Turn-taking in music therapy with children with communication disorders

Ulla Holck

Abstract

In a well-functioning dialogue, the nonverbal and often implicit visual and auditory cues ensure good continuation without interruptions or overlapping speak. In mutual interplay, both partners participate in turn-organisation, and therefore an analysis of cues indicating turn-taking and turn-yielding can provide information about the participants' social skills, whether or not the dialogue is verbal.

This article presents relevant concepts from conversation analysis literature in order to analyse music therapy interplay aimed at promoting preverbal and social skills. As the character of the turn-organisation is dependent on the developmental age of the participants, the described cues are compared to research in early mother–child interplay, as well as studies of turn-organisation in dialogues with disabled children.

The theoretical part of the article is illustrated by a turn-analysis of case material from music therapy with a 2½-year-old boy with communication disorders. The analysis was a part of the author's doctoral research and focuses on the boy's participation in turn-organisation as well as the therapist's use of turn-yielding and turn-overlapping.

The article concludes with a discussion of the applied theoretical concepts in relation to music therapy practice. It will be suggested that the turn-yielding cues can be compared to response-evoking techniques, while the management of simultaneousness (overlaps) naturally is very different in verbal than in musical dialogues.

Introduction

It is relevant to include a literature review covering a range of publications relating to work with children with communication disorders and the concept of turn-taking as described within conversation analysis and mother–infant interaction. In working with children with severe communication disorders caused by mental retardation and/or autism, it is important to reinforce the child's desire and ability to participate in social interplay, which is the basis for later language development. An important social indicator of this development is the child's contribution to the continuation of the interplay, and here turn-taking plays a central role (Moseley 1990; Nadel et al. 1999).

Research has proved music therapy to have a positive effect in improving these children's capacity for social and preverbal skills such as initiative, response, imitation, vocalisation and turn-taking (Müller and Warwick 1993; Bunt 1994; Edgerton 1994; Aldridge et al. 1995; Plahl 2000; Elefant 2002; Oldfield 2003). In particular, both Bunt and Plahl have shown evidence of increased visual attention in connection with increased turn-taking, which indicates active inclusion of the therapist by the child. In therapy with a boy with autism, Plahl has also shown that the number of times the boy started to play before the therapist finished his turn (turn-overlapping) was significantly decreased during the music therapy.

Case literature contains many further descriptions of the development of turn-taking through music therapy interventions such as imitation, deliberate use of timing and building musical and interactive expectations (see, for example, Bunt 1994; Schumacher 1999; Oldfield 1995; Robarts 1998; Wigram 1999).

Despite the obvious parallel to conversation analysis, to my knowledge only Sutton (2001; 2002) has used this perspective, in order to analyse free improvisation among musicians from the viewpoint of how music and talk begins and ends and how turn-taking and silence are managed. I have not found any similar analyses of clinical improvisation in music therapy literature. As Sutton points out, conversation analysis seems to be one obvious analytical perspective for music therapists, as it has developed a series of concepts to describe turn-taking in detail (Sacks et al. 1974; Duncan and Fiske 1977; Knapp and Hall 1992).

In a doctoral study I have used some of these concepts in analyses of turn-taking between music therapists and children with severe communication difficulties (Holck 2002a). The purpose of this article is to introduce some of the concepts from conversation

analysis that I found most relevant with regard to this kind of music therapy interplay. Although the article and the literature reviewed refer to children, I presume that the analysis perspective presented here also has relevance for adults, based on my experience with adult clients with severe autism.

I will first review literature concerning turn-organisation in dialogues between adults, followed by the literature relating to early infant interaction, described in infant research. After the literature review an analysis of a specific case from my doctoral study is described, and the article is concluded with a discussion of the applied concepts from conversation analysis in relation to music therapy practice.

The way that turn-taking is organised in conversation between two adults differs from the way it is organised between parents and infants (Beebe et al. 1985). Turn-organisation is dependent on both age and maturity; thus there are elements of both types of turn-taking in music therapy interplay with children of varying mental ages who have communication difficulties. Turn-taking is the usual designation for this type of interplay, but turn-taking is only one of the turn-organising cues that enable the participants to know whose turn it is (Knapp and Hall 1992). Therefore I will use 'turn-interplay' as the general concept for this type of interplay, while the term 'turn-taking' will be used to describe the specific action where one of the partners takes a turn.

Turn-organisation in adult conversation

In order to make conversation move smoothly a series of implicit cues are used. These indicate whose turn it is to speak, who is to be quiet, and in particular the turn-shifts from one to the other (Sacks et al. 1974; Duncan and Fiske 1977; Knapp and Hall 1992). Besides verbal prompts, other cues can be eye contact, nodding, facial expressions and prosody.

