with which I work, the Hadza of Tanzania, provide a pertinent example.

Children's productivity among the Hadza is well documented (Bleek 1931; Blurton-Jones, Hawkes, and O'Connell 1989; Crittenden et al. 2013; Marlowe 2010), and it is likely that their foraging prowess is linked to the availability of resources in and the ecological characteristics of the Lake Eyasi basin. Children can be productive foragers in areas that have variable terrain (thereby diminishing chances of getting lost) with resources located relatively close to camp. This may be why Hadza children exhibit far greater productivity when compared to !Kung children, whose economic contributions were largely limited to processing mongongo nuts collected by adults (Blurton-Jones, Hawkes, and Draper 1994; Blurton-Jones, Hawkes, and O'Connell 1997). In addition to potentially influencing the viability of child foraging, ecology may play an important role in resource choice. Differences in productivity might be linked to the size and strength of child foragers (Blurton-Jones and Marlowe 2002), allowing them to reach adult efficiency more quickly in targeting certain foods over others (Bliege Bird and Bird 2002). Furthermore, wide variation in returns suggests that while some children exhibit hyperproductivity that may parallel adult collection rates, others have collection returns that fall below the threshold for meeting daily caloric needs (Crittenden et al. 2013). At present, it is unclear why such differences in productivity exist. While Lancy's emphasis on the adaptive value of children as a reserve labor force is tantalizing and compelling, we must keep ecological variation in mind. Additionally, we must exercise a certain degree of caution when extending the argument to life history.

Lancy's foundational argument is that humans might be capable of an "alternative life history course" (i.e., an "accelerated strategy with a shortened period of dependency"), yet the species-wide pattern of human growth and development is one of delayed dependency (Bogin 1997; Leigh 2001). While I agree that biological and cultural perspectives are not always "comfortable bedfellows," the discipline of anthropology is making strides toward understanding childhood as culturally diverse yet biologically based (Crittenden 2014; Meehan and Crittenden, forthcoming). Therefore, the evolutionary claims of an alternative life history must be tempered with the understanding that while the social parameters of childhood, along with concomitant roles and expectations, are indeed culturally malleable, they are firmly rooted in the life history of our species.

Lancy's innovative approach to discussing the relationship between play and work cannot be understated. He aptly argues that "children at play are flying under the radar" with respect to demonstrating economic competence. The anthropological literature typically situates play in the context of either psychosocial development or economic productivity, rarely highlighting the dual nature of play and work (for exceptions, see Crittenden, forthcoming; Lancy 2012). Lancy's declaration that "play and work are integrated not only thematically—as in make-believe—but practically" functions as a call to arms for ethnographers to explore the myriad ways in which children acquire the critical skills of their culture. By focusing on the variety of ways that children learn necessary economic skills, the significance of their contributions moves to the forefront of discussions on the relationship between the evolution of childhood and cooperative breeding. With this synthesis, Lancy adds to the increasing body of literature that not only incorporates a "child's eye view" (Fouts and Brookshire 2009) of the world but also emphasizes the dual nature of juvenile contributions—as children are simultaneously both producers and consumers (Crittenden and Marlowe 2008; Kramer 2011). The cooperative breeding system is dynamic and flexible, and self-provisioning by children may have been a key component of the derived *Homo* complex. A view of cooperative care that identifies high levels of economic productivity among children provides a stimulating avenue for future research.

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19 I 15

Children's Work as a Window into the Energetic, Reproductive, and Cognitive Trade-Offs of Human Life History: A Comment on Lancy

No theory of human evolution can hope to succeed without confronting the puzzle of our extended childhood. Lancy complements existing approaches with the thought-provoking argument that children function as a "reserve labor force" that can be activated in emergencies of various kinds. Lancy makes a compelling case that, as a rule, juveniles do not contribute to their full capacity to the family economy. He concludes by speculating that early recruitment into work may be part of an alternative life history trajectory associated with a shortened middle childhood stage and accelerated maturation/reproduction.

While the hypothesis of an accelerated life history strategy is intriguing, the underlying logic is not made fully explicit in the article. In fact, unpacking the relevant assumptions suggests a number of plausible alternative predictions. As the human equivalent of juvenility, middle childhood is defined by the combination of (*a*) sexual immaturity and (*b*) partial independence from parents for feeding and protection (Bogin and Smith 1996). Early recruitment into work may accelerate the developmental processes that permit *b* without necessarily affecting *a*. By providing for family members while still sexually immature, children are subsidizing the survival, growth, and reproduction of other family members. At the same time, they may be storing energy reserves in view of their own

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growth and reproduction. Whether the optimal strategy is to shorten childhood and anticipate puberty or to prolong childhood while serving as a labor force is likely to depend on a number of factors. For example, conditions of severe food scarcity in the absence of other mortality threats may favor prolonged, work-intensive childhoods; in contrast, events that imply high rates of uncontrollable mortality—wars, epidemics, and so forth—should be more likely to trigger earlier reproduction (see Ellis et al. 2009). Hazardous events also reduce the expected fitness benefit of investing in other family members (who may die regardless); in conditions of high mortality, then, children may curtail juvenility while using up a larger share of their returns for their own growth and maturation.

Regardless of mortality levels, the advantages of delaying maturity must be weighted against the fact that a larger and stronger body increases an individual's effectiveness in foraging and other subsistence tasks (Gurven and Kaplan 2006). However, a larger body also consumes more energy; earlier maturation is only advantageous if the increased production more than offsets the associated increase in consumption. Whether this is the case is likely to depend on the local ecology, including the availability of low- and high-strength foraging options (Kramer 2011). Moreover, the physical changes of adolescence are energetically demanding and typically subsidized through provision by older family members (Reiches et al. 2009). When food is very scarce, the concentrated energetic demands of anticipated puberty may be too high to afford, even if adult levels of strength would result in a net benefit once achieved. In other words, children may end up "trapped" into a prolonged juvenility because physical maturation—even if beneficial in the long term—would divert too much energy from the immediate needs of their family.

Throughout the article, Lancy highlights potential trade-offs that may favor low-intensity helping in children who live under benign conditions; for example, early recruitment into work may compromise future health or limit the development of parenting and social skills. An embodied capital perspective (Kaplan et al. 2000) also suggests that intensive work early on may reduce an individual's future efficiency in performing more complex subsistence tasks.

If such efficiency trade-offs were demonstrated, the question would arise of what neural and psychological processes mediate them. While the brain has (almost) reached adult size at the beginning of juvenility, synaptogenesis and white matter development proceeds with a sustained pace throughout adolescence. The remarkable cognitive changes of middle childhood include the rapid development and differentiation of executive functions, a family of cognitive processes that support self-regulation (see Del Giudice 2014). Importantly, executive functions include both inhibition (crucially implicated in self-control) and flexibility (i.e., the ability to switch between alternative sets of rules and cognitive frames).

An intriguing, admittedly speculative possibility is that a childhood of "all work and no play" may specifically compromise the development of cognitive and behavioral flexibility, with negative consequences on performance in complex tasks that require improvisation and creativity. This would be consistent with theories of play as self-initiated "training for the unexpected" (Špinka, Newberry, and Bekoff 2001). Normally, executive functions show a pattern of strong positive correlations with one another (Miyake and Friedman 2012). However, it is possible that, under severe conditions, early recruitment into work may elicit a partial trade-off between inhibitory self-control and flexibility. In total, the perspective on childhood offered by Lancy is especially valuable in that it stimulates novel and fascinating questions and opens a unique window into the energetic, reproductive, and cognitive trade-offs that shape the human life history.

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The Costs and Benefits of Child Labor

Lancy provides an elegant and stimulating review of the plasticity and vulnerability of childhood in the anthropological and historical record. In this short comment, we ask how best this account can be extended and applied to the broader context of international development and current attempts to improve childhood experience. Specifically, what does (evolutionary) anthropology have to say about the rapid uptake of formal education in the developing world and the frequent conceptualization of child labor as a violation of the "right to childhood"? To answer these questions requires a rigorous consideration of the costs and benefits of children's work, acknowledging that payoffs may vary between parents and children and that behaviors maximizing fitness are often distinct from those that maximize well-being.

Just as economic shocks in the form of subsistence failure or natural or political disasters can truncate behavioral childhood, economic development provides novel incentives to extend juvenile dependence and increase the allocation of children's time to skill acquisition through schooling. Such shifts are generally understood to improve well-being via increased opportunities for capital generation on the adult labor market. They are also unlikely to be fitness maximizing in the evolutionary sense; in postdemographic transition societies, we now pursue levels of education incompatible with high fertility (Goodman, Koupil, and Lawson 2012). Thus, school presents a novel dimension of childhood detrimental to fitness but good for well-being and therefore to be celebrated, while children's work, as a barrier to education, presents a cause for concern and potential grounds for policy intervention.

