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Pretend play and the development of collective intentionality

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Abstract

Young children's pretend play is considered in the context of the development of collective intentionality. It is argued that (i) early pretending is an essentially social and culturally acquired form of action, and (ii) early social pretend play can be considered as the first form of true collective intentionality in ontogeny – involving shared cooperative activities and even some rudimentary form of joint creation of status functions. Recent experimental studies are reported that provide evidence for the claims. Finally, philosophical implications of these claims and findings are discussed. The most important implication that emerges is that existing conceptual analyses of collective intentionality stand in need of being supplemented by more fain-grained taxonomies for the description of such early forms of collective intentionality.

Keywords: Collective intentionality; Theory of mind; Pretend play

Developmental psychology has long been interested in children's pretend play – as an index of creativity and reality (dis-)orientation traditionally, and as an indicator of a so-called "theory of mind" more recently. In most of these traditional and more recent approaches, pretense is predominantly considered as an individual cognitive phenomenon, abstracted from the social contexts in which it arises. In this paper I will argue against such individualistic views on the development of pretending. Rather, it will be claimed, pretense is an essentially social phenomenon, mainly acquired through cultural imitative learning. Furthermore, I will suggest – drawing on work in the philosophy of collective intentionality – that pretend play can be considered as one of areas in which children first learn to engage in shared cooperative activities, and in which they might even show an early appreciation of the "counts as" relation.

In Section 1, I will expose the long-standing dispute in developmental psychology about the solipsistic versus social nature of play development. From the background of recent Cultural Learning theory, the claim will be defended that early pretend play arises through cultural learning in social contexts in a similar fashion as other action forms do. New psychological studies in favor of this claim will be presented. Section 2 is devoted to the question whether early pretense, beyond being socially acquired, can be considered one of the earliest forms of shared cooperative activities in which young children participate. Making use of a set of minimal criteria for cooperation, and on the basis of another line of recent psychological investigation the answer will be positive. Section 3 attempts to specify in more detail what kind of cooperative activity early pretend play is and how it relates to other forms of early cooperation. Finally, in Section 4, the conclusion that early pretending fulfills some minimal criteria for being a shared cooperative activity will be discussed in light of different types of conceptual analyses of cooperative actions more

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generally and the psychological constraints they put on the participants of cooperation.

Let me mention shortly at the outset how I will broadly use the term ''pretend play''. Without aiming at supplying a definition in the strict sense, I take pretend play actions to be characterized in the following way: Performing pretend play actions means at least (necessarily) acting intentionally, knowingly and non-seriously, playfully as if a counterfactual proposition was true (pretend-that) or as if really performing an action (pretend-to), but intentionally and openly stopping short of really acting as if the proposition was true or of really performing the action. Let us take an example: Adam and Eve, two 3-year-old twins pretend with a wooden block. Eve gives Adam the yellow wooden block: ''Look! What a nice apple!''. Adam says ''Thank you'', turns to the wooden block and announces ''Hm. It is delicious'', puts the block before his mouth, makes chewing movements and ''Yumyum'' sounds, finally states ''Eaten up. It was very delicious''. For this to be pretend play, Adam and Eve have to fulfill some epistemic criteria mentioned in the sentence above (they have to know what the object really is (wooden block), what apples are, and that this object is not really an apple, etc.). Furthermore, they have to fulfill some intention criteria, as mentioned in the sentence – they have to act intentionally and non-seriously as if the counterfactual proposition ''This is an apple'' was true, but intentionally stop short of taking real bites, etc. This characterization will be helpful in two aspects: first, in deciding when to ascribe the capacity to pretend to young children (and possibly animals), and, second, in deciding when to ascribe to children the ability to understand pretend play actions in others.

1. The social nature of early pretend play

As in so many areas of child development, the debate about the origins of pretending in ontogeny has traditionally been shaped by Piagetian individualism versus Vygotskian culturalism. Piaget's (1962) conception of play development in relation to the development of other action forms is centrally organized around his notions of assimilation and accommodation. Putting it somewhat simplified, in assimilation the world is assimilated to the ego, whereas in accommodation the ego is adapted to the world. Regarding action forms, assimilation means subsuming objects under known action schemata. Accommodation means adaptation of action schemata to new objects. Intelligent development, according to Piaget, is characterized by an equilibrium between assimilation and accommodation. There are, however, paradigmatic domains where early in development such an equilibrium is not yet achieved, either because assimilation dominates over accommodation or vice versa. Play and imitation are in Piaget's view two such domains, play being the paradigm case for the primacy of assimilation over accommodation, imitation being the paradigm case for the primacy of accommodation over assimilation. Early imitation could thus be called the social pole, where the child unreflectively copies other persons' actions without the capacity to intelligently apply them to new circumstances. Play, in contrast, for Piaget is a prime example of early childhood egocentrism: After having acquired instrumental action forms from sensorimotor stage IV around 9 months on, the child becomes more and more flexible in extending action schemata to new objects. Action schemata are first extended to contexts where the child does not really pursue concrete aims but performs action sequences for their own sake – this becomes functional play.[1] Later in the second year then action schemata are extended to clearly inappropriate contexts such that objects are treated as if they were of some other kind – leading to the emergence of pretend play (mostly called ''symbolic play'' by Piaget). To take Piaget's most famous example, his daughter Jacqueline at the age of 15 months took a cloth, put her head on it as if going to sleep and said ''Nono'' (as if saying that she was not really sleeping), signalling by her smiles and amusement an awareness of the non-seriousness of her act (Piaget, 1962, p. 96, observation 64 (a)). That is, the action schema of going to sleep was extended in a non-literal way to an inappropriate context, the cloth being treated symbolically as if it were a pillow. Actions like this one, where one object is symbolically substituted for another kind of object, mark the onset of pretend play, with more complex forms of pretending arising subsequently – such as pretending to be someone else, pretending that inanimate objects are animals or persons, etc.

Two general aspects of Piaget's theory of pretense development are remarkable. First, whereas most recent approaches stress the cognitive sophistication of coordinating fact and fiction that children reveal in their pretense, Piaget basically considers pretending as a defective form of reality orientation (borrowing notions of ''primary thinking'' from Freud and Bleuler). Young children's pretense, according to Piaget, shows that they have not yet achieved a solid conception of reality. Accordingly, Piaget claims, when children in the concrete operational period of the early school years do acquire a solid conception of reality, they cease to engage in pretend play. Second and relatedly, early pretense acts, according to Piaget, purely spring from the individual child's imagination and creativity. Not only does Piaget not view early pretense as situated in specific social contexts (above all joint parent–child pretending), he even views early pretense as essentially unsocial. Play and imitation present the two opposing poles of early action development, with basically no role for imitation in

[1] ''Functional play'' has been used in different ways in the literature (e.g., Baron-Cohen, 1987; Williams, Reddy, & Costall, 2001). It is here used in a rather wide sense to refer to all kinds of playful actions where actions are performed and objects are used for the sake of playing, yet without any non-literal, as-if or symbolic elements. For example, throwing a ball back and forth would count as functional play in this usage, as would building with bricks. Whether a given behaviour counts as merely functional play or as pretense, however, depends on the context: building with bricks can be pretense when one, for example, pretends to build a Zoo for some pretend animals and acts out a corresponding scenario.

the emergence of pretending.[2] In his stage model of play behaviour, shared social pretense is a later achievement, solitary pretense being primary. In fact, all his observations of early pretending in his own children only report – from an unengaged perspective – instances of pretend play actions in seemingly solitary contexts – a fact about which many commentators have wondered (for example, Leslie asks sarcastically: "Did Piaget, who spent so much time on the carpet with his three children, making the most intricate and insightful observations while interacting with them, never join in their pretend play?" (2002, p. 107)). According to Piaget's theory then, early production of pretense does not presuppose any understanding of pretending in others. In fact, it remains unclear how joint pretending – which requires an understanding of others' pretense – develops from solitary pretending.

