduct characterised as disengagement (for literature on disengagement in individuals with autism, see e.g. Landry & Bryson, 2004; Leekam & Moore, 2001; Marshall, 2011). There has been intriguing experimental evidence which has shown that individuals with autism seem to take slower to disengage from stimulus that is interesting to them (e.g. repetitive patterns and visually abstract stimuli, see Landry & Bryson, 2004; Marshall, 2011) which could have parallels with the cases in the present study – insofar as the child’s interest could be inferred from their engagement with an object in front of them. However, this also relates to the children’s understanding of the relevance of objects and their showing of this understanding through their gaze and bodily conduct in these interactions.
Consider how some previous literature has suggested that eye-movements are goal-directed; the way in which the eyes scan the environment and locate objects thus relates to how important these are for what the person is doing. In their eye-tracking study of the very ordinary activity of tea-making, Land, Mennie and Rusted (1999) showed how the eyes locate the relevant objects and monitor closely the actions that accomplish the job – “the eyes do more than just register the scene passively in the manner of a camera; they seek out the places where the information they obtain will be of most value” (Land, Mennie, & Rusted, 1999, p. 1323). In social interaction, gaze to objects, co-participants, and surroundings are also relevant for the accomplishment of the very routine actions, such as getting another person to do something (e.g. getting the child to read), or sometimes, for example, eliciting a response from them. Thus where and when a party is gazing at can be of utmost importance in bringing about co-ordinated action with another.

The actions on objects were resources for both the adults and children with autism to elicit a response from one another; the findings regarding Ingrid playing the drums and moving the playing card further indicated the significance of gaze during her interactional pursuits that involved these objects. Thus, the competencies emerged on the part of the children with autism, on the one hand, the way in which they monitored the subtle movements produced by the adults and how they responded to these, and on the other hand, the way in which Ingrid manipulated objects in order to mediate interactional pursuits. The overall fundamental finding in the studies presented in this thesis is that the participants – both the children with autism and their neurotypical co-participants – used multimodal resources in a manner which displayed orientation and sensitivity to the co-participant involved in the interaction (recipient design, see Sacks et al., 1974).
8.2 Methodological appraisal and further research

The majority of studies involving individuals with autism have examined eye-gaze using quantitative methods. While such research provides important information about the frequencies and distribution of eye-gaze phenomena, they have mainly relied on the recorded viewing patterns to stimuli (e.g. static images of faces) that might not truly capture how eye-gaze is used in real-life interactions. The evidence from eye-tracking studies has suggested that social attention deficits are characteristic for individuals with autism. For example, Fletcher-Watson et al. (2009) reported reduced or absent first fixation to social elements for static images, while Klin et al. (2002) reported a diminished looking time in the eyes even in response to dynamic social scenes shown in films. While such research provides important indications about the possible differences in the viewing patterns as compared to neurotypical individuals, the viewing of stimuli in artificial laboratory contexts without own interactional participation might be different to the use of eye-gaze in actual interactions. As research is urgently needed to address more naturalistic interactions (see Klin et al., 2002), conversation analysis can offer very detailed descriptions and analyses of how eye-gaze is used during the participation in face-to-face interactions. In this sense, this particular approach considers what is “at stake” when the participants are engaged in interaction with one another: why gaze to, or gaze away, might occur at particular moments. Thus rather than yielding an overall frequency count of the times “gazing at X” occurred or did not occur, I have described the relevance of eye-gaze in relation to the particular interactional pursuits that were underway.

While the present thesis, reporting on four children with autism, can at best offer a modest contribution to the investigations in the field of autism, the studies provide (1) the much needed exploratory findings from the naturalistic interactions in which the children
themselves participate, and (2) a demonstration of the level of detail gained through the use of conversation analysis. Due to the limited sample of children, the studies are beyond their scope to offer any generalisations of eye-gaze behaviours in autism. Rather, the aim has been to examine and describe in detail how the children implement eye-gaze and multimodal resources in the first place: how the actions of the co-participants, the sequential positioning of the ongoing actions, and the normative expectations to respond to the initiated actions, are carefully oriented to by the parties in the interactions. Furthermore, it should be acknowledged that although some comparisons have been made to the neurotypical interactions (through the inclusion of comparative naturalistic data) it has been beyond a consistent matching of neurotypical child-adult dyads.

Should the conversation analytic inquiry be extended with quantification (for some discussions on conversation analysis and quantification, see Goodwin, 1981; Haakana, 2002; Heritage, 1999; Schegloff, 1993), the closest accompaniment for the present study would provide the single case analysis, or n=1 study, which seeks to quantify and describe the specific skill usage in natural contexts. In such design, each participant is treated as a single case, and the investigations should be replicated a sufficient number of times (a minimum of seven cases) during a number of points in time to establish a baseline for the skill patterns. While such quantification would help us to describe the consistency of eye-gaze usage for example, the mere quantification would lack the detailed account of the relevance of gaze in the interactional realm. For example, in Chapter 6, where I considered the displays of self-consciousness, the data source did not provide enough naturally occurring instances to be replicated for seven times for each participant. However, such limitations should not stand in the way of proceeding with the detailed description of how these displays came to be occasioned during the interactions when they did occur.
At this stage, I wish to re-think the importance of *relevance* as well as the *occurrence* when examining the phenomena of interest in the naturalistic research. As already noted, the simple frequency counts, for example, of mutual gaze would not provide the important information about the interactional contingencies under which the gaze occurred. Thus while the analyses presented in this thesis are offered on the basis of single cases which nevertheless do not allow for the generalisability of the findings, the conditions under which the eye-gaze phenomena were shown to occur indicated the *relevance* of the particular gaze for *those* participants in question, at *that* particular moment in time when the gaze occurred; as Schegloff (1993) puts it, “positioning matters” (p. 104). And that relevance *per se* indicated competencies for interaction on part of the children with autism who participated in these interactions – for example, when their gaze mobilised a response from the co-participant.

This thesis argues for the importance of considering the occasions where something interactionally relevant occurs between the child with autism and their co-participant, even when the cases might not yield acceptable levels for quantification. In further research, however, with a larger sample of children, the detailed conversation analytic descriptions could be combined with the quantitative measures to bring the two realms closer together and extend the field in the naturalistic research. A further such option would be to conduct the detailed sequential analysis offered by conversation analysis in the context of quantitative sequential analysis such as the *lag-sequential analysis* (see Gottman & Bakeman, 1979) which seeks to measure whether a behaviour produced in Time 1 by one person is related to a behaviour of produced by another person, in Time 2. Clearly, a larger sample involving children with autism and neurotypical children would allow for a test for differences in the probabilities of eye-gaze occurrence as sequelae of particular social antecedents. However, in this thesis I wish to emphasise the value of the detailed
qualitative micro-analysis of even the single cases of interactions. As Schegloff (1993) reminds us, “in examining large amounts of data, we are studying multiples or aggregates of single instances. Quantitative analysis is, in this sense, not an alternative to single case analysis, but rather is built on its back” (p. 102).

While many quantitative analyses examining interactions rely on the coding of behaviours, conversation analysis does not code behaviours as such, but examines the details of interaction to the extent that can explain the occasions of some behaviour. The problem with assigning observations in rough (pre-stated) categories is that the coded occurrences can have sometimes little regard on the actual sequential context in which the behaviour occurs. In this sense, the behaviour is isolated from its environment. As Hutchby and Wooffitt (1998) put it “the focus on quantification tends to lead the analyst away from considering, closely and on a case-by-case basis, how the participants themselves are orienting to one another’s actions” (p. 119). For example, when coding “interruptions” in talk, one might code the second speaker’s talk as an “interruption” when it overlaps with the first speaker’s talk. Upon closer examination, however, the analyst might find that the overlap occurs because the first speaker continues their talk after the possible completion (that is, after the transition relevance place) while, for the second speaker (or the “interrupter”), this was a sequentially legitimate place to start their turn (see Hutchby & Wooffitt, 1998, p. 118, for the example and discussion). Thus, again we are met with the importance of considering the relevance of something that a party does in response to the preceding actions of the co-participant; the relevance of any actions lies within the interactional detail.

While the eye-gaze behaviours of individuals with autism have been widely researched, the only studies to have used eye-tracking technology have been purely quantitative in nature. To truly advance the field of autism research, however, one fruitful approach would
be to *combine* eye-tracking and conversation analysis in the study of eye-gaze and social conduct in naturally occurring settings. This requires, however, the development of portable eye-tracking equipment that makes eye-tracking possible in face-to-face interactions. The recording of the actual fixation patterns would enhance the accuracy of the judgements made of eye movements that can be currently made from video-recorded interactions only. The transcription of the on-going interaction and the sequential analysis of the occurring activities would consequently enable conversation analysts to examine how the individuals participate in these interactions and how, for example, eye-gaze and other bodily conduct are used. Consider how the eye-tracking studies alone overlook other behaviours that occur; off-screen fixations (for example, gazing at hands) and other body-focused actions (for example, rubbing of the eyes) are rendered as “no data” and consequently left uncoded (e.g. Klin et al., 2002). Furthermore, such behaviours, and importantly, the fixation patterns of the eyes, are not recorded in interactional contexts but often in isolated settings as the participant views experimental stimuli. During actual interactions however behaviours such as face-touching and gaze aversion can have relevance to the ongoing business of interaction. Thus, the detailed analysis of the co-occurring bodily conduct could build a more detailed understanding of how the parties orient to what is at hand at any given moment.

