Research on contemporary foraging, or hunter-gatherer, societies (hereafter, “foragers”) is unique in its value for our understanding of human history and diversity. Since the origin of our species somewhere in Eastern or Southern Africa around 200,000 years ago until around 10,000 years ago when some groups began practicing the domestication of plants and animals for subsistence, all human beings lived as foragers. Today, foragers represent a distinct minority of the world’s peoples, managing to maintain the oldest way of living on Earth despite constant pressure from neighbouring peoples to give up their autonomy, land, and traditional economic activities (Codding & Kramer, 2016). Understanding how contemporary foragers think, feel, and conduct social and economic life in the world is essential for a full picture of human diversity – and is valuable in its own right. Contemporary foragers are not ancient people in a modern world, but the world’s experts at a particularly resilient way of life, whose cultures are as dynamic and responsive to internal and external changes as any on the planet. When it comes to play, research among foragers has taught us much about potential human developmental universals and about how play in forager cultures may underpin the social development of the unique set of cultural traits found only among foragers – traits that are likely at the root of such remarkable resilience.

In this chapter, I will review what we know about play among contemporary foragers. To be clear, I consider “foragers” as those peoples who traditionally lived in small, mobile, politically acephalous groups that subsisted primarily by gathering wild plant foods and hunting wild animals. This definition includes those groups Woodburn (1982) referred to as “immediate-return hunter-gatherers” but not “delayed return hunter-gatherers,” as the latter supported larger group sizes, were more sedentary, and, most importantly, had, at least at times, hierarchical social structures (Kelly, 1995). While today few forager groups live primarily on foraged foods and may practice agriculture or wage labour for the natural resource or tourist industries, many self-identify as the first people in their region, who uniquely possess the knowledge to live by wild foods alone (Kidd et al., 2009). It is on the basis of this self-identification and their unique foundational cultural schemas that we can talk about foragers as a group.
As a unifying framework of analysis, I first describe forager foundational cultural schemas – cognitive structures that orient thought and emotion – and the similar ways that foragers change their natural landscapes to support the development of certain social and emotional features of forager culture that are the basis for foundational schemas. I then turn to three overlapping “areas” of play research: play that is in imitation of adults; creative play, including games; and play that reflects and integrates cultural change. Finally, I discuss the view espoused by some that forager childhood, because of its potential evolutionary significance, should be treated as a model for how to organize childhood in modern, Western contexts. According to this perspective, forager play is the ideal that should guide parenting and early childhood education and care policy outside the home. I urge a cautious but hopeful examination of this perspective. In the end, I believe forager play is unique in the ways that forager cultures are unique and that there is a lot we can learn from the careful observation, collaboration, intrinsic motivation, trust, and openness that characterize the forager child group at play.

### Defining Play

Play is a notoriously challenging research subject. When asked how to define play, researchers will often say they “know it when they see it” (Smith, 2010) and may be hard pressed in particular instances to say why one thing a child does is or is not play. Making the distinction from some outside, objective viewpoint is much more challenging when children playfully engage in “real” work, as many children in forager societies do (Crittenden, 2016a). Moreover, adults can play as well, and some researchers have claimed that foragers hardly make the distinction between work and play themselves (Lewis, 2016, for the Mbendjele; e.g., see Lye, n.d., for the Batek). In my own view, play seems better seen as a cognitive and emotional state of positive affect and an openness to physical and emotional challenges and learning opportunities rather than any particular set of behaviours (Boyette, 2016b). However, the emergence of economic productivity from “play” for its own sake, even if economically productive, is of interest to those studying the evolution of the human life history and cultural transmission (Bock, 2002; Bock & Johnson, 2004; Boyette, 2016a). With these complexities in mind, I discuss play in a relatively non-reflexive way in much of this chapter. I will use ‘play’ as the researchers whom I discuss use the term, and will draw from descriptions of children’s ‘playful’, autonomous activities not specifically labelled as play when they are applicable to a full description of the content and contexts of forager ‘play’ broadly construed. I will also focus on children’s play after infancy, when the playgroup becomes the centre of forager children’s social world.
Overview of Foragers

Forager Foundational Schemas. Hewlett and colleagues have discussed forager cultures as unified by three foundational schemas: respect for autonomy, sharing, and egalitarianism (Boyette & Hewlett, 2017; Hewlett & Roulette, 2016; Hewlett et al., 2011). Foundational schemas are ways of thinking that organize and motivate behaviour across multiple domains of life (D’Andrade & Strauss, 1992; Shore, 1996). Theoretically, they are internalized during childhood through social and individual learning and are made especially salient by social sanctions against contrary behaviour. These three schemas were derived most directly from our own work among Congo Basin forest foragers, but have been consistently described in part or in whole among all historic and contemporary foragers of whom I am aware – though they are naturally manifest in myriad ways (Lew-Levy et al., 2018).