On the empirical side, researchers in the Piagetian tradition refer to observations of children's spontaneous pretense as main evidence for Piaget's individualistic picture of pretense development (e.g., Belsky & Most, 1981; Fenson & Ramsay, 1981; McCune, 1995; McCune-Nicholich, 1981; Ungerer, Zelato, Kearsley, & O'Leary, 1981): in observations of free play, children in their second year perform different kinds of simple pretense acts on toys (e.g., pretend to drink from replica cups, etc.). However, these observations are difficult to interpret as the toys the infants were supplied with in these studies were replica toys, that is, conventional toys for pretending which children are highly familiar with. Given that we know from recent studies (Lillard & Witherington, 2004) that mothers demonstrate pretense acts even for their very young children in the first year, and mostly so with replica toys, it is likely that the pretense observed in the observation studies was not spontaneously invented in a creative fashion, but had a social pre-history.

In sharp contrast to Piaget's individualism, the Vygotskian Soviet school of developmental psychology has considered play as essentially situated in specific social and cultural contexts:[3] Vygotsky laconically rejects solipsistic construals of early pretending: "Whenever there is an imaginary situation in play, there are rules" (1978, p. 95). El'Konin elaborates the critique of Piaget in more detail:

> Piaget attempts to understand the development of symbolism as a purely assimilative process, independent of the process of socialization, of the intercourse of the child with the adults who are in his environment and teach him, as a process of spontaneous development that occurs as a result of the direct collision of the child with objective reality. Such an abstraction seems improper to us and is not in conformity with the actual course of development. Methods of using objects cannot be acquired by the child by means of a simple transfer to new objects of the sensomotor schemes which were formed in the first year. They are formed only in the joint activity of the child with adults. At first these activities are closely connected with those objects upon which they were formed. This refers not only to everyday objects, whose use is taught to the child by adults, but also to playthings (1966, p. 39).

The actual course of pretend play development, according to El'Konin, does not present an individualistic, assimilative counterpart to the imitative development of other actions, but like all other action forms proceeds primarily in social contexts. Early pretending does not rest upon the child's individual imaginative creation of fantasy worlds, but arises mainly through being taught by adults and by imitating the pretense acts of adults. Consequently, early child pretense is very object-specific and not yet creative, such that early on children only perform pretense acts with objects that they have seen others perform with the same object. The role of objects in early pretending is thus not unlike the role of tools in instrumental actions – in sharp contrast to Piaget's account. Whereas for Piaget in early pretense the child creatively can make any object be everything, unlike tools that do have a fixed function, in El'Konin's view both tools and objects in pretense have a rather fixed function for the child: Hammers are for hammering and toy cups are for pretend drinking. Only gradually does the child then develop a more context-general and creative ability to engage in object-substitution pretense with objects she has not experienced others pretend with. Still, however, such later more creative and flexible pretend play is not assimilative in Piaget's sense. It is not an expression of an immature reality orientation – on the contrary, it is reality-oriented in the sense that the topics of pretend play are taken mainly from everyday life (eating, drinking, cooking, playing father, mother and child, etc.) which the child can "practice" in pretense contexts. Another point of disagreement between Piaget and El'Konin regards the role of language in pretense development. On Piaget's account, both language and pretend play rest on a common underlying semiotic function – an ability to use one object or action to symbolically refer to something beyond itself – that develops in the second year. This semiotic function enables the social acquisition of language and the individual creation of pretense, but there is not a more intimate role for language in pretend play development. On El'Konin's account, in contrast, language plays an essential role in pretend play development. First children have to have some basic mastery of serious uses of language, then based on this ability early object substitution pretense is

[2] Imitation only plays a role in Piaget's theory of pretense in two very indirect ways. First, Piaget uses the idiosyncratic notion of "self imitation" to describe how pretending arises out of serious action schemata: the child imitates her own serious actions in non-serious contexts in modified ways, e.g., imitates her going-to-sleep behaviour in non-serious ways with the cloth. Second, in later stages of pretending the child imitates other persons' serious actions in modified non-serious ways in pretense, e.g., pretends to read in a way she has seen her father read.

[3] Vygotsky himself has hardly written about pretend play. The central theoretical work in this domain comes from El'Konin (1966, 1969), one of his students.

essentially acquired through imitation of adult pretense actions (e.g., chewing movements with a wooden block, etc.) accompanied by corresponding non-literal use of language (e.g., "This is an apple").

In summary, Piaget postulates a deep asymmetry between the acquisitions of instrumental and conventional actions with tools, on the one hand, with imitation playing a central role, and the acquisition of play actions on the other hand, which spring from individual egocentric assimilation, become social only later and have nothing to do with imitation. The Soviet school, in contrast, without denying the differences between play and other actions, considers the development of all kinds of actions as socially mediated and based on learning from adults in analogous ways.

The recent Cultural Learning approach to cognitive and action development (Rakoczy, Tomasello, & Striano, in press; Tomasello, 1999a, 1999b; Tomasello, Kruger, & Ratner, 1993; Tomasello & Rakoczy, 2003) has taken up and extended this line of thought, attempting to situate pretense development firmly in the context of social cognitive and cultural development more generally. Theoretically, this approach aims at integrating the Vygotskian legacy and more recent 'theory of mind' research. In outline form, its general picture of early cognitive cultural development is this: From around their first birthday children – and probably only human children – begin to understand others and themselves as persons in a basic sense, as intentionally perceiving and acting in the world (long before they arrive at a fuller understanding of doxastic attitudes, etc. – mostly called 'theory of mind' in this field – that we consider essential for personhood at the age of four). In virtue of this understanding they enter into forms of joint attention (triangulation), shared action and imitative cultural learning – into what can be called the most basic units of collective intentionality and culture. Through cultural imitative learning children acquire new action forms: instrumental ones on the one hand, many of them involving artifacts such that children learn the functions, the intentional affordances of such tools, and so in some sense inherit the culture's accumulated technical wisdom. On the other hand, children in the second year start to acquire first gestural communicative actions and then language as a conventional, perspectival and inferentially structured means for talking and thinking that supplies them with radically new cognitive powers. The child here inherits a conceptual system for construing the world, for taking certain perspectives and putting things under inferentially integrated descriptions that goes ways beyond the cognitive possibilities of thinking without words (e.g., Bermudez, 2003).

