Some Problems with a Behavioristic account of Early Group Pretense

Kate Devitt (skdevitt@gmail.com)
Philosophy Department, Rutgers University
26 Nichol Ave., New Brunswick, NJ 08901 USA

Abstract

In normal child development, both individual and group pretense first emerges at approximately two years of age. The metarepresentational account of pretense holds that children already have the concept PRETEND when they first engage in early group pretense. A behavioristic account suggests that early group pretense is analogous to early beliefs or desires and thus require no mental state concepts. I argue that a behavioral account does not explain the actual behavior observed in children and it cannot explain how children come to understand that a specific action is one of pretense versus one of belief. I conclude that a mentalistic explanation of pretense best explains the behavior under consideration.

Introduction

In this paper I compare two cognitive accounts of pretense: the meta-representational view of Alan Leslie (1987a, 1987b, 1988, 1994, 2002) and the behavioral boxology account of Shaun Nichols and Stephen Stich (2000, 2003) (henceforth represented in the text as 'N&S'). More specifically, I contrast the arguments of each theory in explaining very early group pretense. The paper is structured into several sections. Section one outlines key facts about early pretense that both accounts agree upon and briefly summarize the cognitive accounts offered by these two perspectives. Section two focuses on the major point of disagreement between the two accounts; i.e., whether early group pretense is essentially mentalistic. In this section I articulate the three arguments presented by N&S against a mentalistic explanation of early pretense and provide reasons why these criticisms fail. Section three examines develops my critique of the behavioristic model of pretense offered by N&S. Finally I conclude the best explanation of early pretend behavior is that it is the product of conceptual thinking.

Some Facts About Pretense

Pretend behavior first occurs around two years of age. At this time a child can be observed pretending to themselves that some aspect of reality is different to what it actually is. For example, a child might feed pretend food to their doll or empty pretend dirt from their toy dump truck. At approximately the same age, the child can participate in group pretense activities. For example, if mother pretends that a banana is a telephone, then the child will effortlessly join in the pretense. Both Leslie and N&S are interested in the underlying cognitive mechanisms of pretense and the information processing tasks these mechanisms have to perform (Leslie 1987a; N&S, 2003). Both theories agree that in order to avoid 'representational abuse'[1], true beliefs must be kept functionally separate from pretend mental contents. So, the child who pretends that the banana is a telephone must be able to keep the true properties of the banana (e.g. edible) separate from the fictional ones (e.g. communication device). Both Leslie and N&S agree that if a child could not keep these properties distinct, then they would suffer from terrible conceptual confusion.

In Leslie's account, the way contents of pretend beliefs are isolated from actual beliefs is by being 'decoupled' into a metarepresentation. Decoupling effectively gives otherwise transparent mental contents—e.g. the cup is empty—into opaque ones—e.g. "the cup is empty". By making the content of pretend representations opaque; the reference, truth and existence conditions can be semantically segregated from primary representational meaning. Leslie suggests that mental representations underlying pretense have the form: I PRETEND[2] 'this empty cup contains tea' (1987a, 420). Thus Leslie's account essentially involves an intentional agent (e.g. the child or the mother), an informational relation and the opaque content. Importantly, Leslie's mentalistic account requires that the child has the concept PRETEND to engage in pretense.

In N&S, semantic segregation is achieved via the possible world box (PWB). In the PWB, the entire contents of the belief box are downloaded and then specific beliefs are altered to fulfill the requirements of the pretend task. So, in the case when a child is pretending that an empty cup contains tea, she alters a belief in the PWB from the true belief 'this cup is empty' to 'this [empty] cup contains tea' (2003, 51). In N&S's account, early pretense functions like any other propositional attitude like belief or desire. An act of pretense is merely "behaving in a way that would be appropriate if p were the case" (2003, 53). On this theory, a child (or non-human primates) can engage in acts of pretense without having conceptual knowledge of them as pretense. Thus, the crucial difference between the two accounts of early pretense is that Leslie's is mentalistic, whilst N&S is behavioristic.

[1] The description 'representation abuse' was introduced by Leslie (1987) to indicate the risk to the reference, truth and existence relations of veridical mental content during an act of pretense.

