Pretending as Imaginative Rehearsal for Cultural Conformity

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ABSTRACT

Pretend play and pretense develop in distinct phases of childhood as ontogenetically adaptive responses to pressures specific to those phases, and may have evolved in different periods of human ancestry. These are pressures to assimilate cultural artifacts, norms, roles, and behavioral scripts. The playful and creative elements in both forms of pretending are dictated by the variable, open-ended, and evolving nature and function of the cultural tasks they handle. The resulting creativity of the adult intellect is likely to be a distant and indirect by-product of temporary and specific ontogenetic responses to temporary and specific ontogenetic challenges, particularly cultural ones.

1. Introduction

Why pretend? What are the functions of pretending and why were they selected in evolution? These evolutionary questions may appear to assume that pretending – in its two major forms, pretend play and imaginative and counterfactual pretense – involves specialized mental capacities. I will suggest instead that acts of pretending are more likely to be assembled out of several mental capacities, such as imagining, decoupling the imagined from the currently perceived, supposing, and interpreting or reading minds. Therefore, the evolutionary question is not what explains the specialized capacities for pretending but rather what explains the assembly of the participating capacities and their joint exercise as pretending.

In both evolution and development, the earliest form of pretending is pretend play. The main answers to the evolutionary question just noted point to the pretend play of young children as a source, training ground and even early manifestation of metacognition (Leslie 1988; Carruthers

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1996), narrative discourse about nonactual situations (Harris 2000), creativity as mental innovation and suppositional imagination (Carruthers 2002) – all sophisticated and uniquely human faculties, manifested in later childhood and adulthood. A deeper-probing answer is that pretend play is an ontogenetic adaptation that serves to anticipate, organize and enlarge the mental and external domains of other developing adaptations, such as the ones just cited (Cosmides and Tooby 2000). Plausible as these hypotheses may be about the long-term – but, I will argue, derivative – effects of pretend play on mental development, I think they miss the crucial evolutionary pressures of the specific and temporary tasks that the child's growing mind is confronted with at several early stages.

According to the psychological evidence, surveyed in Section 2, pretend play operates mostly in early childhood and most frequently in cultural contexts involving current or past interactions with others, adults or children, and is primarily directed at functional objects, tools, social and professional roles as well as behavioral scripts and public norms. For the child, these are all cultural novelties to be assimilated and mastered. (From now on, I will assume the social surround and talk only of cultural tasks, novelties, contexts, conformity, and the like.) Section 3 suggests that pretend play develops as an adaptive strategy in early childhood in response to pressures on the young mind to assimilate and master such cultural novelties. So construed, then, pretend play is a solitary or interpersonal initiation of the young child into the ways of adult society and culture – a playful and often creative exercise in cultural conformity. Section 4 speculates on the historical origins of pretend play. Section 5 examines some of the reasons why pretense is significantly different from pretend play, following a massive reconfiguration of the child's mind after the age of 5, and why it too looks like an ontogenetic adaptation to cultural pressures of late childhood. Section 6 sums up and draws some implications.

Before proceeding, I should indicate what the paper does and does not do. It does not propose a new account of forms of pretending or a systematic critique of accounts found in the psychological literature. The paper examines psychological accounts and data about pretending only to the extent that they bear on the main evolutionary argument concerning the reasons for and the functions of pretending. A number of studies of primate and child psychology have emphasized the role of cultural activities

and constraints in underpinning and shaping the pretend play of captive apes and young human children (McCune and Agayoff 2002; also Mitchell 2002, for a general survey). What this paper does is go a step further, historically, and argue that the cultural regimentation of human children and possibly of young captive apes is the major selection force for the evolution of pretend play and pretense.

2. Pretend Play

There is a consensus among theorists that *pretending* is an ability to generate mentally, infer from, and deliberately act on, imaginary scenarios (Carruthers 2002; Harris 2000; Lillard 1994; Perner 1991). Absent these features, it is hard to distinguish pretending from imagining, daydreaming or playing. Lacking one or more of these features, the minds of merely playful animals cannot be in the pretending business. What about human children? In their early years, they seem to do mentally more than play but less than full pretense. This interim position seems to be that of *pretend play* or acting as-if. Let me amplify.

Most mammalian species are playful, in the sense that they rehearse normal adult behaviors in somewhat abnormal ways. Their genome prompts them to anticipate and fine-tune the behavioral expertise they would need as adults. Although they do not confuse play with normal behavior, playful animals do not pretend, according to the definition of the last paragraph, for they do not imagine, nor reason from, nor intend to act on what is imagined. They quarantine their normal goals and improvise variations on standardized behavioral themes. Thus, dogs that gently bite each other decouple their biting behavior from its normal goal (to bite hard and inflict pain) and normal contexts (aggression, defense). The decoupling seems to be genetically induced but the play does approximate a behavioral norm in the canine world (Bjorklund and Pellegrini 2002, chapter 10).

What about captive and particularly human-reared chimpanzees that play with dolls according to human scripts (bathing, feeding) or simulate activities, such as eating imaginary food (Cheney and Seyfarth 1990, 244-45; Tomasello and Call 1997, 68-70)? And what should we make of the human-raised chimpanzee Vicky who put her ear to the picture of a watch or was pulling an imaginary toy through the house by an imaginary string

(Heyes 1951)? And how about young children playing with a banana as if it were a telephone or impersonating a mother or a doctor? There is more than just play in these activities. It is pretend play, by deliberately taking things, actions or persons for what they are not or emulating with exaggeration roles and scripts observed in the adult world. Pretend play is most frequently undertaken in three kinds of activities – playing with new functional objects and gadgets, role play, and play according to shared behavioral scripts. In all these versions, pretend play operates in *cultural* contexts. This is no accident, for the evolutionary pressures for pretend play emerge most strongly in these contexts, as I argue in the next section.