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This account of the benefits of education and the dangers of child labor falters when faced with the reality of many predominantly rural nations in the contemporary developing world. Parents almost everywhere face considerable, well-intentioned external pressure to send children to school, usually necessitating reductions in children's work, in an effort to meet internationally agreed targets for universal education. Yet for many, the quality of available schooling is dismal, journeys to school are long and hazardous, and adult labor opportunities remain primarily limited to subsistence agriculture. Furthermore, children's work offers its own, potentially more valuable opportunities for skill acquisition and is often indispensable to the long-term maintenance of households. Schooling can be costly for both parent and child, and child labor can be beneficial.

In many regards, these cautionary points follow clearly from the scholarship on childhood outlined by Lancy. Indeed, anthropologists have long argued that our high fertility rates coevolved with the recruitment of children as "helpers at the nest" (Kramer 2011). Yet, as revealed by its absence in the target article, evolutionary anthropologists have been surprisingly muted on the topic of schooling as an axis of childhood of increasing importance (but see Bock 2002), reflecting a traditional disciplinary focus on questions most relevant to our evolutionary past rather than our ever-changing present (Gibson and Lawson 2015).

What then can evolutionary anthropology offer? Most obviously, it reinforces awareness that children's work is often motivated by their best interests. Such awareness is not altogether absent in contemporary policy. Many differentiate and seek only to eliminate the "worst forms of child labor" (Edmonds 2007)—but such terminology unhelpfully stigmatizes children's work, effectively implying that all child labor is to some degree "bad." Furthermore, the extent to which children's work is viewed as damaging is often defined by its interference with school attendance, failing to acknowledge that schooling itself may be traded against alternative dimensions of well-being. More nuanced thinking can lead to alternative policies that minimize trade-offs between school and children's work most valuable to the household economy (e.g., scheduling school breaks during harvest time) and that steer us away from interventions more likely to exacerbate rather than relieve poverty (e.g., fines for poor school attendance).

Lancy discusses many situations of child labor that intuitively appear detrimental for both well-being and fitness. However, even in seemingly extreme scenarios (e.g., child prostitution or work in commercial mines), we must recognize that such activities may represent a "bearable choice" for parents and children with limited resources (Rende Taylor 2005). Child labor can only be deemed truly detrimental when alternative and more beneficial allocations of time and effort are (made) readily available. An evolutionary focus identifies at least two scenarios in which children may work against their own interests. First, when there is parent-offspring conflict, that is, when payoffs for parents and children differ, so that parents tolerate costs to individual children in the face of net rewards to inclusive fitness. Second, when there is adaptive lag, including that brought about by rapid economic development, so that preferences guiding behavior are out of sync with their anticipated consequences. Focusing future research on these areas promises a richer understanding of childhood that not only better reflects the realities of today's world but also has the potential to critique and improve existing efforts to ensure the well-being of the people we study.

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A Historian's Take on "Children as a Reserve Labor Force"

Children, even very young children, are far more capable and competent than many US middle-class parents assume.

US history provides a wealth of examples of extremely young children who contributed substantially to their family's well-being and support. These include 2-year-old Abraham Lincoln, who assisted his father in clearing fields after his family moved to Indiana, as well as the hundreds of thousands of enslaved children, who, as young as age 2, were expected to tote water to the fields, collect kindling, and swat flies at their masters' dining table.

During the early nineteenth century, two developments, one economic, the other cultural, undercut an older notion of the useful child. Mechanization of the fabrication of cloth and clothing eliminated a chore that demanded hours of girls' time. The gradual decline of farm households, which required the labor of all family members, increased the time available for children to devote to play and schooling. Meanwhile, jobs that during the early stages of the industrial revolution utilized large numbers of child laborers—especially in mills, factories, and mines—declined as technology took over responsibilities previously relegated to children. In the United States, the Fair Labor Standards Act of 1938, which formally abolished most forms of child labor, helped to universalize the notion that labor was incompatible with a proper childhood.

At the same time, a shift in cultural attitudes convinced growing numbers of parents that expecting children to perform chores or to contribute to the familial economy was wrongheaded. Not only did young children lack the skills to perform household tasks effectively and regularly, but making such demands created undue familial tensions. In recent years, even school homework was increasingly viewed as detrimental to warm parent-child relationships.

A Romantic ideal of childhood, which arose in the late eighteenth century and celebrated this life stage as an innocent and carefree period that should be devoted to play and

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education, regarded labor as a corrupting influence detrimental to children's emotional and imaginative development. To require children to work was to treat them as chattel and not as beings possessing spiritual qualities. The middle-class Victorian notion of the family as a "walled garden" and emotional haven in a heartless world also militated against the idea that children should be expected to support the family economy. If the family was essentially an affective unit and if children were delicate, fragile creatures, then expecting children to devote their time to labor was immoral.

To be sure, few children were wholly free of familial responsibilities. The children of the poor and of immigrants, in particular, were expected to contribute either in the home or in a family business. Even within the middle class, very modest demands continued to be placed mainly on older children: to make their bed, pick up dirty clothes, and clear the breakfast or dinner table. Yet even these token demands were often met by passive or active resistance. In response, many parents in the early twentieth century instituted a bargain: compensating their children's participation in household responsibilities with an allowance.

Ironically, the very unwillingness of most contemporary middle-class parents to involve very young children in household chores contributes to older children's recalcitrance to perform household tasks. The prolongation of children's financial dependence (now extended for many well into their 20s) and the absence of many ways for children to express their growing competence, apart from sports, may contribute to some of the most frequently decried aspects of contemporary middle-class childhood. These include the embrace of undesirable emblems of maturation (such as smoking), the difficulty many young people have in cutting the emotional umbilical cord with their parents and establishing a truly independent identity, and the prolonged time it takes for the young to define a career direction (Lancy 2011; Ochs and Izquierdo 2009).

In the United States, where the overwhelming majority of children now live in dual-worker or single-parent households and where churn in adult relationships has greatly increased, with spouses, partners, and lovers entering and exiting households at a significantly higher rate than in western Europe, the exclusion of children from household responsibilities appears to be declining. Increasingly, parents expect older children to supervise younger siblings, monitor their homework, and assist with cleaning, cooking, shopping, and other household tasks. These children are expected to exhibit the traits of maturity and responsibility from an early age.

At the same time, intensifying opposition to extended juvenilization has appeared among US children themselves, who seem increasingly dissatisfied with the roles they have been assigned as full-time students and recipients of a commercial culture. Young people themselves crave a more useful, active, and meaningful role than can be found in teacher-centric schools, in consumerism, or in the largely passive consumption of popular culture.

It may well be that the useless child will prove to be an anomaly in the ongoing history of childhood.

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This article brings a much-needed perspective to the question of children's attainment of skills and use of these skills in labor. Lancy proposes that during the long period of time that characterizes human childhood, children in traditional cultures learn survival skills to the extent that by adolescence, if not earlier, they are nutritionally self-sufficient. This counters a long-held belief that children, at least those in late childhood and adolescence, are dependent on adults for survival. By late childhood or adolescence, they are quite competent.

Competence, however, is not excellence. A !Kung boy may kill his first large game at age 15–18, but it can take 10 years before a man is a highly productive hunter (Shostak 1981: 84), the kind of son-in-law the parents of marriageable girls are looking for. Social adolescence is a time when young people in traditional societies are moving closer to their future as adults and preparing for that time by expanding their vocational and social skills (Schlegel and Barry 1991).

In traditional societies, children's domestic and vocational skills are utilized by the family or are farmed out to other families as helpers or apprentices. Sequestration in school was rare and mainly for those in literate cultures whose later occupations required book knowledge. Even where schooling took up part of the day, children were often employed in the family farm or shop or as apprentices in various enterprises. This still occurs in family-run enterprises in modern industrial societies. Some modern nations, like the German-speaking countries of Europe, have regulated apprenticeship systems for adolescents in both job shops and large factories. Up to two-thirds of middle and older adolescents are in apprenticeships.

Adolescent peer groups have been employed for community labor in many societies, and this labor, when given tangible reward or at least community recognition, was for the most part enjoyed by the participants (Schlegel and Barry 1991). Solitary work, however, was often seen as drudgery and could be a source of conflict, as solitary corn grinding could be for Hopi girls (Schlegel 1973). In contrast, when two or more girls formed a corn-grinding "party," they chatted and sang corn-grinding songs together.

A difficulty in this kind of research, as Lancy points out, is determining chronological age, because in nonliterate societies or communities, the transition from social childhood to social adolescence usually depends on level of physical development. Biological adolescence is variable across cultures, and whether social adolescence tracks biological adolescence or begins earlier or later also varies (Schlegel and Barry 1991:

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34–35). Age 15 is a reasonable chronological cut-off age in a cross-cultural study for the social transition from childhood to adolescence, although in modern cultures it is several years earlier. (In modern Western cultures, this age would be considered middle adolescence.)

An important point of this article is that vocationally skilled children provide a reserve labor force that can be exploited by their families or others, to the detriment of children's learning and health. However, there can be benefits to employing skills that contribute to family or community welfare. Learning to assess a task, plan for it, and persevere until it is completed contributes to self-regulation (Schlegel 2015). Cooperative children and adolescents gain the approval of adults, who can help them now and in the future. Contributing to family income makes children an economic asset to the family and may increase their value and the respect they are accorded. When groups of children or adolescents contribute to community welfare through community labor and are recognized for their contribution (Schlegel and Barry 1991), they become integrated into community life. Older children and adolescents benefit from working alongside adults on tasks and projects, in that they learn social skills by doing and observing and friendly adults can be an important social resource (for adolescents; see Schlegel 2011).