Knapp and Hall (1992) distinguish between the behaviour of the speaker and the listener in conversation. The speaker can be respectively turn-yielding and turn-maintaining, while the listener can show respectively turn-requesting and turn-denying behaviour. Knapp and Hall emphasise, however, that a turn-shift is a joint and continuous process between partners, rather than a series of separate cues. *Turn-yielding cues* show the listener that the speaker is about to yield the floor. This can be through relatively explicit cues (questions, pointing or nodding) or through more implicit cues (typically gaze direction or prosody). *Auditory turn-yielding cues* are often prosodic changes in the ending of a statement, such as (1) an ascending 'questioning' intonation, (2) a descending 'closing' intonation (3) sometimes combined with a weaker

volume or (4) slower tempo. There can also be (5) a drawl on the last syllable, or (6) short utterances added to the end of a statement such as 'ya know…, so ah…, or something…'. And finally, (7) a longer pause is a distinct cue that the listener can take the floor (Sacks et al. 1974; Duncan and Fiske 1977; Knapp and Hall 1992). *Turn-maintaining cues* signal that the speaker wishes to continue. If the listener shows signs of wanting to speak, the speaker will therefore speak louder and faster and generally exhibit cues that are the opposite of turn-yielding. *Turn-denying cues* show that one does not want to take the floor, even after receiving turn-yielding cues. *Turn-requesting* refers to the cues that the listener gives to the speaker, when he/she wants to speak. When it actually happens, turn-taking is taking place. Audible intakes of breath, or raising the eyebrows or leaning forward are all examples of turn-requesting cues. Interrupting is of course a clear turn-requesting cue. A more elegant (!) and coordinated form of turn-taking is seen when the listener can anticipate the moment of turn-yielding from the speaker, by capturing his/her speech rhythm, as noted by Knapp and Hall:

'When the speaker and the listener are well synchronized, the listener will anticipate the speaker's juncture for yielding and will prepare accordingly by getting the rhythm before the other person has stopped talking, much like a musician tapping his or her foot preceding a solo performance.' (Knapp and Hall 1992: 385)

In general, it has been shown that the listener looks more at the speaker than the other way around. The speaker typically looks at the listener in the beginning of his/her turn and again continuously at the end of the turn (i.e. at the turn-yielding cue), until the listener has taken the turn (Fehr and Exline 1987). The more cues that are used simultaneously, the easier the conversation flows, but nevertheless turn-organisation can sometimes fail (for example, if both partners speak at the same time after a pause (that is, turn-overlapping), or if one partner misses the other's turn-yielding, so that he/she must repeat or amplify it, something that occurs typically verbally). In evaluating the mutuality of an interaction, it is important to see how such small mistakes are repaired. Whether, for example, both partners pause after turn-overlapping and via nonverbal cues find out who will continue, or whether it is the same partner each time that does the repairing (Sacks et al. 1974; Duncan and Fiske 1977). The more fluently and easily the conversation flows, the less awareness there is of turn-organisation; on the other hand, there is more focus on turn-organisation if there are frequent 'breakdowns', or one partner talks all the time (Peskett and Wootton

1985; Knapp and Hall 1992). The ability to participate in turn-organisation is thus closely related to social capacity.

Turn-organisation in early mother–infant interaction

One of the greatest differences between adult dialogues and those between mothers and infants ('motherese') is that the mother (or father, for these characteristics also apply to the father) organises the interplay so that it contains rhythmic and temporal regularity. When compared to ordinary conversation, motherese is also characterised by shorter utterances, many repetitions and longer pauses between each utterance (Beebe et al. 1985; Papoušek et al. 1985). Temporal regularity cannot in itself be characterised as a turn-yielding cue, but its presence makes it easier for the child to know when to come in (i.e. when to turn-take). Furthermore, because the mother's aim is not just to receive a single response, but rather to keep the dialogue going in a chain of turn-shifts (Kaye and Charney 1981), temporal regularity promotes this continuing interaction. With regularity as the starting point, the mother adds small rhythmic irregularities or variations that create a (tolerable) tension, which increases the child's willingness to participate in the interaction (Stern 1982). In this way tension-building or proto-narrative techniques can become very effective turn-yielding cues.

Changes in intonation and a slower tempo at the end of an utterance is one of the turn-yielding cues that is common for both adult conversation and mother–infant interaction (Mayer and Tronick 1985). Silence or pause is another, because in order to emphasise turn-yielding the mother can accentuate her turn closure by not only slowing the tempo but also momentarily halting the flow of talk. In addition, the mother's utterances are often accompanied by rhythmic movement – dance, tickling, and so on – that stops when she desires a response from the child (Mayer and Tronick 1985). The more turn-yielding cues from the mother, the greater the chance that the child will react. Besides the rhythmic element, motherese is characterised by a relatively high pitch and amplified melodic contours; that is to say larger pitch intervals and/or steeper prosodic curves (Stern 1982; Beebe et al. 1985). The mother usually uses a small repertoire of simple melodic prototypes that are varied within a recognisable framework (Papoušek et al. 1991).