In general, with Vygotsky this approach stresses the power of society with its instrumental, symbolic and other practices in shaping the human mind ontogenetically. However, with recent 'theory of mind' research, it puts more emphasis on the individual social cognitive prerequisites for entering into such practices in the first place. This last point is particularly relevant in comparative perspective – in pursuing the question why even human-raised great apes do not become cultural beings in the proper sense. Pretend play is an action form among many and thus should, according to the Cultural Learning approach, be describable developmentally in similar ways. Applied to the emergence and early development of pretend play, the Cultural Learning framework leads to the following broad claims:

(i) Pretend play action forms are acquired in basically similar ways as are instrumental and other actions forms, i.e., through cultural imitative learning, based on children's developing understanding of different kinds of intentional actions. (Though of course pretense acts are more complex than instrumental action forms, presuppose, e.g., knowledge of the action that is pretended and some simple implicit awareness of counterfactuality, etc.)
(ii) Early pretense is mainly scaffolded by adults and only little creative – in contrast to Piaget's claims.
(iii) Early pretense is essentially a social activity.

There are several lines of empirical data that can be taken as suggestive of or evidence for these claims. *First*, cross-cultural studies have shown that the structure and contents of pretend play in children varies a great deal across cultures (e.g., Gaskins, 1999; Haight, 1999). However, more stringent studies looking at the differential *acquisition* of pretense in different cultures would be needed here. *Second*, naturalistic observations of children in the family context have found that early pretending is mostly done with and initiated by the parents (e.g., Haight & Miller, 1992; Slade, 1987). *Third*, El'Konin reports old experimental Soviet studies (Fradkina, 1946; Neverovich, 1948) that showed that young children only did pretense actions they had seen in others, did them with the same objects and were unable to transfer them to new objects.

Finally, in an attempt to test the culturalist claims against Piaget's rather directly, we recently did some studies that were inspired by these old Soviet ideas and methods (Rakoczy, Tomasello, & Striano, 2005), the "Tools and Toys" studies as we call them. The design was very simple and straightforward: It was supposed to simulate what could be called the cultural ontogeny of artefacts: young children's first encounters with hitherto unknown and (for them) functionless objects and their subsequent learning of how to use different objects as either tools or toys. Young children (18 and 24 months old) were first shown novel objects with some of which an adult then demonstrated instrumental actions, with others pretense actions. Across objects, the frequency and quality of demonstrations was varied for both pretense and instrumental acts. In a second phase the infants were then given the objects and could act with them several times themselves. The results were as follows: (1) children imitated both kinds of actions in similar ways with the same object as the model as a function of the frequency/quality of the model (though imitation rates were lower in absolute terms for pretense acts, and 18-

month-old were almost at floor in imitating pretense); (2) children hardly did any creative pretense acts (but many creative instrumental acts); (3) during pretense acts children showed significantly more and stronger social behaviour, i.e., gazing (and in one study smiling) to the adult. These results suggest thus that children in their second year start to imitate pretense actions with objects in similar ways as they have already before imitated simpler kinds of actions, with this early pretense being a little creative and essentially social activity, creativity and solitary pretense being later achievements. Tools become tools for children in similar ways as toys become toys – through picking up the intentional and cultural affordances and functions of objects by observing adults' action with these objects.

Another indirectly related line of suggestive evidence for the culturalist position can be found in animal play. Though play is of course a very widespread phenomenon in the animal kingdom, pretend play seems to be virtually uniquely human. Virtually, because there are some reports of seemingly non-serious behaviour in non-human primates that have been described by some researchers as pretense in a very basic form (for an overview, see Mitchell, 2002). While it has been put into question by many whether the behaviour described in most of these anecdotes deserves the title "pretense" (e.g., Gomez & Martin-Andrade, 2002; Tomasello & Call, 1997), interestingly, the few reports that seem compelling instances of at least simple pretense come from enculturated great apes (Gardner & Gardner, 1969; Savage-Rumbaugh & McDonald, 1988). These apes have been raised by human caregivers supplying them with intensive language and other communicative and symbolic practices, training them in joint attention and imitation and giving them experience with conventional artefacts, above all with symbolic replica toys – what on the culturalist position are the basic prerequisites for entering into cultural practices, pretend play being one of them.

In summary, on the basis of converging evidence it seems warranted – contra Piaget – to view early pretend play as acquired in social contexts and as an essentially social activity.[4] But can pretend play, beyond being socially acquired, be considered as one of the earliest instances of cooperative activities in which children participate? This is the question I want to pursue in the following section.

2. Early pretend play as a form of cooperation?

To deal with the question whether early pretense should be considered a form of cooperation, I will first make use of rather intuitive and very minimal criteria for cooperation. At a later point in the inquiry I will then put these minimal criteria in relation to more specific and technical proposals in the current collective intentionality literature. Beginning from the most fundamental and minimal end, parallel/alternating behaviours by two persons A and B constitute a cooperative action X only if the following criteria are met:

(a) A and B each performs some sort of intentional act (rather than mere behaviour).
(b) There is mutual responsiveness and some form of coordination between A's and B's behaviours. (Importantly, "responsiveness" and "coordination" are to be read thinly here, as pure contingency.)
(c) Beyond being sensitive to each other's behaviour, A and B have some understanding of each other's actions as specific intentional actions, and can respond to each other's actions so understood.
(d) Beyond pursuing individual intentions, A and B form some sort of joint "We"-intention that they would express by saying "We are doing X". This "We"-intention crucially involves some form of commitment to the joint action (analogously to commitment to an individual course of action in simple individual intentions), and a sensitivity to the inferential normative structure of jointly acting such that certain actions by A in the course of X warrant some actions by B (give B reasons to performs some actions). In playing football together, for example, your execution of a pass to me warrants my attempts to catch the ball, try to make a goal, etc. (in contrast to (b), this is a thicker form of coordination. I will come back later to the question how the normativity and commitment here are to be understood. For now it will suffice to say that it minimally has something like the structure of hypothetical imperatives of the form "If we want to do X, and X requires certain coordinated action sequences, these coordinated actions of ours are warranted").

In considering social (understood very widely as at least influenced by others) pretense in young children in the following, I will simply take it for granted that criteria (a) and (b) are fulfilled without much argument (in fact, describing some activity as social pretense conceptually implies conceding that criteria (a) and (b) are fulfilled, that the child is acting non-seriously and intentionally, and is at least socially sensitive to others' actions). The crucial questions, therefore, are whether early social pretense can be said to involve an understanding of the others behaviour as intentional action of a specific sort (criterion (c)), and whether in social pretense young children can be said to form joint we-intentions (criterion (d)). It seems undisputed that the social pretend play of preschool children at the age of four or five clearly fulfills these criteria: Children at this age often use explicit "Let's pretend" overtures, enter into explicit verbal role negotiation with "pretend to" and "pretend that" con-

[4] Needless to say that the studies reported here make plausible the view that early pretense is an essentially social activity, but do not provide strictly conclusive evidence. What is needed (and what I am currently planning to do with some colleagues) are cross-cultural studies looking at the emergence of pretend play as a function of social and cultural encouragement to pretend. More conclusive evidence for the culturalist position defended here could be found if the acquisition of pretense in cultures with less encouragement to pretend and with fewer cultural artifacts to support it (i.e., replica toys, etc.) were delayed.

structions (''Let's pretend that this is our castle. I pretend to be the queen, you pretend to be the king, okay?'') and then in the pretense describe in the indicative what is happening (''I am sick now. You have to call the doctor!'') (e.g., Lloyd & Goodwin, 1995; Sawyer, 1993).