Paul Harris's (2000) comprehensive investigation of pretend play analyzes and documents the pervasive social and cultural contexts of pretend play. Pretend play is most frequently a *social* enterprise, involving either an adult or child as participant or spectator. Pretend play in a social surround develops around the age of 2, although a cooperative and explicitly shared pretend play appears to take about two more years to develop. But even solitary pretend play is implicitly cultural, for it usually reenacts something children witnessed adults doing and often involves an imaginary companion. Children engaged in solitary pretend play may be tacitly socializing by mumbling to themselves, and imitating others mentally or vocally, perhaps humorously, as they proceed with a deviant reenactment. A child may also first sees an adult exaggerate along some dimension of a behavioral script or role pattern, thus pretending, in order to check the child's reaction to and understanding of what is going on. The *cultural* dimension is most visible in pretend play with new functional objects and gadgets (telephones, cutlery, toys, etc.), behavioral scripts (how to eat, how to wash oneself, how to be polite, how to answer the phone, etc.), and social or professional roles (parent versus child, educator versus pupil, doctor versus patient, driver, cook, etc.). Young children spend a good deal of time and energy figuring out in a pretend mode what objects and gadgets are for, how scripts should be handled behaviorally, and what roles are and how they should be carried out.

What does it take to engage in pretend play? Paul Harris (2000, chapter 2) posits four conditions: (a) a make-believe stipulation or stance that fixes the abnormal identity of an object or action (e.g., banana as telephone); (b) suspension of truth; (c) insertion of the pretend item into a causal sequence;

and (d) a narrative unfolding, which unpacks imaginatively or inferentially the causal consequences of the initial stipulation. In a slightly broader definition, Angeline Lillard (2002) takes pretending to involve a pretender, a reality and a mental representation; an awareness of the divergence between what is represented and reality; and intentionally projecting the representation onto reality. What mental resources would the young child need to meet these conditions?

Pretend play produces a deliberate but limited modification of a normal behavioral pattern or object use. Thus, a banana used as a telephone involves a physical object that is grabbed, placed near the mouth or ear and listened or talked to – the normal behavioral script – but the object is different from normal telephones – the limited modification. *Imagination* is needed to represent such a modified situation and to unpack mentally what would or could follow from such a representation. Think of imagination, quite roughly, as the ability to represent some thing or situation that is different, partly or totally, from what one perceives or remembers. Two forms of imagination may be at work in pretend play (Bogdan 2000, 58-59). *Simple imagination* operates on-line, is driven by current goals, and projects situations that are anchored in and resemble a currently perceived (or remembered) situation but differ through the permutation, omission or addition of some of its elements. For these reasons, it is a *situated* form of imagination. Although able to deploy multiple representations of currently perceived situations (Perner 1991), simple and situated imaginers do not have the mental freedom to envisage entirely nonactual or never witnessed situations, completely divorced from perception or memory. That mental freedom is the mark of pretense proper, as I argue below.

On many occasions pretend play may require more than simple imagination. Since pretend play is a deliberate effort intended to reach a goal by unusual means, the pretending usually concerns the *means*. This is why pretend play may call for an *instrumental* imagination. Think of it this way. To bring about a goal situation, one injects in one's imaginative projection a representation of an object, organism or behavioral pattern that is embedded as an implement or tool in an otherwise normal action (Bogdan 2000, chapter 2). Play-pretending that the cat is a pillow (a favorite of my childhood) is knowingly imagining conflicting states of affairs – that

one normally sleeps on pillows, but that cats are not pillows yet can be acted upon as such, with counterfactual delight. The same is true, in role play, of the child who pretends to be doctor giving pills to another child, as patient, or a child pretending to be a mailman delivering letters and packages, or the like.

Both simple and instrumental imaginers are creative but not necessarily recreative (Currie and Ravenscroft 2002). They can combine representations in novel, unprecedented ways to create situations different from reality (creativity) but cannot shift perspectives, and represent and reason about things entirely from the perspective of what is imagined (recreativity). A child who imagines a house with a big apple instead of roof is creative in his simple imagining. Imagining being a vampire, and thinking and behaving like one, is being imaginative recreatively. Genuine pretense is most often recreative. The pretend play of young children or possibly human-raised apes is most of the time just creative and usually in a limited way.

Young children may be imaginatively innovative in how they carry out the pretend-play tasks generated by cultural pressures. But the tasks themselves usually reflect and call for cultural conformity. Common sense suggests, and science does not deny, that most adults are script- and norm-followers, most of the time, in what they do, what they say, how they say it, and (probably) in what and how they think. Those who violate cultural scripts and norms (almost everybody at some time or another) are not necessarily innovative but rather responding to other and perhaps conflicting scripts or norms or simply to physiological or emotional needs. Imagination in general, as the mental engine of pretending, is like grammar: it can but need not generate truly innovative representations, and usually doesn't. As suggested earlier, pretend play normally concocts limited alternatives to scripted situations. This is why pretend play is a moderately creative exercise in cultural conformity. This is also why I think that, in its various forms, imagination assists pretend play and later pretense in order to foster not creativity as such but rather a flexible conformity to a complicated and fast moving culture and to find adaptive (hence ultimately conformist) ways of negotiating its many scripts, norms, roles, rituals, uses of tools and artifacts, and their countless variations.