Compared to adult dialogues (where speaker and listener look at each other in a turn-organising pattern), the picture is different for early mother–infant dialogues. Here the mother looks persistently at the child, whether or not either of them has the turn. In other words, she assumes a listening position while the child looks alternately at her and away (Fehr and Exline 1987). According to Rutter and Durkin (1987) it is not until 18–24 months that the child uses gaze in turn-organisation in the same way as the adult. The literature concerning turn-taking in both children and adults shows interaction to be complex yet also rule-bound. We become familiar with these rules from our earliest experiences and make use of this throughout our lives. However, it is also relevant to consider the research concerning children whose development has been delayed.

Turn-interplay with children with communication disorders

In a review of literature on children with various disabilities (autism, Downs Syndrome and congenitally blind infants) Rogers (1988) concludes that these children generally have greater difficulties than mainstream children in synchronising turn-interplay. They take far fewer initiatives and have a longer reaction time, which gives a greater number of breakdowns in interplay. Moseley (1990) found, furthermore, that children with delayed language development are much less apt to respond in a way that suggests continuation of the turn-interplay than are children with normal language development.

With children with severe autism, there is a greater tendency towards asymmetric interplay because of ambivalent or relatively few initiatives and responses to social contact (Loveland et al. 1988). From a number of studies of imitative turn-interplay between adults and autistic children without functional language, Nadel et al. (1999) conclude that the chains of turns tend to be made up of only two links: the child does something that the adult imitates, or the adult does something that the child imitates. This shows a lack of ability to coordinate the two facets of *mutual turn-interplay,* where roles continually alternate between initiative and imitation. With normal infants this ability can be observed from the age of nine months, but it is not fully developed before approximately 2$\frac{1}{2}$ years (Nadel et al. 1999).

Among (older) autistic children with functional language, Mirenda et al. (1983) found a markedly deviant gaze pattern, where the children, in comparison to normal children, gazed longer at their partner during their own monologues and gazed less during dialogues where the partners alternated speaking. This is precisely opposite the normal pattern, where one gazes at one's partner during dialogues, in order to find relevant moments for turn-shift. In contrast, Prizant and Duchan (1981) found, in a study of echolalia in interactions with children with autism, that around a third of the echolalia

appeared in connection with some of the nonverbal cues normally seen in turn-taking. This indicates that the child, besides repeating the adult's utterance, looked at him/her, turned or leaned forward, and so on. What is interesting here is that Prizant and Duchan could show, by focusing on the *function* of the echolalia rather than its *content* that despite the children's lack of understanding of the verbal content of the dialogue, there were social attempts at managing turn-interplay.

Regarding management of turn-overlaps and other small 'mistakes' that are inevitable in turn-interplay, it is clear that the lower the child's mental age, the greater the number of overlaps and the fewer the attempts to repair them. This applies to mainstream children (Bedrosian et al. 1988), as well as children with Downs Syndrome (Peskett and Wootton 1985). With 3½-year-old children with Downs Syndrome, Peskett and Wootton (1985) found that only the children with the highest mental age were able to repeat their utterances after overlapping with another's utterances.
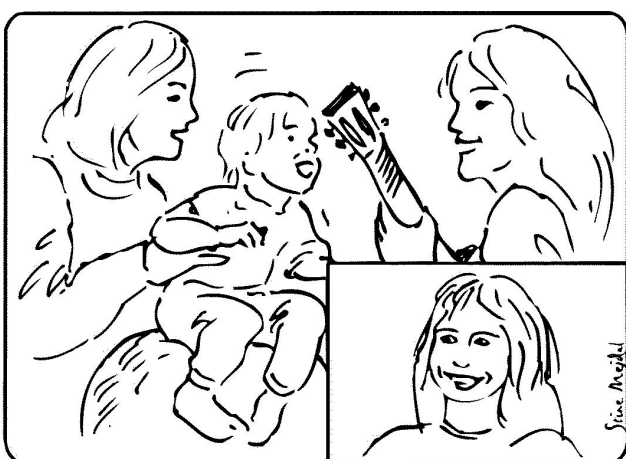
Case example: Eigil

The following case is an example of how the above knowledge can be used to analyse a specific example of music therapy interplay with Eigil, a young boy with communication disorder.

Figure 1

Illustration of the edited video recording used in turn-analysis.

Eigil is in the middle, behind him sits his mother, and in front of him the music therapist with guitar. The recording of the therapist's face is placed in the lower right-hand corner.