But what about younger pretenders who do not yet engage in such systematic and elaborated explicit pretense discourse? The ''Tools & Toys'' studies described above could be read as fulfilling both criteria (c) and (d). However, such a rich reading is not strictly warranted. For although children seemed to imitate actions as understood in a specific intentional way, theoretically (though this is rather implausible) simpler explanations in terms of dumb mimicking of superficial behaviour only are possible. Furthermore, the design of this study, with the adult acting at one point in time, and the child acting with the same objects only later, did not allow us to look at cooperative actions in a stronger sense.[5]

Everyday naturalistic observations of even young children's pretend play, though, do suggest that these children do not only imitate others' local pretense acts, but join into at least rudimentary extended pretense sequences together with others. However, in the recent theory of mind literature on young children's developing pretense understanding, the danger of over-interpreting children's cognitive sophistication based on such observations has been stressed. Specifically, one prominent theory of the development of understanding pretense, the so-called ''behaving-as-if'' theory (e.g., Lillard, 1993, 1998; Perner, Baker, & Hutton, 1994; Nichols & Stich, 2000) denies that young children up to the age of four or five do understand pretending as a specific form of intentional activity. This theory does not deny, of course, that young children enter into coordinated pretense scenarios with others. It claims, however, that young children only have a very superficial understanding of pretending as a somehow deviant type of behaviour, without grasping that pretending is intentionally and non-seriously acting-as-if.

Pretending is essentially acting knowingly, intentionally and non-seriously as if a counterfactual proposition was true (in the case of pretending-that), or as if one was performing some action (in the case of pretending-to). In order to pretend that I was an ecstatic techno dancer I have to know what techno, dancing and ecstasy are, and I have to act intentionally in an ecstatic-techno-dancer-like way. People in the 17th century could not pretend to be ecstatic techno dancers. Neither does it count as such a pretense when I behave in an ecstatic-techno-dancer-like way unintentionally in the course of a epileptic seizure. That is, there are at least two minimal criteria for something to count as pretense: First, the pretender has to have relevant background knowledge, or at least some requisite concepts (e.g., ''techno'', ''ecstasy'', ''dancing''). Let us call this the ''epistemic criterion''. Second, the pretender must act intentionally and non-seriously as if the counterfactual proposition was true or as if performing the action in question only, intentionally stopping short of really and seriously performing the action. Let us call this the ''intentional criterion''.

The central claim of the behaving-as-if theory is now that young children fail to understand both epistemic and intentional criteria for pretense, and thus have a radically different and impoverished understanding of pretending. Technically speaking, according to this theory, young children have only one category of as-if behaviours that is individuated without recourse to the pretenders' attitudes and that is defined in the following way: Young children have a concept of pretending-that-p as behaving-as-if-p, defined as ''behaving in a way that would be appropriate if p (the counterfactual situation) were the case'' (Nichols & Stich, 2000, p. 139), and of pretending-to-X as behaving-as-if-Xing. That is, young children's concept of pretending is purely defined in terms of behaviour and does not include epistemic and intentional criteria. Young children's concept of pretense is thus much more coarse-grained than the adult one and has a much bigger extension than the class of pretense actions. Accordingly, it does not allow for distinguishing pretending from other kinds of as-if-behaviours. The theory predicts that young children make at least two kinds of overextension errors. First, they should inappropriately apply their pretense concept to as-if-behaviours that fail to fulfill the epistemic criteria for pretending, for example, behaving seriously as if p on the false belief that p, and behaving as if one was an X without knowing what an X is. Second, they should overextend their pretense concept to instances of as-if-behaviours that fail to fulfill the intentional criteria for pretending, for example, behaving-as-if accidentally (e.g., behaving like a techno dancer during an epileptic seizure where one has no intention at all) and trying to properly do an action (where one intends to really do the action). Several verbal studies are taken as empirical support for the behaving-as-if theory. Regarding the first overextension prediction (overextension of the concept of pretense to as-if-behaviours without the essential epistemic elements of pretending), studies by Perner et al. (1994) and Lillard (1993, 1998; Lillard et al., 2000) are taken as evidence. In Perner et al.'s (1994) study 3-year-old tended to say that a person who behaved as if there was a rabbit in a cage because she mistakenly believed this, was pretending that there was a rabbit in the cage. In the studies by Lillard (1993) young children claimed that a character who did not know anything about rabbits was pretending to be a rabbit. And most dramatically, in a study by Lillard, Zeljo, Curenton, and Kaugars (2000), 4-year-old ascribed pretense to

[5] It is an interesting question in its own right whether imitation itself – at least some forms of imitation – should be considered a kind of cooperative activity, such that imitation proper implies a we-intention of the form ''We make the following now: I do the same what you did and you tell me whether I perform well''. While I think that many forms of imitation in adults, and even in children, in fact involve such a collective background (think of all kinds of informal or formal instruction in many domains), the most basic level of imitation does not necessarily take such a form: What children do in this basic form of imitation would be described merely as ''I do what you just did'' without necessarily implying a ''We'' in the content of the intention.

inanimate objects. Regarding the second overextension prediction (overextension of the concept of pretense to as-if-behaviours without the essential intention elements of pretending), a study by Lillard (1998) is presented as main evidence. In this study, 4-year-old children were again told that Moe was hopping like a rabbit, but then they were told that Moe did not want to, nor was trying to, hop like a rabbit. When asked "Is Moe pretending to be a rabbit?" most 4-year-old wrongly answered affirmatively. The behaving-as-if theory would thus claim that young cannot participate in pretense as a collectively intentional activity, because they do not yet understand the intentional structure of pretending, thus cannot share intentions to pretend and enter into corresponding we-intentional actions. The most they can do is to enter into coordinated behaviour. On our Cultural Learning approach, in contrast, we reasoned that young children imitatively acquire pretending understood as a specific intentional action form, different from other kinds of behaving-as-if (such as unsuccessful attempts), and perform it from early on in a cooperative fashion.[6]

To test our approach against the behaving-as-if theory with regard to children's understanding of the intentional structure of pretense – that is, with regard to the question whether young children fulfill criterion (c) for cooperative pretense-, we did a series of non-verbal studies, the "pretending-trying" studies, as we call them, with 22–36-month-old children (Rakoczy, Tomasello, & Striano, 2004; Rakoczy et al., in press). Though not specifically designed for this purpose, these studies will also be illuminating in analyzing whether young children's social pretense fulfills criterion (d) for cooperation – that is, whether we can ascribe some form of we-intentionality to them. Theoretically, the pretending-trying studies were designed to present a test case for deciding between a lean behaving-as-if interpretation of early pretense understanding, and our richer interpretation according to which young children at least understand pretending as intentionally *acting*-as-if. Methodologically, we wanted to overcome the notorious pragmatic problems of asking children about very unusual scenarios (such as someone hopping like a rabbit without wanting to do so[7]), and rather test children's understanding revealed in their actions.

The logic of the studies was straightforward: children's imitative and inferential responses to two kinds of as-if-behaviours – pretending and trying – were compared. The children were shown pairs of superficially analogous incomplete as-if-behaviours with objects, pretending to do an action and unsuccessfully trying to do the same action, for example to pour from a container into a cup. In both cases the actor would make pouring movements with a novel container over a cup, but without actual pouring happening. In the one case, he would mark it with signs of playfulness and sound effects as pretending to pour, in the other case he would mark it with signs of surprise and frustration as trying to really pour. Importantly, the container did really contain water and thus could be really used to pour. In the first study the situation was set up as an imitation game. After the actor's model action children were then given the object and could act with the object themselves. Two- and three-year-old (but not older 1-year-old) very clearly showed that they understood pretending and trying as such: after trying models, they really performed the action themselves or tried to really perform it, often commenting on their failure (e.g., "I cannot do it either"), but after pretense models they only pretended themselves and did not care about the real effects of their acts (e.g., whether there was water coming out of the container).