The respect for autonomy schema means no one can coerce others. Children are generally given as much autonomy as adults and are rarely scolded. Sharing means that resources – including material resources like food, clothes, cigarettes, alcohol, or fire, and immaterial resources such as space and time – are shared as much as possible with all members of the community, and it is expected and acceptable that others will demand shares. Sharing as a foundational schema often manifests as social norms and institutions, and it is worth noting that children’s violations of sharing norms may be subject to sanctions – an instructive contradiction with the respect for autonomy schema. Finally, egalitarianism means that all members of the community are equal in their influence and all individuals are given equal respect. As will be described, play behaviour can be seen to both express and reinforce these schemas.

Cultural Niche Construction. Also drawing from our work in the Congo Basin, we (Boyette, 2016b; Boyette & Hewlett, 2017; Hewlett, 2016; Hewlett & Roulette, 2014) have discussed the forager culturally constructed niche as consisting of the features of the physical environment that forager communities have shaped over time in ways that both reflect and reinforce foundational schemas. For example, some tropical or savannah foragers traditionally arrange their small houses in a circle and close in space (Draper, 1973; Turnbull, 1962). Houses are used only for sleeping, and not for privacy (Boyette, 2013; Lee, 2013). Nuclear family homes typically have their own hearth, but there are no spatial boundaries expressed or enforced, and children come and go from anyone’s house as they please. This “sharing of space” extends to personal space. In other words, people tend to maintain physical contact with each other when resting or working or when engaged in leisure activities, including play (Draper, 1973; Lewis, 2016; Sugawara, 1984). Moreover, children co-sleep with their parents or others until early adolescence and then continue to co-sleep with same-sex age mates or younger children essentially until they are grown and form their own families (Hewlett & Roulette, 2014).
The openness and intimacy of the living space also means that children are always around other children of different ages, both male and female. These multi-age playgroups become a central feature of the space, with children’s groups fusing and fissioning throughout the day, moving from one activity to another. Some forager groups do have ‘male spaces’, where only men typically gather to chat or eat together (e.g., Lewis, 2015). However, such spaces are gendered only to the sexually mature and children are not bound by any rules of spatial segregation. Thus, the foundational schemas of egalitarianism and autonomy are engendered by the living spaces in which children play.

Among Congo Basin foragers, the domestic space is cognitively separated from the forest (Bahuchet, 1999; Kamei, 2005; Turnbull, 1962), but as noted above, foragers share a strong identity that stems from the self-concept of being people of the environment that they must know intimately in order to live – living as part of and in a relationship with the ecosystem as opposed to living in opposition to it, as is a common view among agrarian peoples (Bird-David, 1999; cf. Kenrick, 2002; Lye, 2004). Thus, foragers live intimately with each other and with their natural ecologies.

The advantage of a cultural niche construction perspective is that it connects human actions on the landscape – and the meanings and behavioural patterns they engender – to the intergenerational transmission of culture through children’s developmental experiences within cultural spaces (Boyette, 2016b; Hewlett, 2016), and eventually to the evolution of human cultural and biological diversity over time (Odling-Smee et al., 2003). Play within the culturally constructed niche thus becomes a central context for exploring and recreating children’s surrounding culture. In the case of foragers, playing in the space contributes to learning the norms governing social relationships within the human community, the traditional knowledge of the environment in which they live, and, as I explain below, the means of production that tie the community to the environment in an economic sense.

Imitative Play

As a result of the openness of forager domestic spaces and the autonomy afforded forager children, nearly all aspects of economic, social, and ritual life are available to children to observe from the day they open their eyes. Thus, it is not surprising that the literature is replete with examples of the precise imitation of adult behaviour observed among forager children. These include what I have called “work-themed pretence” or work-themed play (e.g., the imitation of subsistence and household maintenance activities; Boyette, 2016a, 2016b; Fouts et al., 2016), but also imitation of social and ritual activities.

“Work-Themed Pretence” Play. Based on the available evidence, there seems to be a general increase in the amount of play that is “work-themed
pretence” from early childhood through adolescence, and a small female bias after early childhood. Fouts and colleagues (2016) found that an average of 4% of play was “work-themed” among Aka and Bofo 1- to 4-year olds, with a range from 0% to 22%. Gosso and colleagues (2007) observed 21% of girl and 4% of boy Parakanã children’s play could be categorized as ‘work’. Finally, my observations of Aka children ages 4–16 indicate that “work-themed pretence” constituted 19% of these children’s total play, with girls playing significantly more “work-themed pretence” than boys (22.1 vs. 17%; Boyette, 2016a). Similarly, “foraging” constituted approximately 24% of the play activities observed by Kamei (2005) among Baka from 4 to 15 years old.