Work, the application of skills acquired through observation, practice, and play, has been an accepted part of children's lives for most people in most societies until about the mid-twentieth century, and it still is for most children in developing societies. When balanced by adequate time for play, rest, and, today, schooling and when children are rewarded with recognition for their efforts, work contributes to children's well-being. It increases their value to the family, their social integration into the community, and their self-esteem, as they see themselves as respected contributors to the groups important to them. It is the use of children as a reserve labor pool, as Lancy demonstrates, that causes harm. Sadly, this is sometimes necessary for self- or family survival.

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The "position text" of David Lancy, internationally recognized expert in the anthropology of childhood and children, is on the recurring but still problematic theme of children as a reserve labor force. It includes six sections, four figures, seven footnotes, and approximately 150 references. The analysis is mainly based on secondhand ethnographic and, to a lesser extent, historical data, mostly from "traditional" societies worldwide, that is, those living on agriculture, farming, hunting, fishing, and gathering.

Continuing the culturalist approach, Lancy takes his ethnographic examples from area files and an extensive bibliographic corpus, favoring elements related to a series of activities grouped under the concept of "work." Although no comparative anthropological perspective of this all-encompassing concept is proposed, the author includes in his definition of work tasks performed in the domestic sphere and productive livelihood activities such as those illustrated in the figures. Finally, although very detailed, the examples chosen rarely refer to the cash economy or, more broadly, to the global (cultural, social, economic, political) context of the societies discussed.

The author first reviews the links between biology and culture ("A Biocultural Perspective on Childhood"). He recalls the important disposition of the child to learn and to return what he or she learns from adults and other children. Conforming to the canons of developmental psychology, the author distinguishes different ages (early childhood, middle childhood, childhood), each marked by complementary acquisitions until the age of 15, the age at which one can no longer, according to the author, be considered a child.

Having established these biological markers, Lancy returns to the length of the process allowing the child to acquire the means of self-survival ("The Extended Period of Juvenility and Learning to Make a Living"). Unlike most animals, small hominids have considerable time to learn. In other words, the dependence in which they are vis-à-vis adults promotes learning and thus, ultimately, the reproduction of the group as a species. In this regard, Lancy speaks of "juvenability," a concept that requires more attention.

These considerations lead to discussion of the relationship between play and work in "traditional" societies, allowing it to reaffirm the importance of play in child development ("Children as Players and Helpers"). Following anthropologists, Lancy recalls that the distinction between the two concepts is clearly established in Western societies. In other societies, the child learns how to work and, when playing, is gradually involved in the activities of adults.

Analysis of the terms of the passage between help and work allows Lancy to return to a theme that is dear to the author but not explicitly mentioned: agency ("The Shift from Helping to Working"). In fact, the injunction of adults does not fully explain why a child is put to work. This is also due to repeated requests from the child who wants to participate in adult activities. The desire to learn is replaced by the child's desire to return the knowledge and skills acquired and to participate in the lives of adults by working.

When society meets accidents (wars, droughts, migration, etc.), the child is put to work ("Activating the Reserve Labor Force"). In the course of history, Western societies have promoted child labor in plantations, mines, and factories. One can also wonder if the "exploitation" of the child did not contribute to the emergence of children's rights in these societies. Today, in countries whose economies are based on a few agricultural export crops, it is notable that the timing of school holidays is in harmony with the harvesting of the crop, as

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is the case in Ecuador (bananas, sugar, cocoa) and Guatemala (coffee, cardamom).

The implications of work on children, and more generally on their life cycle, are not negligible ("The Costs of Shortened Childhood"). According to Lancy, not only does work deprive children of play, which shortens their childhood, but it also bridles the development of their sexual and symbolic imagery during adolescence. Thus flouted, children become "premature adults." These considerations lead the author to want to enlarge the notion of childhood, without a clear proposal for doing so.

Finally, the text opens up many avenues for further thought and development. Here, one wonders whether it is possible to establish distinctions between learning, work, play, exploitation, or participation in different societies and eras (Nieuwenhuys 1994; de Suremain 2000; Schlemmer 2000). There is also the issue of parental, kinship group, or community expectations (Guidetti, Lallemand, and Morel 1997), as well as the reproductive projects of society (Godelier 2004) and their impact on the "treatment" of the child (Bonnet, Rollet-Échallier, and de Suremain 2012; Ségalen 2010): Are the children of the societies mentioned by Lancy treated less favorably than those in our own? Is it necessary for their own superior interests to hold the child away from the worst forms of exploitation as well as family labor practices?

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In this excellent article, based on diverse ethnographic material, Lancy proposes what he calls the "children as chattel" hypothesis (i.e., the hypothesis that children can serve as a reserve labor force), which explains a number of phenomena that are not obviously related as well as some that are seemingly contradictory. This enables us to establish a link between divergent perspectives on human childhood, particularly those that are biological and cultural, and thereby makes an important contribution to the anthropology of childhood, a rapidly growing subfield of anthropology in which Lancy is one of the leading scholars. In my opinion, Lancy's integrated approach has yet to receive the recognition that it merits. What follows is my account of the ongoing debate on these concepts, which may be of help in further elaborating Lancy's hypothesis and promoting discussion.

As Lancy showed in this article (see also Lancy 2014*b*: 254–292), there has been active debate on the relationship between labor and play among children. To enable comparison of the numerous ethnographic materials, some of which are referred to in the article, I prefer to reexamine these concepts in a more analytical fashion. Therefore, I set two criteria, namely, whether the surrounding people regard the focal activity of the children as obligatory and whether the children are required to provide immediate contribution to the unit of production and consumption (e.g., family or extended family) by engaging in the focal activity. By combining these two criteria, we can propose four categories that classify the activity. For example, most activities practiced by !Kung (also known as Ju|'hoan) children, including mimicking of hunting and occasional participation in trips to gather mongongo (*Schinziophyton rautanenii*) nuts, were regarded as nonobligatory, and the children were not required to make any immediate contribution to the household economy (Marshall 1976:313–362; Draper 1976). Most of the activities that are considered play would fall into this category. It should be noted that the category to which the actual activity is assigned can vary depending on the context of the given society. As reported by Draper and Cashdan (1988), under rapid social change, the period of dependency and freedom from responsibility was drastically shortened for !Kung children ("Activating the Reserve Labor Force"). Consequently, their activities shifted to more practical ones, which can be characterized as obligatory and making a substantial contribution to the household economy. One of the strong points of the children as chattel hypothesis is that it allows us to not only account for a variety of activities in which children across cultures engage but also illuminates the underlying structure that may support and transform the significance of the activity.

Lancy's article reacknowledges that the features of childhood are inseparable from those of the given society. Different societies may provide different necessities and opportunities for the children. In this respect, the relationship between childhood and society is more complex than has been assumed in previous studies. For example, it has frequently been accepted that parents in agricultural and pastoral societies actively involve children in subsistence activities and utilize them as workers earlier than do parents in hunter-gatherer societies. However, a systematic survey of children's contributions to subsistence across a range of societies revealed that children's work effort varied with factors other than whether a child was a forager, agriculturalist, or pastoralist (Kramer and Greaves 2011; "The Extended Period of Juvenility and Learning to Make a Living"). Such findings suggest that the assumption that ecology and subsistence patterns determine the patterns of child care and children's activities should be reconsidered (Takada 2005, 2015). Each society has developed a set of norms with respect to child care and children's activities. It is this institutional aspect of the society that provides the framework regarding what is and is not obligatory for the children and subsequently affords the necessity and opportunity that lead the people around the children to utilize them as a reserve labor force.

Hence, to better understand the organization of child care and children's activities, we should further analyze from an integrated perspective the interplay between the ecology and subsistence patterns, the formation of social institutions, and the practices of face-to-face interactions. Such analysis will

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enable us to explore several issues not included in Lancy's article. For example, how is consensus to restrict or prohibit child labor achieved, even in situations where child labor may bring a considerable profit for people surrounding the children? What determines why some children are involved in a certain activity while others are excluded within the same society? That is, what generates and reproduces the social stratification of children within a society? Considering that childhood provides one of the most promising avenues to investigate human sociality, Lancy's article illuminates a promising path to direct future research.

Reply

Bernstein takes me to task for failing to acknowledge that the development of skill and proficiency continues throughout the life span and certainly through the teens. I chose to focus on the half-full glass of child competence rather than the half-empty glass of relatively low productivity. I would argue, however, that at any age an individual can ratchet up productivity in response to need. However, the ratchet effect or elasticity is probably much more substantial for children in middle childhood than earlier in the life span—a point made by Bjorklund.

Bernstein also identifies a critical point, which I have not dealt with adequately, namely, the very different trajectories of girls and boys. She focuses on the sociosexual forces that aim these trajectories, whereas I have focused almost exclusively on the different trajectories engendered by different subsistence patterns and the nature of the domestic labor force.