In another study, children were presented with some of the same model pairs, but now not in a strict imitation game only. Rather, the pragmatics of the situation was set up to encourage more productive inferential responses as well. When the 2- and 3-year-old now saw an actor try to pour they themselves then really did the action or tried to, but with different means. For example, they made use of a tool to open the container first. When the actor had pretended to pour, in contrast, children themselves pretended to pour and then went on to pretend to drink and give a Teddy bear a drink. That is, children showed a rich understanding of the intentional structures of pretending and trying as different forms of behaving-as-if: in trying to pour the actor wants to perform the action properly, intends to make the proposition "there is water coming out of this container" true by bringing it about, in pretending to pour the actor only acts intentionally and non-seriously as if pouring and as if "there is water coming out of this container" was true. Accordingly, these two kinds of behaviours license very different inferences that children grasped: in the trying case, that other means should be used, in the pretense case, that in imitating and extending the pretense the stipulated pretense proposition should be respected.

Coming back now to our four minimal criteria for cooperative activities, the pretending-trying studies can be taken to show that even 2-year-old' social pretense behaviour does fulfill criterion (c): young children see others' pretense acts as a specific kind of intentional activity, imitate their actions accordingly and appropriately, and even extend them in appropriate fashion. What about criterion (d) now? Is there any we-intentionality involved in children's social pretense episodes such that young children do not

[6] We did not dispute the claim that young children do not yet have an adequate grasp of the epistemic elements in pretending and thus make overextension mistakes to cases that do not quality as pretense because they fail to fulfill the epistemic criteria for pretending. Our claim is, rather, that in pretense, as in most other action domains, children have some understanding of the volitive and intentional aspects before they grasp the epistemic ones.

[7] A recent verbal study by Richert & Lillard (2002) lends prima facie support to the concern that children do not know what to make of such bizarre scenarios: when a reason was given for the character's hopping behaviour – he is walking on hot pavement and does not want to burn his feet – the children who remembered this reason on a control question performed better. These results suggest that the children in the original study might have simply ignored the premise that the character did not want to hop in coming up with their answers.

only understand others' pretense and imitate it for themselves but form a shared intention to pretend together? Though falling short of being anything like a strict proof or undisputable evidence, I think children's behaviour in these studies suggests an affirmative answer. This is most clearly seen in the last mentioned study in which children produced inferentially appropriate creative pretense acts, e.g., pretended to drink from a cup into which the adult had pretended to pour. This clearly seems to reveal respect of the inferential structure of joint pretend play: if we pretend to have a tea party and you pretend to pour into the cup, then the cup is full, so to speak. Your pouring-pretense gives me a reason for drinking-pretense.

In the case of adults and older children we would describe such a scenario in something like the following way: "They are pretending to have a tea party together. In the pretense A has poured, so the cup is 'full', B sees this and acts accordingly". In the case of these younger children, one could think of many ways to describe their behaviour in simpler terms: for example, "The adult pretends to pour into a cup. It is the child's turn now. She pretends herself, and has somehow been primed to the pouring–drinking topic, so she pretends to drink from the cup herself. However, she has stipulated the pretense proposition 'there is water in the cup' all by herself, the adults' behaviour not being a reason for her pretense, but merely a cause or enabling condition". While such simpler re-descriptions have some plausibility for other areas of early social behaviour such as coordinated problem-solving, I do not find them plausible at all in the case of early joint pretense as shown in the studies reported. In solving instrumental problems in social contexts, for example, 2-year-old children do show sensitivity to the role of other participants. For example, if they want to retrieve a toy from a box which only can be opened when another participant first pushes a lever (e.g., in studies by Brownell & Carriger, 1990, 1993), young children wait until the prerequisite action has been performed and then perform theirs. This can be described as cooperatively solving the problem and getting the toy, but such a description is not necessitated here. Rather, one could quite plausibly say that the child performed an individual action which had as an enabling condition the fulfillment of another person's action. Here the relation between the two actions is a causal or external one in the proper sense: I cannot succeed unless you succeeded first. This would be analogous to the case of real pouring and drinking: I as a little child cannot drink before you as the adult have poured from the big bottle which I am cannot handle. It is thus not the case that your action provides a reason for me to act. Rather, the fact that your behaviour is – as a matter of empirical contingency- necessary for me to pursue my individual goals provides a reason to coordinate with your behaviour in appropriate ways.

In the case of pretense, however, there is no such brute contingency. If I wanted to pretend on my own, I could do with the cup whatever I want. Respect for the implications of your pretense stipulations is not necessitated naturally, but only as part of my sharing into a joint we-intention to pretend together with you. Such a we-intention essentially involves some basic form of commitment to acting together, analogous to the individual commitment of actors in solitary actions, but different in that not only my own desires and intentions provide reasons for further intentions and actions, but now the collaborator's actions and intentions provide reasons for me to act accordingly in the course of the joint action. I am unsure how to characterize this type of commitment into which young children supposedly are capable of entering. Is it moral, or purely prudential? Are there other possibilities? Is it a sui generis form of commitment? Without committing myself to any too specific position here beyond doubting that this kind of commitment should be called moral in any interesting sense, I would like to say that "commitment" should probably best be characterized as quite minimally involving an appreciation of normative inferential (reason giving) relations between collaborators' and own actions and the willingness to respect these relations in the pursuit of acting together successfully.

In summary, the results of the studies I reported suggest that young children from two years in their social pretense behaviour (a) perform intentional pretense acts, (b) contingent upon others' previous pretense behaviours, (c) understand the others pretense as a specific intentional activity, and (d) based on this understanding enter into a shared we-intention to pretend together with the other person, involving commitment to the joint action, sensitivity to and respect for the inferential relations between pretense stipulations by the other and own pretense actions. According to the above listed minimal criteria for cooperation, children's early social pretend play in situations like the ones studied here can thus be considered a form of cooperative activity. In the following section – making use of some distinctions and taxonomies of collective actions – I will try to specify more clearly what kind of collective intentionality might be involved in early pretense, and how this relates to other areas of potential early collectivity.

3. Pretend play, collective intentionality and status functions

A first important distinction – already alluded to above – can be drawn between cooperation proper and mere coordination. By mere coordination I here mean very broadly forms of behaviour by two or more agents that involve mutual responsiveness by the participants, that might or might not be characterized as intentional action, and that might or might not involve mutual understanding of the intentionality of the other participants. In other words, coordinated behaviour minimally fulfills criterion (b) from above, can fulfill criteria (a) and (c), but fails to fulfill criterion (d) – the pursuit of a joint we-intention.