As mentioned in the introduction, the case is from a doctoral study in which turn-interplay between children and music therapists is analysed (Holck 2002a). In order to register the visual nonverbal cues, it was necessary to use double video recordings that were edited into one picture, so that the child's and the therapist's gestures and facial expressions could be analysed together (see Figure 1). In the following section I will describe the analysis, firstly a level of analysis accessible to most clinicians, and then a level requiring specialised equipment as described.

Eigil is a 2½-year-old moderately learning disabled boy with low tolerance for sensory input. He was referred to music therapy because of the communicative difficulties described as follows. When he is overwhelmed by sensory stimulation, Eigil becomes distressed, for instance often biting his hand and or hitting his head against the wall. According to the medical records, Eigil is able to imitate sounds and play with them, but without any communicative intent of communication, and in a similar way he does not point or show interest in give-and-take games. He has a few words, such as 'yes' and 'no', although he seldom uses them with anyone other than his mother.

During the first six sessions, Eigil and the music therapist developed a stable form of interplay, which they returned to and developed from session to session[1]. The interplay consists of vocal exchange, and it develops through three phases, as described below. However, this case is unusual because the interplay develops very quickly, and with many variations. It is used here as an illustration of many of the facets of turn-interplay that music therapy can help support. The three main phases of therapy are now described.

Phase 1: The first session

From Eigil's records it was seen that he enjoyed physical movement, for example, often squealing loudly in his physiotherapy when he sat on a large rubber ball and bounced. Bearing this in mind, the music therapist borrowed a large rubber ball and sat Eigil on it in front of a mirror. She sat behind him, and held onto his side, so that he could not fall off.

While Eigil bounced, the music therapist sang either familiar lines from children's songs or presented a narrative such as 'Eigil's bouncing, bouncing high.' Eigil clearly enjoyed this, and the next step was to achieve interplay between therapist and child. To increase his attention, the therapist stopped his physical movement now and then, while saying, 'and now we say **STOP**.' This can be seen as a strong turn-taking cue (interruption) followed by turn-yielding (accentuation of the last word, followed by silence as well as physical stillness). Eigil reacted by smiling and refraining from

---

[1]This type of self-created and returning interplay is defined by the author as 'Interaction Themes' (see Holck 2004).

bouncing, which showed an immediate understanding of the situation, regardless of his level of understanding. After this he sometimes started to bounce himself (turn-taking), while at other times the music therapist counted '1-2-3-**NOW**…' before he began to bounce (turn-taking as a reaction to the therapist's turn-yielding).

Without the movement aspect as made use of in this activity, Eigil did not register or respond to the therapist's musical or communicative initiatives. In contrast, the bouncing movement sharpened his awareness, while at the same time creating a *common rhythmic pulse for their interplay*. This is an important point, and it can be linked to descriptions in infant research of mothers reinforcing the rhythmic element in early interplay. In this specific case, the common rhythmic pulse also meant that even though Eigil did not respond to the therapist's first initiative, she could place her next initiative (turn-repair) in relation to the pulse.
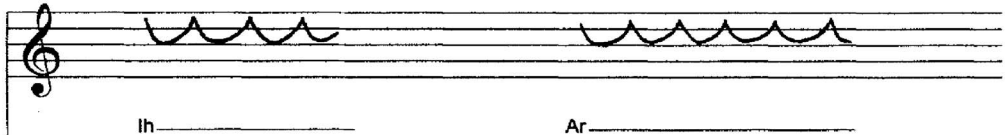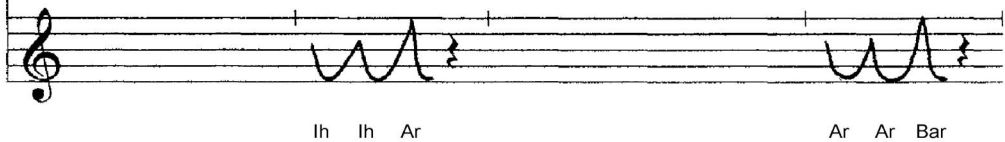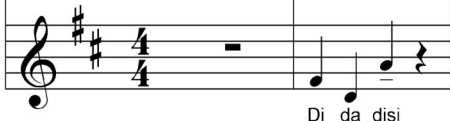
Phase 2: Second and third sessions

While bouncing on the ball in the second session Eigil began to sing excited glissandi using 'Ih' sounds. His sounds were in principle endless (that is, without a formed or structured ending or close), but when the therapist joined him in singing, he immediately stopped. The therapist made use of this feature of his responses and she began to interrupt him by singing a short motif of three glissandi, accentuating the last note (see Figure 2, example a). In this way, she made a turn-overlap that acted as an interruption, while at the same time offering a closure with a distinct turn-yielding function (i.e. an accentuation followed by a pause), in order to bring Eigil back into the interplay. The therapist then left space for Eigil to sing his glissandi for a shorter and shorter amount of time before interrupting him with her vocal overlaps. It appeared that Eigil was very attentive and had a well-developed sense of periodicity, and he began to shorten his glissandi himself, just as he had earlier imitated some of the therapist's sounds, when he began to sing again after an overlap/interruption. In this way, interplay emerged, where Eigil sang, the therapist overlapped/interrupted, followed by a vocal pause where he kept bouncing. Only if Eigil lost attention or his sounds became diffuse, did the therapist return to the physical interruption in the form of a break with the words 'and now we say **STOP**.'

