McDONALD INSTITUTE CONVERSATIONS

Social inequality before farming?

Multidisciplinary approaches to the study of social organization in prehistoric and ethnographic hunter-gatherer-fisher societies

Edited by Luc Moreau

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with contributions from
Hervé Bocherens, Alberto Buela, Andrea Czermak, Christophe Darmangeat, William Davies, Mark Dyble, Kate Ellis-Davies, Ben Fitzhugh, Douglas P. Fry, Mietje Germonpré, Matt Grove, Emmanuel Guy, Brian D. Hayden, Rowena Henderson, Emmanuelle Honoré, Joe L. Jeffery, Charles A. Keith, Marta Mirazón Lahr, Noa Lavi, Robert H. Layton, Martina Lázničková-Galetová, Julia Lee-Thorp, Sheina Lew-Levy, Paul Pettitt, Rachel Reckin, Paul Roscoe, Mikhail V. Sablin, Rick J. Schulting, Patrik Söderberg, Duncan N.E. Stibbard-Hawkes, Ilga Zagorska, Gunita Zarina

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On the cover: *Rock art depictions at Wadi Sūra II rockshelter in Eastern Sahara, Egypt (photo Emmanuelle Honoré)*.

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Contributors

Hervé Bocherens
Department of Geosciences and Senckenberg Centre for Human Evolution Palaeoenvironment (HEP), University of Tübingen, Germany
Email: herve.bocherens@uni-tuebingen.de

Alberto Buela
Department of Social and Cultural Anthropology, University of Vienna, Austria
Email: alberto.buela@univie.ac.at

Andrea Czermak
School of Archaeology, University of Oxford, UK
Email: czermak_andrea@web.de

Christophe Darmangeat
Department of Economy, UFR GHES, University of Paris, Paris, France
Email: cdarmangeat@gmail.com

William Davies
Department of Archaeology, University of Southampton, UK
Email: S.W.G.Davies@soton.ac.uk

Mark Dyble
Department of Anthropology, University College London, UK
Email: m.dyble@ucl.ac.uk

Kate Ellis-Davies
Department of Psychology, Nottingham Trent University, UK
Email: kge22@cam.ac.uk

Ben Fitzhugh
Quaternary Research Center, University of Washington, Seattle, USA
Email: fitzhugh@uw.edu

Douglas P. Fry
Department of Peace and Conflict Studies, University of North Carolina at Greensboro, USA
Email: dpfry@uncg.edu

Mietje Germonpré
Operational Direction 'Earth and History of Life', Royal Belgian Institute of Natural Sciences, Brussels, Belgium
Email: mietje.germonpre@naturalsciences.be

Matt Grove
Department of Archaeology, Classics and Egyptology, University of Liverpool, UK
Email: Matt.Grove@liverpool.ac.uk

Emmanuel Guy
Independent researcher, Paris, France
Email: manuguy@free.fr

Brian D. Hayden
Department of Anthropology, University of British Columbia, Canada
Email: brian_hayden@sfu.ca

Rowena Henderson
School of Archaeology, University of Oxford, UK
Email: rchenderson@rsk.co.uk

Emmanuelle Honoré
Centre d'Anthropologie Culturelle, Université Libre de Bruxelles, Belgium
Email: emmanuelle.honore@ulb.be

Joe L. Jeffery
Leverhulme Centre for Human Evolutionary Studies, Department of Archaeology, University of Cambridge, UK
Email: jl.jeffery@outlook.com

Charles A. Keith
Department of Anthropology, University of Alabama at Birmingham, USA
Email: ckeith96@uab.edu

Noa Lavi
Department of Anthropology, University of Haifa, Israel
Email: noalaviw@gmail.com

Robert H. Layton
Department of Anthropology, University of Durham, UK
Email: r.h.layton@durham.ac.uk

Martina Lázničková-Galetová
Moravian Museum Anthropos Institute, Brno, Czech Republic
Email: laznicko@yahoo.fr

Julia Lee-Thorp
School of Archaeology, University of Oxford, UK
Email: julia.lee-thorp@arch.ox.ac.uk

Sheina Lew-Levy
Department of Psychology, King's College, University of Cambridge, UK
Email: sheinalewlevy@gmail.com

Marta Mirazón Lahr
Leverhulme Centre for Human Evolutionary Studies, Department of Archaeology, University of Cambridge, UK
Email: mbml1@cam.ac.uk

Paul Pettitt
Department of Archaeology, Durham University, UK
Email: paul.pettitt@durham.ac.uk

Rachel Reckin
Department of Archaeology, St John's College, University of Cambridge, UK
Email: rachel.reckin@gmail.com