This distinction proves helpful in analyzing the development of pretend play and other early forms of social play and social instrumental behaviour. While in adults most forms of social play – from ball to card games – and social problem-solving – from organized craftwork to solving

cross-word puzzles together – do involve collective intentionality proper and are thus truly cooperative, we have to be careful not to over-interpret precursor forms of such behaviours early in development. Let us consider two examples: children in their second year play simple social ball games like rolling balls back and forth with their parents. And children at this age do engage in simple coordinated social problem-solving, performing their instrumental actions contingent upon the performance of the partner's actions (Brownell & Carriger, 1990). Should we describe such instances as cooperation proper? I think we should be cautious here. The methodological point I want to stress is the following: There is an interesting asymmetry between early pretend play and these other forms of early social behaviour such that the ascription of cooperation proper in the case of young children's social pretense is much more plausible than in the case of these other early social behaviours. The reason is that in the case of social ball-rolling and problem-solving children could just be sensitive to brute contingencies (''Only when I roll the ball to you will I get I back...''; ''Only when you have finished behaviour A, can I start my instrumental action B'', etc.), i.e., might just be engaged in coordination. In coordinated social pretense, however, children's inferential actions cannot be so plausibly re-described as based on sensitivity to brute contingencies, because the contingencies themselves only make sense against the background of a shared fictional activity. Note that this asymmetry holds as long as we only look at children's coordinated behaviour within the shared action frame: children's shared pretense behaviour itself makes it plausible to call it cooperation, which is not the case in other social play and instrumental acts. In the latter cases the coordinated behaviour as such and in itself remains ambiguous. What then could be disambiguating evidence in these cases? Particularly revealing would be behaviour that arises when disruptions of the social activity occurs, i.e., behaviours that could be taken as indicative of relevant we-intentionality and commitment. I am thinking here of simple forms of mutual help in the case of problems in fulfilling one's role and rapprochement in the case of failing to conform to one's role. These are the types of data we need in the future to decide which other kinds of early social behaviours in the areas of play and problem-solving should be called cooperative.

The distinction between mere coordination and cooperation proper also proves helpful in a comparative perspective. First, most if not all behaviours in non-human animals that have been called cooperation, e.g., chimpanzee group hunting, can on a closer look be re-described as mere coordination (see (Tomasello & Call, 1997), for detailed analyses of this kind of coordination/cooperation in the great apes). Second, and more specifically, with this distinction at hand we can set up apart human pretend play as a form of cooperation from other forms of social coordinated play in the animal kingdom. Play fighting, for example, is a widespread phenomenon in many species, and has sometimes been called a form of cooperative pretend play – pretending to really fight (Bateson, 1955/1972). However, a closer look here reveals that such a rich description of play fighting as cooperative pretense seems unwarranted and should be replaced by descriptions in terms of coordinated play behaviour only. Neither do we have compelling evidence that what young puppies are doing is pretending to seriously fight (do young puppies have a concept of ''fighting''?), nor is it warranted to ascribe to the puppies any kind of we-intention to play-fight together.

In summary, early pretend play in human children can be considered more than mere coordination and one of the earliest clear manifestations of cooperative activities. Other forms of social play and social instrumental activities in young children might be counted as cooperative – and not merely coordination – as well, but this is methodologically harder to decide in light of the current evidence. Most forms of social play and social instrumental actions in non-human animals, however, are on the present distinction best considered mere (though sophisticated) coordination.

Let us now turn to another distinction within the class of cooperative activities and ask how it applies to early pretense. This is the distinction between ''cooperatively loaded'' and ''cooperatively neutral'' joint act types according to Bratman (1992). ''A cooperatively loaded joint-act-type [...] already brings in the very idea of cooperation. In contrast, in the case of cooperatively neutral joint-act-types, joint performance of an act of that type may be cooperative, but it need not be. There is, for example, a clear sense in which we can go to New York together or paint the house together without our activity being cooperative'' (1992; p. 330). When we consider pretend play acts in adults, it is clear that in principle many forms of pretending are cooperatively neutral. The only exceptions are pretense activities that in their content essentially make reference to other participants and joint acts, such as pretending to be a happy family. But adults can pretend to pour tea into cups and drink from them without essentially being involved with other participants. And we can pretend to be silly together by sitting beside each other and each pretending for her-/himself to be silly, without cooperating in any sense.

The question I want to pose now, however, is whether the same holds for young pretenders. One interesting possibility, inspired by the Vygotskian tradition and its notion of internalization and by Mead (1934), is that for a given act type it does not remain constant over developmental time whether it counts as cooperatively neutral or cooperatively loaded; specifically, that it is primarily cooperatively loaded, i.e., essentially tied to joint execution, and only in a derived way becomes cooperatively neutral. Speaking is a Vygotskian example: for adults speaking in some sense is not a cooperatively loaded act type. We can talk to ourselves and even in silence. However, developmentally we do not start speaking in isolation, but in social contexts, in Zones of Proximal Development, by

imitating others, by being scaffolded from others.[8] Solitary speech is a developmentally derived phenomenon that arises through internalizing a public practice, through the internalization of the "virtual other". Applying the same logic to pretense would lead us to the following analogous picture: initially pretense is cooperatively loaded for young children, is essentially pretending together, and only later – through internalization – becomes possible as a solitary and cooperatively neutral act type. When read in a weak empirical way (in contrast to a strong philosophical way in the sense of a Wittgensteinian private pretense argument) this picture receives prima facie support from the findings mentioned above in Section 1. But of course we do not have conclusive evidence to date and await more stringent naturalistic and cross-cultural observations.

The final distinction within the class of cooperative activities in its application to pretense I want to consider relates to the kinds of functions that are involved in collective actions. It is Searle's (1995) distinction between status functions and causal functions that can be assigned to objects in the course of collective actions. In the course of some collective actions the agents use some object in a certain instrumental way to pursue some concrete goals and thereby assign it a causal function, or in other words, make it a tool. For example, a stone used to drive nails into wood thereby is assigned the causal function of a hammer. Importantly, the assigned function is essentially tied to the physical causal makeup of the object. Schematically, causal functions are reflected in expressions of the form "this object can be used to achieve such and such effects in such and such actions in certain contexts". Status functions, in contrast, have radically different logical properties. They are not primarily assigned to object by virtue of their physical powers, but are brought into existence in a purely conventional way, through the collective treatment of the object as having the status functions in question. Money, marriage and speech acts are the well-known standard examples. Status functions come about through the collective following of constitutive rules of the form "X counts as Y in contexts C".

As Walton (1990), among others, has pointed out, many forms of treating objects in pretense and other fictional activities can be viewed as the creation of (temporary) status functions. For example, "this empty cup counts as cup full of tea now in our pretense context". What I want to suggest now in an ontogenetic perspective is that pretend play is among the first areas in which children participate in the creation and maintenance of status function, and probably the first domain in which they show an – at least implicit – understanding of this conventional creation. Of course, language is the first status function involving practice into which young children enter, at least in rudimentary form from 1 year on. However, arguably young language learners do not have to have any understanding whatsoever of the logical status of constitutive rules and the creation of status functions. Children up to the age of at least four or five just do not view language sounds as phonologically or syntactically defined events or objects (brute facts) that additionally are assigned meaning (institutional facts). They hear through the sounds, directly perceive them as meaningful (as we all normally do when we do not take any kind of meta-linguistic stance).