<u>**Figure 1**</u>

Development of the a-motif in the Eigil case

Example a
The therapist overlaps Eigil's glissandi

Example b
Vocal exchange based on the a-motif

Parallel to this development, the therapist moved away from the mirror to the floor with Eigil. She asked his mother to sit behind him and hold his side (see Figure 1). The therapist sat in front of Eigil and began to accompany the interplay on her guitar with a vamp chord sequence in D major (D-Bm-Em-A7). Where in the beginning Eigil's bouncing movement had created a common pulse, now the guitar accompaniment took over this function. With the repeated chord sequence, there was a common tonal ground and a time-frame for the vocal exchange that was being developed. With the accompaniment, the vocal interplay could last up to 1_ minutes before Eigil lost attention and the therapist needed to make a physical break in the interaction.

Phase 3: Fourth to sixth sessions

The sequences with vocal exchange developed through the following sessions, and gradually Eigil shortened his glissandi to actual three-note motifs, often sung on the notes F sharp – D – A (see Figure 2, example b). He usually ended the motifs with an ascending and accented melodic line, just as the therapist did. Here, a distinct turn closure appeared, which indicated that the other partner could continue (i.e. an example of turn-yielding). Therapist and child alternated imitating and making new sounds, and the sounds became gradually more speech like: 'Ai-ai-ai', 'Hi-hi-hi' and 'Nej-nej-nej' in Danish 'nej' means 'no' and rhymes with 'hi.'

Sometimes Eigil's sounds became diffuse or unformed; here the therapist only needed to make a small overlap in the form of a commenting song (for example, 'Yes, you're looking at the ceiling') before Eigil returned again to the three-note motif with clear articulation and motif closure. Only when he became inattentive or tired, did the therapist need to return to the physical break. In a relatively short time, the character of the interplay had moved from an infant-like stage to something more closely matching his age.

A detailed analysis of the turn-interplay

In the following section I will describe the turn-organisation in more detail, based on analysis of a recording from the sixth session, where the interplay on the rubber ball lasted 15 minutes. The first 2 minutes were analysed on a micro-level. First the therapist's cues are presented, then Eigil's cues and finally turn-overlaps and the management of variations in turn-length.

The therapist's turn-yielding and turn-organising cues

Visually the therapist emphasises turn-yielding by more or less implicitly raising her eyebrows or widening her eyes slightly when ending a motif. In addition, she leans towards Eigil or makes dramatic facial expressions that connect with changes at points when Eigil's attention was declining. For example, this is notable in the form of facial expressions of excitement during overlapping or after a physical break ('1-2-3-NOW…'), which is followed by dramatic and expressive vocalising (prosody).

Most of Eigil's three-note motifs close with an ascending melodic line (called a-motifs), although some end with a straight or descending melodic line (called a1-motifs). Dynamically the a-motives typically have a distinct and 'extroverted' character, while the a1-motifs seem more diffuse and often appear at times where Eigil seems inattentive.

The therapist's response to a-motifs and a1-motifs respectively is significant, because she always imitates the a-motifs, but never the a1-motifs. When imitating the a-motifs, the therapist varies and reinforces Eigil's sounds, for example by increasing the tone interval or closing the motif with a distinct accent. In this way the music becomes energetic with an emotional quality of joy and enthusiasm, while at the same time the distinct motif closure has a turn-yielding function, further emphasised by the pause after the motif.

As seen in the literature review above, motherese has similar characteristics to this kind of musical interaction, in the form of rhythmic/temporal regularity, short repetitive phrases and amplified melodic contours, which seen as a whole supports turn-yielding and thus turn-shifts. Just as in motherese, the music therapist varies her imitations and in this way creates excitement in the interplay.

Eigil's turn-organising abilities

From about 18–24 months, the child begins to use gaze in turn-organisation in the same way as adults (see above). In the turn-interplay with Eigil, the a-motifs (and thus the turn-lengths) are too short to enable these gaze patterns, just as the temporal regularity in the music does not make gaze as necessary as in verbal conversation. On the other hand, there are several small events during the interplay where it seems natural to use gaze socially. Here the microanalyses show that Eigil looks at the therapist exactly when she sings his name, makes a turn-overlap and a subsequent turn-yielding, when something unexpected or different happens (variation in accompaniment, motif rhythm or vocal sound) and/or when intensity between them is in some other way increased (Holck 2002a). This means that Eigil uses gaze actively in turn-organisation, which makes it easier to ensure good continuation of the interplay.