Paul Roscoe
Department of Anthropology, University of Maine, USA
Email: paul.roscoe@maine.edu

Mikhail V. Sablin
Zoological Institute of the Russian Academy of Sciences, Saint-Petersburg, Russia
Email: msablin@yandex.ru

Rick J. Schulting
School of Archaeology, University of Oxford, UK
Email: rick.schulting@arch.ox.ac.uk

Patrik Söderberg
Faculty of Education and Welfare Studies, Åbo Akademi University, Finland
Email: patrik.soderberg@abo.fi

Duncan N.E. Stibbard-Hawkes
Department of Anthropology, Durham University, UK
Email: duncanstibs@cantab.net

Ilga Zagorska
Institute of Latvian History, University of Latvia, Latvia
Email: ilga.zagorska@gmail.com

Gunita Zarina
Institute of Latvian History, University of Latvia, Latvia
Email: zarina.gunita@gmail.com

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Preface

I write this preface from the state of Wyoming in the US, a state where COVID-19 has not (yet) struck as hard as it has struck other parts of the world, but where we nonetheless have been under stay-at-home orders. Those orders have given me plenty of time to think about where we went wrong, which in the case of the US is a long list. Coincidentally, I also recently re-read Machiavelli's sixteenth-century book, *The Prince*, a manual of how to ruthlessly crush opponents while administering (apparent) generosity to acquire the 'love' of the masses.

It was in this context that I read the papers in this volume. In doing so, I was struck by two facts. First, inequality's origin, development and operation are difficult to understand and yet the actions that lead to inequality are easy to implement. This shouldn't surprise us: no American baseball player mathematically calculates the arc of a fly ball, but he's still able to position himself in the right place to catch it. You can be utterly uneducated and still know how to manipulate a system to maintain exert, and abuse power. Many world leaders today are proof.

Second, I think that the papers in this volume could be some of the most valuable published in anthropology in many years. Philosophers and social thinkers have tried to understand inequality for a century; indeed, efforts to understand it precede Machiavelli. We bemoan its existence, and yet we have felt unable to grasp it, and, unable to grasp it, unable to do something about it. We muddled through the useless ramblings of nineteenth- and early twentieth-century evolutionists, who, reflecting their colonial environment, often thought that inequality was a good thing, and, if not good, an inevitable thing. Marx tried to shake them out of that complacency, but his brilliance was largely wasted during his 'second coming' in the second half of the twentieth century with so much hand-wringing about how a theory intended to explain early capitalism should also apply to hunter-gatherers (because, it must… right?), and so much politically correct posturing that led to no action – and all but disappeared when the Berlin Wall (thankfully) came down and the Soviet Union collapsed. 'Intensification' and 'complexity', words that should be stricken from anthropology's vocabulary for their uselessness (and that are thankfully rare in this volume), masked what was really going on: exploitation, oppression, slavery… inequality in all its manifestations. Finally, I think, we have reached the point, through analyses of archaeological and ethnological data, that we might actually understand inequality.

We've passed a Rubicon. And this really matters.

The calamity that is COVID-19 has pulled back the curtain on modern society, exposing the weaknesses of its structure, laying bare the inequality between and within countries that Machiavellian leaders exploit and exacerbate for personal gain. Doing something about inequality is the challenge that will remain after COVID-19 dissipates.

These papers help by seeking the origin of inequality in a kind of society, that of nomadic hunter-gatherers, that we once considered 'the original affluent society', a classless society, or 'primitive communists'. Some argue that inequality must be there (as Marxist analysts argued in the 1980s) since it is present in our closest primate relatives, and therefore is in humanity's genetic foundation. Some see evidence of social and/or political inequality among Palaeolithic hunters, in the evidence for secret societies and in the violence of cave art. I am not convinced by this 'grimdark' vision of Palaeolithic society, and see an enormous gap between difference and inequality, between a situation where one person has more than another who nonetheless has enough and one in which society gives a person permission to enslave another.

Nonetheless, these chapters remind us that hunter-gatherers are not angels, and the same self-interest that guides an Iñupiaq man to become a *umialik*, or that gave privilege to those men allowed to gather in the torch-lit gallery of Lascaux, guides Machiavelli's anonymous prince. People have different skills, and for some, those skills are political. Under the right conditions, those individuals can consolidate power, convince others to go to battle, and make their personal aggrandizement seem reasonable to the people paying its price. Palaeolithic society had its Hitlers and Stalins, its Caesars and Trumps.