By mixing the real or normal with the imaginary, a pretending mind must avoid confusing them, if the pretending is to remain just that. How does a very young mind do that? There are several suggestions in the literature, such as a specialized decoupling mechanism (Cosmides and Tooby 2000), an ability to detect and perhaps conceptualize the pretend attitude (Carruthers 1996; Leslie 1988), or an ability to construct multiple representations and tag those with imaginary content (Harris 2000; Perner 1991). Aside from the conceptualization of pretense, which may be premature for young children, the other proposals seem plausible. But the child's mind may also have simpler and more economical means of distinguishing what is imagined from what is real – means inherent in the mode of operation and function of pretend play. To begin with, it was noted earlier that pretend play usually represents *limited* modifications to a real situation or role script or behavioral script or object use. As a result, the real unmodified part could anchor the pretend play in reality or normality. Second, as noted by Harris (2000) and Lillard (2002), pretend play is frequently social (whether the other is a real or imagined spectator or partner) and hence involves a *shared* make-believe stance that might help distinguishing what is normal or real from what is imaginatively deviant. And, third, there is the cultural function of pretend play that also contributes to the distinction in question. In order to handle cultural novelties, the child's imagination must be constrained by representations that are not only veridical but also pertinent and useful in revealing the functions and modes of employment of new gadgets, scripts, and social roles. Learning and behavioral mimicry are not enough, for reasons amply documented by Michael Tomasello (1999). Young children must also figure out and emulate what adults do, how they do it, the norms they are obeying, and how they respond to and correct the youngsters' progress. To this end, the youngsters must understand, rehearse and reproduce (what Tomasello calls) the *intentional affordances* and functions of novel behaviors, gadgets and roles, what they are for, according to how adults handle them. Representing and tracking intentional affordances and functions are also likely to anchor the young mind in reality and help it identify what is pretended, which usually are variations and deviations of those affordances and functions.

Handling intentional affordances in pretend play in turn requires another mental resource. To grasp such affordances, as they are displayed in the adult behavior and culture, children must represent the attitudes that adults have toward norms, roles and artifacts. To do that, children must be *naive psychologists* able to interpret other minds. The powers and limits of their naive psychology are bound to constrain the nature and scope of pretend play. It is significant that pretend play begins just before the age of 2, when children become capable of engaging adults in joint attention. I see joint attention doing double duty in pretend play. First, it enables children to understand better what adults do by coordinating attention with them on targets of common interest and receiving appropriate feedback and correction. Second, to pretend play in front of others or engage others in joint pretend play, a child must not only understand the attitudes of others or, as the case may be, their pretend stance. The pretending child must also know how to *parse* what is pretended and what is treated as normal, and how to establish that the others parse it the same way (Lillard 2001). Joint attention facilitates this parsing strategy by enabling the partners to enter into a sort of make-believe agreement about a part of the situation they attend to (as topic), while allowing deviant variations about other parts (as comments).

Naive psychology may also explain in part the difference between pretend play and pretense. There are researchers who read pretend play in a mentalist sense of requiring either an ability to metarepresent attitudes in general or some concept of pretense in particular (Carruthers 1996; Leslie 1988). As critics noted, this may be too strong a requirement (Harris 2000, 191-192; Perner 1991, 59-66). Pretend play begins around the age of 2 and, on most estimates, the metarepresentation of attitudes emerges around the age of 4 (Perner 1991). Lillard (1994) also reports experimental data indicating that children do not understand that pretending is based on mental representation until around the age of 5 to 6. Metarepresentation may become self-directed or self-attributed also around that age, as I argued elsewhere (Bogdan 2005). Nor is a mastery of the *concept* of pretense needed to pretend in general or pretend play in particular, anymore than a concept of play is needed in order to play. True, pretend-play children need to distinguish pretendings from veridical cognizings – or play from normal behavior – but, as noted earlier, this can be done in

various ways that need not involve the concept of pretending. A behavioral and nonconceptual reading of pretend play is more in tune with its play function and also with the naive psychology of young children (Lillard 1994). That naïve psychology is mostly situated in the here-and-now of current perception and motivation (Perner 1991), limited to observable intentional relations, such as seeing, noticing, wanting, and the like, which take spatio-temporally concrete items, but not propositions, as targets (Bogdan 2000; 2001; 2003). Pretense, in contrast, employs an unsituated or perception-free imagination and an unsituated naive psychology of propositional attitudes, alone capable of metarepresentation and a self-attributed suppositional stance, as argued in section 4. A mind engaged in pretend play does not have to represent and categorize its own mental goings on but a mind engaged in pretense does, and that is a big difference.

In sum, the limitations in the imagination and naive psychology of young children explain why their pretend play is still *play*, expressed behaviorally, and not pretense, as an exclusively mental undertaking. But why the *pretend* stance? Why would cultural tasks call for such a stance, in addition to play? These questions lead to the evolutionary part of my argument, to which I now turn.

3. Why Pretend Play?

If playing is an early fine-tuning of adult behavioral expertise, as it is in so many animal species, why do it in a pretend mode? As noted earlier, some authors see the pretend stance as a shaper of developing competencies that reach far into adulthood, such as metacognition (Carruthers 1996; Leslie 1988), hypothetical thinking (Carruthers 2002) or narrative discourse about possible situations (Harris 2000). This competence-building role of pretend play was fleshed out by Leda Cosmides and John Tooby (2000). They propose that pretend play is an ontogenetic adaptation whose evolved forward-looking function is to generate new experiences that organize, constrain and refine other developing adaptations, such as those just cited as well as social cognition, emotional reactions, and more.