Eigil clearly refers to the tonal properties of the music, particularly the D major triad. Many of his motifs

begin on F sharp, and when the therapist interrupts his glissandi, his next sequence begins with a melodic line of F sharp – D – A, with no connection to the endnote of the therapist. Thus there is no doubt that Eigil uses the harmonic framework of the guitar accompaniment. At the same time, Eigil's utterances are characterised by variations within the framework of the a-motif and the turn-interplay, which makes it easy (and also fun) for the therapist to continue the chain of turns.

On the musical level, Eigil and the therapist take turns taking the initiative and imitating the other's variations in long chains of turns. This shows a high degree of mutuality, considering the contrast between Eigil's actual age and his lower cognitive age (see Nadel et al. 1999). When Eigil uses speech sounds, most of the chains of turns are made up of only two links, with the therapist as imitator. However, Eigil's speech sounds are often inspired by the therapist's sounds from earlier sessions (i.e. delayed imitation), which shows an important potential for learning in Eigil.

Turn-overlaps and variations of turn-lengths

Turn-overlaps occur in all interplay, but here they have become a conscious, clinically-directed technique for the therapist. There are two ways in which turn-overlaps occur; as the above-mentioned *interruptions* that connect with Eigil's glissandi, and as a gradual *taking-over* of the turn, when Eigil sings very quietly or starts to mumble. As described above, a descending melodic contour, mumbling or babbling at the end of an utterance is seen as implicit turn-yielding, and is an indication that the other can start the turn, without having to interrupt. Eigil reacts to both types of overlap out of social convention, as he automatically gives the turn to the therapist and begins to sing again after her turn-yielding. His contribution to the musical continuity consists not only of his own initiatives, but also his social reactions and responses to the therapist.

The therapist's guitar accompaniment and the two-bar chord sequence create a predictable temporal and harmonic time-frame that make the natural moments for turn-shifts clear. Eigil's flexibility in this area is seen in his reaction to variations in the therapist's motif length. In some cases she prolongs the last note of the motif, thus eliminating the natural switching pause on the fourth beat. At this point Eigil spontaneously holds his next motif back until the third beat of the following bar (i.e. not the 2nd beat). This can be interpreted as a high degree of code confidence within the 4/4 measure, including its temporal and harmonic aspects. At one particular place, the therapist further 'teases' Eigil by making an extra sound after the shifting-pause on the fourth beat. This makes Eigil smile and wait with his turn, and while he is probably also reacting to the

variation in the therapist's speech sound, the example shows his flexibility in contributing to the continuation of the interplay without turn-breakdown.

Closing comments on the case

There are considerable differences between the pre-music therapy description of Eigil's social and communicative skills in the medical records and what the conversation analysis of the music therapy interplay shows. Eigil did not react to communicative initiatives until they were given in a physical, rhythmic and playful way. Regarding the rhythmic aspect of mother–child interplay, infant researchers such as Trevarthen and Burford mention the obvious potential within music therapy for creating interplay with children with weak communication skills (Trevarthen and Burford 1995; Burford and Trevarthen 1997). The Eigil case study is a very clear example of this. Through the following six months of his music therapy, Eigil became gradually less dependent on the physical movement on the ball and could take part in musical interplay while standing on the floor. In addition, he was able to develop a simple vocabulary.

Conversation analysis can describe a series of actions and cues that are a part of turn-organisation in music therapy interplay. Before the analysis, my expectation was that the music therapist aware of Eigil's creative potential and quick perception. However, only after I presented the turn-analysis to her did she discover how socially flexible Eigil was in his response to her more or less implicit cues, and how he managed the small temporal deviations in her actions. In this way, the combination of conversation analysis and knowledge of early mother–child interplay can make it possible to conceptualise social and preverbal abilities, and therefore helps to demonstrate music therapy's effect in the area of children with communication disorders.

Discussion

In considering turn-interplay in music therapy with children with communication disorders, some concepts from conversation analysis are more relevant than others. Turn-yielding in particular has a central position. However, seen as a whole, the idea of turn-organisation and cues that enable the interplay to continue is a useful perspective from which to analyse interplay that takes place on basic preverbal levels.

It can be noted that different turn-yielding cues are found in music therapy in the form of response-evoking techniques, where music reinforces the effect on children who do not respond to usual invitations to interplay (Wigram 1999; Holck 2002b). Accompaniment of a child's movements (rocking,

jumping, etc.), followed by a break – possibly reinforced physically – is an obvious response-evoking or turn-yielding technique that is typically used at the start of music therapy (see Schumacher 1999 for several examples). Bruscia (1987: 543) describes another frequently used response-evoking technique, writing 'When trying to elicit a musical response, the therapist repeats a motif that ends with a rest.' It is exactly this development from the purely physical break to the more sophisticated musical pause as a turn-yielding cue that was shown in the case of Eigil.