But it didn't have imperialism, or empires, or palaces, or wealth hidden in tax havens. So other chapters here look for the conditions under which those 'selfish' individuals can gain power. High population density (pressure), localized and hence controllable resources,

the ability to build a coalition, which requires a sufficient concentration of population and social institutions that are conducive to creating coalitions, lack of trust in institutions, including sharing networks, to provide in times of stress – these are the conditions that permit those with political skills to pursue self-interest through the manipulation of others.

These conditions are as relevant to understanding the world of today as they are to an understanding of the Palaeolithic world. Today, however, conditions can be manipulated, for example 'localized' in off-shore bank accounts. Population pressure is high and will become worse as the world approaches the projected population of 11 billion by 2100. And competition is worsened by a capitalist economy that encourages ever-increasing amounts of consumption and conversion of needed resources, such as food, into higher profit margin items such as crisps and alcoholic beverages. Information is a resource, and technology makes information more available but less trustworthy. Unbelievably expensive displays of potential force – multi-billion-dollar aircraft carriers, atomic weapons, a Space Force – signal a lack of trust in non-violent institutions to resolve the inevitable disputes that arise when people, or countries, pursue their self-interests with little regard for others. Building trust in institutions – in the UN, in voting, in the media, in government itself! – is an integral part of stopping and even reversing the arms race before it drives the world to the poor house.

Inequality is an old story, and one that we understand much better due to the efforts of anthropologists and archaeologists. It hasn't been easy to arrive at this point. But the really hard work – implementing our knowledge – still lies ahead for us. This volume, and our prehistoric hunting and gathering ancestors tell us what needs to be done. And it is the most important work anyone could be doing in the world today.

Robert L. Kelly
University of Wyoming

Chapter 2

Mobility, autonomy and learning: could the transition from egalitarian to non-egalitarian social structures start with children?

Rachel Reckin, Sheina Lew-Levy, Noa Lavi & Kate Ellis-Davies

In recent years, increasing numbers of archaeologists are employing creative means to consider the lives and roles of forager children in the past (e.g., Finlay 1997; Hildebrand 2012; Kamp 2001; Lillehammer 1989; Ruttle 2010). These researchers are still in the minority among archaeologists, however; even though children make up thirty to fifty percent of ethnographically documented forager bands (Hewlett 1991), most archaeologists tend to assume that the material culture we see from the past is largely attributable to adults. In addition, many of us rarely consider the centrality of children's learning to the process of cultural transformation (Lillehammer 2010). But children's choices do have ramifications for culture change; for example, Morelli (2017) argues that Matses children in the Peruvian Amazon choose new cultural and subsistence futures by emplacing themselves along the river instead of accompanying adults into the forest to hunt and gather. Building on research like Morelli's, this chapter argues that alterations to children's learning environments may have ripple effects throughout their society's social structures, making children themselves vital agents of cultural change.

Archaeologists have found repeatedly that decreased mobility, increased settlement size and increased labour demands are correlated with non-egalitarian social structures (e.g., Price and Brown 1985; Roscoe 2006, 2009). Specifically, sedentism is widely linked to increased cultural emphasis on competition and gender inequality. Indeed, Kelly (2013: 266) argues that 'the advent of sedentism may, after several generations, alter a population's modal personality toward one that sees social manipulation – the control of another's labor – and competition as the primary way of achieving goals.' Sociocultural anthropologists and psychologists who study children have also found that mobility, settlement size, and labour are cross-culturally correlated with changes in children's learning, personality, and behaviour (e.g., Draper 1976; Whiting & Whiting 1975). Considering these factors, in this chapter, we apply ethnographic findings from the anthropology and psychology of childhood to the archaeological debate surrounding cultural transformation. Ultimately, we argue that shifting opportunities in the social landscapes of children's learning in the past might have led to changes in child behaviour, especially in the domains of competitiveness and gender inequality.

This chapter begins by considering how children learn, and the mechanisms that promote autonomous learning within broadly egalitarian forager societies (for further review see Garfield et al. 2016; Hewlett et al. 2011; Lew-Levy et al. 2017, 2018). We then focus on two changes that may have had important ramifications for the transition from egalitarianism to non-egalitarianism. First, researchers suggest that more child-appropriate labour among settled communities, including tasks like cleaning, maintenance of possessions, food processing, and tending to animals or gardens leads to settled children being assigned more chores than their mobile peers (Bock 2002; Morelli 1997; Munroe et al. 1983). In particular, girls may experience earlier and more intensive chore assignment, placing them in the home and calcifying gender roles overall (Whiting and Whiting 1975). These cross-cultural observations lead us to argue that when mobility decreases, gender inequality develops thanks partially to increasingly gendered regimes of chore assignment for children. Second, cross-culturally research suggests that the transition from multi-age and multi-gender playgroups in small, mobile societies to same-age, same-gender playgroups in more settled societies provides children with more opportunities to play competitive games (Draper 1976). We argue that this trend toward increased competitive play among children with larger peer groups fosters a competitive