Another important contextualizing factor—noted by Crittenden—is that variability in the nature of subsistence (i.e., access to and ease of harvesting resources) may severely limit a child's ability to increase output. This gulf appears to be particularly wide for Hadza versus !Kung child foragers, where the former can be much more productive at an earlier age. Another related factor must be the length and steepness of the learning curve. Some forms of food acquisition require great skill (honey collection), strength (bow-hunting), or dexterity. Additionally, I think the data is bound to be noisy as it is hard to separate out the child's productivity during unguided, unsupervised "helping" and their productivity in involuntary chore assignments (Stieglitz et al. 2013). Both the Aka and the !Kung are noted for exempting children from making any substantial contributions toward provisioning themselves and others, and yet cases are reported in both societies of voluntary self-provisioning (Boyette 2013; Howell 2010). Children are endowed with powerful drives—to become competent, to fit in, and to cooperate—that may lead them to contribute beyond any implicit expectations of the family (see de Suremain's comment).

I am grateful to Del Giudice for appropriately complicating my argument. Basically, I throw the precocious productivity phenomenon into the same basket as accelerated life history. The chronic stress and insecurity that may trigger a shift to a "fast track" life history (Schlegel 2013) may exist independently from any resource or labor shortage. And, of course, the child's dramatically increased contribution to family needs may strengthen family ties and support a continuation of the "slow track" trajectory. Middle childhood may be the critical period during which maturing cognitive processes enable the child to make a finer calculation of the trade-offs in life history decisions (Del Giudice and Belsky 2011).

I appreciate Lawson and Hedges bringing up an important issue that space constraints prevented me from addressing. And that is the other side of the elasticity coin, so to speak, where plentiful resources may lead to a considerable delay in the child's assumption of tasks (not limited to food acquisition) that support the household. Indeed, in WEIRD society (Henrich, Heine, and Norenzayan 2010), there is growing evidence that privileged children may remain in a state of complete material dependency well into young adulthood (Lancy 2014*b*:71–73). I quite agree with and applaud Lawson and Hedges' point that the international condemnation of child work and valorization of schooling is misguided and poorly validated. I would encourage the reading of Susan Shepler's brilliant study of the "rehabilitation" of former child soldiers in Sierra Leone. She says,

> Look at the irony of the situation: the lack of opportunities for young people and the inherent structural violence of the education system lead to "a crisis of youth" that leads to war. The proposed solution is to continue with the flawed ideologies of Western schooling and heal the young combatants with the almost magical application of education. Education has become the default solution for any problem of youth in the liberal Western framework. (Shepler 2014:96)

My first reaction to Mintz's wonderful commentary is that historians have even cooler anecdotes (2-year-old Lincoln at work on the farm) than anthropologists. More seriously, Mintz's argument regarding the decline of child labor in the West can be usefully juxtaposed with Lawson and Hedges' main point. That is, all other things being equal, children's work is facilitated—even required—by the dictates of broad structural processes. Condemning child labor without considering its "roots" and absent the broad cultural changes that facilitate a decline in child labor, which Mintz describes, may do more harm than good.

Mintz also makes a more speculative but compelling argument that by purifying children's lives of the contaminating effects of work, we may have robbed them of very important developmental opportunities. For example, the very notion of "doing chores" implies doing them competently or incompetently, dependably or not, having a real and

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positive impact on other family members or not, and so on. Somehow these sorts of challenges and goals seem more real and developmentally significant than those afforded by playing a sport. Schlegel makes a similar point: "Learning to assess a task, plan for it, and persevere until it is completed contributes to self-regulation."

Schlegel also introduces a critical topic that is missing from the target article. I am referring to her discussion highlighting "good" chores versus "bad" chores. That is, we tend to either condemn children's work out of hand or acknowledge its value to the family and the children themselves. But not all chores are created equal. Some jobs are not welcomed because, as Schlegel notes, they must be done in the absence of others. Other chores such as herding may involve long-distance travel and exposure to privation and danger. Some are unattractive because the work is repetitive, tiring, and lacking in opportunities to expand or improve one's skill set (Bock 2002).

As de Suremain correctly notes, my gaze is largely retrospective. But the reserve labor force phenomenon is very evident in contemporary societies. Social issues like child-headed households; street children; parents encouraging their offspring to become sex workers, street sellers, and poorly paid laborers; and the increased circulation of children to make the most of their labor all arise from the need or desire of the impoverished family to turn a debit into an asset (Lancy 2014*b*:378–385). de Suremain also calls attention to the complex ethical and moral quagmire created by the employment of children—domestically or at a distance. But my position is that the "call-up" of children from their reserve position implies a temporary or at least contingent set of circumstances (Stieglitz et al. 2013) that is not the normal state of affairs. The default status of children as workers is that they exercise agency in what they choose to learn, whether through emulation or play, and that they are able to learn at their own pace without the oppressive effects of teaching: "Children did not evolve to sit quietly at desks in age-segregated classrooms being instructed by unrelated and unfamiliar adults" (Bjorklund 2007*b*:120). They also exercise considerable autonomy in deciding how to employ their newly acquired capabilities and for whose benefit.

Takada contributes two critical ideas to this discussion, one analytical, the other empirical. He goes beyond identifying critical variables that define the nature of children's work to speculating on how these variables interact to create four possible states or classifications. To take just one important but understudied interaction, there is the multivariate equation that includes the child's age and general competence (a 2-year-old is unlikely to be tapped for sib-care, boys less likely than girls), whether the child is performing the task voluntarily or under some compunction (which influences perceived value, motivation, and affect), and the composition of the domestic workforce, which, if inadequate or strained, may lead to more work and less play (or schooling) for some members (girls conscripted before boys).

The empirical program that Takada calls for is the investigation of broader social forces such as "how consensus to restrict or prohibit child labor is achieved." Mintz provides a response to the question from history, but there is a growing corpus of comparative and long-term anthropological research—mostly in Mexico and Central America—that seems to suggest a tipping point. That is, in relatively unacculturated, unschooled peasant communities, children's domestic work is still highly valued and expected even as children attend school. At the same time, when members of those communities migrate to more sophisticated urban centers and are exposed, over several generations, to more extensive formal education, they no longer expect their children to "help out" or do chores. Domestic work is replaced with schooling, leisure, and extracurricular activity (Alcalá et al. 2014; Rogoff, Correa-Chávez, and Cotuc 2005).

—David F. Lancy

References Cited

Alcalá, Lucía, Barbara Rogoff, Rebeca Mejía-Arauz, Andrew D. Coppens, and Amy L. Dexter. 2014. Children's initiative in contributions to family work in indigenous-heritage and cosmopolitan communities in Mexico. *Human Development* 57:96–115.

Baas, Laura. 2011. Ore mining in Bolivia. In *Hazardous child labour in Latin America*. G. Kristoffel Lieten, ed. Pp. 105–123. Heidelberg: Springer.

Bachman, Jerald G., Jeremy Staff, Patrick M. O'Malley, and Peter Freedman-Doan. 2013. Adolescent work intensity, school performance, and substance use: links vary by race/ethnicity and socioeconomic status. *Developmental Psychology* 49:2125–2134.

Bai, Limin. 2005. *Shaping the ideal child: children and their primers in Late Imperial China*. Hong Kong: Chinese University Press.

Barlow, Kathleen. 2001. Working mothers and the work of culture in a Papua New Guinea society. *Ethos* 29:78–107.

Barrett, Autumn R. 2014. Childhood, colonialism, and nation-building: Virginia and New York. In *Tracing childhood: bioarchaeological investigations of early lives in antiquity*. Jennifer L. Thompson, Marta P. Alfonso-Durruty, and John J. Crandall, eds. Pp 159–182. Gainesville: University Press of Florida.

Bass, Loreta E. 2004. *Child labor in sub-Saharan Africa*. Boulder, CO: Lynne Rienner.

Baxter, P. T. W., and Audrey Butt. 1953. *The Azande, and related peoples of the Anglo-Egyptian Sudan and Belgian Congo*. London: International African Institute.

Belsky, Jay, Gabriel L. Schlomer, and B. J. Ellis. 2012. Beyond cumulative risk: distinguishing harshness and unpredictability as determinants of parenting and early life history strategy. *Developmental Psychology* 48:662–673. [DFB]

Belsky, Jay, Lawrence Steinberg, and Patricia Draper. 1991. Childhood experience, interpersonal development, and reproductive strategy: an evolutionary theory of socialization. *Child Development* 62(4):647–670.

Bernstein, Robin M., Kirstin N. Sterner, and Derek E. Wildman. 2012. Adrenal androgen production in catarrhine primates and the evolution of adrenarche. *American Journal of Physical Anthropology* 147:389–400.

Bey, Marguerite. 2003. The Mexican child: from work with the family to paid employment. *Childhood* 10:287–299.

Bird, Douglas W., and Rebecca Bliege Bird. 2002. Children on the reef: slow learning or strategic foraging? *Human Nature* 13:269–297.