[2] In this paper capitals are used to indicate concepts, as opposed to simply propositional attitudes. Thus, BELIEF is 'the concept of belief'. Where as 'belief' is simply the propositional attitude of belief. The difference is important because very young children could plausibly have beliefs as functional propositions influencing their behavior before they come to have BELIEF.

Is Pretending Essentially Mentalistic?

Leslie's mentalistic account depends upon three major arguments[3]: The simultaneous development of individual and group pretense, the parallels between pretense and mental state expressions and the fact that autistic children are both poor at mindreading and pretense. In this section I will articulate these arguments.

The Simultaneous Development of Individual and Group Pretense

One of the intriguing aspects of pretend behavior is that there is very little time between the first time a child pretends during solo play and the first time they engage in pretense behavior with other people. Leslie (2002) argues that because the abilities for individual and group pretense develop at the same age and because group pretense requires understanding other people's mental states, then the parsimonious explanation of all pretense is that it is essentially mentalistic. N&S reply that a behavioristic explanation of early group pretense has not been ruled out by Leslie and indeed cite evidence to the contrary. N&S's argue that:

> "In order to engage in the banana/telephone pretense, the child must understand that Momma is behaving in a way that would be appropriate if the banana were a telephone. But as several researchers have noted, the child need not have a mentalistic understanding of pretense. (Harris 1994b: 250-1; Jarrold et al. 1994: 457; Lillard 1996: 1,718." (N&S, 2003, p.53)

The behavioristic explanation of a mother pretending that a banana is a telephone is that: the child understands that mother is behaving in a way that would be appropriate if the banana were a telephone (N&S, 53). The child upon perceiving this event takes her belief 'this is a banana' and updates the contents of her PWB with the content 'this [banana] is a telephone' retaining all other beliefs as they were. N&S claim that a child's motivation to engage in pretense, "derives from a real desire to act in a way that fits the description being constructed in the PWB" (p.59). That is, the child impetus is a desire to act consistently with a constructed scenario. If this behavioristic account of pretense is right, then it reduces the attractiveness to posit theory of mind to early pretend behavior, thus undermining Leslie's project.

However, in the next section I argue that N&S's behavioristic solution does not explain early pretense. I have two major criticisms of N&S. 1) That a behavioristic explanation does not explain how a child comes to understand that specific behaviors indicate a pretense episode and 2) it is not a necessary part of pretending that a child must desire to act in a way that would be appropriate if the pretense were true.

[3] The analysis of Leslie's view into these three major arguments originates in N&S (2003). I have kept this structure both because I agree that it does indeed mirror the arguments of Leslie and because it clearly shows how N&S disagree with Leslie's position.

Why a behavioristic explanation does not explain how a child comes to understand a pretense episode.

Looking more closely at N&S suggestion, what does it mean to construct a scenario in the PWB based on the observation of action? That is, how does a pretend scenario get to the PWB via behavioral cues? Using the banana case mentioned above—if N&S are right—then there must be something about mother's actions picking up the banana and holding it to her ear that triggers behavioral cues about picking up a telephone.

The problem with this sort of account is that a huge variety of actions can satisfy a single instance of pretending and conversely, the same action can signify a variety of mental activities. As Leslie states, the fact that "one and the same piece of behavior can, in principle, be produced under different internal states… makes it so extremely difficult to produce a watertight behavioral definition of pretense" (1987, 414). Another serious problem for N&S's behavioral account is the impact of verbal behavior.

Leslie (1987) points out that linguistic performance accompanies exaggerated gestures and other cues to signal pretense to the child by the mother. E.g., when a child hears the mother saying, 'let's pretend that the banana is a telephone' a plausible account is that the child switches to conceptualizing the sequence of activities as pretense, rather than belief. Trying to account for Verbal behavior behaviorally will simply not work as Chomsky (1967) so savagely demonstrated to B.F. Skinner.

In addition to this, if the child simply mimics the mother in her actions, thus triggering some process, then it provides no account for the playful divergences from the 'script' that so often accompany pretend play. This leads to my second point about the intentions that lie behind episodes of pretend play.