ethos that follows children into adulthood. Over time, this competitive ethos becomes a foundational schema – a cultural value that 'pervades several domains of life' (Hewlett et al. 2011: 1171). This chapter does not present newly collected data to test these arguments; instead, we synthesize previous cross-cultural data from small-scale societies to consider how the processes of children's learning differ between more mobile and more settled peoples. In the end, we argue that changes in mobility, economy and work also change children's learning contexts, contributing to a decreased cultural emphasis on personal autonomy, and an increased emphasis on gender inequality and competition.

Background and methods

The arguments in this chapter are based on two previously published cross-cultural ethnographic reviews of how forager children learn social and subsistence skills (Lew-Levy et al. 2017, 2018). Using academic search tools, the Human Relation Area Files, reference lists from relevant publications and direct contact with scholars working with forager children, we gathered and read more than 500 papers and book chapters on forager children from all over the world. We then selected studies for inclusion in our analyses using three criteria. First, the societies in question had to be broadly egalitarian foragers. Second, the study had to focus primarily on learning. Third, the studies had to consider the learning of children specifically. Ultimately, we found 58 publications on how forager children learn subsistence skills (Lew-Levy et al. 2017), and 77 publications on how forager children learn social and gender norms (Lew-Levy et al. 2018), totalling 115 unique publications from 51 societies (Table 2.1). We used a meta-ethnographic approach, meaning we included publications with both quantitative and qualitative data. In the arguments presented in this chapter, we consider these previously gathered ethnographic data alongside more recently published works, research on non-egalitarian foragers, and archaeological studies of forager children.

Researchers have long placed hunter-gatherers in binary categories of either egalitarian or non-egalitarian, simple or complex, non-affluent or affluent (Keeley 1988; Kelly 2013; Price & Brown 1985). Egalitarian

Table 2.1. *Studies included in Lew-Levy et al. 2017, a meta-ethnography on learning subsistence skills, and Lew-Levy et al. 2018, a meta-ethnography on learning social skills.*

Region	Society	Publications
Africa		
Botswana/South Africa/ Namibia	San	Bakeman et al. 1990; Blurton Jones & Konner 1973; Draper 1975; Draper 1976; Draper 1978; Draper & Cashdan 1988; Eibl-Eibesfeldt 1974; Eibl-Eibesfeldt 1978; Imamura & Akiyama 2016; Imamura 2016; Nielsen & Tomaselli 2010; Nielsen, Mushin, et al. 2014; Nielsen, Tomaselli, et al. 2014; Shostak 1976; Shostak 1981; Weissner 1982
Central African Republic	Aka	Berl & Hewlett 2015; Berry et al. 1986; Boyette 2013; Boyette 2016a; Boyette 2016b; Boyette & Hewlett 2017; Fouts et al. 2016; Hewlett & Cavalli-Sforza 1986; Hewlett 1992; Hewlett et al. 2000; Hewlett et al. 2011; Hewlett & Hewlett 2012; Hewlett 2012; Hewlett 2013; Hewlett & Roulette 2016; Neuwelt-Truntzer 1981; van de Koppel 1983
Central African Republic	Bofi	Fouts et al. 2016
Cameroon	Baka	Gallois et al. 2015; Kamei 2005; Sonoda 2016a; Sonoda 2016b
Republic of Congo	Mbendjele	Lewis 2002; Lewis 2016
Democratic Republic of Congo	Mbuti	Turnbull 1978
Democratic Republic of Congo	Efe	Morelli 1997; Morelli et al. 2003
Madagascar	Mikea	Tucker & Young 2005
Ethiopia	Chabu	Dira & Hewlett 2016; Hewlett 2016
Tanzania	Hadza	Blurton Jones & Marlowe 2002; Crittenden 2016a; Crittenden 2016b
Australia and Oceania		
Australia	Indigenous (not specified)	Nielsen, Mushin, et al. 2014; Nielsen et al. 2016
Australia	Aboriginal inhabitants of Rural Town	Eckermann 1980