———. 2005. Martu children's hunting strategies in the western desert, Australia. In *Hunter gatherer childhoods: evolutionary, developmental, and cultural perspectives*. Barry S. Hewlett and Michael E. Lamb, eds. Pp. 129–146. New Brunswick, NJ: Aldine/Transaction.

Bjorklund, David F. 1997. The role of immaturity in human development. *Psychological Bulletin* 122:153–169. [DFB]

———. 2007*a*. The most educable of animals. In *Educating the evolved mind*. Jerry S. Carlson and Joel R. Levin, eds. Pp. 119–129. Charlotte, NC: Information Age.

This content downloaded from 64.106.42.43 on Mon, 7 Sep 2015 20:52:56 PM
All use subject to JSTOR Terms and Conditions

———. 2007*b*. *Why youth is not wasted on the young: immaturity in human development*. Oxford: Blackwell. [DFB]
———. 2012. *Children's thinking: cognitive development and individual differences*. 5th edition. Belmont, CA: Wadsworth. [DFB]
Blakemore, S.-J., and S. Choudhury. 2006. Development of the adolescent brain: implications for executive function and social cognition. *Journal of Child Psychology and Psychiatry* 47:296–312. [RMB]
Blakemore, Sarah-Jayne. 2007. Brain development during adolescence. *Education Review* 20:82–90.
Bleek, D. F. 1931. The Hadzapi or Watindega of Tanganyika territory. *Africa* 4(3):273–286. [ANC]
Bliege Bird, Rebecca, and Douglas W. Bird. 2002. Constraints of knowing or constraints of growing? fishing and collection by the children of Mer. *Human Nature* 13:239–267.
Blurton-Jones, N. G. 2006. Contemporary hunter-gatherers and human life history evolution. In *The evolution of human life history*. Kristen Hawkes and Richard R. Paine, eds. Pp. 231–266. Santa Fe, NM: School of American Research.
Blurton-Jones, N. G., K. Hawkes, and P. Draper. 1994. Differences between Hadza and !Kung children's work: original affluence or practical reason? In *Key issues in hunter-gatherer research*. E. S. Burch and L. Ellana, eds. Pp. 189–215. Oxford: Berg. [ANC]
Blurton-Jones, N. G., K. Hawkes, and J. F. O'Connell. 1989. Modelling and measuring costs of children in two foraging societies. In *Comparative socioecology of humans and other mammals*. V. Standen and R. A. Foley, eds. Pp. 367–390. London: Basil Blackwell. [ANC]
———. 1997. Why do Hadza children forage? In *Uniting psychology and biology: integrative perspectives on human development*. Nancy L. Segal, Glenn E. Weisfeld, and Carol C. Weisfeld, eds. Pp. 279–313. Washington, DC: American Psychological Association.
Blurton-Jones, N. G., and F. W. Marlowe. 2002. Selection for delayed maturity: does it take 20 years to learn to hunt and gather? *Human Nature* 13(2):199–238.
Bock, John. 2002. Evolutionary demography and intrahousehold time allocation: school attendance and child labor among the Okavango Delta peoples of Botswana. *American Journal of Human Biology* 14:206–221.
———. 2005. Farming, foraging, and children's play in the Okavango Delta, Botswana. In *The nature of play: great apes and humans*. Anthony D. Pellegrini and Peter K. Smith, eds. Pp. 254–281. New York: Guilford.
Bock, John, and Sara E. Johnson. 2004. Play and subsistence ecology among the Okavango Delta peoples of Botswana. *Human Nature* 15(1):63–82.
Bodenhorn, Barbara. 1988. Whales, souls, children, and other things that are "good to share": core metaphors in a contemporary whaling society. *Cambridge Anthropology* 13(1):1–19.
Bogin, Barry. 1994. Adolescence in evolutionary perspective. *Acta Paediatrica Scandinavica* 406(suppl.):29–35.
———. 1997. Evolutionary hypotheses for human childhood. *Yearbook of Physical Anthropology* 40:63–89. [ANC]
———. 1999. *Patterns of human growth*. 2nd edition. Cambridge: Cambridge University Press.
———. 2009. Childhood, adolescence, and longevity: a multilevel model of the evolution of reserve capacity in human life history. *American Journal of Human Biology* 21:567–577.
Bogin, Barry, and B. Holly Smith. 1996. Evolution of the human life cycle. *American Journal of Human Biology* 8:703–716. [MD]
———. 2012. Evolution of the human life cycle. In *Human biology: an evolutionary and biocultural perspective*. 2nd edition. Sara Stinson, Barry Bogin, and Dennis O'Rourke, eds. Pp. 515–586. New York: Wiley.
Bonnet, D., C. Rollet-Échallier, and C.-É. de Suremain, eds. 2012. *Modèles d'enfances: succession, transformations, croisements*. Paris: Éditions des Archives Contemporaines. [C-ÉdS]
Boyette, Adam H. 2013. Social learning during middle childhood among Aka foragers and Ngandu farmers of the Central African Republic. PhD dissertation, Washington State University, Pullman.
Campbell, Benjamin. 2011. Adrenarche in comparative perspective. *American Journal of Human Biology* 23:44–52.
Casimir, Michael J. 2010. *Growing up in a pastoral society: socialization among Pashtu nomads: Kölner Ethnologische Beiträge*. Cologne: Druck & Bindung.
Charnov, Eric L., and David Berrigan. 1993. Why do female primates have such long lifespans and so few babies? *Evolutionary Anthropology* 1:191–194.
Chipeniuk, Raymond. 1995. Childhood foraging as a means of acquiring competent human cognition about biodiversity. *Environment and Behavior* 27:490–512.
Clement, Priscilla F. 1997. *Growing pains: children in the Industrial Age, 1850–1890*. New York: Twayne.
Collings, Peter. 2009. Birth order, age, and hunting success in the Canadian Arctic. *Human Nature* 29:354–374.
Conticini, Alessandro. 2007. Children on the streets of Dhaka and their coping strategies. In *Livelihoods at the margins: surviving the city*. James Staples, ed. Pp. 75–100. Walnut Creek, CA: Left Coast.
Crittenden, A. N., and F. W. Marlowe. 2008. Allomaternal care among the Hadza of Tanzania. *Human Nature* 19(3):249–262. [ANC]
Crittenden, Alyssa N. 2014. Evolutionary studies of childhood. In *Oxford Bibliographies in Childhood Studies*. Heather Montgomery, ed. New York: Oxford University Press. doi:10.1093/obo/9780199791231-0149. [ANC]
———. Forthcoming. Children's foraging and play among the Hadza: the evolutionary significance of "work play." In *Origins and implications of the evolution of childhood*. Santa Fe: School of Advanced Research. [ANC]
Crittenden, Alyssa N., Nancy L. Conklin-Brittain, David A. Zes, Margaret J. Schoeninger, and Frank W. Marlowe. 2013. Juvenile foraging among the Hadza: implications for human life history. *Evolution and Human Behavior* 34:299–304.
Cunningham, Hugh. 1990. The employment and unemployment of children in England c. 1680–1851. *Past and Present* 126:115–150.
Danielsson, Bengt. 1952. *The happy island*. F. H. Lyon, trans. London: George Allen & Unwin.
Davies, Matthew. 2008. A childish culture? shared understandings, agency and intervention: an anthropological study of street children in northwest Kenya. *Childhood* 15:309–330.
Dawe, Bob. 1997. Tiny arrowheads: toys in the toolkit. *Plains Anthropology* 42(161):303–318.
de Lange, Albertine. 2007. Child labour migration and trafficking in rural Burkina Faso. *International Migration* 45:147–167.
de Suremain, C.-É. 2000. Coffee beans and the seeds of labour: child labour on Guatemalan plantations. In *The exploited child*. B. Schlemmer, ed. Pp. 231–238. London: Zed. [C-ÉdS]
Del Giudice, Marco. 2014. Middle childhood: an evolutionary-developmental synthesis. *Child Development Perspectives* 8(4):193–200. [MD]
Del Giudice, Marco, Romina Angeleri, and Valeria Manera. 2009. The juvenile transition: a developmental switch point in human life history. *Developmental Review* 29:1–31. [DFB]
Del Giudice, Marco, and Jay Belsky. 2011. The development of life history strategies: toward a multi-stage theory. In *The evolution of personality and individual differences*. David M. Buss and Patricia H. Hawley, eds. Pp. 154–176. Oxford: Oxford University Press.
Demian, Melissa. 2004. Transactions in right, transactions in children: a view of adoption from Papua New Guinea. In *Cross cultural approaches to adoption*. Fiona Bowie, ed. Pp. 97–110. London: Routledge.
Dickson-Gómez, Julia. 2003. Growing up in guerilla camps: the long-term impact of being a child soldier in El Salvador's civil war. *Ethos* 30:327–356.
Draper, Patricia. 1976. Social and economic constraints on child life among the !Kung. In *Studies of the !Kung San and their neighbors*. Richard B. Lee and Irven DeVore, eds. Pp. 199–217. Cambridge, MA: Harvard University Press. [AT]
Draper, Patricia, and Elizabeth Cashdan. 1988. Technological change and child behavior among the !Kung. *Ethnology* 27:339–365.
Draper, Patricia, and Henry Harpending. 1982. Father absence and reproductive strategy: an evolutionary perspective. *Journal of Anthropological Research* 38:255–273.
———. 1988. A sociobiological perspective on the development of human reproductive strategies. In *Sociobiological perspectives on human development*. K. B. MacDonald, ed. Pp. 340–372. New York: Springer. [DFB]
Edmonds, Eric V. 2007. Child labor. In *Handbook of development economics*, vol. 4. T. Paul Schultz and John A. Strauss, eds. Pp. 3607–3709. Amsterdam: North Holland. [DWL/SH]
Ellis, B. J. 2004. Timing of pubertal maturation in girls: an integrated life history approach. *Psychological Bulletin* 130:920–958.
Ellis, B. J., M. Del Giudice, T. J. Dishion, A. J. Figueredo, P. Gray, V. Griskevicius, P. H. Hawley, et al. 2012. The evolutionary basis of risky adolescent behavior: implications for science, policy, and practice. *Developmental Psychology* 48:598–623. [DFB]
Ellis, B. J., A. J. Figueredo, B. H. Brumbach, and G. L. Schlomer. 2009. Fundamental dimensions of environmental risk: the impact of harsh versus unpredictable environments on the evolution and development of life history strategies. *Human Nature* 20:204–268. [DFB, MD]