In each of these studies and others, the types of “work-themed” activities children imitated were as varied as those the children observed around them. ‘Gathering’ and in-camp activities such as building houses or ‘cooking’ are very common for boys and girls beginning as young as toddlerhood. Mbuti, Batek, Aka, Baka, and Hadza children build small replicas of the round sapling framed huts they see women build (Boyette, 2013; Crittenden, 2016b; K. M. Endicott & Endicott, 2008; Kamei, 2005; Lewis, 2016; Turnbull, 1962), where they might build a small hearth with a real fire to cook their foraging returns – which may or may not be edible. During my fieldwork, the Aka often used a sardine can as a “cooking pot” should my team have thrown one in our midden pile. Batek children practice using digging sticks in camp, placing any (inedible) roots they might find in a rattan basket (K. M. Endicott & Endicott, 2008). Similarly, digging at the ground or chopping a stump or a house post with a machete was a regular activity among the Aka with whom I worked.

Everyday essential foraging skills such as digging and chopping comprise one of the few domains in which adults have been seen to actively encourage children’s learning, and they may start quite early. For example, Hewlett observed a father teach a 1-year old child to dig with a knife (in this case representing a small machete) (Hewlett & Roulette, 2016). The instance, a scene in an hour-long film sample, was remarkable also because it shows a 2-year-old coming to imitate the father’s encouragement! Parents in a number of groups have also been seen to encourage foraging skill learning by constructing miniature baskets, bows, and spears, for example, or providing adult versions for practice (Hewlett et al., 2011; MacDonald, 2007). Hadza girls are given their first digging stick at around 3 years old (Crittenden, 2016a)

Proficiency comes quickly from such early teaching and intrinsically motivated practice (Bock, 2002; Bock & Johnson, 2004). For instance, I was taken aback early in my fieldwork when I saw a 7-year-old Aka girl enter a patch of forest beside a garden and, after only a few minutes of chopping were heard, emerge dragging a sapling at least 6 metres long. This same young girl later spent considerable time packing wood into a carrying basket and tying it with a cord, only to abandon the activity without complaint when she failed to bind the firewood properly. Here we see how “work” and “play” are fluid and can
be hard to distinguish. This presents a methodological and epistemological challenge for the researcher, one also readily apparent when examining hunting play.

Hunting is obviously a significant element of adult social and economic life among foragers and is a significant theme of children’s play, a fact especially noteworthy in light of the argument that the availability of adult work is one major factor motivating imitation. Indeed, most types of actual hunting are done away from the eyes of children, yet this does not stop children from incorporating them into “work pretence.” Among Central African net-hunting groups like the Mbuti, Baka, and Aka, groups of children of both sexes enjoy attempting to catch ‘game’ such as a frog, a child pretending to be an antelope, or a chicken if there happens to be one in camp (Boyette, 2013; Kamei, 2005; Turnbull, 1965). Elsewhere, Batek children pretend to hunt monkeys with blowpipes (K. M. Endicott & Endicott, 2008). Spear or bow hunting play is common among the boys of many groups (Hill & Hurtado, 1996; Kamei, 2005; Thomas, 1959; Turnbull, 1965). Aka boys of middle childhood age (roughly 7–12 years) fashion their own small spears and hunt the small forest rats that come to the periphery of camp. While the rats would often escape, an occurrence that did not seem to deter much from the joy of the hunt, the boys sometimes killed the rats. When a rat was speared, the boys would follow Aka cultural norms and cook and share the meat (Boyette, In Press; also see Kamei, 2005, for the Baka). Thus, we return to our methodological and epistemological challenge: Were the boys playing or was this subsistence labour? Is there a difference?