Table 2.1 *(cont.).*

Region	Society	Publications
Australia	Aboriginal inhabitants of Southern Arnhem Land	Cowlishaw 1982
Australia	Anangu	Eickelkamp 2008a; Eickelkamp 2008b; Eickelkamp 2011; Eickelkamp 2017
Australia	Anbarra	Hamilton 1981
Australia	Kaytetye	Thompson 2003
Australia	Kugu-Nganychara	Von Sturmer 1980
Australia	Mardudjara	Tonkinson 1978
Australia	Martu	Bird & Bliege Bird 2005
Australia	Meriam	Bird & Bliege Bird 2002; Bliege Bird & Bird 2002
Australia	Pitjantjatjara	Ilyatjari 1991
Australia	Walpiri	Musharbash 2011; Musharbash 2016
Australia	Wik	Martin 1993
Australia	Yolngu	Harris 1980
Australia	Yorta Yorta	Andrews 2008
Papua New Guinea	Gidra	Kawabe 1983; Nishiaki 2013; Ohtsuka 1989
Asia		
Malaysia	Batek	Endicott & Endicott 2008; Endicott 2011; Endicott & Endicott 2014; Lye 1997
Malaysia/Borneo	Penan Benalui	Puri 2005; Puri 2013
India	Nayaka	Bird-David 2008; Naveh 2014; Naveh 2016
India	Ongee	Pandya 1992
India	Paliyan	Gardner 1966
India	Jenu Kuruba	Demps et al. 2012
Siberia	Eveny	Ulturgasheva 2012
Siberia	Khanty	Jordan 2014
Siberia	Yukaghir	Willerslev 2007
North and South America		
USA	Comanche	Wallace & Hoebel 1952
USA	Crow and Blackfoot	McAllester 1941
USA	Delaware Indians	Newcomb 1956
USA	Gros Ventre	Flannery 1953
USA	Cultures 'from Pennsylvania and neighboring states'	Heckewelder 1876
USA	Sioux	Erikson 1939
USA	Yup'ik	DeMarrais et al. 1992; DeMarrais et al. 1994
Canada	Chippewayan	Vanstone 1965
Canada	Cree	Ohmagari & Berkes 1997
Canada	Dene	Christian & Gardner 1977
Canada	Inuit	Briggs 1970; Briggs 1972; Briggs 1978; Briggs 1979; Briggs 1991; Briggs 1994; Briggs 1998; Briggs 2000; Condon & Stern 1993; Guemple 1988; Omura 2016; Stern 1999
Canada	Montagnais	Burgesse 1944
Paraguay	Ache	Walker et al. 2002
Peru	Matsigenka	Johnson 2003
Argentina	Toba	Mendoza 2001
Argentina	Yamana	Gusinde 1937

foragers are usually mobile, have few possessions, and live in very small groups. In general, egalitarian foragers have equal access to resources, technology, and the paths to prestige (Woodburn 1980). But egalitarianism is not automatic; such groups are 'fiercely egalitarian' (Lee 1979: 24), and they employ cultural strategies like teasing, shaming, demand sharing, and threats of ostracism to keep individuals from dominating others (Boehm 1999). Egalitarianism is also reinforced by a strong emphasis on personal autonomy, which places value on individual decision-making. In general, individuals are free to choose with whom they interact, their whereabouts, their activities, and even their behaviours. Much like sharing, 'autonomy acts as a social mechanism that undermines coercion, authority, or hierarchy' (Lew-Levy 2018: 4). Non-egalitarian foragers are hierarchical, and elite classes may even possess slaves and fight wars (Keeley 1988). They also tend to accumulate material wealth, and many non-egalitarian foragers employ substantial food storage (Testart et al. 1982). In a cross-cultural survey of 33 foraging cultures, Keeley (1988) finds that food storage, population pressure and sedentism are all highly correlated with non-egalitarian social structures. Yet there is not a simple dichotomy between egalitarian and non-egalitarian societies; states of cultural inequality vary between truly egalitarian cultures where no person holds any power over others and cultures where one person may actually own another (e.g., Woodburn 1982).

We focus in this chapter on the decrease in mobility that so frequently correlates with increased populations and a related decrease in egalitarianism. However, we recognize that mobility, and small-scale economies, exist on a spectrum. Whether mobile foragers, pastoralists or horticulturalists, we are interested in the increase in group size and children's work that cross-culturally correlates with decreasing mobility and increased participation in field agriculture, or the labour economy. Because this shifting economic focus is so closely tied with shifting mobility, particularly within the timescale of prehistory, we generally use the shorthand in this chapter of discussing mobile or settled peoples.