I think that pretend play is indeed an ontogenetic adaptation but I take the major function for which it was selected to be specific and temporary, and to consist in handling specific and temporary challenges of *early* childhood. The long-term role in building other mental adaptations

is an indirect and distant outcome of its function, mediated by a cascade of other developments initiated by the exercise of pretend play. Two ideas guide my hypothesis. One is that development and its main phases should in general be treated as genuine forms and stages of evolution. The other idea, already outlined, is that play takes a pretend turn in early human childhood primarily because of the nature of the cultural pressures it is called upon to manage at *those* early stages. I begin with the first idea.

It is tempting but unwise, particularly in the mental domain, to view development *exclusively* as a sequence of interim and preparatory stages selected for their future embodiments in adult forms. This view ignores the child's evolutionary interests and her developmental strategies that operate as a survival kit at each stage in her early life. It also presumes that, as goals of development, adult features act as distant pressures on and shapers of development. Such a finalistic view ignores the fact that development is a slice of evolution, with its *own* selection pressures and adaptive solutions (Bjorklund and Pellegrini 2002; Bogdan 2000, chapter 3).[1] Each stage in development is a game of survival and making it to the next stage, which is why it is subject to specific, temporary, often unique pressures, to which equally specific, temporary, and often unique responses evolve as ontogenetic adaptations.

Another reason for thinking of development in terms of temporary ontogenetic adaptations is that evolution operates on the relation between genes and their environments, which involves not only an epigenetic interaction but also a division of labor: a good deal of information and structure needed for the development of an adaptation is stored in the genome as well as in its environment (Cosmides and Tooby 2000, 72-73). As far as the genes are concerned, the environment is both external and internal to the organism. Both the external and internal environments of early childhood differ significantly from those of late

[1]This is how the idea is formulated in one of the most respected books on evolution: "Ontogeny is often intuitively regarded as having one terminal goal, the adult-stage phenotype, but the real goal of development is the same as that of all other adaptations, the continuance of the dependent germ plasm. The visible somatic life cycle is the indispensable machinery by which this goal may be met, and every stage is as rightfully a goal as any other. First, it must deal with the immediate problem of survival, a matter of ecological adjustment. Secondly, it must produce the next succeeding stage. The morphogenetic instructions must provide for both jobs" (Williams 1966, 44).

childhood and even more significantly from those of adulthood. So one would expect ontogenetic adaptations to reflect these differences. This is why neither the ontogenetic pressures of a given period of childhood nor the responses to them can be easily fathomed and explained from the vantage point of adulthood. Many of these responses are temporary ladders to get the child to master a specific skill, after which they are discarded. One such ladder is the exchange of looks and emotions between infant and mother, which underpins early communication and word acquisition through joint attention. Neonatal imitation helps prelinguistic communication and facilitates mother-infant interaction, both temporary ontogenetic adaptations (Adamson 1995). And so on. Once the new competencies are mastered, the ladder is abandoned, because it is just a temporary solution to a specific and short-lived problem of development.

Play may have its own temporary ontogenetic functions, such as practicing social signaling or establishing leadership in a peer group (Bjorklund and Pellegrini 2002, 38-39). Pretend play, I am suggesting, may also be a temporary adaptation in its primary function, largely abandoned as children grow older and become more attuned to the surrounding culture. After 5, children seem to engage less in pretend play, or much less obviously or publicly, and much more in fully imaginative pretense (Harris 2000). If we look at the difference between play and pretend play in terms of the interaction between genes and their environments, we notice the following critical difference. Most animal species count on stable ontogenetic environments, which is why their play evolved to deal with predictable variations. The environments of human children are not like that.

Animated by a restless and escalating culture, these environments are changeable, versatile, open-ended, innovative, hence often unstable and unpredictable. So one would expect human children to evolve an ontogenetic adaptation to adapt to these properties, that is, an ability designed to respond to novelties by mentally improvising (hence the pretend stance) flexible but useful behavioral strategies (hence the play).

We thus come to the second idea – the specific and temporary *cultural* challenges facing the child's mental development and reflected in her pretend play. Both the psychological data surveyed a section ago and the evolutionary considerations just canvassed suggest that it is these challenges

that the *pretend stance* in play evolved to handle as an adaptation. The most inveterate pretend players are human-reared apes and young children. Both groups are young *captive* primates surrounded and challenged by an adult human culture, to which they are relentlessly pressured to adapt. Although the pretend play of human-reared apes and young human children are vastly different, for an evolutionary discussion it is worth emphasizing some common traits. Both groups are intensely social and appropriately equipped for social tasks, and they share some resources needed for pretend play. Thus, both groups seem to imagine simply and instrumentally limited alterations to a currently perceived situation; both interpret others as naive psychologists or sophisticated social cognizers, children much more than apes; both have mirror neurons that enable them to represent their actions and those of others with the same encodings; and, not surprisingly, both groups imitate, though with different degrees of comprehension (McCune and Agayoff 2002; Mitchell 2002; Tomasello and Call 1997; Tomasello 1999).

What is it, then, about the cultural captivity of apes and children that would explain the pretend part of their play? I see several factors at work. The most general factor, defining the framework of young-adult interaction, is the helplessness and hence massive dependence of young captive primates on adult humans, with their language and conventional forms of communication, and the rest of the cultural paraphernalia. Mastery of all these cultural forms is imperative for two reasons: to satisfy the adults, obsessively intent on enculturating the young; and to get the adults to do what young captives want. Rehearsing playfully is an old trick for self- training and can be recruited for the new job.