While it might be hard to describe much of the play engaged in by Western children as ‘work’ that helps the family economy, forager children’s access to the knowledge and means of production blurs the distinction. During my fieldwork, I called the Aka boys’ rat hunts ‘work’ (and, therefore, not ‘play’) if the boys caught the rat and ate it, using calories produced as my defining criteria. Similarly, if a girl climbed a tree and came down with Gnetum africanum leaves to be eaten later, she performed ‘work’, even if it was in the context of a group of children climbing ‘for fun’. I forced such a dichotomization because I was interested in the developmental trade-offs between ‘play’ and ‘work’ (Bock, 2002; Bock & Johnson, 2004). Indeed, I found that children worked more and played less as they got older (Boyette, 2016a). However, Crittenden (2016a) makes the reasonable argument that this distinction obscures the essential duality of play and work among forager children. She argues that “children’s foraging . . . represents a type of ‘work play’, dually functioning as economic contribution and developmentally significant play” (155). The Hadza children with whom Crittenden works are known for their productivity and have been estimated to bring in as much as 50% of their daily caloric intake, with a great deal of variation between children and within any individual child’s daily returns (Blurton Jones et al., 1989; Crittenden & Zes, 2015). For Hadza children, it seems, most hunting and gathering is productive and at the same time playful.
Crittenden’s view is consistent with that of Tucker and Young (2005), who found that Mikea children would throw away a great deal of edible tubers during the course of foraging. This observation led them to the conclusion that, for forager children, foraging is an extension of play. I do not see my work nor that of Bock and Johnson as inconsistent with this view. As children get older, their “work-pretence play” comes to resemble more and more the ‘work’ of the adult members of the community. A major factor that influences the developmental pattern of this trade-off between ‘play’ and ‘work’ is the natural ecology in which the children live. For example, the Hadza live in a rocky woodland ecology in which children can easily acquire a great deal of foods independently from early in childhood, whereas Kalahari hunter-gatherers like the !Kung need many more years of experience to successfully navigate their nearly featureless landscape without fear of getting lost or predated upon (Blurton Jones et al., 1989, 1994). To conclude this section, the nature of hunting and gathering lends itself to the fluid integration of developmentally significant pretence or social play throughout childhood. The learning that occurs in such play is profound and greatly facilitated by the autonomy afforded children throughout childhood.

**Play and the Adult Social and Ritual World.** Children’s autonomy and the lack of a separation between adult and child worlds provides more than just the basis for an education in norms and values associated with economic life. As foraging play may help children learn core norms and values such as cooperation, the complementarity between the sexes, and food sharing, children’s imitation of adult social and ritual life provides additional opportunities to reckon with foundational schemas.

Turnbull (1978) wrote extensively of children’s exploring adult roles in the *bopī*, the children’s play space in the Mbuti forest settlement. For example, Mbuti children would collaboratively imitate a recent real conflict between the adults, taking different roles and recreating what was said. Turnbull writes that, should the conflict have ended with bad feelings between the adults, the children would “try and show that they can do better, and if they find they cannot, then they revert to ridicule which they play out until they are all rolling on the ground in near-hysterics” (p. 187). He notes that such collective ridicule is how the most serious conflicts are settled in adult social life. Indeed, “rough joking” is a central means of levelling boastfulness or arrogance among foragers more generally (Hewlett, 1991; Lee, 1969; Wiessner, 2005), making the imitative play of adult conflicts an important means identifying and internalizing the foundational schema of egalitarianism by representing and renegotiating real examples of conflict around social norms and their resolution.

According to Turnbull, within the Mbuti *bopī*, children explore the full range of adult roles and practices. This includes the “bawdy” ridicule of sexual
relationships between males and females, which, again, emphasizes – quite playfully – the complementarity of the sexes and expresses the forager values for intimacy, openness, and autonomy. The push and pull of political and spiritual power between the sexes is a constant theme of adult social life among Congo Basin forest foragers, such that children’s play serves as important education in sexuality, gender roles, and egalitarian politics (Lewis, 2016; Turnbull, 1978). The Mbuti children also imitate the storyteller role of the elders in their play in the bopì. As Turnbull puts it, in embodying the storyteller, children’s “intellect and power of reason are being developed in such a way as to reinforce the values learned” (1978, p. 201).

Similarly, others have described children’s imitation of traditional dances, which typically have significant associations with critical values around gender, egalitarianism, and sharing (K. M. Endicott & Endicott, 2008; Kamei, 2005; Lewis, 2009). For example, Lewis has written extensively on the role of music in learning among Congo Basin forest foragers (Lewis, 2002, 2015, 2016) and argues that the spirit plays common to foragers of the Congo Basin – mokondi massana among the Mbendjele – are a form of community-wide play performance through which individuals learn key skills, knowledge, and values throughout their lives as they take on new roles with each new life situation. For example, while children must learn the basic dance forms, elders must learn the means of feeding everyone who comes to the dance. Among the Mbendjele, massana means ‘play’ (this is also true of the Aka, who live just north of the Mbendjele, although there I found it to be interchangeable with the term motoko, which Mbendjele give the more negative connotation of ‘unpleasant noise’; Boyette, 2013; Lewis, 2002). The term can be applied widely, from casual infant or child play to the mokondi massana dance ceremonies that are the pinnacle of community collaboration. Children’s imitation of the larger, community massana events is called Bolu, which Lewis describes as a “ritual prototype” that contains all the basic elements of adult spirit plays, including its own forest spirit and secret area (njanga) where the spirit is called from the forest by the initiates who, in this case, are boys aged between 3 and 9 years old. Bolu’s secret area creates a space for sharing secrets. It encourages the same-sex solidarity so central to political, economic, and social organization. (Lewis 2016, 149)