The situation is different, however, in the case of pretend play with objects. Whereas a child does not have to understand the brute facts about language events first in order to be able to participate in the status function involving practice of speaking, in pretense with objects at least an implicit distinction between brute and fictional facts is required on the part of the child. Of course, the young pretender does not have to distinguish brute fact and fiction as such, under these descriptions – it is sufficient to know implicitly that an object really has some properties (empty), but that it is non-seriously treated as if it had some other ones (full of tea). Without such a distinction – between, say the cup as really empty but 'full' in the pretense context – the child would be confused and we would not want to call her behaviour pretense, but rather delusion or mistake. This makes pretend play development not only interesting in itself, but highlights the possibility that pretense might be the cradle and bootstrap for developing collective intentionality, understanding of and participation in conventional world making more generally. It squares nicely with Walton's (1990) construal of pretending as the potential basis for the representational arts:

> Objectivity, control, the possibility of joint participation, spontaneity, all on top of a certain freedom from the cares of the real world: it looks as though make-believe has everything. [....] The magic of make-believe is an extraordinarily promising basis on which to explain the representational arts – their power, their complexity and diversity, their capacity to enrich our lives. (Walton, 1990, pp. 68f.)

And in this context we can see that Piaget (1962) was at least right to claim that pretend play has importance for semiotic development because the child learns that in pretending "anything can be everything". Only Piaget exaggerated – it is not true that anything can be everything in pretense. And of course he neglected the collective nature of this fictional practice.

In sum, young children from two years engage in joint pretending as a cooperative activity – an intrinsic, "group" mode and perhaps initially cooperatively loaded type of joint activity that involves joint creation of status functions.

[8] In am confining myself here to rather empirical arguments in the Vygotskian tradition that are far less ambitious than philosophical private language arguments in the Wittgensteinian tradition. Though beyond the scope of the present paper, it would be interesting to see how a Wittgensteinian private pretense argument would look like in detail.

4. Early pretense and cooperation – some conceptual questions and problems

So far I have used rather intuitive and minimal criteria for cooperation, and on this basis I argued that early pretense is cooperative. Now, however, it is time to consider the question whether young children do engage in cooperative activities when pretending in light of established and more formal proposals in the collective intentionality literature. Structurally similar questions of the form ''Are we justified in ascribing the (cognitive) competence C to young children (animals)?'' are widespread in psychological and philosophical analyses of developmental and comparative phenomena. The logical problem space for such questions is marked by three prima facie mutually incompatible propositions:

(i) competence C requires psychological background ability P;
(ii) young children (animals) seem not have ability P; yet
(iii) it seems justified on pre-theoretical grounds to ascribe competence C to young children (animals).

For example, on a broadly Gricean intentionalist picture of speech acts, which views speech acts as involving higher-order communicative intentions referring to others' beliefs, one can wonder whether young children who do not yet seem to be capable of higher-order intentional attitudes (that is, children before the age of four when they pass standard 'theory of mind' tasks), nevertheless can be described as engaging in speech acts (see Breheny, in press). A related, and much discussed question in the theory of mind literature is this: are we justified in ascribing an understanding of intentional action to young children (and perhaps some great apes) when understanding intentional actions essentially involves the epistemic attitudes of the actor and when children under four years of ages do not seem to have concepts of epistemic attitudes in the relevant sense (see, e.g., Astington, 2001; Roessler, 2004)?

Now let C be the ability to engage in cooperative activities, specifically in cooperative pretense. So far I have argued that young children's social pretense qualifies as cooperative, and I have done so on the basis of minimal cognitive criteria for the ability to cooperate in such a way that there did not even arise any mutual incompatibility.

But now let us see what happens when we look at less pre-theoretical and minimal analyses of what it means for a social activity to be cooperative. First, I will consider more individualistic, broadly Gricean accounts, specifically Tuomela and Miller's (1988) account of we-intentions and Bratman's (1992) account of shared cooperative activities. On Tuomela and Miller's analysis, a member M of a group has the we-intention to do X if and only if (a) M intends to do her part of X, (b) M beliefs that the relevant joint action opportunities obtain and (c) M believes there is a mutual belief among the participants that the joint action opportunities obtain. Bratman's analysis qualifies a social action J by me and you as a shared cooperative activity only if (1) (a) I intend that we J and (b) you intend that we J, (2) (a) I intend that we J in accordance with and because of meshing subplans of (1) (a) and (1) (b); and (b) you intend that we J in accordance with and because of meshing subplans of (1) (a) and (1) (b); (3) It is common knowledge among us that (1) and (2).

Without going into the details of both accounts, and far from doing justice to their subtleties, most relevant for our present purposes are the mutual belief and common knowledge requirements in both definitions. Clearly, on most accounts common knowledge presupposes the ability on the part of the participants to have higher-order beliefs about the other's beliefs (about their own beliefs, etc.). In the words of our schematized problem space, on these accounts we have as proposition (i): cooperation requires the ability to have at least second-order beliefs. The standard view in 'theory of mind' research then supplies us with the proposition (ii): children up to the age of four are incapable of having second-order beliefs. And both imply the falsity of propositions that describe children younger than four years as participating in cooperation.

We are thus left at this point with the conclusion that the initial construal of young children's social pretending as a form of cooperation does not hold in the light of such more stringent Gricean analyses of cooperativity. Regarding these analyses, one would either have to give up the standard claim that children younger than four are incapable of having higher-order beliefs, which some psychologist and philosophers are ready to do (e.g., Bloom & German, 2000; Fodor, 1992; Leslie, 2000; Sperber & Wilson, 2002) – but which I do not consider a viable option here. Else one would have to withdraw the qualification of early social pretense as cooperation.

Unless, of course, one could modify proposition (i) and find other less demanding though satisfying analyses of what it means to cooperate. And this is the point where decidedly anti-reductionist, less Gricean accounts of collective intentionality become attractive, particularly Searle's (1990, 1995) one. Two features of Searle's approach make it seem promising for our present purposes: *First*, Searle resists all attempts to reductively define an individual's we-intention to participate in a cooperative activity in terms of usual individual intentions and beliefs with special contents, e.g., in terms of individual intentions to fulfill one's part plus individual higher-order beliefs about the other's beliefs (about one's own beliefs, etc.). Rather, he claims, we-intentions are intentional states with a primitive sui generis modus. *Second*, and relatedly, instead of positing complex cognitive criteria for participation in cooperation, Searle stresses the pre-intentional, non-cognitive background abilities that lay the foundation for collective intentionality:

> The capacity to engage in collective behaviour requires something like a preintentional sense of 'the other' as an actual or potential agent like oneself in cooperative activities [...]. Collective intentionality seems to presuppose some level of sense of community before it can ever function (1990, p. 413).
> The biologically primitive sense of the other person as a candidate for shared intentionality is a necessary condition of all collective behaviour (1990, p. 415).

Searle takes one of the original merits of his construal to be that it is invulnerable to certain counterexamples which he thinks systematically plague more Gricean construals when read in a strongly reductive sense (see, e.g., his invisible-hand-business-school-graduates example). For our present purposes, however, the main merit of this proposal lies in the fact that viewing cooperative intentions as primitive and not requiring a complex cognitive background resolves the dilemma we had with the Gricean approaches: the dilemma between claiming either that young children do have higher-order beliefs or else that they do not cooperate. By declaring cooperative intentions primitive and not being based on *cognitive* background abilities, we have no independent reason to come up with a proposition of the form (ii) denying that young children fulfill these background criteria.