This content downloaded from 64.106.42.43 on Mon, 7 Sep 2015 20:52:56 PM
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Ellis, Meredith A. B. 2014. A disciplined childhood in nineteenth-century New York City: a social bioarchaeology of the subadults of the Spring Street Presbyterian Church. In *Tracing childhood: bioarchaeological investigations of early lives in antiquity*. Jennifer L. Thompson, Marta P. Alfonso-Durruty, and John J. Crandall, eds. Pp. 139–158. Gainesville: University Press of Florida.

Ember, Carol R. 1973. Feminine task assignment and the social behavior of boys. *Ethos* 1(4):424–439.

Eveleth, Phyllis B., and James M. Tanner. 1990. *Worldwide variation in human growth*. Cambridge: Cambridge University Press.

Evans-Pritchard, Edward E. 1956. *Nuer religion*. Oxford: Clarendon.

Fajans, Jane. 1997. *They make themselves: work and play among the Baining of Papua New Guinea*. Chicago: University of Chicago Press.

Fasulo, Alessandra, Heather Loyd, and Vincenzo Padiglione. 2007. Children's socialization into cleaning practices: a cross-cultural perspective. *Discourse and Society* 18:11–33.

Fortes, Meyer. 1970 (1938). Social and psychological aspects of education in Taleland. In *From child to adult: studies in the anthropology of education*. John Middleton, ed. Pp. 14–74. Garden City, NY: Natural History.

Fouts, H. N., and R. A. Brookshire. 2009. Who feeds children? a child's-eye-view of caregiver feeding patterns among the Aka foragers in Congo. *Social Science and Medicine* 69(2):285–292. [ANC]

Gaskins, Suzanne, Wendy Haight, and David F. Lancy. 2007. The cultural construction of play. In *Play and development: evolutionary, sociocultural, and functional perspectives*. Artin Göncü and Suzanne Gaskins, eds. Pp. 179–202. Mahwah, NJ: Erlbaum.

Gaskins, Suzanne, and Ruth Paradise. 2010. Learning through observation in daily life. In *The anthropology of learning in childhood*. David F. Lancy, Suzanne Gaskins, and John Bock, eds. Pp. 85–117. Lanham, MD: Altamira.

Gelles, Richard J. 1986. School-age parents and child abuse. In *School-age pregnancy and parenthood: biosocial dimensions*. Jane B. Lancaster and Beatrix A. Hamburg, eds. Pp. 347–359. New York: Aldine De Gruyter.

Gibson, Mhairi, and David W. Lawson. 2015. Applying evolutionary anthropology. *Evolutionary Anthropology: Issues, News, and Reviews* 24(1):3–14. [DWL/SH]

Gielen, Uwe P. 1993. Traditional Tibetan societies. In *International handbook on gender roles*. Leonore Loeb Adler, ed. Pp. 413–437. Westport, CT: Greenwood.

Gladwin, Thomas, and Seymour B. Sarason. 1953. *Truk: man in paradise*. New York: Wenner-Gren Foundation.

Glassford, Sarah. 2014. Practical patriotism: how the Canadian Junior Red Cross and its child members met the challenge of the Second World War. *Journal of the History of Childhood and Youth* 7:219–242.

Godelier, M. 2004. *Les métamorphoses de la parenté*. Paris: Fayard. [C-ÉdS]

Goldschmidt, Walter. 2006. *The bridge to humanity: how affect hunger trumps the selfish gene*. Oxford: Oxford University Press.

Goodman, Anna, Ilona Koupil, and David W. Lawson. 2012. Low fertility increases descendant socioeconomic position but reduces long-term fitness in a modern post-industrial society. *Proceedings of the Royal Society B: Biological Sciences* 279(1746):4342–4351. [DWL/SH]

Greve, Werner, Tamara Thomsen, and Cornelia Dehio. 2014. Does playing pay? the fitness-effect of free play during childhood. *Evolutionary Psychology* 12:434–447.

Grove, M. Annette, and David F. Lancy. 2015. Cultural views of life phases. In *International encyclopedia of social and behavioral sciences*. 2nd edition. James D. Wright, ed. Pp. 507–515. Oxford: Elsevier.

Guidetti, Michèle, Suzanne Lallemand, and Marie-France Morel. 1997. *Enfances d'ailleurs, d'hier et d'aujourd'hui: approche comparative*. Paris: Colin. [C-ÉdS]

Gurven, Michael, and Hillard Kaplan. 2006. Determinants of time allocation across the lifespan. *Human Nature* 17:1–49. [MD]

Gurven, Michael, Hillard Kaplan, and Maguin Gutierrez. 2006. How long does it take to become a proficient hunter? implications for the evolution of extended development and long life span. *Journal of Human Evolution* 51:454–470.

Hames, Raymond, and Patricia Draper. 2004. Women's work, child care, and helpers-at-the-nest in a hunter-gatherer society. *Human Nature* 15:319–341.

Henrich, Joseph, Stephen J. Heine, and Ara Norenzayan. 2010. The weirdest people in the world? *Behavioural and Brain Sciences* 33:61–81.

Henry, Paula I., Gilda A. Morelli, and Edward Z. Tronick. 2005. Child caretakers among Efe foragers of the Itruri Forest. In *Hunter gatherer childhoods: evolutionary, developmental, and cultural perspectives*. Barry S. Hewlett and Michael E. Lamb, eds. Pp. 191–213. New Brunswick, NJ: Aldine/Transaction.

Hewlett, Barry S., and Luca L. Cavalli-Sforza. 1986. Cultural transmission among Aka Pygmies. *American Anthropologist* 88:922–934.

Hewlett, Barry S., Hillary N. Fouts, Adam H. Boyette, and Bonnie L. Hewlett. 2011. Social learning among Congo Basin hunter-gatherers. *Philosophical Transactions of the Royal Society: Biology* 366:1168–1178.

Hewlett, Bonnie L. 2013. *Listen, here is a story*. New York: Oxford University Press.

Hewlett, Bonnie L., and Barry S. Hewlett. 2013. Hunter-gatherer adolescence. In *Adolescent identity*. Bonnie L. Hewlett, ed. Pp. 73–101. New York: Routledge.

Hill, Kim, and A. Magdalena Hurtado. 1996. *Ache life history: the ecology and demography of a foraging people*. New York: Aldine de Gruyter.

Honeyman, Katrina. 2013. The export of children? the children's friend society and the London parishes, 1830–42. *Childhood in the Past* 5(1):96–114.

Honigmann, Irman, and John Honigmann. 1953. Child rearing patterns among the Great Whale River Eskimo. *Anthropological Papers of the University of Alaska* 2(1):31–50.

Horrell, Sara, and Jane Humphries. 1995. "The exploitation of little children": child labour and the family economy in the industrial revolution. *Explorations in Economic History* 32:485–516.

Howard, Alan. 1970. *Learning to be Rotuman*. New York: Teachers College Press.

Howell, Nancy. 2010. *Life histories of the Dobe !Kung: food, fatness, and well-being over the life span*. Berkeley: University of California Press.

Hrdy, Sarah B. 2009. *Mothers and others: the evolutionary origins of mutual understanding*. Cambridge, MA: Belknap.

Hunn, Eugene S. 2002. Evidence for the precocious acquisition of plant knowledge by Zapotec children. In *Ethnobiology and biocultural diversity: proceedings of the Seventh International Congress of Ethnobiology*. John R. Stepp, Felice S. Wyndham, and Rebecca K. Zarger, eds. Pp. 604–613. Athens: University of Georgia Press.

Jay, Robert R. 1969. *Javanese villagers: social relations in rural Modjokuto*. Cambridge, MA: MIT Press.