Meanwhile, the girls dance in costume in camp singing Bolu songs to entice the spirit to come to camp, just as the adult women do during mokondi massana. Lewis draws a parallel between these performances and the complementarity between men and women in hunting game (male) and cooking the meat to feed the community (female). Thus, “Bolu launches each Mbendjele’s apprenticeship in ritual while implicitly teaching them a range of other skills and cultural models” (Lewis, 2016, p. 150).
It is important to note that a central feature of dance and song among at least the Congo Basin foragers is improvisation (Kisliuk, 1998; Lewis, 2009). Thus, there is a great deal of opportunity for creativity and innovation in the context of Bolu and other children’s massana. In this way, individual autonomy is held up as contrasted with and counterpart to cooperation – between the sexes and with the community – in creating the shared ritual experience.

Finally, while perhaps less dense in its pedagogical value as Bolu is for the Mbendjele, it is worth mentioning lukuchuko, a gambling game played among the Hadza. Woodburn (1982) originally described the game as played among adult men as an example of a forager sharing institution that functions to separate people from property – a central means of maintaining an egalitarian society. Historically, lukuchuko was played with bark disks, and the bargaining was done with arrowheads, bows, or other valuable items. While some skill is involved, luck is a major force in the game. Thus, by playing, men would essentially circulate their valuable possessions among each other and level out variations in material wealth. Hadza boys imitate the men at this game, playing with their own materials (Crittenden, 2016a). While Kenyan shillings are used today instead of materials, the implications of the game for learning the foundational schemas of egalitarianism and sharing remains: what you have must be shared. (See Woodburn’s (1966) film The Hadza for historic footage of both men’s and boys’ versions of lukuchuko.)

Creative Play and Games

Of course, not all forager play involves the imitation of adult roles and activities. The creative or ‘non-imitative’ play of forager children also illustrates distinctive forager cultural values. The most distinctive and significant aspects of all forager play as compared with that of children in other types of societies is that forager play is non-competitive and non-aggressive.

The significance of non-competitiveness in forager play cannot be underestimated. Early cross-cultural comparative studies indicated that foragers do not tend to play strategy games, which require rules and a competitive objective and are associated with political integration and social stratification (Roberts et al., 1959) as well as training for obedience (Roberts & Sutton-Smith, 1962), a value contrary to autonomy. This finding has been substantiated repeatedly by later fieldwork.

According to Endicott and Endicott, among the Batek: “Children’s play was strikingly noncompetitive. Games did not have actual rules; children simply created and then repeated activity patterns as they went along. Play was not structured to produce teams of winners and losers” (K. L. Endicott & Endicott, 2014, p. 112). Similarly, Turnbull writes: “The significance of the absence of competitive games is inestimable” (1978, p. 182). For the Mbuti, he goes on, “The only competition encouraged . . . is between the individual and
his abilities. To succeed he must conquer his disabilities as best he can, and restrain any excess of ability. To be better or worse than anyone else is to fail . . . In a word the goal is equality, through noncompetitiveness” (182). Draper (1976) echoes the marked non-competitiveness of !Kung play but offers a demographic and developmental explanation for its association with equality:

The limited and heterogeneous assortment of playmates available to a child poses interesting constraints on the kind of games which children can play. Competitiveness in games is almost entirely lacking, and it is interesting to see that in this respect !Kung cultural values against competitiveness and environmental constraint have such a fortunate congruence. To compete in a game or skill one needs one or preferably more children close in age and perhaps sex with whom to compete, but the smallness of group size among !Kung usually ensures that several age-mates are not available. Team sports are similarly unrealistic. Not only can the children not fill out a team; but the players are at such different levels of motor skill, motivation, and cognitive development that it is difficult and unrewarding to play a game involving intense competition, rules, and fairly complex strategy. (pp. 202–203).