A further limitation in the experimental eye-tracking studies is that the studies are not able to indicate how the individuals might *process* what they see (Boraston & Blakemore, 2007). While the combination of eye-tracking and brain imaging paradigms can accomplish this, their limitation also relates to the lack of detail of the conduct in actual interactions – how participants orient to, treat, or respond to what they are gazing at (or not gazing at). Furthermore, these paradigms employ highly unnatural environments that restrict body movement and expose the participant to unusual noise. However, as Boraston
and Blakemore note, “perhaps the most critical difference is the lack of any visual or social distractions – a situation markedly different from everyday social encounters” (p. 896).

In the future research, it would be beneficial to bring the different paradigms closer together as mutually supportive methodologies. However, the full potential of eye-tracking is yet to be discovered as their application to real-life situations is not currently feasible; the methods available are invasive (e.g. the use elliptical coils which are isolated from the skin with silicon rubber, Bremen, Van der Willigen, & Van Opstal, 2007) and the tracking procedure often requires that the participant does not move their head. The helmet-mounted eye-tracker that allows movement is highly unnatural to wear, while the illuminating of the eye with an infra-red beam can mainly record the eye-movements directed at a screen where stimuli are presented. The most naturalistic eye-tracking should employ discrete and non-invasive equipment that can record eye-movements as the participants engage in everyday activities.

Thus for now, the most natural study of naturally occurring eye-gaze has to rely on the examination of video-recorded interactions captured in film. Whilst unable to record accurate fixation patterns of the participants’ eye-gaze, the conversation analytic approach can nevertheless overcome many of the limitations of the experimental paradigms, such as the use of experimental stimuli as opposed observing the conduct of real people. Hence the conversation analytic study, in particular, has high ecological validity as it is directly concerned with the behaviour of people in real settings. From this it follows, that eye-gaze can be examined the way in which it is actually used as opposed to how people view photographs or dynamic scenes in a film. As Boraston and Blakemore (2007) have put it, “a photograph does not ‘look back’ at the subject, whereas a real person would” (p. 897). This notion in itself has implications for the understanding of eye-gaze as practical action,
whereby a party’s gaze to another can have specific implications for the conduct that follows.

8.3 Prospects for application of the research

The sensitivity of conversation analytic framework can offer potential contributions in the clinical settings, such as in the assessments of autism. Some of the assessment instruments currently available, for example, The Early Social-Communication Scales (ESCS, Mundy et al., 2003), The Communication and Symbolic Behavior Scales (CSBS, Wetherby, & Prizant, 1992), and The Autism Diagnostic Observation Schedule-Generic (ADOS-G, Lord et al., 2000) already examine the functional use of eye-gaze in children with autism in the context of naturalistic interactions. Conversation analysis could complement such assessments by means of breaking down the phenomena under consideration. Let us consider ADOS-G, for example. This semi-structured observational assessment covers the areas of communication, social interaction, and play in children (and adults) at all levels. The assessment covers different modules, which might require either moving around the room with the child, or sitting around a table to assess the conversational skills. When an assessment item requires, for example, calling the child’s name, the observed reactions are coded to yield a respective positive or negative result. If, for example, the child does not respond when their name is called, it would be interesting to examine in detail, what else might be occurring during the particular moment of interaction, or what has just occurred: is the child occupied with something else, was some other talk produced (such as a question that might occasion a response from the child) just prior to calling the child’s name, and the like.

Taking into consideration the actions of all parties could build a more detailed account of the particular interactional moments; when examined sequentially, the behaviours of the
child might not display a complete failure to show social orientation, for example. On the other hand, the sensitivity of such analysis could also elucidate those occasions which appear to be of a particular interactional difficulty for the child. Recall for example, how in Chapter 5, Liisa did not immediately respond when Paula called her name. However, her subsequent actions revealed that she was interactionally engaged as she showed her regard to Paula through other means. Thus it would be misleading to consider Liisa having fundamental difficulties in social orientation, notwithstanding she might not have propensity to engage in mutual eye-gaze or realign her gaze when her name is called.²

In ESCS, the child’s eye-gaze behaviours are coded from the video-recorded materials during different activity trials to measure different functions of gaze in interactional contexts. In order to test the skills for initiating joint attention, for example, the child’s eye-gaze is coded insofar as it can be seen to be responsive to particular antecedents. One of the instructions for the lower level behaviours states “Do not rate Eye Contact if the child’s behaviour may have been elicited by the tester’s movement or talking” (ESCS, Mundy et al., 2003, p. 16). In everyday interactions, however, and as covered in Chapter 7, the interactants can routinely use such subtle means to elicit the realignment of gaze of the co-participant in order to establish the mutual focus of involvement (see Heath, 1986). Thus, on the basis of conversation analytic findings, it could be misleading to ignore gaze that occurs in response to another’s body movement or handling of material objects on the table, for example. These might be legitimate responses that treat the movements as bids for the realignment of gaze; the careful sequential analysis of the video-recorded material could detail the behaviours that clearly occur in response to the actions of the co-present party during the assessments.

It is possible that the detailed conversation analytic findings could be seen as interesting and important for understanding aspects of interactions involving children with
autism – yet they might nevertheless give rise to the question “so what? What are the wider implications, if any, in terms of interventions or policy concerning individuals with autism?” Richards (2005) notes how the detailed examination of the everyday interactions with parents, carers, teachers, and also clinicians could inform education and therapeutic practice “not in terms of procedures that they might follow (how far and in what ways these might be specifiable is a professional issue) but in terms of responding to competencies that CA has been able to expose” (p. 6). Thus such detailed examination could be used as an additional tool in clinical assessment situations which are directly concerned with the understanding of the behaviour of these children. A particular domain that should be addressed in further research also is the clinical assessment as particular kind of interaction (see Maynard, 2005). The child’s responses in an assessment context might be responsive to the actions of the clinician, and conversation analysis could examine the encounters between clinicians and children. It is of particular interest what kind of practical social understanding a child manifests during an assessment beyond the test itself (see also Schegloff, 2003).

Perhaps most importantly, the examination of what children and carers actually do in their daily interactions is fruitful for establishing “where” particular areas of difficulty might reside for the participants. The examination of assessment situations could help us to determine whether the child’s, or indeed the clinician’s, conduct or “difficulty” is responsive to some interactionally occasioned event. Finlay, Antaki, and Walton (2008a) have called for the use of video recordings particularly in the training and consultation of care staff who work with clients with severe learning disabilities. Drawing on their project of residential services in the UK, Finlay et al. report how showing video recordings of the daily activities at the participating care homes, the staff have been able to identify the strengths and weaknesses of the conversational practices that they use with their clients.
Furthermore, the inspection of video has enabled the staff to identify how the way in which the routine tasks are often preformed on behalf of these clients can occasionally limit their independence (Finlay et al., 2008a). Thus seeing in detail how they actually conduct their work and interact with their clients brings out what has been previously left unnoticed, for example:

Staff can become aware of aspects of their own behaviour that make it difficult for service-users to assert themselves. For example, we found that in an effort to check the understanding of the person from whom they were seeking an opinion, staff in one service would habitually rephrase questions several times in quick succession before an answer had been given. This made it difficult for the resident since they could not be sure which question they were supposed to be answering; often this led to no response being given. (Finlay, Antaki, & Walton, 2008a, p. 4)

The consideration of the actions of co-participants is thus crucial; the problems of interaction might not simply reside in the impairments associated with learning disabilities or autism, for example, but rather in the interactions themselves. Often, carers are not aware of their own practices, thus when seeing the interactions in the video people are often surprised and interested in their own behaviour (“Do I really do that?”) (Finlay et al., 2008a). Sometimes a particular hindrance for the establishment of mutual understanding might reside in the routine ways of doing things which can be based on assumptions about incompetencies that characterise these disabilities (Finlay et al., 2008a). In this thesis, I have continuously focused on the actions of the adults who interact with children with autism and the way in which they make sense of these children’s conduct. In particular, I have shown that the orientation to each others’ eye-gaze has emerged as a crucial practice that is used to manage and interpret the state of co-participation even in the most mundane activities, such as when getting the child to read or assemble a puzzle, or occasionally,
when getting the child respond to a question. The conduct of the teachers has demonstrated that even simple tasks require careful monitoring of the child’s behavior; in particular, the understanding of eye-gaze activities was contingent upon the sequential contexts in which they occurred. For example, gaze aversion was not treated as a property of the child or any particular task; it was responded to differently depending on the sequential environments of the averted gaze during the on-going interaction. Without considering the video-recordings of these interactions and subjecting them to the sequential analysis, also these practices might have passed unnoticed for the simple reason that “much of what goes on between people is so rapid and mundane that it goes ‘under the radar’” (Finlay, Antaki, & Walton, 2008a, p. 4).