We could thus – it seems – have the cake and eat it. However, the cake smacks a bit of mystery. Just declaring we-intentions primitive and lacking cognitive prerequisites makes them seem rather mysteriously unconnected to the rest of an individual's cognitive life. We are given no constraints whatsoever for the meaningful ascription of collectively intentional attitudes to individual agents. This is particularly drastic in the case of describing animal societies. In fact, Searle himself is very liberal in describing, for example, hyenas hunting together as executing collective intentions (Searle, 1995, chap. 2). Now, as Pacherie (2003), among others has pointed out, this neglects at least two *cognitive* (and not merely preintentional) background abilities we should consider essential for an action to be cooperative: the abilities to understand other participants as intentional agents and to coordinate one's intentional actions with theirs – abilities which I have assumed to be necessary even in my minimal intuitive sense of cooperation. And it is very doubtful whether we should grant hyenas with such cognitive abilities. Even sophisticated animal coordination, to repeat a point from above, is not cooperation yet. The unconstrained primitiveness of Searle's we-intentions, however, makes this distinction itself unnecessarily primitive and inexplicable.

Coming back now to the form of the paradox – that (i) cooperation requires complex psychological background abilities, that (ii) these might not to be present in young children and that (iii) nevertheless young children seem to engage in cooperative activities – we have the following picture: Gricean reductive accounts are unsatisfactory because they pose too strict cognitive criteria for children below four years to count as cooperating – given one accepts the standard claim that before the age of at least four years children do not have higher-order believes. Giving up this standard claim is chosen by some Gricean communication researchers (e.g., Sperber & Wilson, 2002) as the only strategy to save the claim that young children are really talking. But I think we do have very good independent evidence for this standard claim and so this strategy is not a viable option. Searle's primitive we-intentionality account does not have to ascribe higher-order beliefs to young cooperators, because cooperative attitudes are primitive and at most founded on preintentional abilities. This is unsatisfactory due to several reasons mentioned above.

What options are we left with then? I think what we clearly need are more fine-grained conceptual distinctions and taxonomies that help us avoid the paradox in some form. Here, it would be crucial to find analyses of early and more basic forms of cooperation proper that are neither primitive and completely inexplicable on the one hand, nor of mature adult sophistication (mutual knowledge, etc.) – analogous, for example, to a recent attempt by Breheny (in press) to solve the developmental paradoxes for Gricean communication models by defining intermediate stages in competent language use before a fully higher-order intentional level.

We can now see that the minimal criteria for cooperation I have been using all along are a step in the right direction: Cooperation, even in simpler forms, is considered as essentially involving understanding of each other's intentional action and the sharing of an intention to act together. This connects cooperation to individual cognitive prerequisites and so avoids mysterious primitiveness. The cognitive prerequisites this analysis posits, however, are not yet of complex higher-order belief nature and thus does not exclude young children from the realm of cooperation. Beyond this move in the right direction, however, future work for such refined taxonomies will have to supply means to describe earlier cooperation more accurately particularly in two respects: first, regarding mutual knowledge or some precursor analogue;[9] second, regarding the nature and kind of commitment to the joint action in earlier forms of cooperative activities.

As to the first point, Peacocke (2005) has recently dealt with a similar problem in the context of early joint attention: how to describe the openness of joint attention such that it does not necessarily amount to common knowledge in the full (dispositionally) iterated sense. Even the most simple forms of joint attention, his proposal goes, are characterized not by dispositional beliefs which can be occurrently iterated if necessary. Rather, joint attention

[9] See Peacocke (2005): "Between the most primitive form of mutual awareness required for simple coordinated joint actions and the mature phenomenon of full joint attention, there will be a series of increasingly rich types of mental representation, content and operations upon them. The conceptual, as well as the empirical, investigation of this series is one of the many tasks for future work" (p. 308).

involves the participants' occurrent perceptual awareness of a state of affairs, and of the mutual perceptual availability of the state of affairs and the situation as a whole (including the participants' awareness, which makes joint attention self-referential).[10]

What makes this proposal attractive for describing early joint attention is that the awareness required on the part of the joint attenders is perceptual awareness, and thus not necessarily full conceptual awareness. That is, young children may be capable of perceptual, non-conceptual awareness of the mutual availability of situations, this even involving some self-referential element *without* full conceptual understanding of the mutual availability, let alone self-referentiality in question.[11]

Tollefsen (2005) has recently made use of Peacocke's analysis in elaborating a child-friendly revision of Michael Bratman's shared cooperative activity definition. Her revised definition – which she explicitly introduces to allow us to say that 2-year-old pretenders cooperate – contains only joint attention condition instead of Bratman's original common knowledge condition. I think this is a very promising proposal and works quite well for the perceptual/epistemic aspects in cooperative activities, and thus allows us to safely call young children's social pretense a cooperative action form.

Regarding the second point, however, – how to characterize the normativity and commitment allegedly involved in early cooperative pretense – I am rather unsure both how to find clearer conceptual explications and how to decide what counts as empirical justification for the ascription of such commitments to 2- and 3-year-old. As to the conceptual explication of what simple commitment to a joint action means, whether it is to be thought of as moral, prudential or somehow sui generis, I do not know what to say except that both participating in the cooperation as such and certain actions of the other partner supply reasons for own actions in the course of the joint action. But are we justified to interpret 2-year-old' social pretense as being guided by such reasons? On the one hand, it seems plausible to me to describe their pretense in such a way. On the other hand, I do see the danger of a kind of naturalistic fallacy here: of wrongly deducing from an action pattern that in adults comes about through making agreements, creating normative status functions, following rules and drawing appropriate inferences that this pattern is not only in conformity with a rule, but in fact rule-governed even in young children. With slightly older children at the age of four the case seems to be quite clear: they enter into explicit negotiation of roles, making use of specific linguistic constructions (explicit "pretend that" and "pretend to" phrases), then – once the roles and rules have been set – start into the fictional world and enact their roles, now with different linguistic constructions to mark the fictional character of the events, backing away from the fictional world into negotiating meta-discourse if necessary (see, e.g., Lloyd & Goodwin, 1995; Sawyer, 1993).

In the absence of such sophisticated discourse abilities in 2- and 3-year-old, what we thus need are more data on children's actions that can be considered as more normatively loaded. I am thinking here of things like protest against violations of pretense stipulations ("No! The cup is full.") in the case of behaviour by the partner that does not respect current pretense status functions. Finding and collecting such data is an important task for future research. In the meantime, the data we have on children's inferentially appropriate actions in joint pretense scenarios can be plausibly interpreted as evidence for commitment to acting jointly on the basis of status functions in at least a rudimentary sense.

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[10] Roughly, two persons A and B are jointly attending to a state of affairs s iff (i) A and B are each attending to s; (ii) A and B are each aware that their attention is mutually perceptually available; and (iii) A and B each are aware that this whole complex state of awareness (i)–(iii) exists (see p. 307f.).

[11] This relates to a more general problem in describing the development of perception. On many accounts perception in general involves an element of causal self-referentiality in its conditions of satisfaction: that the object perceived causes the perception (e.g., Searle, 1983). Should we then say that children cannot perceive before they master the concept of perception? Not necessarily, if we grant that there might be elements of the conditions of satisfaction of perceptual states that are not conceptually available to the perceiver (see Searle, 1991). The same point can be applied here in the case of the self-referentiality of joint attention.

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