In support of Draper’s argument, Konnor (1972) noted that during seasonal aggregations of !Kung families, where more same-age, same-sex playmates were available, he observed more physically competitive, rough-and-tumble play. However, I argue that even if it occurs, forager competitive and aggressive play would be a matter of degree less frequent than it is among societies with hierarchical social structures that make competitiveness a value and a useful skill (Boyette, 2016b). Indeed, I show that in comparison to the Aka, children among the neighbouring Ngandu swidden cassava farmers played rough-and-tumble games twice as frequently and rule-based games more than four times as often. Gosso and colleagues also found ‘play fighting’ to be far less frequent among the Parakanã forager-horticulturalists as compared with urban groups – only 2% of pretence play among boys and absent among the girls (Gosso et al., 2007). Furthermore, when I combined my data with similar systematically collected play data from Baka, Parakanã, and English primary school children, the only significant difference that emerged between groups was the greater proportion of play constituted by competitive games among the Ngandu and English versus the egalitarian groups (Boyette, 2016b).

Among foragers, the only competitive games that have been noted come from outside, non-egalitarian groups. For example, the Aka played football, which they learned from the Ngandu, though score was rarely kept and the teams always seemed quite loose (Boyette, 2016b). Similarly, Kirk Endicott saw Batek children who had been taught football at school change the game so that teams took turns scoring on each other’s goals (K. M. Endicott & Endicott, 2008). On the other hand, Crittenden (2016a) observed Hadza girls playing a competitive hand-clapping game that they learned from neighbouring pastoralists. Crittenden (2016a) also describes boys’ target practice games
as becoming more “playfully competitive” as boys enter puberty, with age-mates trying to best each other. Similarly, the Aka traditional ball game *ndanga* (or *ndaanga*) has a competitive spirit when played by adolescents and young men (Boyette, 2016a). In *ndanga*, there are two teams and the men of each team pass a ball to each other, trying to keep it from the other team. While the play may get very active and some players get competitive with one another, no score is kept, players of all ages come and go, and there is no end goal to the game. The game is over when the fun is over. Additionally, the game integrates hunting and food sharing metaphors. For example, players will announce their intention to pass the ball to a team mate by shouting, “*Dja bima!*” – “Eat food!”

The variety of non-competitive games observed is vast, and they typically support learning essential skills and ethnobiology as well as the values for non-aggression, cooperation, and egalitarianism. As in Turnbull’s statement quoted earlier, many authors have noted forager children playing loosely structured games that test individual abilities. Draper’s example of this type of play is the !Kung game *zeni*. In this game, a weight with a feather and a leather thong attached is flung into the air, and the object is to send the *zeni* back in the air before it touches the ground by inserting the stick into the thong. Never did she observe the !Kung children count their successes at this game. As noted above for the Hadza, target practice games are quite common, especially among boys. *Ndaanga ya songo* is a spear-throwing game among the Mbendjele (Lewis, 2016), with obvious scaffolding implications for hunting. Turnbull favours the example of the liana swing, a fixture of children’s play in the Congo Basin. On the swing, called *djambi* among the Mbendjele (Lewis, 2016) or *ezambi* among the Aka (Boyette, 2016a), children might take turns pushing each other, or older children might test themselves by swinging higher and higher and adding acrobatics (Turnbull, 1962). I have seen older Aka children make multiple *ezambis* on a large tree out of well-established vines and swing around the trunk simultaneously, which demands trust in the forest and one’s playmates to do so safely (Boyette, 2016a).

Aka trust in the forest comes from the substantial amount of time children spend autonomously exploring the forest and interacting with its features. For example, about 18% of Aka children’s play was what I called “roaming,” or exploring forest trails for the sake of being together in the forest, with no clear destination (Boyette, 2016a). Typically, this involved playful chatting and much interaction with their surrounds. Tree climbing and play on the *ezambi* may be spurred by roaming, as children feel inspired or reach a suitable place to stop. Such interactions with the forest are also noted by Turnbull (1962, 1978) for the Mbuti playing in the *bopi* and by Endicott and Endicott (2014) for the Batek, who find establishing a new camp an exciting opportunity to explore a new environment. Kamei (2005) similarly found “tradition-oriented play” as associated with the forest setting, which Baka children find to be “a
mysterious, potentially dangerous but attractive space with creatures for hunting and ample materials for toys’’ (p. 352).

A remarkable example of the creativity and sophisticated ethnobiological knowledge engendered by forager play – again supported by the autonomy afforded forager children – is the Hadza children’s game rembo (Crittenden, 2016a). Rembo blurs the distinction between ‘work’ and ‘play’ like some of the activities mentioned earlier; however, it is a child-only foraging activity never performed by adults. During the short season when weaver birds (Quelea quelea) colonies nest in the trees near to Hadza camps, children will coat a stick of less than 1 metre in length with a paste prepared from the sticky pulp of an inedible berry called rembo. The children place the stick in a watering hole or other body of water. When fledgling weaver birds fly to the water to drink and land on the stick, they become stuck and are captured by the young foragers waiting nearby. Children of all ages spend hours playing rembo, and roasting and eating the birds. As Crittenden notes, children are feeding themselves in the course of this activity, but, “It is clearly also a form of play. During trips to the water’s edge to collect their spoils, children run, chase, laugh, shriek, dance, and sing” (p. 168). Hadza adults also harvest the weaver birds, but the children’s technique of using rembo is their own.