Jolicouer, P., G. Baron, and T. Cabana. 1988. Cross-sectional growth and decline of human stature and brain weight in 19th century Germany. *Growth, Development and Aging* 52:201–206. [RMB]

Kaplan, Hillard S., and John A. Bock. 2001. Fertility theory: the embodied capital theory of life history evolution. In *International encyclopedia of the social and behavioral sciences*. Jan M. Hoem, ed. Pp. 5561–5568. New York: Elsevier Science.

Kaplan, Hillard S., Kim Hill, Jane Lancaster, and A. Magdalena Hurtado. 2000. A theory of human life history evolution: diet, intelligence, and longevity. *Evolutionary Anthropology* 9:156–185.

Kaplan, Hillard S., and Jane B. Lancaster. 2003. An evolutionary and ecological analysis of human fertility, mating patterns, and parental investment. In *Offspring: fertility behavior in biodemographic perspective*. Kenneth W. Wachter and Rodolfo A. Bulatao, eds. Pp. 170–223. Washington, DC: National Academies.

Kaplan, Hillard S., Jane B. Lancaster, and Arthur Robson. 2003. Embodied capital and the evolutionary economics of the human life span. *Population and Development Review* 29(suppl.):152–182. [RMB]

Kaplan, Hillard S., and Arthur Robson. 2002. The emergence of humans: the coevolution of intelligence and longevity with intergenerational transfers. *Proceedings of the National Academy of Sciences of the USA* 99:10221–10226. [RMB]

Kay, Verla. 2003. *Orphan train*. New York: G. P. Putnam's Sons.

Keller, Heidi. 2007. *Cultures of infancy*. Mahwah, NJ: Erlbaum.

Kenny, Mary L. 1999. No visible means of support: child labor in urban northeast Brazil. *Human Organization* 58:375–386.

———. 2007. *Hidden heads of households: child labor in urban Northeast Brazil*. Buffalo, NY: Broadview.

Khundrakpam, Budhachandra S., Andrew Reid, Jens Brauer, Felix Carbonell, John Lewis, Stephanie Ameis, and Sherif Karama. 2013. Developmental changes in organization of structural brain networks. *Cerebral Cortex* 23:2072–2085.

Kilbride, Philip, Collette Suda, and Enos Njeru. 2000. *Street children in Kenya: voices of children in search of a childhood*. Westport, CT: Bergin.

Kim, Kyung-hak, and Kyung-soo Chun. 1989. Cultural transmission and culture acquisition in a Korean village: the systems model in ethnographic terms. In *Culture acquisition: a holistic approach to human learning*. Mary Anne Pitman, Rivka A. Eisikovits, and Marion Lundy Dobbert, eds. Pp. 169–184. New York: Praeger.

This content downloaded from 64.106.42.43 on Mon, 7 Sep 2015 20:52:56 PM
All use subject to JSTOR Terms and Conditions

Konner, Melvin J. 1976. Maternal care, infant behavior and development among the Kung. In *Studies of the !Kung San and their neighbors*. Richard B. Lee and Irven DeVore, eds. Pp. 218–245. Cambridge, MA: Harvard University Press.
Kovats-Bernat, J. Christopher. 2006. *Sleeping rough in Port-Au-Prince*. Gainsville: University Press of Florida.
Kramer, Karen L. 2011. The evolution of human parental care and recruitment of juvenile help. *Trends in Ecology and Evolution* 26(10):533–540.
———. 2014. Why what juveniles do matters in the evolution of cooperative breeding. *Human Nature* 25:49–65.
Kramer, Karen L., and Russell D. Greaves. 2011. Juvenile subsistence effort, activity levels, and growth patterns. *Human Nature* 22:303–326.
Lancy, David F. 1996. *Playing on the mother ground: cultural routines for children's development*. New York: Guilford.
———. 2010. Children's learning in new settings. In *The anthropology of learning in childhood*. David F. Lancy, Suzanne Gaskins, and John Bock, eds. Pp. 443–463. Lanham, MD: Altamira.
———. 2011. Talking trash or taking it out? *Benign Neglect*. https://www.psychologytoday.com/blog/benign-neglect/201102/talking-trash-or-taking-it-out. [SM]
———. 2012. The chore curriculum. In *African children at work: working and learning in growing up*. Gerd Spittler and Michael Bourdillion, eds. Pp. 23–57. Berlin: Lit.
———. 2014*a*. *The anthropology of childhood: cherubs, chattel, changelings*. 2nd edition. Cambridge: Cambridge University Press.
———. 2014*b*. "Babies aren't persons": a survey of delayed personhood. In *Different faces of attachment: cultural variations of a universal human need*. Heidi Keller and Hiltrud Otto, eds. Pp. 66–109. Cambridge: Cambridge University Press.
Lancy, David F., and M. Annette Grove. 2011*a*. "Getting noticed": middle childhood in cross-cultural perspective. *Human Nature* 22:281–302.
———. 2011*b*. Marbles and Machiavelli: the role of game play in children's social development. *American Journal of Play* 3:489–499.
Lee, Namhee, Lisa Mikesell, Anna Dina L. Joaquin, Andrea W. Mates, and John H. Schumann. 2009. *The interactional instinct: the evolution and acquisition of language*. New York: Oxford University Press.
Leigh, S. R. 2001. Evolution of human growth. *Evolutionary Anthropology: Issues, News, and Reviews* 10(6):223–236. [ANC]
———. 2004. Brain growth, life history, and cognition in primate and human evolution. *American Journal of Primatology* 62:139–164. [RMB]
Leinaweaver, Jessaca B. 2008. *The circulation of children: kinship, adoption, and morality in Andean Peru*. Durham, NC: Duke University Press.
Levine, Donald N. 1965. *Wax and gold: tradition and innovation in Ethiopian culture*. Chicago: University of Chicago Press.
Little, Christopher A. J. L. 2011. How Asabano children learn; or, formal schooling amongst informal learners. *Oceania* 81:146–166.
MacGinnis, John. 2011. Aspects of child labour and the status of children in Mesopotamia in the first millennium BC. Paper presented at the 4th Annual Society for the Study of Childhood in the Past Conference, Cambridge, October 1.
Magvanjav, Oyunbileg, Eduardo A. Undurraga, Dan T. Eisenberg, Wu Zeng, Tsogzolmaa Dorjgochoo, William R. Leonard, and Ricardo A. Godoy. 2012. Sibling composition and children's anthropometric indicators of nutritional status: evidence from native Amazonians in Bolivia. TAPS Working Paper no. 73, Brandeis University Tsimane' Amazonian Panel Study, Waltham, MA. http://heller.brandeis.edu/academic/sid/tsimane/.
Marlowe, F. 2010. *The Hadza: hunter-gatherers of Tanzania*. Berkeley: University of California Press. [ANC]
Marshall, Lorna. 1976. *The !Kung of Nyae Nyae*. Cambridge, MA: Harvard University Press. [AT]
Marten, James. 1998. *The children's Civil War*. Chapel Hill: University of North Carolina Press.
Martin, Jeannett. 2012. Child fosterage, children's work and the spread of schooling in Northern Benin. In *African children at work: working and learning in growing up*. Gerd Spittler and Michael Bourdillion, eds. Pp. 195–226. Berlin: Lit.
McIvor, Chris. 2000. Child labour in informal mines in Zimbabwe. In *Earning a life: working children in Zimbabwe*. Michael Bourdillon, ed. Pp. 173–185. Harare: Weaver.
Medaets, Chantal V. 2013. "*Tu garante*?" local ideas on childhood, cultural transmission and learning practices along the Tapajós river. Paper presented at the Joint SPA/AYCIG Meeting, San Diego, February.
Meehan, C. L., and A. N. Crittenden. Forthcoming. *Origins and implications of the evolution of childhood*. Santa Fe: School of Advanced Research. [ANC]
Michaud, Francine. 2007. From apprentice to wage-earner: child labour before and after the Black Death. In *Essays on medieval childhood: responses to recent debate*. Joel T. Rosenthal, ed. Pp. 73–90. Donington Lincolnshire, UK: Shaun Tyas.
Michelet, Aude. 2013. What is there to learn from not being taught? learning pastoral and domestic skills in southern Mongolia. Paper presented at the Joint SPA/AYCIG Meeting, San Diego, February.
Mintz, Steven. 2004. *Huck's raft: a history of American childhood*. Cambridge, MA: Belknap.
Miyake, Akira, and Naomi P. Friedman. 2012. The nature and organization of individual differences in executive functions: four general conclusions. *Current Directions in Psychological Science* 21:8–14. [MD]
Monberg, Torben. 1970. Determinants of choice in adoption and fosterage on Bellona Island. *Ethnology* 9:99–136.
Montgomery, Heather. 2001. *Modern Babylon: prostituting children in Thailand*. Oxford: Berghahn.
Moritz, Mark. 2008. A critical examination of honor cultures and herding societies in Africa. *African Studies Review* 51:99–117.
Morrow, Virginia, and Betty Mayall. 2011. *You can help your country: English children's work during the Second World War*. London: Institute of Education.
Neuwelt-Truntzer, Sandra. 1981. Ecological influences on the physical, behavioral, and cognitive development of Pygmy children. PhD dissertation, University of Chicago, Chicago.
Nieuwenhuys, O. 1994. *Children's lifeworlds: gender, welfare and labour in the developing world*. London: Routledge. [C-ÉdS]
Ochs, Elinor, and Carolina Izquierdo. 2009. Responsibility in childhood: three developmental trajectories. *Ethos* 37(4):391–413.
Odden, Harold, and Phillipe Rochat. 2004. Observational learning and enculturation. *Educational and Child Psychology* 21:39–50.
Ottenberg, Simon. 1968. *Double descent in an African society: the Afikpo village-group*. Seattle: University of Washington Press.
Paradise, Ruth, and Barbara Rogoff. 2009. Side by side: learning by observing and pitching in. *Ethos* 37:102–138.
Piel, L. Halliday. 2012. Food rationing and children's self-reliance in Japan, 1942–1952. *Journal of the History of Childhood and Youth* 5:393–418.
Polak, Barbara. 2011. Die Könige der Feldarbeit. PhD dissertation, Kulturwissenschaftlichen Fakultät der Universität Bayreuth.
Punch, Samantha. 2001. Negotiating autonomy: childhoods in rural Bolivia. In *Conceptualizing child-adult relations*. Leena Alanen and Berry Mayall, eds. Pp. 23–36. Abington: Routledge.
Puri, Rajindra K. 2013. Transmitting Penan basketry knowledge and practice. In *Understanding cultural transmission: a critical anthropological synthesis*. Roy Ellen, Stephen J. Lycett, and Sarah E. Johns, eds. Pp. 266–299. Oxford: Berghahn.
Read, Margaret. 1960. *Children of their fathers: growing up among the Ngoni of Malawi*. New Haven, CT: Yale University Press.
Reichard, Gladys. 1934. *Spider Woman: a story of Navaho weavers and chanters*. New York: Macmillan.
Reiches, Meredith W., Peter T. Ellison, Susan F. Lipson, Katherine C. Sharrock, Eliza Gardiner, and Laura G. Duncan. 2009. Pooled energy budget and human life history. *American Journal of Human Biology* 21:421–429. [MD]
Rende Taylor, Lisa. 2005. Dangerous trade-offs: the behavioral ecology of child labor and prostitution in rural Northern Thailand. *Current Anthropology* 46(3):411–431. [DWL/SH]
Renne, Elisha P. 2005. Childhood memories and contemporary parenting in Ekiti, Nigeria. *Africa* 75:63–82.
Rheingold, Harriet. 1982. Little children's participation in the work of adults, a nascent prosocial behavior. *Child Development* 53:114–125.
Ritter, Philip. 1981. Adoption on Kosrae Island: solidarity and sterility. *Ethnology* 20:45–61.
Rogoff, Barbara, Maricela Correa-Chávez, and Marta Navichoc Cotuc. 2005. A cultural/historical view of schooling in human development. In *Developmental psychology and social change: research, history, and policy*. David B. Pillemer and Sheldon H. White, eds. Pp. 225–263. Cambridge: Cambridge University Press.
Rogoff, Barbara, Ruth Paradise, Rebeca M. Arauz, Maricela Correa-Chávez, and Cathy Angelillo. 2003. Firsthand learning through intent participation. *Annual Review of Psychology* 54:175–203.