Why it is not necessary to act in a way that "would be appropriate if the pretense was true".

Although people might pretend by acting consistently with a set of updated beliefs, this conception misses a crucial component of pretense. The real excitement of pretense is the flexibility to do something that is entirely *inappropriate* to the pretend episode. For example, what would the child do if mother picked up the banana and said, "Hello, is this the zoo? Could you send me an elephant please; we'd like to play 'circuses'". Surely it is totally inappropriate if mother was really on the telephone to the zoo and asked them to deliver elephants? It is inappropriate behavior because, on the telephone one only asks for real things from people, one is not allowed to say anything they like. Yet, if mother did ask for elephants, would the child be confused? Would this 'inappropriate behavior' of mother doom the entire pretense episode? Of course not! The child would most likely start giggling and probably ask for some monkeys too!

A large proportion of the fun of pretense is found in acting in ways that can be completely unlike the appropriate behavior. Also consider that not only did the mother violate

rules of etiquette here, but she violated the physical requirements of the task by not even dialing any telephone number. That is, mother simply picked up the 'phone' and suddenly the zoo answered. This is not only inappropriate, it is totally inaccurate phone-pretense if pretense is all about behavior and not about the intention behind the behavior.

Perhaps N&S would respond to this criticism by saying that the child quickly updates more beliefs into the PWB as the pretense continues, so that new contents like 'to talk to someone on the telephone, you don't need to dial any number' and 'when on the telephone to the zoo, you can ask for elephants'. But, this explanation seems to be clutching at straws. If a child did ask for monkeys, then how does updating the PWB with the statement, 'when on the telephone to the zoo, you can ask for elephants' explain the child's behavior? If the child can generalize from requesting elephants, to requesting all animals, doesn't that show that the child is thinking about the situation?

It looks as though the child is engaging in conceptual, mentalistic processes. The behavioral explanation of group pretense fails because it does not and cannot explain what it purports to explain: which is how children can understand what is going on when someone other than themselves begins pretending. I will say more about this in section three.

The Parallels Between Pretense and Mental State Expressions

One of Leslie's arguments to support his decoupling account of pretense is that the semantic properties of 'pretend' parallel the semantic properties of other mental state expressions. N&S argue that Leslie is making the wrong connection. They argue that instead of making a parallel between pretending and other conceptualized mental state expressions, the correct comparison for 'pretend' is with other propositional attitudes such as 'belief' and 'desire'. N&S go on to say that because beliefs and desires can be held without conceptual understanding, it is inconsistent to make pretense conceptual. Because beliefs and desires can be nonconceptual, N&S imply that other propositional attitudes, like pretend, must also be nonconceptual. Must we agree with N&S that most or all propositional attitudes have the same properties as belief and desire?

It is true that out of all the propositional attitudes, evidence for belief and desire in non-humans is the strongest because we can observe behavior that would be consistent with fulfilling such attitudes. For example, if we observe an ape pushing his arm through the bars of a cage towards a banana, the behavior is consistent with desiring food. Plus, the fact that the ape is pushing his arm at the precise point closest to food is consistent with him believing that there is food there. As N&S articulate, these animals could have "lots of beliefs and desires though they are entirely incapable of conceptualizing mental states" (2003, 52). Whilst the case for belief and desire seems convincing, how many other propositional attitudes would it be reasonable to consider affecting the actions of non-humans? Could we say with conviction that an ape imagines? Probably not. Why? Because there is no behavioral cues which could inform us and we have no way of mindreading what an ape is thinking. I am not alone in thinking this (see Yablo, 1993; Walton, 1990). Walton says succinctly:

> It is not easy to see what behavioral criteria might throw light on imagining, or what the relevant functions of a functional account might be. Imagining seems less tractable than more frequently discussed attitudes such as believing, intending, and desiring as well as emotional states such as being happy or sad or feeling guilty or jealous. (21)

Walton suggests that important differences exist between mental states with behavioral indicators such as emotional states versus deeply introspective states with little or no external markers such as imagining. As Nagel (1974) has taught us, there is no way for us to know what it is like to be a bat, nor a rat or an ape. So, the best we can do is to observe the behavior of animals and make suppositions.