In sum, from the moment they enter the play group, forager children enter a mixed-age, mixed-sex, non-competitive collaborative of fun and exploration. The group, led by older children, scaffolds the values that make the group and its play context – intimately familiar, autonomous, non-aggressive, non-hierarchical, and collaborative – a continuous feature of children’s social life, and one that translates smoothly into adulthood.

### Play and Culture Change

Naturally, forager peoples and cultures have changed independently and through continuous contact with other groups and other types of societies for thousands of years. It is reasonable to assert that openness to new ideas is forged within children’s play, as children explore new materials, ideas, languages, and games. As they mature and enter the wider social and cultural world, some of these are more easily accepted as part of a child’s cultural repertoire than others.

The introduction of football and other traditionally competitive games to children’s play has been mentioned above. As noted, the rules are typically changed to a non-competitive version to fit the existing foundational schemas of sharing and egalitarianism and the associated norms of conduct (e.g., no boasting for getting more points). Objects from outside cultures are, not surprisingly, incorporated into forager children’s play as well. For example, Kamei (2005) notes Baka constructing motor vehicles from available materials. While pretence play with new objects is one thing, more complex pretence
play with more elaborate cultural themes from outside forager culture has been observed as well. For example, the Endicotts observed Batek children imitating Indian and Chinese shopkeepers (K. M. Endicott & Endicott, 2008).

Similarly, I will never forget the moment I observed Aka children in a forest camp playing *wali koko*. In the forests of the Central African Republic where I worked, Ngandu villagers, typically women (*wali* in Songo) would bring merchandise out to the forest to trade to the Aka for *Gnetum africanum* leaves (called *koko*). Once acquired en masse, the nutritious leaves are sold by the villagers at markets throughout the region. Throughout my time in the Central African Republic, *koko* commerce had grown substantially, and certain Aka families were more willing than others to specialize in *koko* trade and were therefore bringing in more market goods – and spending more time in the forest with Ngandu villagers. It was in such a camp where I saw a girl of around 7 years old set up upon a stump a small display of ‘merchandise’ that she was giving to the other children who brought her bundles of ‘*koko*’. The performance was complete with an imitation of the *koko wali* berating her Aka clients for not bringing enough bundles! In this and other similar camps, Songo was also spoken (instead of BaYaka) more often than in camps with fewer visits from *wali kokos*, even when Ngandu were not present.

More investigation is needed before we can say that such commerce play indicates adoptions of new norms around sharing in the community. However, it is clear that forager children play with such ideas. In some instances, it may be just to make fun of the selfish and loud outsiders (Turnbull, 1962), but with changes in the culturally constructed niche, such as forced or voluntary sedentarization, we can see how such play may be one force leading to culture change. For example, in the Botswanan Kalahari where some San groups have moved to permanent villages with electric wells, boys have incorporated horseback hunting into their play (Imamura, 2016). They build ‘horses’ and ‘spears’ out of bush materials and take on the roles of hunter and prey. Imamura attributes this new play to both the children’s natural interest in imitating a recently introduced form of hunting performed by adult men and the reduced opportunities for actual small-game hunting, which previously constituted much of the boys’ play. Their play, of course, still consists of collaborative and creative exploration of cultural practices, but also reveals a pathway to the loss of traditional foraging skills and knowledge.

Similarly, Pandya (2016) describes the complex changes that have occurred among the Jarawa foragers of the Andaman Islands since the construction of the Andaman Trunk Road (ATR) through their forest. The road has brought the Jarawas in increased contact with the state, poachers, tourists, and other outsiders and has become a new site of play for the youth. Whereas before the road children and adolescents would fuse play and work in the forest, they now ‘gather’ industrial goods from outsiders at the roadside. They have learned to see themselves through the gazes of the state and of tourists and put on performances emphasizing their ‘primitiveness’. By such means,
young Jarawas had, by incorporating into their play the changing matrix of social relations brought about by the ATR, made the roadside a site of gainful work in much the same way as playing with toy bows and arrows that gradually leads to skill in hunting” (p. 196). Pandya notes that this adaptation reflects the evolutionary history of foraging as a flexible and resilient subsistence strategy in the context of changing social and economic environments. Play is a crucial aspect of this strategy, and one by which children can autonomously come to understand forces of cultural change.