The pretend stance responds to the utter and often weird novelty of what has to be mastered and emulated culturally.[2] But what is so problematic about this novelty? Think of role play as a major form of pretend play and of roles as typical examples of novel cultural tasks for the very young. Members of any species occupy biological roles, such as parent, sibling, relative, and so on. In highly politicized species, such

[2]There are a few anecdotes about spontaneous pretend play by captive but not human-reared apes, as in hiding objects or covering their eyes in a chase game (Cheney and Seyfart 1990, 244), but I fail to see the pretend part, as opposed to play, perhaps with a touch of imitation. But see Whiten and Byrne (1991) for a more sanguine view.

as the primates, individuals also occupy political roles, indicating power, status, influence, alliances, and so forth. Such biological and political roles are normally perceived through physical clues, such as sex, age, size, and behavior, to which all primates are genetically sensitive. But what about such roles as teacher, doctor or policeman, with their norms and behavioral scripts? The perceptible physical clues fall short of specifying the complex behavioral texture of such roles, as do the partial and relatively few illustrations provided by adult instructors. The same is true of gadgets, behavioral norms and scripts, and ritualized forms of communication. How are the young children going to assimilate such cultural novelties?

Figuring out their intentional affordances and functions, as meant and taught by adults, is an indispensable first step, undertaken with the help of their emerging naive psychology. But it is only one step. An equally tough challenge is that cultural novelties are made of *themes* with countless variations: pillows can be large or small, of different material, colors, shapes, texture and density; dolls can look human or animal or surrealistic, and can vary along many dimensions and shapes; behavioral scripts are much more versatile and looser than that; and so on. Play can take care of suspending truth or weakening the grip of reality by improvising variations and physically exploring their causal consequences. But play was not programmed for the *cultural* patterns of themes with variations, and hence cannot be instructive or adaptive in this respect. To handle these patterns, the youngsters must combine play with rehearsing and trying out what is theme and what is variation in a cultural novelty or, equivalently, what is normal, abnormal or acceptably deviant, relative to its surmised intentional affordances and functions. This, I think, is where the *pretend* stance comes in.

Consider, for example, Paul Harris's fourth requirement of pretend play – the narrative unfolding that unpacks imaginatively the causal consequences of an initial make-believe stance. Harris suggests that this early narrative unfolding trains the child for the adult processing of narrative discourse about nonactual worlds (Harris 2000, 192-195). My guess is that the imaginative unfolding of pretend play primarily tests cultural themes against possible variations, sensitive to the intentional affordances gleaned from adult behavior. It is a creative exercise, apt to be corrected and readjusted, like a wrench, until it fits its target. Think of a child who

impersonates an actor taking final bows in front of an appreciative adult partner. The child bows and the partner applauds (theme well captured), then bows too much and almost loses her balance, while the partner laughs heartily (ooops! wrong variation), regains composure and lifts her arms in a wide V, à la Pavarotti, with partner applauding again (right variation), then keeps the arms too long in the air and partner laughs again (wrong variation), and so on. On this occasion (and countless others with different themes), the child's pretending mind may be assembling a prototypical profile of actor-taking-final-bows (or of other behavioral scripts), step by mental step, out of observed instances of real actors interacting with their public (the perception-imitation part) and out of naive-psychological readings of how the public reacts and why (the intentional affordances of the taking-bows-and-applauding script). Even if such a protonarrativity (if we can call it that) prepares the child's mind for subsequent pretense and narrative discourse about possible worlds, that is not the reason why it was selected in the first place, as part of pretend play.

4. Historical Speculations

The presence of pretend play in all human societies and its uniform ontogenetic onset suggest the work of innate mechanisms (Cosmides and Tooby 2000; Harris 1994; Leslie 1988). But these need not be innate mechanisms or modules *dedicated* to pretend play. Nor should it follow that pretend play is a *single* competence. It is much more likely that pretend play is *assembled* out of several abilities – such as play, instrumental imagination and naive psychology – each of them with its own history of selection and genetic platform. It is the cultural pressures of early childhood that are likely to weave these abilities together – perhaps as follows.

Since apes in the wild play but not in a pretend mode, we may assume that a capacity for pretend play is not naturally present in apes and that captive apes recruit whatever resources are available and pertinent (play, imitation, simple imagination, perhaps a rudimentary naive psychology) and improvise solutions to handle the cultural novelties of captivity in an almost-pretending manner. Fast backward now to early or archaic humans: Their youngsters also faced a cultural captivity (as do all human youngsters, always) and, although better equipped mentally than the captive apes, many of them initially may have done what the almost-pretending and

human-reared apes do: they recruited available resources and improvised solutions. After all, the archaic humans had their social norms and behavioral scripts as well as simple tools and artifacts that their youngsters had to figure out and master.

Suppose now that the resulting behavior of the pretend-play children changed the environment of future generations of children, in the sense that the new pretend-play behaviors were preferred by more and more parents, as a result of which they invested more in the children capable of it, thus making them more eligible for successful mating later on. Or suppose that the pretend play was favored by parents because of their belief in its later creative metamorphoses (Carruthers 2002). In either case, this preference may have created pressures for the genetic assimilation of the recruit-and-improvise pretend-play behavior, that is, pressures that favored children who eventually mutated an innate propensity for pretend play. Again, I am not thinking of a *specialized* competence or module for pretend play but rather, when properly triggered and constrained, of a propensity to assemble and deploy the right resources at the right time, around the age of 2.