A further area of research that could consequently inform therapeutic practice is the implementation of the range of intervention programmes available for autism. While many interventions strategies have been developed, not all work for every child, and their impact can vary. Thus, it is possible to question the relevance of conversation analytic research with regard to the interventions and their practical implementation. For example, the current concerns as to how to increase independence of children and youngsters with autism have led to the development of intervention strategies that decrease carer-reliance when performing familiar things in familiar settings (e.g. Hume, Loftin, & Lantz, 2009). Clearly, such concerns tap into the consideration of behaviour of the adults who interact with these children. One of such intervention that emphasises the conduct of carers, is SWAT (say, wait and watch, act out, touch to guide) Support procedure (Parsons, Reid, & Lattimore, 2009; Wilder, Atwell, & Wine, 2006). The purpose of the strategy is to decrease the adults’ tendency to perform mundane activities for the children. In essence, the intervention uses steps that move from least-to-most prompting: Say tells the child what to do; during wait and watch the carer looks at the child for approximately three seconds
before proceeding with the next prompt of act out. Acting out involves the carer gesturing at or moving towards the relevant object, for example, and then repeating the watch and wait period. Finally, if needed, touch to guide involves the carer physically guiding the child to perform the target action.

The SWAT procedure has been used also with adults who have autism to gradually increase their independence when performing daily activities. For example, Parsons et al. (2009) have reported on the implementation of the strategy with three gentlemen with severe autism who work part time in a supported clerical-type position. For years, the workers’ break time had followed a routine whereby the support worker would do various things on behalf of these men, such as turning the radio on for “Mel”, bringing a drink for “Ralph”, and getting a sketch pad for “Greg”. During the SWAT implementation, the support worker was instructed to follow through the steps and encourage the workers to accomplish these break time tasks independently for themselves. The detailed examination of the interventions such as the SWAT procedure through the conversation analysis method would be valuable in terms of delineating the particular impact of the strategy (or an individual step) as it unfolds through the interactions between the individuals with autism and those who interact with them. For example, what are the nuances of interaction at a specific moment when one of the steps does not work and full physical guidance is needed to complete an activity? The difficulties with, or the success of, a particular kind of prompt or guidance might not simply be the property of the intervention strategy per se, but rather of the interactional context in which it is embedded. In this sense, through providing detailed descriptions of the participants’ eye-gaze and body movement, and also prosody of talk, would contribute to a more thorough understanding of why something works or does not work with individuals with autism.
Although conversation analysis is essentially a qualitative methodology, its application does not exclude the quantification of phenomena. Some studies, mainly concerning medical interactions, have used quantification in order to examine practices that clinicians use when interacting with patients, and in particular, the consequentiality of these practices during consultation. For example, Heritage, Elliott, Stivers, Richardson and Mangione-Smith (in press) have examined the relationship between “online commentary” about the problematic findings during the examination (for example, “there’s inflammation there”, “her lungs sound awful”) and the subsequent inappropriate antibiotic prescribing for the common cold. This study draws on the results of previous CA work, which identified a particular practice and used this as the basis of a quantitative analysis. It is important to note that this differs from straight content analysis insofar as the codes are defined on the basis of previous analysis, not on the basis of theoretical stipulation or assumption. Through the quantification of the identified practices, Heritage et al. have been able to show that the particular way of talking during the examination is statistically correlated with the kind of action the clinicians’ take in terms of prescribing medication; the parents’ expectation that antibiotics are needed is often heightened following the production of problem online commentary from the clinician. Indeed, the authors recommend clinicians avoiding the use of online commentary in the cases of common cold which emphasises the practice implications of the CA informed research. Further research involving children with autism could examine any challenges that the participants have with respect to non-vocal behaviour and eye-gaze in particular, and how this might occur in response to the practices adopted by their co-participants such as familiars, teachers, or clinicians.

The merits of the applied conversation analytic work are thus essentially practical. In the field of aphasia, the issues raised regarding the joint participation and collaborative
nature of conversations have resulted in the development of SPPARC (Supporting Partners of People with Aphasia in Relationships and Conversation), a resource-pack for facilitating the everyday conversations of couples where one party is affected by aphasia (Lock, Wilkinson, & Bryan, 2001). The development is of SPPARC has been based on the extensive conversation analytic work on video-recorded interactions between the speakers with aphasia and their spouses, and its implementation involves the use of video to identify the participants’ practices in conversations. For example, SPPARC has helped the partners to modify the formulation of questions in order to elicit open-ended responses and consequently encourage the production of more complex answers from the speaker with aphasia. Such resources can make interactions more conversational regardless of the limited capacity to produce talk by one of the speakers.

One possibility is to develop parallel resources for the interactions involving children but also adults with autism. This however requires extensive research on the daily interactions at various settings and the use of video to consult carers of their practices (see Finlay et al., 2008a) and perhaps some form of quantification of what “works” for which child. The particular merits of conversation analytic research thus reside within its capacity to identify the strategies that can help the interactional participation of individuals who, on the one hand, are considered limited in their capacity to engage socially with others, and on the other hand, to do things independently for themselves. A further strength of conversation analytic approach resides within its scope to broaden the clinical picture of individual children around which the resources for therapy could be tailored. While this thesis is limited in its scope to comprehensively contribute to the clinical picture of the children in question, competencies have been identified for each one of them, even with the limited data source that was available. Thus, further research that aims to collect an
extensive data corpus from various settings, with a variety of co-participants, offers a promising contribution to the naturalistic research in the field of autism.

Chapter 8 – Notes

¹ In a personal communication, the mother of an adolescent boy with Asperger’s syndrome (who was not a participant in this study) described how they had practiced eye contact and regularly talked about eye-gaze. At first, her son’s eye-gaze behaviours alternated between two “extremes”: while talking to another person, he would gaze at elsewhere, turn his back at them, or remove himself into another room. After conscious practice, he began to “stare” at the person he was speaking to – sometimes to an extent that there was no sense of connection that he was actually talking to them. With some further conscious practice, he began to “circulate” his gaze between his co-participant and the surroundings; now at 16, he uses eye-gaze almost competently during conversations.

² In a personal communication, the mother of Liisa has described how now at the age of 14, Liisa engages in eye-contact mostly if the topic of talk is something that she enjoys.


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Schopler, E., Reichler, R., Bashford, A., Lansing, M., & Marcus, L. (1990). *Psychoeducational profile revised (PEP-R).* Austin, TX: Pro-Ed.


APPENDICES

APPENDIX A: PROXY CONSENT FORM (IN ENGLISH)

ETHICS BOARD

PROXY CONSENT FORM FOR CHILDREN –
TO BE COMPLETED BY PARENTS OR PRIMARY CARERS

Title of Research Project: The Participation of Children with Autistic Spectrum Disorders in Multimodal Interactions

Brief Description of Research Project:

The aim of my MPhil/PhD research is to video/audio record and investigate the everyday interaction between children with Autistic Spectrum Disorders (ASD) and their familiar others (carers/teachers/therapists/family members). The aim is to develop understanding of the ways in which communicative competences manifest themselves in talk and non-vocal (i.e. gaze, gestures) behaviour among the children with ASD who often have a limited capacity for verbal communication. These resources will be investigated in their natural interactional contexts where simultaneously close attention is paid to the talk and non-vocal behaviour of the co-participants (carers/teachers/therapists/family members). The research approaches these multimodal interactions and investigates how mutual understanding is accomplished in interaction between the participants. Furthermore, consideration will be given to the interactional competencies (or interactionally relevant actions) that can underlie behaviours that are often regarded as “symptomatic” in ASD.

Your Participation

The research will involve audio/video recording normal everyday interaction, such as play or classroom activities, between a child with ASD and their carers/teachers/therapists, without intruding in any way in the interaction. The aim is then to record talk and non-vocal (i.e. gaze, gestures) behaviour occurring as naturally as possible, and nothing beyond ordinary is expected from the participants. In some cases where the child is scheduled to engage in therapeutic intervention sessions (e.g. Applied Behaviour Analysis [ABA]), a trained tutor/therapist is invited to participate in the study, subject to their consent. The
recordings will be carried out possibly during a single individual session (lasting approximately 60 min). Alternatively, a few recordings could be made of an individual child and their co-participant if this seems more convenient. If at any point the recording becomes intrusive or creates discomfort it will be terminated without a question; the research will be sensitive to the emotional well-being of each of the participants. The audio/video recorded data will be transcribed by the researcher, where the vocal and non-vocal practices will be captured in detail for their subsequent analysis.

The participation in the research is completely voluntary, and all the data will be kept confidential, shared only between the researcher, the project supervisors, and the project examiners at Roehampton University. As the research relates to the interactional competencies of individuals on the Autistic Spectrum, it would be helpful if you would be willing to provide diagnostic information regarding to your child’s assessment, or allow your child to be assessed by a clinical psychologist at a later date. It is further emphasised that all the information will be treated confidentially and anonymity of all the participants will be guaranteed by using pseudonyms in the transcripts and in the written report. All the participants have a right to withdraw from the study at any point by simply informing me (investigator) about it in the contact details provided. In this case the collected data or any parts of the data that you do not wish to be used in the study will not be included in the analysis, and the audio/video tape(s) will be destroyed. Your participation in the study is highly appreciated, and you will be fully debriefed after the data collection. In this letter you have also been provided with my contact details and the details of my project supervisor in case any questions or concerns will arise at a later date, or if you would like to withdraw from the study after the data collection.