Playing with timing and anticipation is a phenomenon that can also be used as turn-yielding cues (Bunt 1994; Robarts 1998; Holck 2002b). Bunt describes an archetypical example of how a music therapist first imitates the child's actions and utterances, and then pauses a moment to check whether the child shows signs of anticipating imitation. Regarding the development of autistic children's turn-interplay skills, this is also a technique that is described by autism researchers such as Klinger and Dawson (1992). However, when music is used another dimension is added, because musical imitations usually contain small dynamic nuances that automatically ensure variation. In this way the therapist can include a touch of humour into the interplay by frustrating the child's expectations (as with the therapist's extra beat in the Eigil case).

In music therapy there are also, of course, all the possibilities of varying melodic contours, amplifying tone intervals, and so on. Eigil's therapist explicitly amplified his song motifs, but especially in relation to children, this amplification is often so natural that it isn't considered as a clinical technique in the literature. Nevertheless, it should be noted that this naturally creates a turn-yielding effect between child and therapist. One should also bear in mind that the seldom described, more or less implicit, turn-yielding cues still have an effect on the interplay.

Through knowledge of normal turn-yielding cues, the music therapist can reinforce these cues musically, in order to reach children who do not respond to the usual social cues. Literature about turn-interplay in adult dialogues, mother–child dialogues and dialogues with children with communication disorders shows a developmental continuum within which music therapy interplay can be placed. For example, it is important to know that mutuality in turn-interplay requires continuous role alternation between being initiator and imitator, and that this ability is not developed fully in non-disabled children until the age of 2_ years. However, I agree with Oldfield (1995) when she points out that it can be difficult to distinguish who is the leader and who is following in musical interplay. This is because the music therapist's musical expressions are similar to the child's, but with small variations, and there is gradual mutual influence, where the child also perceives and uses aspects of the therapist's expressions – either immediately or delayed.

Conversation analysis is in this case applied to musical turn-interplay. However, a turn-analysis of another case in my doctoral study (Holck 2002a) showed that many of the same turn-cues are found in improvisations where the child and music therapist play simultaneously. During such an improvisation, greeting episodes, invitations (turn-yielding) or pauses can occur, where the turn-cues described above also take place. These cues are also found in Sutton's (2002) conversation analysis of pauses in free improvisation among musicians. One of the areas in which musical interplay and verbal conversation (and thus conversation analysis) differs the most is in the management of simultaneity. While this is a part of musical improvisations, overlaps in verbal conversation are perceived as mistakes that must be repaired. Eigil's therapist used overlaps to create alternation, which was only possible because Eigil reacted to her musical simultaneousness as if it were an overlap in the form of an interruption.

Conversation analysis is a time-consuming method, because it requires micro-level analysis. Furthermore, there is a focus on both partners in the interplay, which requires an extensive video technique if one includes the nonverbal (i.e. visual) aspect of the interplay. From a clinical point of view it is not realistic to imagine that the therapist is (or should be) aware of all the turn-organising cues that occur in interplay with the child, but as the case with Eigil showed, the analysis can take place on several levels, where cues connected to turn-taking, turn-yielding, turn-overlapping and repairs are especially important to focus on.

Conclusion

In this article I have attempted to introduce relevant concepts from conversation analysis that can be used to understand and describe the social aspect in music therapy interplay with children (and adults) with communication disorders.

To summarise, the child's social participation can consist of cues, more or less distinct, indicating:

- that the child responds to the therapist's turn-yielding through turn-taking;
- that the child forms his/her response in a way that ensures continuation of the interplay;
- that the child actively gives the therapist cues that indicate turn-yielding;
- that the child reacts with flexibility to the

therapist's small variations in behaviour;
- that the child reacts to overlaps with turn-repair, when the context indicates a dialogue format.

Research in normal mother–child interplay, when compared to the deviations one finds in interplay with children with communication disorders, provides knowledge about the social behaviour one can expect and when to expect it. One instance of this is, for example, whether there actually is a gradual alternating of roles between initiator and imitator and if it can be expected at all, in the context of the child's developmental age.

Amplified versions of many of the turn-organising cues described above are seen in the music therapist's explicit response-evoking techniques, as for example the sudden break. Other turn-organising cues occur more implicitly, such as amplified melodic contours, eye contact, and so on. There are specific features of music therapy interplay that also are seen in mother–child dialogues, but not in adult dialogues, as for example simultaneousness. Finally, there are specific musical or aesthetic features that cannot and should not be 'captured' by turn-analysis.