One of these evolutionary scenarios could explain how pretend play evolved among archaic humans (cca. half a million years ago) and was inherited by their modern successors. But what about the puzzling gap between the emergence of the modern humans (cca. 100,000 years ago) and the much later cultural explosion in their lives (cca. 40,000 years ago)? Why the relative intellectual stagnation in-between (Mithen 1966)? There must have been a mental revolution in the brains of modern humans that would explain the later cultural upheaval. My guess is that the mental revolution in question was brought about by dramatic changes in *mental development* itself. One outcome of this revolution may have been pretense, though not pretend play, which was already old hat among archaic humans. So how did that mental revolution in development come about and why?

The story I favor is, roughly and briefly, the following. The leading evolutionary force that changed the human mind around 40,000 years ago, and also changed the world in the process, may have been a possibly mutual *sexual* selection for novel forms of *parenting*: males favoring females who spend more time and effort in close emotional and pedagogi-

cal contact with their children, and females favoring males who appreciate, protect and support this new relationship and parental investment.[3] These parenting innovations may have triggered a cascade of new mental developments, starting with a higher-power, intersubjective naive psychology that impacted mightily on communication, language acquisition, and cultural learning, each of these in turn generating their own developmental cascades (Tomasello 1999; also Bogdan 2000). Those cascades may have triggered a reconfiguration of significant areas of the young mind, resulting in a mental revolution responsible (among other dramatic effects) for the emergence of pretense in later childhood. But before we get to that, let me identify one critical implication of this evolutionary estimate.

Suppose that pretend play was actually selected in archaic humans, perhaps several hundred thousand years *before* the emergence of modern humans. Suppose also that (as just suggested) the modern human mind was largely the outcome of a parenting revolution, through a cascade of ontogenetic innovations. *Then* pretend play could not possibly have been selected for functions that only the modern mind can handle much later, such as suppositional thinking, narrative discourse about possible worlds, and self understanding. This, of course, is not to deny that the more ancient propensity for pretend play was weaved into the more recent fabric of the modern mind, with impact on its recreative powers. But, again, that impact could not have been the reason why pretend play first evolved.

5. Pretense by a Multiplex Mind

The argument of this section aims to distinguish pretense from pretend play and to suggest that pretense, too, may start as an assembled disposition that responds to the cultural pressures of late childhood, following the mental revolution occurring during that period. I will introduce the idea of that mental revolution by contrasting two metaphors. Until the 3 to 4 interval the young mind operates on a single screen, where perceptual inputs of current events are displayed and constantly updated by new inputs. It is a

[3]Peter Carruthers (2002) favors a sexual-selection explanation of pretend play. Partly influenced by Geoffrey Miller's (2000) argument, Carruthers thinks that pretend play was sexually selected because of its distant impact on adult imagination and creativity. By contrast, I argued that the selection of pretend play was for the assimilation of and conformity to adult society and culture, and probably occurred earlier in archaic humans.

mind largely confined to current motivation and perception, a situated mind normally controlled by a unique focus of attention and able to represent limited alterations to what is currently perceived or remembered. This metaphor may be somewhat exaggerated, especially in the light of pretend play. Nevertheless, since Piaget's early work, it has been a leitmotif of several decades of developmental psychology. I think that the metaphor of the single-screen or uniplex mind can accommodate pretend play.

As noted earlier, a situated mind can imagine beyond the inputs of perception or memory but those inputs constrain what is imaginable. Think of the pretend stance of the young mind as a sort of little screen or box that opens in a corner of the larger screen dominated by current perception and/or memory, as the larger veridical frame. Foregrounding and temporarily adopting the stance of the little screen, and backgrounding the larger one, the young child's mind can imaginatively improvise new behaviors and playfully explore their consequences. What it cannot do, I guess, is to magnify considerably the little pretend screen, dramatically miniaturize the larger reality screen and relegate it to a corner of the mental workspace, and then, totally off-line, through various inferential and imaginative moves, open a nested succession of further smaller screens *from inside* the pretend screen, all the while keeping track explicitly of the diverse attitudes to the various contents displayed on the many screens. All of this would be involved in (recreative) pretense and it comes later, after the revolution.

Indeed, after the age of 3, but particularly around 4 to 5, the young mind is shaken by several mental commotions, executive as well as cognitive, and revolutionary in their cumulative impact. A notable sign that the monopoly of perceptual situatedness is about to be dismantled occurs between 3 and 4 in the domain of naive psychology, as the child's mind recognizes false belief by allowing a memory representation to overrule a current perception. Chief among the factors that revolutionize the mind of the older child are inhibition and the linguistic recoding and conceptual explicitation of earlier perceptual and procedural competencies, such as counting, recall, mental imagery, and naive theories of various domains (Houdé 1995; Karmiloff-Smith 1992). In particular, inhibition liberates the young mind from the captivity of single-screen mentation, geared to current perception, and enables it to entertain simultaneously sets of nested and

often conflicting representations of actual and nonactual, current and past situations. The absence of inhibition explains in part why young children cannot completely quarantine their own current perception or goals and engage in genuine recreative pretense (or simulation) by fully adopting a hypothetical mental stance or the stance of somebody else.