Taking part

If you, parents, and/or school staff would like to hear more about this research, or discuss any aspect of the information enclosed, please feel free to contact me on the contact details provided in this letter. If you would like to receive further information on previous conversation analytic studies investigating the interactional competencies of children with ASD, please contact me and I would be happy to provide you with a summary of findings.

By returning the enclosed forms (Research Participant Consent Form; and Consent Form for Diagnostic Information) signed to me (investigator) it will be taken as your consent to have your child participating in this research. A proxy consent for the child is requested from you as a parent or primary carer due to the child’s inability to fully comprehend the purpose of the study and to give an informed consent for themselves.
The investigator and the project supervisors have experience in conducting social interaction research involving children with Autistic Spectrum Disorders, and the investigator who is in charge of the data collection holds a valid CRB clearance. Furthermore, the present research is based in the University’s Centre for Research in Cognition, Emotion & Interaction within the School of Human and Life Sciences, where other members have additional experience in caring for close relatives with ASD.

Proxy Consent for Children

A proxy consent will be requested from you as a parent or primary carer of the child participating in the study. This form will be taken as your consent with respect to what extent you would like audio or video data involving your child to be used.

Please indicate your consent by ticking next to the statements regarding the use of data for the research purposes in the project *The Participation of Children with Autistic Spectrum Disorders in Multimodal Interactions*.

Consent Statements:

I agree to take part in this research, and am aware that I am free to withdraw at any point. I understand that the information I provide will be treated in confidence by the investigator and that my identity will be protected in the publication of any findings. 

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I permit the child whom I have responsibility for to participate, and am aware of my right to withdraw him/her from the research at any point without giving any reason.
I understand that if I wish my child not to take part in this study, it will not affect the care given to them. 

I give my consent for audio taping the naturally occurring everyday interaction, and understand that the recording will be terminated if it becomes intrusive or creates discomfort for myself or the child. 

I give my consent for video taping the naturally occurring everyday interaction, and understand that the recording will be terminated if it becomes intrusive or creates discomfort for myself or the child. 

I recognise that the data will be stored confidentially, pseudonyms will be used when referring to names of the participants. 

I agree that the data including audio recordings where participants’ names are concealed can be used as follows:

1. Academic research 

2. Presentation at 
   Academic or Professional Seminars/Workshops/Conferences 

3. Presentation at Parent Forums/Seminars/Workshops
4. Research publications (e.g. academic journals; electronic journals)

I agree that the data including video recordings where participants’ names are concealed and other identifying remarks are omitted can be used as follows:

5. Academic research

6. Presentation at
   Academic or Professional Seminars/Workshops/Conferences

7. Presentation at Parent Forums/Seminars/Workshops

8. Research publications (e.g. academic journals; electronic journals)
I give my consent for the use of still photographs in the research report for
illustrative purposes of non-vocal behaviour described in the report.
I recognise that pseudonyms will be always used to conceal
the participants’ identities.

I give my consent for the use of still photographs in the research report which
could be published in research publications. I recognise that the use is
for illustrative purposes of non-vocal behaviour described in the report
and that pseudonyms will be always used to conceal
the participants’ identities.

I am willing to provide the diagnostic assessments of my child for the purpose
of the research report.
Consent Statements for Diagnostic Information:

Consent is requested from you as a parent or primary carer of the child participating in the study regarding their diagnostic information. This form will be taken as your consent with respect to your willingness to disclose such information and the extent you would like this information to be used in the written report.

Please indicate your consent by ticking next to the statements regarding the use of diagnostic information of your child in the project *The Participation of Children with Autistic Spectrum Disorders in Multimodal Interactions*.

I give my consent to use my child’s diagnostic information in the research report, and I do understand that pseudonyms will be used to conceal the participants’ identities.

Please elaborate below your consent regarding the specific information which can be mentioned in the research report:

The child’s diagnosis

Diagnostic assessment(s) used

Results of the child’s ratings in diagnostic assessment(s)

The child’s behavioural description
I give my consent to use my child’s diagnostic information in the research report which could be published in research publications (i.e. academic journals). I do understand that pseudonyms will be used to conceal the participants’ identities.

Please elaborate below your consent regarding the specific information which can be mentioned in the research report which could be published in research publications:

The child’s diagnosis

Diagnostic assessment(s) used

Results of the child’s ratings in diagnostic assessment(s)

The child’s behavioural description

Name of the Child: ______________________

Your Name: ___________________________

Your Relation to the Child (parent or primary carer): ______________________
Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator. However if you would like to contact an independent party please contact the Director of Studies.

Thank you!

**Investigator Contact Details:**

Name: Terhi Korkiakangas (Investigator)  
School: School of Human and Life Sciences  
University address: Roehampton University  
Whitelands College  
Holybourne Avenue  
London  
SW15 4JD  
UK  
Email: t.korkiakangas@roehampton.ac.uk  
Telephone: +44 (0)20 8673 3903

**Director of Studies Contact Details:**

Name: Dr Paul Dickerson  
School: School of Human and Life Sciences  
University address: Roehampton University  
Whitelands College  
Holybourne Avenue  
London  
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UK  
Email: P.Dickerson@roehampton.ac.uk  
Telephone: +44 (0)20 8392 3612
APPENDIX B: PROXY CONSENT FORM (IN FINNISH)

VANHEMPIEN TAI ENSISIJAISTEN HUOLTAJIEN LUPALOMAKE LAPSILLE

Tutkimuksen nimi: Autismi spektrumin lasten osallistuminen multimodaaleihin vuorovaikutustilanteisiin

Lyhyt kuvaus tutkimusprojektista:

MPhil/PhD tutkimukseni tarkoituksena on suorittaa video / ääni nauhoituksia jokapäiväisestä vuorovaikutuksesta autismi spektrumiin kuuluvien lasten ja heidän läheistensä (hoitajat/opettajat/terapeutit/perheen jäsenet) välillä. Tavoitteenä on kehittää ymmärtämystä siitä, kuinka kompetenssit vuorovaikutukseen ilmenevät puheessa ja eikiellellisessä käyttäytymisessä (mm. katseen kohdistaminen, eleet) autististen lasten kohdalla huolimatta siitä, että heillä on usein rajallinen kapasiteetti käyttää puhetta kommunikaation välineänä. Ilmeneviä resursseja tutkitaan luonnollisessa vuorovaikutukseessa, jossa tarkastellaan vuorovaikutustilanteita lasten ja opettajien/hoitajien/perheen jäsenten välillä. Lisäksi tarkastelen lasten yksilöllisiä kykyjä vuorovaikutukseen (eli vuorovaikutuksen kannalta merkittävää toimintaa) siten kuin ne ilmenevät heidän käyttäytymisessään, ja joita voidaan usein ylenkatsoa autististen lasten kohdalla sympomaattisina käyttäytymisen häiriöinä.

Mitä osanotto tutkimukseen sisältää

Käytännössä tutkimukseen osaaottaminen ei edellytä teiltä mitään arjesta poikkeavaa, sillä tarkoituksena on kerätä video / ääni nauhoituksia luonnollisesti esiintyvästä vuorovaikutuksesta (puhe ja eikiellellinen vuorovaikutus, kuten katseen kohdistaminen ja eleet) lasten ja opettajien/hoitajien/perheen jäsenten välillä. Mikäli lapsenä ottaa osaa terapeuttiseen ohjaukseen tai kuntoutukseen, ja mikäli annatte luvan naiden ohjauslaitteiden nauhoittamiseen, myös asianomaiset terapeutit ja ohjaajat kutsuvaan tutkimukseen mukaan. Nauhoitukset pyritään suorittaamaan antamanne luvan perusteella joko yhdellä kertaa (n. 60 minuuttia) tai useammilla erissä. Mikäli nauhoitus tuottaa lapsellenne tai muille osanottajille epämukavuutta tai ahdistusta, se lopetetaan.
välittömästi, sillä osanottajien hyvinvointi on ensisijaisen tärkeää. Keräämäni video / ääni nauhoitukset tullaan transkriboimaan kirjallisiksi esimerkeiksi, ja niistä ilmenevät merkitykselliset kielelliset ja ei-kielelliset ilmiöt otetaan lähemmän analyytisen tarkastelun kohteeksi.


Osanotto

Mikäli olisitte kiinnostunut ottamaan osaan tutkimukseeni mutta haluaisitte lisätietoja tähän liittyen tai tietoa aiemmin vastaavanlaisista tutkimuksista, ottakaa ystävällisesti yhteyttä vaikka sähköpostin kautta, ja toimitaan teille mielelläni lisätietoa tai tiivistelmän aiemmin tutkimusloydöksistä.