Ulla Holck PhD *holds positions as Assistant Professor at the Department of Music and Music Therapy, Aalborg University and as a researcher at the Child and Adolescent Department at Aalborg Psychiatry Hospital. Contact address: Institut for musik og musikterapi, Aalborg Universitet, Kroghstræde 6, 9220 Aalborg Øst, Denmark. E-mail: holck@hum.aau.dk*

References

Aldridge, D., D. Gustoff and L. Neugebauer (1995) 'A preliminary study of creative music therapy in the treatment of children with developmental delay.' *The Arts in Psychotherapy* 22(3): 189-205

Bedrosian, J.L., S.K. Wanska, K.M. Sykes, A.J. Smith and B.M. Dalton (1988) 'Conversational turn-taking violations in mother-child interaction.' *Journal of Speech and Hearing Research* 31: 81-6

Beebe, B., S. Feldstein, J. Jaffe, K. Mays and D. Alson (1985) 'Interpersonal timing: The application of an adult dialogue model to mother–infant vocal and kinesic interactions.' In T. Field and N. Fox (eds) *Social Perception in Infants.* Norwood: N.J. Ablex

Bruscia, K. (1987) *Improvisational Models of Music Therapy.* Springfield: Charles C. Thomas

Bunt, L. (1994) *Music Therapy: An Art beyond Words.* London: Routledge

Burford, B and C. Trevarthen (1997) 'Evoking Communication in Rett Syndrome: comparisons with conversations and games in mother–infant Interaction' *European Child and Adolescent Psychiatry* 6(1): 26-30

Duncan, S. and D.W. Fiske (1977) *Face-to-Face-Interaction: Research, Methods, and Theory.* Hillsdale, N.J.: Lawrence Erlbaum

Edgerton, C. L. (1994) 'The effect of improvisational music therapy on the communicative behaviours of autistic children.' *Journal of Music Therapy* 31(1): 31-62

Elefant, C. (2002) Enhancing Communication in Girls with Rett Syndrome through Songs in Music Therapy. Unpubl. PhD thesis: Aalborg Universitet

Fehr, B. and R.V. Exline (1987) 'Social Visual Interaction: a conceptual and literature review.' In A.W. Siegman and S. Feldstein (eds) *Nonverbal Behaviour and Communication.* Hillsdale, N.J.: Lawrence Erlbaum

Holck, U. (2002a) 'Kommunikalsk' Samspil i Musikterapi ['Commusical' Interplay in Music Therapy. Qualitative Video Analyses of Musical and Gestural Interactions with Children with Severe Functional Limitations, including Children with Autism]. Unpubl. PhD thesis: Aalborg Universitet

Holck, U. (2002b) 'Music therapy for children with communication disorders.' In T. Wigram, I.N. Pedersen and L.O. Bonde (eds) *A Comprehensive Guide to Music Therapy.* London: Jessica Kingsley Publishers

Holck, U. (2004) 'Interaction themes in music therapy – definition and delimitation.' *Nordic Journal of Music Therapy* 13(1): 3-19

Kaye, K. and R. Charney (1981) 'Conversational asymmetry between mothers and children.' *Journal of Child Language* 8: 35-49

Klinger and Dawson (1992) 'Facilitating early social and communicative development in children with autism.' In S.F. Warren and J. Reichle (eds) *Causes and Effects in Communication and Language Intervention.* Baltimore: Paul H. Brooke's Publishing

Knapp, M.L. and J.A. Hall (1992) *Nonverbal Communication in Human Interaction.* New York: Harcourt Brace College

Loveland, K.A., S.H. Landry, S.O. Hughes, S.K. Hall and R.E. McEvoy (1988) 'Speech acts and the pragmatic deficits of autism.' *Journal of Speech and Hearing Research* 31(4): 593-604

Mayer, N.K. and E.Z. Tronick (1985) 'Mothers' turn-giving signals and infant turn-taking in mother–infant Interaction.' In T. Field and N. Fox (eds) *Social Perception in Infants.* Norwood: N.J. Ablex

Mirenda, P.L., A.M. Donnellan and D.E. Yoder (1983) 'Gaze behaviour: a new look at an old problem.' *Journal of Autism and Developmental Disorders* 13(4): 397-409

Moseley, M.J. (1990) 'Mother-child Interaction with Preschool language-delayed children: structuring conversations.' *Journal of Communication Disorders* 23(3): 187-203

Müller and Warwick (1993) 'Autistic children and music therapy. the effects of maternal involvement in therapy.' In M. Heal and T. Wigram (eds) *Music Therapy in Health and Education.* London: Jessica Kingsley Publishers

Nadel, J., C. Guérini, A. Pezé and C. Rivet (1999) 'The evolving nature of imitation as a format for communication.' In J. Nadel and G. Butterworth (eds) *Imitation in Infancy.* Cambridge: Cambridge University Press

Oldfield, A. (1995) 'Communicating through music: the balance between following and initiating.' In T. Wigram, B. Saperston