Parental beliefs about autonomy

Ethnotheories about the nature and needs of children influence how parents will act towards children as well as how, and through what processes, children become moral, active agents within their society (Super and Harkness 1986). Several studies (Bird-David 2008; Briggs 1970; Guemple 1988; Musharbash 2011; Naveh 2016; Stern 1999) suggest that many forager parents view social sense as naturally developing in children as they grow, without much intervention from adults. Among the Inuit, for example, Briggs (1970, 1978) argues that growing up is a process of acquiring *ihuma,* a type of intelligence that relates to participating in the social world. Inuit parents further believe that there is little point in trying to teach a child before he or she demonstrates having *ihuma.* Similarly, among the Nayaka, growing up involves developing *budi,* or the skill of living together with others, which is not taught by parents. Among the Walpiri in Australia, young children are placed in the same category as angry people, referred to as *ramarama,* because anger is considered an unsocialized behaviour, and because young children themselves have not yet become social actors (Musharbash 2011). Among the BaYaka, autonomous but coordinated polyphonic singing, ritual play, and a complex system of taboos named *Ekila* elicit curiosity about understanding the world, and about culturally sanctioned ways of organizing into groups. Yet though BaYaka adults consider these activities vital, they allow children to grow into participating on their own (Lewis 2016). As Eickelcamp (2017) puts it, among the Australian Anangu adults believe that allowing a child to act autonomously gives him or her the chance to grow into who the child really is.

Social learning, individual learning, teaching and autonomy

Like other animals, humans learn both individually, through trial and error, and socially, by learning behaviours from others. Individual learning allows a single person to generate novel solutions to issues he or she faces, including problems related to life in a particular environment (Aoki et al. 2012; Boyd et al. 2011; Enquist et al. 2007). But individual learning is costly – it can take many trials to find an innovation that solves a particular problem. Social learning, on the other hand, is cheap, because no experimentation is required. However, a particular socially learned behaviour could, potentially, become maladapted in a changing world. Let's say, for example, that the climate in a hypothetical area has become hotter and drier in recent years, placing stress on berry crops that, through social learning, children learn to harvest with a tool that damages the plants. There have always been plenty of berry plants in the past, so this method was appropriate. Social learning, in this example, is passing on knowledge that is maladaptive to the current situation, and would need to be altered through the innovation of new picking practices to maintain a sustainable berry harvest.

While humans are not the only animal to learn socially, teaching among humans facilitates the

transmission of especially complex skills that allow us to survive in nearly every environment on the planet. This chapter defines teaching following Hewlett & Roulette (2016; see also Boyette & Hewlett 2017a; 2017b) as (1) the modification of a behaviour by a teacher in order to enhance a learner's knowledge acquisition; (2) not the by-product of another activity; and (3) involving sensitivity between the teacher and learner. Teaching does not necessarily involve direct instruction (Kline 2015). Because much of human culture and technology is opaque in meaning and function, teaching allows a teacher to signal to a naïve learner that something is worth learning. This removes the cost associated with a naïve learner observing and individually deciphering which cultural behaviours are adaptive and which are incidental (Gergely & Csibra 2006). Though teaching increases the fidelity of information transfer, it may also restrict the development of autonomous exploration in children by having expert knowledge holders in a society and ossifying certain behaviours over other, equally adaptable ones. For example, Bonawitz and colleagues (2011, 2012) show in an experimental setting that American preschoolers were less likely to discover the various ways a puzzle toy could be solved when adults instructed children by demonstrating a single solution to the puzzle. When children were offered the opportunity to play with the toy without being taught how to use it, on the other hand, they took longer to learn how to use the toy, but they also discovered a greater variety of solutions.

Among egalitarian foragers, direct adult intervention in children's learning, such as instruction or chore assignment, is uncommon thanks to the parental emphasis on childhood autonomy discussed above (e.g., Boyette 2016a; Christian & Gardner 1977; Naveh 2014). Among the San (Draper 1976; Draper & Cashdan 1988), Matsigenka (Johnson 2003), Dene (Christian & Gardner 1977), Nayaka (Naveh 2014), Batek (Lye 1997) and Yukaghir (Willerslev 2007), adults actively refrain from instructing, directing, or correcting children, valuing instead firsthand knowledge gained by children through personal experience. This includes cases where children engage in dangerous activities. For example, Aka toddlers play with machetes and undertake dangerous games without adult interference (Hewlett et al. 2011). However, adult-to-child teaching does occur in a multitude of subtle ways that do not interfere with autonomy (Boyette & Hewlett 2017a, 2017b; Garfield et al. 2016; Lew-Levy et al. 2017, 2018). For example, an adult could simply turn his or her body so that children could more easily see the trap he or she is making. Such an action provides children the opportunity to learn without forcing them to do so. Direct instruction, on the other hand, would entail an adult specifically telling children how to make a trap. The former frequently happens among egalitarian foragers, while the latter rarely does.