Palauttamalla nämä lomakkeet (Lupalomake lapsille; Lupalomake diagnoositestien tietojen luovuttamiseen) minulle täytettyynä ja allekirjoitettuna otetaan se teidän suostumukseenanne (vanhempana tai ensisijaisena huoltajana) lapsenne osanottamisesta tutkimukseeni. Lupaa pyydetään teidät huoltajana sen vuoksi, että lapsi ei pysty käsittämään tutkimuksen tarkoituksa eikä siksi antamaan tarvittavaa lupaa omasta osanotostaan.

Monet kiitokset!
Tutkijan nimi ja asema:

Terhi Korkiakangas, BSc, MSc – Tutkija
t.korkiakangas@roehampton.ac.uk Puhelin: +44 (0)20 8673 3903

Dr John Rae – Tutkimuksen valvoja
J.Rae@roehampton.ac.uk Puhelin: +44 (0)20 8392 3612

Dr Paul Dickerson – Opintojen valvoja
P.Dickerson@roehampton.ac.uk Puhelin: +44 (0)20 8392 3613

Tutkijalla ja tutkimuksen valvojilla on aiempaa kokemusta autismi spektrumin lasten vuorovaikutustaitojen tutkimuksesta, ja tutkijalla, joka on vastuussa kuvausmateriaalin keräämisestä on voimassa oleva, täysin puhdas rikostaustaote, joka vaaditaan lasten kanssa työskenteleviltä. Tämä tutkimus suoritetaan Roehamptonin yliopiston tiedekunnassa, jonka henkilökunnalla on lisäksi kokemusta autististen läähimmäisten hoidosta.

Vanhempien tai ensisijaisten huoltajien täyttämä lupalomake lapsille

Lupaa lapsenne osanottamiseen tutkimukseen pyydetään teillä lapsen vanhempana tai ensisijaisena huoltajana. Tässä lomakkeessa teitä pyydetään erittelemään suostumusen koskien kuvausmateriaalin käyttöä tutkimuksessa.

Olkaa hyvä ja merkitä suostumuksesi rastilla kaikkiin lupalausuntoihin, joihin annatte lapsenne kohdalla luvan tutkumksessani Autismi spektrumin lasten osallistuminen multimodaaleihin vuorovaikutustilanteisiin.

Lupalausunnot:

Suostun osallistumaan tähän tutkimukseen,
ja olen tietoinen oikeuksistani vetäytyä tutkimuksesta
missä vaiheessa tahansa. Ymmärrän, että kaikki materiaali tullaan
käsitetemään täysin luottamuksellisesti ja että henkilöllisyytemme
tullaan ainasuojamaan peitenimin, myös jos tutkimus tullaan julkaisemaan
tulevaisuudessa.
Annan luvan lapselleni osallistua tähän tutkimukseen,
ja olen tietoinen oikeuksistani peruuttaa lapseni osallistuminen
missä vaiheessa tahansa antamatta erillistä syytä.

Ymmärrän, että mikäli en tahdo lapseni ottavan osaa tähän
tutkimukseen, ei se tule millään tavalla vaikuttamaan hänen
hoitoonsa.

Annan luvan ääni-nauhoituksiin (luonnollisesti esiintyvä vuoro-
avikutus), ja ymmärrän, että nauhoitukset lopetetaan mikäli ne
tuottavat epämukavuutta lapselle tai muille osanottajille.

Annan luvan video-nauhoituksiin (luonnollisesti esiintyvä vuoro-
avikutus), ja ymmärrän, että nauhoitukset lopetetaan mikäli ne
tuottavat epämukavuutta lapselle tai muille osanottajille.

Ymmärrän, että kaikki materiaali säilytetään luottamuksellisesti,
ja että peitenimiä tullaan käyttämään viitatessa osan-
ottajiin.
Annan luvan äännauhoitusten käyttöön (joissa osanottajien identiteetit ovat suojattu peitenimin) seuraavissa:

1. Akateeminen tutkimus
2. Esitys akateemisissa seminaareissa/konferensseissa
3. Esitys vanhemmille suunnatuissa seminaareissa
4. Tutkimusjulkaisut (akateemiset julkaisut ja e-julkaisut)

Annan luvan videonauhoitusten käyttöön (joissa osanottajien identiteetit ovat suojattu peitenimin) seuraavissa:

5. Akateeminen tutkimus
6. Esitys akateemisissa seminaareissa/konferensseissa
7. Esitys vanhemmille suunnatuissa seminaareissa
8. Tutkimusjulkaisut (akateemiset julkaisut ja e-julkaisut)

Annan luvan videomateriaalista otetujen valokuvien käyttöön valmiissa raportissa ei-kielellisen käyttäytymisen kuvantamista varten. Ymmärrän, että peitenimiä tullaan aina käyttämään lapseni ja muiden osanottajien identiteettien suojaamiseksi.
Annan luvan videomateriaalista otettujen valokuvien käyttöön tulevaisuudessa julkaistavassa raportissa ei-kielellisen käyttäytymisen kuvantamista varten.

Ymmärrän, että peitenimiä tullaan aina käyttämään lapseni ja muiden osanottajien identiteettien suojaamiseksi.

Suostun antamaan taustatietoa lapseni diagnoosista tätä tutkimustyötä varten.

Mikäli diagnostisia tietoja ei ole saatavilla, suostun toimittamaan ne myöhempänä ajankohtana kun psykologin arviot ovat valmiina.

Lupalausunnot diagnostisten tietojen luovuttamisesta:

Lupaa pyydetään teiltä lapsen vanhempana tai ensisijaisena huoltajana koskien diagnostisten tietojen luovutusta tätä tutkimusta varten. Tässä lomakkeessa teitä pyydetään erittelemään suostumukseen koskien lapsenne diagnostisten taustatietojen käyttöä tutkimuksessani.

Olkaa hyvä ja merkitkää suostumukseen rastilla kaikkiin niihin lupalausuntoihin, joihin annatte lapsenne kohdalla luvan tutkumksessani Autismi spektrumin lasten osallistumien multimodaaleihin vuorovaikutustilanteisiin.
Annan luvan lapseni diagnostisten taustatietojen käyttöön tässä tutkimuksessa, ja ymmärrän että peitenimiä tullaan aina käyttämään lapseni henkilöllisyyden suojaamiseksi.

Olkaa hyvä ja eritelkää lupanne kaikissa kohdissa, joissa suostutte tietojen käyttöön työssäni:

Lapsen diagnoosi

Arviot ja menetelmät joita lapsenne diagnoosissa käytettiin

Minkä tasoisia arvioita lapsenne sai diagnoosissa

Yleinen käyttäytymisen kuvaaminen

Annan luvan lapseni diagnostisten taustatietojen käyttöön tulevaisuudessa julkaistavassa tutkimuksessa, ja ymmärrän että peitenimiä tullaan aina käyttämään lapseni henkilöllisyyden suojaamiseksi.
Olkaa hyvä ja eritelkää lupanne kaikissa kohdissa,
joissa suostutte tietojen käyttöön tulevaisuudessa julkaistavassa työssäni:

Lapsen diagnoosi

Arviot ja menetelmät joita lapsenne diagnoosissa käytettiin

Minkä tasoisia arvioita lapsenne sai diagnoosissa

Yleinen käyttäytymisen kuvaaminen

Lapsen nimi: ______________________  Teidän nimenne: ______________________

Sukulaisuussuhde lapsen (vanhempi tai ensisijainen huoltaja):

__________________________

Allekirjoitus: ________________________  Päiväys: ________
Mikäli teillä on kysymyksiä tutkimusemestani tai osanotostanne, ottakaa ystävällisesti yhteyttä minuun (tutkija) käyttäen alla olevia yhteystieojani. Mikäli haluatte ottaa yhteyttä opintojen valvojaan myös hänen yhteystietonsa löydätte tämän kirjeen lopusta.

Monet kiitokset!

Tutkijan yhteystiedot:

Nimi Terhi Korkiakangas (tutkija)
Tiedekunta School of Human and Life Sciences
Yliopiston osoite Roehampton University
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UK
Sähköposti t.korkiakangas@roehampton.ac.uk
Puhelin +44 (0)20 8673 3903

Opintojen valvojan yhteystiedot:

Nimi Dr Paul Dickerson
Tiedekunta School of Human and Life Sciences
Yliopiston osoite Roehampton University
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Sähköposti P.Dickerson@roehampton.ac.uk
Puhelin +44 (0)20 8392 3612
APPENDIX C: CONSENT FORM FOR
TEACHERS/CARERS/TUTORS/FAMILY MEMBERS (IN ENGLISH)

ETHICS BOARD

PARTICIPANT CONSENT FORM FOR
TEACHERS/CARERS/TUTORS/FAMILY MEMBERS

Title of Research Project: The Participation of Children with Autistic Spectrum Disorders in Multimodal Interactions

Brief Description of Research Project:

The aim of my MPhil/PhD research is to video/audio record and investigate the everyday interaction between children with Autistic Spectrum Disorders (ASD) and their familiar others (carers/teachers/therapists/family members). The aim is to develop understanding of the ways in which communicative competencies manifest themselves in talk and non-vocal (i.e. gaze, gestures) behaviour among the children with ASD who often have a limited capacity for verbal communication. These resources will be investigated in their natural interactional contexts where simultaneously close attention is paid to the talk and non-vocal behaviour of the co-participants (carers/teachers/therapists/family members). The research approaches these multimodal interactions and investigates how mutual understanding is accomplished in interaction between the participants. Furthermore, consideration will be given to the interactional competencies (or interactionally relevant actions) that can underlie behaviours that are often regarded as “symptomatic” in ASD.