Because of this restriction, there are lots of propositional attitudes that we must remain agnostic about when it comes to animals or pre-verbal children. Hoping, dreaming, imagining, forgetting, expecting and thinking all exhibit few behavioral cues. Plus, the cues that we can see easily describe a variety of mental states, so it is nigh impossible to determine whether an individual incapable of communication has them or not. What about pretense? Pretending is one of the few propositional attitudes which does have behavioral cues. Perhaps 'pretend' is more like 'belief' and less like 'think' or 'hope'.

However, does having behavioral cues entail that pretense functions in the same way as belief and desire? The fact that non-human primates do not seem to engage in pretense is a reason to think that pretense requires a different sort of architecture than belief and desire. In fact, one plausible reason that non-humans do not pretend is because they lack the necessary conceptual capacity. Also, when we consider young children, it is important to recognize the fact that simply because a young child who is pretending may not be able to discuss the pretense indicates nothing about their conceptual abilities and everything about their linguistic skills. The distinction between concept acquisition and language acquisition must not be conflated.

Finally, many propositional attitudes such as regretting or hoping require conceptual apparatus. Therefore, whatever the parallels between propositional attitudes, N&S provide no argument against some requiring conceptual knowledge and some that do not. Without this parallel, then N&S's criticism has nothing to contribute against Leslie's account.

Autistic Children are Poor at both Mindreading and Pretense

The third of Leslie's arguments is that a theory of mind explanation is the best way to explain the curious fact about autistic children that they neither engage in pretense, nor seem to understand the mental states of others. Thus, if the child does not have the decoupling mechanism responsible for metarepresentation, then they will fail any task requiring

the understanding of mental states. N&S argue that rather than a specific theory of mind failure, autistic symptoms are explained by a failure of the mechanism which puts representations into the PWB.

Yet, experiments have shown that autistics can complete other tasks that require correctly putting representations into the PWB. A good example of this is their success at counterfactual reasoning. Leslie & Thaiss (1992) gave autistic children a version of the false-belief task which used photographs instead of mental state descriptions. Autistic children are very successful at tasks that involve holding simultaneous and contradictory contents about nonintentional subject material. Therefore, the autistic deficit lies squarely with tasks involving intentionality, i.e. theory of mind tasks. This is a problem for N&S's account because they make no accommodation for what is different between intentional and non-intentional possible world thinking, at least at the very early stage of development we are discussing.

In this section I have gone through the criticisms leveled at Leslie's theory by N&S. They have three major concerns and I have shown how none of these invalidate Leslie's hypothesis. 1) N&S's behavioristic account of pretense does not adequately explain early group pretense. 2) The fact that pretense is essentially conceptual is not impacted by the nonconceptual nature of belief or desire and 3) the PWB provides a poor substitute as an explanation of autistic cognitive deficits. In the next section I will elaborate on how a behavioristic account of pretense fails to explain early group pretense.

Problems with a Behavioristic Account of Pretense

Nichols and Stich claim that pretending is 'acting as though content x were true'. In their actual words, "To pretend that p is (at least to rough first approximation) to behave in a way that is similar to the way one would (or might) behave if p were the case" (2003, p.37). How exactly does this formulation explain the difference between pretense and any other behavior? Unfortunately this definition fails because it is the same explanation that underlies belief. That is, 'to believe that p is to behave in a way that is similar to the way one would behave if p were the case'. More seriously, the behavioral consequences of belief entail 'acting as though content x were true'. For example, if I believe that there is milk in the cup, then I'll drink it, or offer it to someone else. In other words, I'll behave in a way that is similar to the way one would behave if milk is in the cup.

Not only does N&S's definition not distinguish between pretending and belief, but it is also too weak to really explain the behavior in question. As Leslie (1987) discusses, acts of pretense are observable via the exaggerated gestures of the pretender. For example, If Sally is pretending that this cup has milk in it, then, when she pretends to drink from the cup, she does not put the cup to her lips, instead she tips the cup just before it reaches her mouth. If she behaved similarly to this when holding a real drink, she would end up pouring the fluid down the front of her clothes. So, pretend behavior itself is importantly different from behavior elicited from belief. Nichols and Stich seem to be missing the fact that belief and pretense are not merely behavioral outcomes, they are very different mental states.