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Rollings-Magnusson, Sandra. 2009. *Heavy burdens on small shoulders: the labor of pioneer children on the Canadian parries*. Edmonton: University of Alberta Press.
Rosen, David M. 2005. *Armies of the young: child soldiers in war and terrorism*. New Brunswick, NJ: Rutgers University Press.
Schlegel, Alice. 1973. The adolescent socialization of the Hopi girl. *Ethnology* 12:449–462. [AS]
———. 2011. Adolescent ties to adult communities: the intersection of culture and development. In *Bridging cultural and developmental approaches to psychology: new syntheses in theory, research, and policy*. Lene Arnett Jensen, ed. Pp. 138–159. New York: Oxford University Press. [AS]
———. 2013. Perspectives on adolescent identity. In *Adolescent identity*. Bonnie L. Hewlett, ed. Pp. 301–318. New York: Routledge.
———. 2015. The cultural context of adolescent self-regulation. In *Self-regulation in adolescence*. Gabriele Oettingen and Peter M. Gollwitzer, eds. New York: Cambridge University Press. [AS]
Schlegel, Alice, and Herbert Barry, III. 1991. *Adolescence: an anthropological inquiry*. New York: Free Press. [AS]
Schlemmer, B., ed. 2000. *The exploited child*. Pp. 231–238. London: Zed. [C-ÉdS]
Ségalen, M. 2010. *À qui appartiennent les enfants?* Paris: Tallandier. [C-ÉdS]
Sellen, Daniel W. 2001. Weaning, complementary feeding, and maternal decision-making in a rural East African population. *Journal of Human Lactation* 17:233–244.
Shepler, Susan. 2014. *Childhood deployed: remaking child soldiers in Sierra Leone*. New York: New York University Press.
Shostak, Marjorie. 1981. *Nisa: the life and words of a !Kung woman*. New York: Vintage.
Skoufias, Emmanuel. 1994. Market wages, family composition and the time allocation of children in agricultural households. *Journal of Developmental Studies* 30:335–360.
Sommerville, John C. 1982. *The rise and fall of childhood*. Beverly Hills, CA: Sage.
Špinka, Merek, Ruth C. Newberry, and Marc Bekoff,. 2001. Mammalian play: training for the unexpected. *Quarterly Review of Biology* 76(2):141–168. [MD]
Stearns, S. C. 1992. *The evolution of life histories*. New York: Oxford University Press. [RMB]
Stieglitz, Jonathan. 2009. Nuclear family conflict and cooperation among Tsimane' forager-horticulturalists of Bolivia. PhD dissertation, University of New Mexico, Albuquerque.
Stieglitz, Jonathan, Michael Gurven, Hillard Kaplan, and Paul L. Hooper. 2013. Household task delegation among high-fertility forager-horticulturalists of Lowland Bolivia. *Current Anthropology* 54:1–10.
Sugiyama, Lawrence S., and Richard Chacon. 2005. Juvenile responses to household ecology among the Yora of Peruvian Amazonia. In *Hunter gatherer childhoods: evolutionary, developmental, and cultural perspectives*. Barry S. Hewlett and Michael E. Lamb, eds. Pp. 237–261. New Brunswick, NJ: Aldine/Transaction.
Takada, Akira. 2005. Mother-infant interactions among the !Xun: analysis of gymnastic and breastfeeding behaviors. In *Hunter-gatherer childhoods: evolutionary, developmental, and cultural perspectives*. Barry S. Hewlett and Michael E. Lamb, eds. Pp. 289–308. New Brunswick, NJ: Aldine/Transaction. [AT]
———. 2015. *Narratives on San ethnicity: the cultural and ecological foundations of lifeworld among the !Xun of North-central Namibia*. Melbourne: Trans Pacific. [AT]
Tanner, J. M. 1981. *A history of the study of human growth*. Cambridge: Cambridge University Press. [RMB]
Tomasello, Michael. 1999. *The cultural origins of human cognition*. Cambridge, MA: Harvard University Press.
Trivers, Robert L. 1974. Parent-offspring conflict. *American Zoologist* 14: 249–264.
Turnbull, Colin M. 1992. *The mountain people*. New York: Simon & Shuster.
Warren, Andrea. 2001. *We rode the orphan trains*. Boston: Houghton Mifflin.
Weisner, Thomas S. 1989. Cultural and universal aspects of social support for children: evidence from the Abaluyia of Kenya. In *Children's social networks and social supports*. Deborah Belle, ed. Pp. 70–90. New York: Wiley.
Wellman, Henry M., David Cross, and Julanne Watson. 2001. Meta-analysis of theory-of-mind development: the truth about false belief. *Child Development* 72:655–684.
West, Elliott. 1992. Children on the plains frontier. In *Small worlds: children and adolescents in America, 1850–1950*. Elliott West and Paula Petrik, eds. Pp. 26–41. Lawrence: University Press of Kansas.
White, Ben. 2012. Changing childhoods: Javanese village children in three generations. *Journal of Agrarian Change* 12:81–97.
Whiting, Beatrice B., and Carolyn P. Edwards. 1988. *Children of different worlds: the formation of social behavior*. Cambridge, MA: Harvard University Press.
Whiting, Beatrice B., and John W. M. Whiting. 1975. *Children of six cultures*. Cambridge, MA: Harvard University Press.
Whiting, John W. M. 1941. *Becoming a Kwoma*. New Haven, CT: Yale University Press.
Wileman, Julie. 2005. *Hide and seek: the archaeology of childhood*. Gloucestershire: Tempus.
Williams, Thomas R. 1969. *A Borneo childhood: enculturation in Dusun society*. New York: Holt, Rinehart, & Winston.
Zarger, Rebecca K. 2002. Acquisition and transmission of subsistence knowledge by Q'equchi' Maya in Belize. In *Ethnobiology and biocultural diversity*. John R. Stepp and Felice S. Wyndham, eds. Athens: University of Georgia Press.
Zelizer, Viviana A. 1985. *Pricing the priceless child: the changing social value of children*. New York: Basic.

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