Your Participation

The research will involve audio/video recording normal everyday interaction, such as play or classroom activities, between a child with ASD and their carers/teachers/therapists, without intruding in any way in the interaction. The aim is then to record talk and non-vocal (i.e. gaze, gestures) behaviour occurring as naturally as possible, and nothing beyond ordinary is expected from the participants. In some cases where the child is scheduled to engage in therapeutic intervention sessions (e.g. Applied Behaviour Analysis [ABA]), a trained tutor/therapist is invited to participate in the study, subject to their consent. The recordings will be carried out possibly during a single individual session (lasting approximately 60 min). Alternatively, a few recordings could be made of an individual child and their co-participant if this seems more convenient. If at any point the recording becomes intrusive or creates discomfort it will be terminated without a question; the research will be sensitive to the emotional well-being of each of the participants.
The audio/video recorded data will be transcribed by the researcher, where the vocal and non-vocal practices will be captured in detail for their subsequent analysis. The analysis will be implemented according to the conversation analysis (CA) methodology. The focus is strictly on patterns and sequences in talk and/or non-vocal behaviour; the analysis does not assume to reflect or to uncover any underlying features, intentions, or motives behind talk. For this reason, there will be strictly no analysis of the participants personally.

The participation in the research is completely voluntary, and all the data will be kept confidential, shared only between the researcher, the project supervisors, and the project examiners at Roehampton University. As the research relates to the interactional competencies of individuals on the Autistic Spectrum, it would be helpful if you would be willing to provide diagnostic information regarding to your child’s assessment, or allow your child to be assessed by a clinical psychologist at a later date. It is further emphasised that all the information will be treated confidentially and anonymity of all the participants will be guaranteed by using pseudonyms in the transcripts and in the written report. All the participants have a right to withdraw from the study at any point by simply informing me (investigator) about it in the contact details provided. In this case the collected data or any parts of the data that you do not wish to be used in the study will not be included in the analysis, and the audio/video tape(s) will be destroyed. Your participation in the study is highly appreciated, and you will be fully debriefed after the data collection. In this letter you have been provided with the contact details of myself and the project supervisors in case any questions or concerns will arise at a later date, or if you would like to withdraw from the study after the data collection.

Taking part

If you, parents, and/or school staff would like to hear more about this research, or discuss any aspect of the information enclosed, please feel free to contact me on the contact details provided in this letter. If you would like to receive further information on previous conversation analytic studies investigating the interactional competencies of children with ASD, please contact me and I would be happy to provide you with a summary of findings.

By returning the enclosed form (Research Participant Consent Form) signed to me (investigator) it will be taken as your personal consent to participate in the research. Proxy consent for the children will be requested separately from the parents or primary carers due to the children’s inability to fully comprehend the purpose of the study and to give an informed consent for themselves.

Name and status of Investigator:

**Terhi Korkiakangas, BSc, MSc – Investigator**

t.korkiakangas@roehampton.ac.uk Phone No: +44 (0)20 8673 3903

**Dr John Rae – Project Supervisor**

J.Rae@roehampton.ac.uk Phone No: +44 (0)20 8392 3612

**Dr Paul Dickerson – Director of Studies; Project Co-Supervisor**

P.Dickerson@roehampton.ac.uk Phone No: +44 (0)20 8392 3613
The investigator and the project supervisors have experience in conducting social interaction research involving children with Autistic Spectrum Disorders, and the investigator who is in charge of the data collection holds a valid CRB clearance. Furthermore, the present research is based in the University's Centre for Research in Cognition, Emotion & Interaction within the School of Human and Life Sciences, where other members have additional experience in caring for close relatives with ASD.

Consent form for teachers/carers/therapists/tutors/family members

Consent will be requested from you (carer/teacher/therapist/tutor/family member) regarding your personal participation in the study. This form will be taken as your consent with respect to what extent you would like audio or video data involving yourself to be used.

Please indicate your consent by ticking next to the statements regarding the use of data for the research purposes in the project The Participation of Children with Autistic Spectrum Disorders in Multimodal Interactions.

Consent Statements:

I agree to take part in this research, and am aware that I am free to withdraw at any point. I understand that the information I provide will be treated in confidence by the investigator and that my identity will be protected in the publication of any findings.

I understand that if I do not wish to take part in this study, it will not affect the care given to the child/children.

I give my consent for audio taping the naturally occurring everyday interaction, and understand that the recording will be terminated if it becomes intrusive or creates discomfort for myself or the child.
I give my consent for video taping the naturally occurring everyday interaction, and understand that the recording will be terminated if it becomes intrusive or creates discomfort for myself or the child.

———

I recognise that the data will be stored confidentially, and that pseudonyms will be used when referring to names of the participants.

———

I agree that the data including audio recordings, where participants’ names are concealed and other identifying remarks are omitted, can be used as follows:
I agree that the data including video recordings, where participants’ names are concealed can be used as follows:

1. Academic research

2. Presentation at
   Academic or Professional Seminars/Workshops/Conferences

3. Presentation at Parent Forums/Seminars/Workshops

4. Research publications (e.g. academic journals; electronic journals)
I give my consent for the use of still photographs in the research report for illustrative purposes of the non-vocal behaviour described in the report.

I recognise that pseudonyms will be always used to conceal the participants' identities.

I give my consent for the use of still photographs in the research report which could be published in research publications. I recognise that the use is for illustrative purposes of non-vocal behaviour described in the report, and that pseudonyms will be used to conceal the participants' identities.

Name: _______________________________

Your Relation to the Child (e.g. teacher, carer):

____________________________________

Signature: ____________________________     Date: ___________
Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator. However if you would like to contact an independent party please contact the Director of Studies.

Thank you!

Investigator Contact Details:

Name: Terhi Korkiakangas (Investigator)

School: School of Human and Life Sciences
University address: Roehampton University
Whitelands College
Holybourne Avenue
London
SW15 4JD
UK

Email: t.korkiakangas@roehampton.ac.uk
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Director of Studies Contact Details:

Name: Dr Paul Dickerson
School: School of Human and Life Sciences
University address: Roehampton University
Whitelands College
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SW15 4JD
UK

Email: P.Dickerson@roehampton.ac.uk
Telephone: +44 (0)20 8392 3612
APPENDIX D: CONSENT FORM FOR TEACHERS/CARERS/TUTORS/FAMILY MEMBERS (IN FINNISH)

LUPALOMAKE OPETTAJILLE / HOITAJILLE /
OHJAAILLE / TERAPEUTEILLE / PERHEEN JÄSENILLE

Tutkimuksen nimi: Autismi spektrumin lasten osallistuminen multimodaaleihin vuorovaikutustilanteisiin.

Lyhyt kuvaus tutkimusprojektista:
MPhil/PhD tutkimukseni tarkoituksena on suorittaa video / ääni nauhoituksia jokapäiväisestä vuorovaikutuksesta autismi spektrumiin kuuluvien lasten ja heidän läheistenä (hoitajat/opettajat/terapeutit/perheen jäsenet) välillä. Tavoitteenä on kehittää ymmärtämystä siitä, kuinka kompetenssit vuorovaikutukseen ilmenevät puheessa ja ei-kielellisessä käytäytymisessä (mm. katseen kohdistaminen, eleet) autististen lasten kohdalla huolimatta siitä, että heillä on usein rajallinen kapasiteetti käyttää puhetta kommunikaation välineenä. Ilmenevää resurssia tutkitaan luonnollisessa vuorovaikutuskontekstissa, jossa samanaikaisesti painotetaan vuorovaikutuskumppaneiden (hoitajat/opettajat/terapeutit/perheen jäsenet) yhteistyössä ja tarkastelee kuinka yhteisymmärrys on saavutettavissa lasten ja vuorovaikutuskumppaneiden välillä. Lisäksi tarkastelen lasten yksilöllisiä kykyjä vuorovaikutukseen (eli vuorovaikutuksen kannalta merkittävää toimintaa) siten kuin ne ilmenevät heidän käyttäytymisessään, ja joita voidaan usein ylenkatsoa autististen lasten kohdalla symptomaattisina käyttäytymisen häiriöinä.

Mitä osanotto tutkimukseen sisältää
Käytännössä tutkimukseen osaaottaminen ei edellytä teiltä mitään arjesta poikkeavaa, sillä tarkoituksena on kerätä video / ääni nauhoituksia luonnollisesti esiintyvää vuorovaikutuksesta (puhe ja ei-kielellinen vuorovaikutus, kuten katseenkohdistaminen ja eleet) lasten ja opettajien/hoitajien/perheen jäsenten välillä. Mikäli lapsi ottaa osaa terapeuttiseen ohjaukseen tai kuntoutukseen, ja mikäli vanhemmat tai ensisijaiset huoltajat antavat luvan näiden ohjaustilanteiden nauhoittamiseen, myös asianomaiset terapeutit ja ohjaajat kutsutaan tutkimukseen mukaan. Nauhoitukset pyritään suorittamaan antamanne luvan perusteella joko ydhellä kertaa (n. 60 minuuttia) tai useammissa erissä. Mikäli nauhoitus tuottaa lapselle tai teille osanottajana
epämukavuutta tai ahdistusta, se lopetetaan välittömästi, sillä osanottajien hyvinvointi on ensisijaisen tärkeää. Keräämäni video / ääni nauhoitukset tullaan transkriboimaan kirjallisiksi esimerkkeiksi, ja niistä ilmenevät merkitykselliset kielettiset ja ei-kielettiset ilmiöt otetaan lähemmän analyytyisen tarkastelun kohteeksi.