This difference can be made clearer with an example: Imagine the difference between circumstances where a teddy bear can talk versus one where a child pretends that her teddy-bear can talk. In the former, a child would listen silently as Teddy spoke (one toy in the 80s famously said "Hi! I'm Teddy Ruxpin. Do you want to hear a story"). In the latter condition, a child would not 'listen' silently to imaginary speaking and then respond as she would do in the former situation. No, during pretense, the child talks for teddy and then replies to teddy's questions. If pretense really involved 'acting as though content x were true', then she would not speak for teddy, because she is pretending that teddy can speak for himself. Therefore, N&S's behavioral explanation of pretense fails to explain the facts about pretend behavior.

Conclusion

In this paper I have evaluated the criticisms leveled against Leslie's conceptual account of pretense by N&S. N&S suggest that a behavioral account of early group pretense is preferable to a conceptual account because it can do the work without superfluous mental baggage. N&S claim that early pretense it is simply a propositional attitude, like belief or desire. They also suggest that autistic deficits can be better explained with their behavioristic boxology account, rather than by recourse to discussion about theory of mind. I have argued that a behavioral account is untenable because it does not explain the actual behavior observed in children and it cannot explain how children come to understand that a specific action is one of pretense versus belief. I have argued that propositional attitudes have a variety of properties, do not always have behavioral cues to indicate their satisfaction conditions and may necessitate conceptual apparatus. Finally, I have shown that N&S's account does not explain the finding that autistics can think counterfactually when it involves nonintentional agents. I conclude that a mentalistic explanation of pretense best explains the behavior under consideration.

Acknowledgments

I would like to thank Rutgers University for travel awards.

References

Chomsky, N. (1967) A Review of B. F. Skinner's Verbal Behavior. In Leon A. Jakobovits and Murray S. Miron (eds.), Readings in the Psychology of Language,
Prentice-Hall, pp. 142-143

Leslie, A. (1987a). Pretense and representation: the origins of "theory of mind". *Psychological Review*, 94: 412-26

Leslie, A. (1987b). The child's understanding of the mental world. In R. L. Gregory (Ed), *The Oxford companion to the mind*. Oxford, England: Oxford University Press.

Leslie, A. (1988). Some implications of pretense for mechanisms underlying the child's theory of mind. In J. Astington, D. Olson, & P.Harris (Eds), *Developing theories of mind*. Cambridge, England: Cambridge University Press.

Leslie, A. (1994). Pretending and believing: issues in the theory of ToMM. *Cognition*, 50: 211-38.

Leslie, A. (2002). Pretense and representation revisited. In N.L. Stein, P.J. Bauer & M. Rabinowitz (Eds), *Representation, Memory, and Development: Essays in Honor of Jean Mandler*. New Jersey USA: Lawrence Erlbaum Associates.

Harris, P. and Kavanaugh, R. D. (1993). 'Young children's understanding of pretense', *Monographs of the Society for Research in Child Development*. 58/1

Perner, J., Barker, S., and Hutton, D. (1994). 'Prelief: the conceptual origins of belief and pretense', in *Children's Early Understanding of Mind: Origins and Development.* Lewis, C., & Michell, P. (eds). Hillsdale, NJ: Lawrence Erlbaum Associates. 261-86.

Nagel, T. (1974). What is it like to be a Bat. *Philosophical Review*. 83. 435-450

Nichols, S. & Stich, S. (2000). 'A Cognitive theory of pretense', *Cognition*, 74: 115-47.

Nichols, S. & Stich, S. (2003). *Mindreading*. Oxford: Oxford University Press

Walton, K. (1990). *Mimesis as Make Believe*. Cambridge, Mass: Harvard University Press.

Yablo, S. (1993) Is Conceivability a Guide to Possibility? *Philosophy and Phenomenological Research*. 53. 1-42