The developments just cited replace the single screen of early childhood with a multi-screen or multiplex mentation. The multiplex mind literally comes of age. Linguistic recoding and conceptual explicitation enable the child's mind to represent thoughts in alternative ways, view the world from the perspectives of such alternative representations, sequence thoughts in some order and reverse that order, initiate or inhibit trains of thoughts, track the attitudes to what is thus represented, and shift attention from one screen to another in focusing on a task – in short, modulate and control thought processes as an internal affair. Such intramental handling of thoughts becomes possible because the child's mind can now operate on and with thoughts in terms of their intentional features. The multiplex mind also functions as a metamind.

The chief neural platform of this new metamind is the (dorsolateral) *prefrontal cortex* and the *integrative connectivity* handled mostly by its right hemisphere and reaching across large regions of the brain. The growth of this platform is most dramatic in the 3 to 6 interval (Diamond 2001). Significantly, the reach of the prefrontal cortex is massively intramental and so are its main functions. These are functions, fully executed only after the age of 4 to 5, such as inhibition, shifting among alternative representations, planning, particularly in higher-order sequential or hierarchical structures, voluntary control over action, sensitivity to context, and, quite importantly for our discussion, holding information in mind without acting on it.

This brief neurodevelopmental synopsis should suffice to make intelligible and plausible the notion that pretense is a largely intramental exercise that can be carried out only by a multiplex mind. The ability of this mind to hold information without acting on it underpins *suppositional imagination*, which is the basis of pretense, that is, of imagining-otherwise solely for the sake of some further mental activity, and not for acting playfully, as in the pretend play of early childhood. Suppositional imagination requires an explicitly hypothetical stance toward what is pretended. I construe it as a stance that requires metarepresenting one's own hypothetical atti-

tude toward what is pretended. It is at this point in development, after 5, that I agree with Leslie's (1988) strong notion that pretense involves not just metarepresentation but also a *concept* of pretense. It also requires self-attribution of attitudes.

Young pretend-play children can neither metarepresent nor self-attribute attitudes. They represent real as well as imaginary contents, are aware of, and distinguish among the modalities in which they represent, such as perception, mental imagery, memory or imagination. What they cannot represent is the *intentionality* of their own attitudes. The reason, elaborated elsewhere, is that a grasp of the intentionality of one's own attitudes – that is, of the fact that one's attitudes are about something – becomes possible only when the mind can represent, monitor, control, and modify its own thoughts *in terms of* their intentional parameters, such as conceptual structure, reference, truth value, and the like. Only a multiplex mind with metamental capabilities can do that (Bogdan 2005).

In short, pretense is different from pretend play, requires a different sort of mind, and develops later in childhood. But why? Why had pretense evolved (if indeed it did)? Without pretending to have an answer, so to speak, I will say this much. If the evolutionary question is meant to single out pretense as a specialized competence that is a target of selection, then the question probably makes the wrong assumption. Like pretend play, pretense does not look like a specialized competence and is more likely to be assembled, when the occasion arises, out of several resources, such as off-line thinking, counterfactual and recreative imagination, metarepresentation, and self-attributions, some of which may have their own history of selection as specialized competencies. So construed, pretense is more like a mental routine – something that older children and adults can easily do, once the contributory aptitudes are in place and properly networked and activated. In that case, the question to ask is why the pretense routine, so construed. One plausible answer could be the facilitation of narrative thinking and discourse about nonactual situations (Harris 2000). It is indeed after the age of 5 that children begin to use longer and more coherent narratives, yet it takes them several more years to be in full command (Bruner and Feldman 1993; Nelson 1996; also Bogdan 1997, 188-194).

Narrative thinking and discourse are not easily mastered and much depends on such mastery, such as gossip, digesting the myths and leg-

ends of the tribe, understanding and producing lies as well as humor, a sophisticated naive psychology, including simulation, and a narrative memory. These latter cultural tasks become evolutionary pressures calling for pretense as well as narrative and hypothetical thinking and discourse as adaptive responses. Pretense is also critical for, and hence required by, the development of complex social decision-making, moral judgment and character evaluation. Like pretend play, then, but mutatis mutandis and later, pretense is first pressed into service by a variety of cultural tasks whose handling necessitates imaginatively recreative departures from one's current condition or, as in the case of simulating others, from one's own mind.

6. Epilogue

I conclude with a summation and an elaboration. The summation is this. Pretend play and pretense emerge in distinct phases of childhood as ontogenetically adaptive responses to pressures specific to those phases. These are pressures for a recreative assimilation of cultural artifacts, practices, norms, roles, and behavioral scripts. The inventive element in both forms of pretending is dictated by the variable, flexible, open-ended, and evolving nature and function of cultural realities. The creativity, narrative imagination and problem-solving smartness of the adult intellect, often thought of as reasons for the selection of pretend play and pretense, are more likely to be distant and indirect outcomes of many interacting cascades of developments resulting (together with other factors) from the exercise of the primary functions of the two forms of pretending. This cascading effect is worth amplifying, hence the elaboration.

As noted earlier, Cosmides and Tooby (2000) offer a forceful defense of the view, widely shared, that pretending is an adaptation that helps building several mental competencies (such as suppositional imagination, narrative discourse, problem solving, etc.) by providing them with fictional inputs that are necessary or at least useful for their development. I objected to the implication that this competence-building role is the sole or primary *reason* for the evolution of pretend play and pretense proper. Yet I was not denying that both forms of pretending have such a role. It is a *derived* or secondary role. It is by exercising its *primary* function, of adapting the child's mind to cultural novelties, that pretending also contributes to the

design of other mental faculties. But the contribution is indirect, convoluted and distant in its effects. Think of it in the following way.