Osanotto


Palauttamalla tämän lomakkeen (Lupalomake opettajille /hoitajille/ ohjaajille/ terapeuteille/ perheen jäsenille) minulle täytyttynä ja allekirjoitettuna otetaan se teidän henkilökohtaisena suostumuksen arvokseen. Lupaa lasten osallistumiseen pyydetään erillisellä lomakkeella vanhemmilta tai ensisijaisilta huoltajilta. Koska lapset eivät pysty käyttämään tutkimuksen tarkoituksia eivätkä siksi antamaan tuottavaa lupaa omasta osanotostaan, päätös siitä jätetään heidän huoltajilleen.

Monet kiitokset!
Tutkijan nimi ja asema:

**Terhi Korkiakangas, BSc, MSc – Tutkija**
t.korkiakangas@roehampton.ac.uk  Puhelin: +44 (0)20 8673 3903

**Dr John Rae – Tutkimuksen valvoja**
J.Rae@roehampton.ac.uk  Puhelin: +44 (0)20 8392 3612

**Dr Paul Dickerson – Opintojen valvoja**
P.Dickerson@roehampton.ac.uk  Puhelin: +44 (0)20 8392 3613

Tutkijalla ja tutkimuksen valvojilla on aiempaa kokemusta autismi spektrumin lasten vuorovaikutustaitojen tutkimuksesta, ja tutkijalla, joka on vastuussa kuvausmateriaalin keräämisestä on voimassa oleva, täysin puhdas rikostaustaote, joka vaaditaan lasten kanssa työskenteleviltä. Tämä tutkimus suoritetaan Roehamptonin yliopiston tiedekunnassa, joka on erikoistunut kognition, emootion ja vuorovaikutuksen tutkimukseen, ja jonka henkilökunnalla on lisäksi kokemusta autististen lähimmäisten hoidosta.

**Lupalomake opettajille / hoitajille / ohjaajille / terapeuteille / perheen jäsenille**

Tämä lomake on tarkoitettu opettajille / hoitajille / ohjaajille / terapeuteille / perheen jäsenille, jotka ovat kiinnostuneita ottamaan osaa tutkimukseen. Tässä lomakkeessa teitä pyydetään erittelemään henkilökohtainen suostumuksenne koskien kuvausmateriaalin käyttöä tutkimuksessani. Olkaa hyvä ja merkitä suostumuksenne rastilla kaikkiin niihin lupalausuntoihin, joihin annatte omalla kohdallanne luvan materiaalin käytöstä tutkimuksessani

**Autismi spektrumin lasten osallistuminen multimodaaleihin vuorovaikutustilanteisiin.**

**Lupalausunnot:**

Suostun osallistumaan tähän tutkimukseen,
ja olen tietoinen oikeuksistani vetäytyä tutkimuksesta
missä vaiheessa tahansa. Ymmärrän, että kaikki materiaali tullaan
käsittelemään täysin luottamuksellisesti ja että henkilöllisyytemme
tullaan ainasuojaamaan peitenimin, myös jos tutkimus tullaan julkaisemaan
tulevaisuudessa.
Ymmärrän, että mikäli en tahdo ottaa osaa tähän tutkimukseen, ei se tule millään tavalla vaikuttamaan lasten saamaan hoitoon.

Annan luvan ääni­nauhoituksiin (luonnollisesti esiintyvä vuoro­vaikutus), ja ymmärrän, että nauhoitukset lopetetaan mikäli ne tuottavat epämukavuutta lapselle tai itselleni osanottajana.

Annan luvan video­nauhoituksiin (luonnollisesti esiintyvä vuoro­vaikutus), ja ymmärrän, että nauhoitukset lopetetaan mikäli ne tuottavat epämukavuutta lapselle tai itselleni osanottajana.

Ymmärrän, että kaikki materiaali säilytetään luottamukkeli­sesti, ja että peitenimiä tullaan käyttämään viitatessa osan­ottajiin.

Annan luvan ääni­nauhoitusten käyttöön (joissa osanottajien identiteetit ovat suojattu peitenimin) seuraavissa:

1. Akateeminen tutkimus
2. Esitys akateemisisissa seminaareissa/konferensseissa
3. Esitys vanhemmille suunnatuissa seminaareissa
4. Tutkimusjulkaisut (akateemiset julkaisut ja e-julkaisut)
Annan luvan videonauhoitusten käyttöön (joissa osanottajien identiteetit ovat suojattu peitenimin) seuraavissa:

5. Akateeminen tutkimus

6. Esitys akateemisissa seminaareissa/konferensseissa

7. Esitys vanhemmille suunnatuissa seminaareissa

8. Tutkimusjulkaisut (akateemiset julkaisut ja e-julkaisut)

Annan luvan videomateriaalista otettujen valokuvien käyttöön valmiissa raportissa ei-kielellisen käyttäytymisen kuvantamista varten. Ymmärrän, että peitenimiä tullaan aina käyttämään lasten ja oman henkilöllisyyteni suojaamiseksi.

Annan luvan videomateriaalista otettujen valokuvien käyttöön tulevaisuudessa julkaistavassa raportissa ei-kielellisen käyttäytymisen kuvantamista varten. Ymmärrän, että peitenimiä tullaan aina käyttämään lasten ja oman henkilöllisyyteni suojaamiseksi.

Nimeni: _______________________________

Olen lapsen (esim. opettaja, hoitaja, ohjaaja):

____________________________________
Mikäli teillä on kysymyksiä tutkimuarestani tai osanotostanne, ottakaa ystävällisesti yhteyttä minuun (tutkija) käyttäen alla olevia yhteysteinojani. Mikäli haluatte ottaa yhteyttä opintojen valvojaan myös hänen yhteystietonsa löydätte tämän kirjeen lopusta.

**Monet kiitokset!**

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APPENDIX E: DEBRIEF FORM (IN ENGLISH)

DEBRIEF FORM

Title of Research Project: The Participation of Children with Autistic Spectrum Disorders in Multimodal Interactions

Thank you for taking part in this research.

For the purpose of my MPhil/PhD research I have video/audio recorded the everyday interaction between children with Autistic Spectrum Disorders (ASD) and their familiar others (carers/teachers/therapists/family members). The aim is to develop understanding of the ways in which communicative competencies manifest themselves in talk and non-verbal (i.e. gaze, gestures) behaviour among the children with ASD who often have a limited capacity for verbal communication. These resources will be investigated in their natural interactional contexts where simultaneously close attention is paid to the talk and non-verbal behaviour of the co-participants (carers/teachers/therapists/family members). The research approaches these multimodal interactions and investigates how mutual understanding is accomplished in interaction between the participants. Furthermore, consideration will be given to the interactional competencies (or interactionally relevant actions) that can underlie behaviours that are often regarded as “symptomatic” in ASD.

The audio/video recorded data will be transcribed and the emerging vocal and non-verbal practices will be captured in detail for their subsequent analysis. The analysis will be implemented according to the conversation analysis (CA) methodology. The data and the information you have disclosed (personal details in the consent forms; diagnostic information) will be treated confidentially and anonymity of all the participants will be guaranteed by using pseudonyms in the transcripts and in the written report. Your data and your personal information will be stored separately in a locked file.

You have a right to withdraw your child and/or yourself from the study at any point by simply informing me (investigator) about it in the contact details provided. In this case the collected data or any parts of the data that you do not wish to be used in the study will not be included in the analysis, and the audio/video tape(s) will be destroyed.

Your participation in this study is highly appreciated. I am happy to answer any questions that you may have now or at a later date, and should you wish to have a closer look at related previous research and/or the findings of this research I am happy to send out a summary of previous findings and to keep you informed about the outcomes of my thesis. Should you wish to withdraw your data from the study at any point, please simply inform this to me by using the contact details provided. If you have a concern about any aspect of your participation or any other queries please do not hesitate to raise this with me (investigator). Alternatively, if you would like to contact an independent party please
contact the Director of Studies. Should you feel that you would like to find other resources of advice and support I have included some useful contact details in the end of this letter which can offer you the most up-to-date information on the available appropriate support in your area.

Thank you!