Child-to-child teaching may be another way autonomy is maintained among egalitarian foragers. Indeed, Lew-Levy et al. (2020) find that child-to-child teaching is more common than adult-to-child teaching among BaYaka and Hadza foragers. Cross-culturally, much of this teaching often occurs in the playgroup (Fig. 2.1), where children acquire various skills, including hunting (Crittenden 2016a; Hewlett et al. 2011; Imamura 2016; Imamura & Akiyama 2016; Thompson 2003), trapping (Imamura 2106; Imamura & Akiyama 2016), the identification of edible plants, landscape navigation, and the construction and use of complex tools (Gallois et al. 2015; Imamura 2016; Imamura & Akiyama 2016; Thompson 2003). For example, Imamura (2016) and Imamura & Akiyama (2016) note that older San children correct younger children's tool manufacture. Child-specific foraging activities are also transmitted in the playgroup; Crittenden (2016a) shows that only Hadza children, and not adults, harvest weaverbirds using a sticky trap, a skill they teach other children. Learning skills like these from peers rather than adults allows for more accurate information transfer while also supporting a child's autonomy.

Autonomous learning through observation, participation and play

Children in all cultures learn through observation. But observation is particularly important for learning among egalitarian forager children thanks to the relative rarity of direct instruction and the potential for constant observation within small camps (Draper 1976; Fouts et al. 2016; Gaskins & Paradise 2009; Hewlett et al. 2011; Hewlett et al. 2019; Lye 1997; Odden & Rochat 2004). For example, Morelli et al. (2003) show that Efe two- to three-year-olds spend a quarter of their time observing work. Similarly, Neuwelt-Truntzer (1981) notes that Aka children spend much of their time watching adults. Nayaka children primarily learn to set traps through observation (Naveh 2014), and Jenu Keruba adolescents learn to collect honey by following adults (Demps et al. 2012; see also Boyette 2013; Burgesse 1944; Draper 1976; Flannery 1953; Harris 1980; Imamura & Akiyama 2016; Ohmagari & Berkes 1997; Tonkinson 1978; Vanstone 1965).

Beyond observation, children also learn through self-initiated participation in adult activities, allowing them to develop relevant competencies alongside adults (Gaskins 2000; Lancy 2012; Rogoff et al. 2003).

Figure 2.1. *BaYaka playgroups tend to consist of a broad range of ages and genders, typical of small, mobile forager bands. Photograph by Sarah M. Pope.*

Participation can occur in the form of helping behaviour, like fetching water and firewood among the Baka (Gallois et al. 2015), or hunting and trapping among the Cree and Chabu (Dira & Hewlett 2016; Ohmagari & Berkes 1997). However, children sometimes get in the way of adults. Draper & Cashdan (1988), for example, argue that nut cracking is more efficiently done by San adults, making child participation difficult. In these circumstances, children have two options. They can demand to participate, or they can choose to perform the activity without adults. Demand cooperation, which Sonoda (2016a, 2016b), Boyette & Hewlett (2017b) and Boyette & Lew-Levy (under review) note among BaYaka foragers, is similar to demand sharing in that children insist that others share knowledge, time, or space. Resisting such demands would violate the ethos of sharing, which is important among many foragers, and thus adults often comply with these demands.

When children cannot proficiently perform a given activity, they often practice through play. As children grow, play that emulates specific, complex adult activities becomes less frequent, while participation in these same activities becomes more common (Bock and Johnson 2004). Thus it may be that play allows children to autonomously practice activities that are too complex or too dangerous to learn through work. The tradeoff between play and work is also documented among the Aka (Boyette 2016a; Lew-Levy & Boyette 2018) and Baka (Gallois et al. 2015). Importantly, much of the play ethnographers note among a wide cross-cultural sample including BaYaka (Lewis 2002; Lew-Levy et al. 2019), Hadza (Crittenden 2016a; Lew-Levy et al. 2019), San (Shostak 1976), Kaytetye (Thompson 2003), Aka (Neuwelt-Truntzer 1981), Mardudjara (Tonkinson 1978), Pitjantjatjara (Ilyatjari 1991), Chipewyan (Vanstone 1965) and Gros Ventre (Flannery 1953) involves the imitation of adult activities. Building small shelters

and hearths is particularly ubiquitous among the world's foraging children. Near these shelters, children intermittently dig tubers, hunt, gather, or play at these same activities (e.g., Crittenden 2016a). Thus, for foragers, the movement from play to work makes participating in work 'just as rewarding as pretending' once a child has the relevant skills (Crittenden 2016a; Lew-Levy & Boyette 2018).