Forager Children’s Play: A Model for Today?

It has been proposed that, because of our species’ long evolutionary history as foragers, the contexts of forager childrearing should be treated as a baseline in terms of what young humans have evolved to expect (Narvaez et al., 2012, 2014). A corollary of this premise is that the rise in childhood mental illness in the United States today is a result of the move away from the ‘optimal’ rearing conditions represented by mobile, immediate return, foraging bands (Narvaez & Gleason, 2012) – those living in what I have referred to here as the forager culturally constructed niche. Thus, proponents of this perspective argue that parents and policymakers can utilize forager childrearing practices as models for ‘optimal development’. One proponent of this line of thinking is psychologist Peter Gray, who has put forth a play theory of forager egalitarianism (Gray, 2009, 2012, 2014).

Gray starts from the argument that play across species is fundamentally egalitarian. For example, it requires animals to control aggression (as in play fighting or chasing) so as not to cause real harm and therefore to continue the play. Additionally, adult members of some species play to resolve conflicts and maintain or develop friendships. Thus, during human evolution, play was extended into human adulthood because “it enabled the high degree of cooperation and sharing essential to the hunter-gatherer way of life” (2014, 198). He provides evidence, much as I have here, that the contexts of forager childhood allow for substantial freedom to play (Gray, 2012) and that adult work, religious, and social life is infused with a sense of playfulness (Gray, 2014). Ultimately, he critiques the current mainstream educational system in the United States and elsewhere for emphasizing competition and classroom ‘work’ over free play and argues that children learn better by following the forager model of learning through play (Gray, 2013).

While the use of foragers as a model of how certain contexts for play may lead to certain social outcomes is reasonable, Gray’s theory is problematic. The evidence does not, as he suggests, indicate that play, specifically, leads to egalitarianism. Play among foragers does contribute to the social learning of egalitarianism, as I have reviewed here. However, it also facilitates learning subsistence skills, ethnobotanical knowledge, how to share, and so on.
Additionally, play in other societies contributes to learning inequality and competition (Hewlett & Boyette, 2012). Given that there are no genetic differences between contemporary foragers and other human groups in some complex of genes related to play, we must assume that play universally serves, as it does in other species, as a psychobiological state that opens the body and mind to learning behaviours and cognitive orientations that are of use in the environment in which a child lives. What is unique about foragers is the culturally constructed niche that I have described here, within which children play and learn the values that have made foraging the oldest continuously maintained way of life on Earth.

Now, there are very likely things we can learn from forager play. However, an acknowledgement of contextual differences and caution against romanticism is warranted. For example, many parents and childcare agencies in the West today might object to allowing children to handle sharp knives or raw meat or to play with juvenile wild animals like toys until they die. Yet any forager researcher can attest to each of these being regular occurrences in forager children’s daily play. Indeed, they are essential means of learning key skills and knowledge, as I have discussed. Of course, much like non-competitive games, children will not find such things compelling to do if they are not necessarily aspects of observable culture or part of the material basis for their play. Hence, we do not typically let children play with knives and we greatly encourage competition (Lancy, 2008).

It may be reasonable to suggest we take particular aspects of the forager niche and adapt them to the very different contexts of post-industrial life. Indeed, several alternative educational philosophies have done just that, but not because they are part of foraging life. Rather, they meshed with values and cultural models of child development held by their practitioners. For example, you can find such qualities as the value for autonomy, mixed-age groups, non-directive learning, nature exploration, and others at the core of different theories of early childhood education and care, including that of the Sudbury schools studied by Gray (Boyette, 2016c).

**Conclusion**

I have reviewed the major features of children’s play among contemporary foraging societies. Like children all over the world, forager children’s play involves imitation of the values, ideas, practices, and material culture they see around them in their cultures, as well as the creation of games unique to their own children’s culture, though inspired by what they are learning about adult culture from each other and from adults. Descriptions of forager children’s play have shown that what makes their play distinct is the great degree of autonomy afforded children in their play, the non-competitive nature of their own games, and the way they interpret those of other societies.
with whom they interact. Like children everywhere, forager children are compelled to explore their surroundings, but for foragers these are to a great degree less manicured by human hands than the play contexts of children in other societies, and the autonomy and collaboration afforded by the intimacy of forager communities lends itself to trust and deep interest in the natural world – which yields immense survival value for those children as adult foragers. While children incorporate the new into their play and forager societies face immense challenges in maintaining their autonomy, forager children’s play continues to illustrate that forager identity and foundational schemas are central to child development in forager societies and the replication of the most resilient way of life humanity has known.

References


Hunter-gatherer childhoods: evolutionary, developmental, and cultural perspectives.