Investigator Contact Details:

Name: Terhi Korkiakangas (Investigator)
School: School of Human and Life Sciences
University address: Roehampton University
Whitelands College
Holybourne Avenue
London
SW15 4JD
UK
Email: t.korkiakangas@roehampton.ac.uk
Telephone: +44 (0)20 8673 3903

Director of Studies Contact Details:

Name: Dr Paul Dickerson
School: School of Human and Life Sciences
University address: Roehampton University
Whitelands College
Holybourne Avenue
London
SW15 4JD
UK
Email: P.Dickerson@roehampton.ac.uk
Telephone: +44 (0)20 8392 3612

Support Contact Details:

The National Autistic Society (UK)
Autism Helpline: 0845 070 4004
Parent to Parent Line: 0800 9 520 520
www.nas.org.uk
Offers a thorough resource providing information and advice on local support groups and organisations in the UK, ranging from self-help support for parents and carers to information on workshops and seminars.

Suomen Autismi- ja Asperger-liitto (The Finnish Association for Autism and Asperger’s Syndrome, Finland)
www.autismiliitto.fi Telephone: +358 9 7742 770
Offers daily guidance by service advisor during office hours by phone or personally at the central office. The Association offers informal peer-family support locally across the country, please ask for details.
JÄLKISELVITYS TUTKIMUKSESTA

Tutkimuksen nimi: Autismi spektrumin lasten osallistuminen multimodaaleihin vuorovaikutustilanteisiin

Kiitos osanotostanne tutkimukseeni.

MPhil/PhD tutkimustani varten olen suorittanut video / ääni nauhoitukset Autismi spektrumin lasten osallistumisesta multimodaaleihin vuorovaikutustilanteisiin ja heidän lastensa heidän läheistensä (hoitajat/opettajat/perheen jäsenet) välillä. Tavoitteena on kehittää ymmärtämystä siitä, kuinka kompetenssit vuorovaikutukseen ilmenevät puheessa ja ei-kielellisessä käyttäytymisessä (mm. katseen kohdistaminen, eleet) lasten ja heidän läheistensä kohdalla. Tavoitteena on ymmärtää, että heillä on usein rajallinen kapasiteetti käyttää puheen kommunikaation välineenä. Ilmenevät resurssseja tutkin luonnollisessa vuorovaikutussuhteessa, jossa samanaikaisesti painotetaan vuorovaikutuskumppaneiden (hoitajat/opettajat/perheen jäsenet) puheeseen ja alueeseen toimintaa. Tutkimus lähestyy multimodaalejä vuorovaikutustilanteita ja tarkastelee kuinka yhteisymmärrys on saavutettavissa lasten ja vuorovaikutuskumppaneiden välillä. Lisäksi tarkastelen lasten kompetensseja vuorovaikutukseen ja paymentussa autonomia ja sovemakarnaisuus autististen lasten kohdalla symoomaattisina käyttäytymisinä häiriönä.


Teillä on täysän oikeus vetäytyä tutkimuksesta missä vaiheessa tahansa ja antamatta erillistä syytä. Voitte vain yksinkertaisesti ilmoittaa siitä minulle (tutkijalle) käyttäen alla olevia yhteystietoja. Jos päätitte vetäytyä tutkimuksesta ei keräämäni materiaalia, tai mitään osaa siitä jota ette halua minun käyttää tutkimuksessa, tulla käsittelemään työssäni, ja myös silloin video / ääni nauhat tullaan tuhoamaan.

Mikäli haluatte löytää tukea ja neuvooa muista lähteistä, ja mikäli teillä on kysymyksiä jotka eivät suoranaisesti liity tähän tutkimukseen, olen liittänyt alle yhteysti
etoja jotka tarjoavat ajankohtaista tietoa ja vertaistukea ympäri maata.

Kiitos osanotostanne!

**Tutkijan yhteystiedot:**

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<tr>
<th>Nimi</th>
<th>Terhi Korkiakangas (tutkija)</th>
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<td>Tiedekunta</td>
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<td>Puhelin</td>
<td>+44 (0)20 8673 3903</td>
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**Opintojen valvojan yhteystiedot:**

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<th>Nimi</th>
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</tr>
<tr>
<td>Puhelin</td>
<td>+44 (0)20 8392 361</td>
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**Tukea antavia yhteystietoja:**

**Suomen Autismi- ja Aspergerliitto**

www.autismiliitto.fi

Puhelin: +358 9 7742 770

Tarjoaa päivittäistä tukea ja neuvontaa puhelimitse tai henkilökohtaisesti paikanpäällä keskustoinmistolla. Yhdistyksen kautta on myös mahdollista saada vertaisperhetueka.
APPENDIX G: CONSENT FORM FOR NEUROTYPICAL DATA

ETHICS BOARD

RESEARCH PARTICIPANT CONSENT FORM

Title and brief description of Research Project:

Conversation Analytic Data Bank

Thank you for considering taking part in this research project. We are collecting video film data of people talking and undertaking everyday activities together in a variety of settings. This might include eating a meal with others, playing cards, washing up, decorating the house, watching television, dancing, having a game of golf or just having a chat – but it can include all sorts of other possibilities in which there is some talk or interaction between two or more people. We are interested in ordinary interaction as it is ordinarily done – so there is no requirement to behave any differently than you normally do. The research is simply interested in how we engage in social interaction – from studying people talking in everyday settings it is hoped that we can get a better understanding regarding the use of talk, gesture, gaze and such like in everyday interaction.

Once you have completed filming you will be invited to delete or identify for deletion any parts of the film that you wish (you can delete the entire film if you would like to). The film will be analyzed to explore features of the interaction so as to provide a better understanding about how people interact. Thus we might look at how gestures are used, how we co-ordinate gaze and talk, how movement is integrated into activity sequences or how intonation shapes are used and responded to – anything which helps deepen our understanding about how we interact with one another.

Please note, you can withdraw from the study or delete any part of the film in which you appear at any moment. If you have any remaining questions concerning the research that you have been involved in please contact either Paul Dickerson or John Rae using the contact details below.

Name and status of Investigators:

Dr Paul Dickerson (p.dickerson@roehampton.ac.uk  020 8392 3613)

Dr John Rae (j.rae@roehampton.ac.uk 020 8392 3612)
Please read the consent form and feel free to decline entirely or only agree to those aspects that you are completely happy with.

PART 1. CONSENT FOR YOU TO BE FILMED FOR RESEARCH PURPOSES.

The study involves a video recording being made of you. Some of the data recorded may involve interactions with the researcher(s). You can leave the scene of the recording or request that the filming stops at any stage.

You may withdraw your consent at any time before, during or after the filming. You can request the deletion of any part of the film in which you appear.

We would like to make transcripts of the talk and actions that happen in the video and store them for research purposes. They are likely to be of research value long into the future.

Are you happy to be filmed as part of this project?

yes / no (if "yes" please sign) __________________________

Consent Statement:

I agree to take part in this research, and am aware that I am free to withdraw at any point. I understand that the information I provide will be treated in confidence by the investigator although I understand that if a risk of serious harm arises that the researchers may need to take appropriate action. I understand that my identity will be protected in the publication of any findings unless I specifically choose for my recording, or stills from it, to be seen by other people in part 2 or part 3 below.

yes / no (if "yes" please sign) __________________________

Name: __________________________

Please note: if you have a concern about any aspect of your participation, please raise this with the investigator, or with the Dean of School who is

Name: Mr Michael Barham

Contact Address: School of Human and Life Sciences; Roehampton University, Whitelands College, Holybourne Avenue, LONDON, SW15 4JD

Direct Phone No: 020 8392 3620 Email: m.barham@roehampton.ac.uk
PART 2. CONSENT FOR FILM AND SOUNDTRACK TO BE USED FOR RESEARCH PURPOSES.

Transcripts of your talk and actions

2. Do you give permission for written transcripts of your talk and actions to be presented at conference & workshop presentations?

yes / no (if "yes" please sign) ___________________

3. Do you give permission for written transcripts of your talk and actions to appear in academic and professional publications (such as journals, including electronic and paper versions)

yes / no (if "yes" please sign) ___________________

Photo stills of you

4. Do you give permission for still photographs of you to be presented in conference & workshop presentations?

yes / no (if "yes" please sign) ___________________

5. Do you give permission for still photographs of you to be presented in research and educational publications?

yes / no (if "yes" please sign) ___________________

Audio fragments

6. Do you give permission for audio fragments involving you to be presented in conference & workshop presentations?

yes / no (if "yes" please sign) ___________________

7. Do you give permission for audio fragments involving you to be presented in research and educational publications?

yes / no (if "yes" please sign) ___________________

Video fragments

8. Do you give permission for video fragments involving you to be presented in conference & workshop presentations?

yes / no (if "yes" please sign) ___________________

9. Do you give permission for video fragments involving you to be presented in research and educational publications?

yes / no (if "yes" please sign) ___________________
PART 3. DATA TO BE SHARED WITH OTHER RESEARCHERS

10. Do you give permission for transcripts involving you to be shared with other researchers?
   yes / no (if "yes" please sign) ____________________

11. Do you give permission for audio recordings involving you to be shared with other researchers?
   yes / no (if "yes" please sign) ____________________

12. Do you give permission for photo stills involving you to be shared with other researchers?
   yes / no (if "yes" please sign) ____________________

13. Do you give permission for video recordings involving you to be shared with other researchers?
   yes / no (if "yes" please sign) ____________________

Date: _____________________________