If it weren't for the cultural challenges of early childhood, pretend play would have been evolutionarily pointless and therefore unselected, as it appears to be in wild nonhuman primates and so many other species. Play would have been enough. If the historical speculations of section 4 have some plausibility, the pretend play of archaic humans was not potent enough to push creativity and imagination to its modern heights. It was a new parenting policy, perhaps pioneered cca. 40.000 years ago, that made possible more complex and subtler forms of child-adult interaction, resulting in intersubjective forms of naive psychology and communication (Bogdan 2000; 2001). These new advances became better platforms for the acquisition of a more sophisticated and versatile language, which in turn generated new cultural tasks and forced the young mind to assemble new competencies, including forms of pretending, for these new jobs. The new acquisitions in turn led to still other new cultural tasks, such as reading, writing and formal schooling, calling for new competencies, and so on and on and on, in a mind-culture arms race. It is along this zigzagging ontogenetic escalator that pretend play and later pretense had a hand in designing other mental faculties. The multiplex mind itself, emerging after the age of 4 to 5, may be an outcome of this cascading chain of developments, perhaps first initiated historically as a new parenting formula forty millenia ago. This multiplex mind also looks like assembled along a zigzagging ontogenetic escalator out of many temporary and specific ontogenetic adaptations that evolved first and foremost for temporary and specific reasons that often had little to do with the final product.

REFERENCES

ADAMSON, L.B.

1995 *Communication development during infancy*. Boulder: Westview.

BJORKLUND, D. & A. PELLEGRINI

2002 *The origins of human nature*. Washington: The American Psychological Association.

BOGDAN, R.

1997 *Interpreting minds*. Cambridge: MIT Press.

2000 *Minding minds*. Cambridge: MIT Press.

2001 Developing mental abilities by representing intentionality. *Synthese* 129, 233-258.

2003 Watch your metastep: the first-order limits of early intentional attributions. In Kanzian, C. et al. (eds), *Persons*. Vienna: obv&hpt.

2005 Why self-ascriptions are difficult and develop late. In Malle, B. et al. (eds), *Other minds*. New York: Guilford Press.

BRUNER, J. & C. FELDMAN

1993 Theories of mind and the problem of autism. In Baron-Cohen, S. et al. (eds), *Understanding other minds*. Oxford: Oxford University Press.

CARRUTHERS, P.

1996 Autism as mind-blindness. In Carruthers, P. & Smith, P. (eds), *Theories of theories of mind*. Cambridge: Cambridge University Press.

2002 Human creativity: its cognitive basis, its evolution, and its connections with childhood pretence. *British Journal for the Philosophy of Science* 53, 225-249.

CHENEY, D. & R. SEYFARTH

1990 *How monkeys see the world*. Oxford: Oxford University Press.

COSMIDES, L. & J. TOOBY

2000 Consider the source: the evolution of adaptations for decoupling and metarepresentations. In Sperber, D. (ed.), *Metarepresentations*. Oxford: Oxford University Press.

CURRIE, G. & I. RAVENSCROFT

2002 *Recreative minds*. Oxford: Oxford University Press.

DIAMOND, A.

2001 Normal developments of prefrontal cortex from birth to yong adulthood. In D.T. Stuss and R.T. Knight (eds), *The Frontal lobes*. Oxford: Oxford University Press.

HARRIS, P.

1994 Understanding pretence. In Lewis, C. & P. Mitchell (eds), *Children's early understanding of mind*. Hillsdale: Erlbaum.

2000 *The work of imagination*. Oxford: Blackwell.

HEYES, C.

1951 *The ape in our house*. New York: Harper and Brothers.

HOUDÉ, O.

1995 *Rationalité, développement et inhibition*. Paris: PUF.

KARMILOFF-SMITH, A.

1992 *Beyond modularity*. Cambridge: MIT Press.

LESLIE, A.

1988 Some implications of pretense for mechanisms underlying the child's theory of mind. In Astington, J. et al. (eds), *Developing theories of mind*. Cambridge: Cambridge University Press.

LILLARD, A.

1994 Making sense of pretense. In Lewis, C. & P. Mitchell (eds), *Children's early understanding of mind*. Hillsdale: Erlbaum.

2001 Pretend play as twin earth. *Developmental review*, 1-37.

2002 Just through the looking glass: children's understanding of pretense. In Mitchell, R. (ed.), *Pretending and imagination in animals and children*. Cambridge: Cambridge University Press.

McCune, L. & J. Agayoff

2002 Pretending as representation. In Mitchell, R. (ed.), *Pretending and imagination in animals and children*. Cambridge: Cambridge University Press.

Miller, G.

2000 *The mating mind*. New York: Anchor Books.

Mitchell, R.

2002 Imaginative animals, pretending children. In Mitchell, R. (ed.), *Pretending and imagination in animals and children*. Cambridge: Cambridge University Press.

Mithen, S.

1996 *The prehistory of the mind*. New York: Thames and Hudson.

Nelson, K.

1996 *Language in cognitive development*. Cambridge: Cambridge University Press.

Perner, J.

1991 *Understanding the representational mind*. Cambridge: MIT Press.

Tomasello, M.

1999 *The cultural origins of human cognition*. Cambridge: Harvard University Press.

Tomasello, M. & J. Call

1997 *Primate cognition*. Oxford: Oxford University Press.

Whiten, A. & R. Byrne

1991 The emergence of metarepresentation in human ontogeny and primate phylogeny. In Whiten, A. (ed.), *Natural theories of mind*. Oxford: Blackwell.

Williams, G.

1966 *Adaptation and natural selection*. Princeton: Princeton University Press.