Autonomy and children's learning of gendered behaviours

As with all skills, forager children in autonomous-learning contexts primarily learn gendered behaviours through observation, imitation and play, not through direct instruction or chore assignment (Lew-Levy et al. 2017). Hunter-gatherers generally maintain a division of labour that encourages men and women to target different resources, which diversifies their economic capabilities and mitigates potential foraging failure (Marlowe 2007). The division of labour also facilitates cooperation between men and women, and when centred on a foundation of autonomy for both genders, it can facilitate relative gender equality (Marlowe 2007). However, true egalitarianism between men and women, in terms of equal maintenance of authority, is rare (Kelly 2013).

How, then, do children in autonomous-learning contexts develop an understanding of gendered behaviours and the roles of men and women? Boys and girls in small forager camps play and learn together, and both tend to spend similar proportions of their time in play and work (e.g., Blurton Jones & Konner 1973; Draper & Cashdan 1988; Hewlett & Hewlett 2012; Marlowe 2010; Morelli 1997). Amongst the San, for example, Draper & Cashdan (1988) find no differences between boys and girls in rates of rough-and-tumble play, and Blurton Jones & Konner (1973) find few significant differences in gendered play more broadly. Among the Batek (Endicott & Endicott 2008; Lye 1997) and Chipewyan (Vanstone 1965), and in Arnhem Land (Cowlishaw 1982), boys and girls engage in the same activities until the age of ten or twelve. In addition, in comparisons of Efe foragers and Lese farmers, Aka foragers and Ngandu farmers, San foragers and British school children, and BaYaka and Hadza children, Morelli (1997), Boyette (2016a), Blurton Jones and Konner (1973) and Lew-Levy et al. (2019) find few differences in play and work behaviour between male and female forager children, while gendered differences are apparent among the non-forager groups.

Importantly, among egalitarian forager children, the division of labour between genders tends to be flexible, and girls may not be punished for undertaking traditionally male activities, or vice versa. For example, Batek girls will sometimes hunt squirrels with blowguns (Endicott & Endicott 2008). Similarly, Nisa, a San woman, describes being congratulated by her male adolescent peers for successfully running down a Kudu (Shostak, 1976, 1981). And, among the Eveny, Ulturgasheva (2012) describes a young girl whose parents raised her to tend reindeer, a male-typical activity. Gallois et al. (2015: 11) note that for Baka children, 'while some activities are clearly gender-oriented, there are no strict gender exclusions in the performance of most activities'.

By middle childhood, however, forager boys and girls begin to exhibit differences in travel ranges and participation in work tasks. Among the San, girls remain closer to home than boys, while boys are more likely to participate in antagonistic behaviour (Blurton Jones & Konner 1973; Draper 1975). Among the Baka, girls of seven and older participate in more child minding, cooking, and fishing than boys, while boys participate in hunting (Gallois et al. 2015). It should come as no surprise that these economic activities follow a gendered division of labour in adulthood. It is important to note, however, that adolescents in general, and girls in particular, rarely participate in chores because they are forced to do so (Boyette & Lew-Levy, under review). Instead, teenagers generally engage in economic activities by their own volition, by identifying with adults of their same gender and imitating their behaviour (Draper 1975; Endicott & Endicott 2008; Flannery 1953; Gallois et al. 2015; Hewlett & Cavalli-Sforza 1986; Hewlett & Hewlett 2012; Lew-Levy & Boyette 2018; Lew-Levy et al. 2019; Neuwelt-Truntzer 1981; Pandya 1992; Wallace & Hoebel 1952).

Gendered chore assignment and increased gender inequality

The idea that cultural inequality begins with intensifying gender inequality, and that gender inequality begins with intensifying women's labour, is prominent in the literature (e.g., Arnold 1993; Collier 1988; Hayden et al. 1986). And issues of gender equality return, ultimately, to the question of autonomy. In any particular system, how much autonomy does a woman have? If instructed to marry a particular person, for example, can a woman say no, and be supported by the culture surrounding her? Even among the San, who are mobile and broadly egalitarian, a woman named Nisa only succeeded in her refusal to marry the first man chosen for her by asserting herself vociferously and repeatedly (Shostak 1981). This suggests imperfect gender egalitarianism among the San, but Nisa ultimately did have enough community-sanctioned autonomy

to assert her will. So what causes the autonomy of girls like Nisa to erode, even in otherwise relatively egalitarian societies? Hayden et al. (1986) argue in a cross-cultural survey of 33 forager cultures that women's status is lowest in areas including domestic, ritual and political affairs when resource stress is highest. In writing about North American Plains societies like the Comanche and the Kiowa, Collier (1988) argues that marriage is a vital method for men to acquire alliances and labour. Also working with Plains people, Arnold (1993) argues that men use marriage, women's work, and the connections through their wives to sons-in-law, brothers-in-law, and other women to create a labour pool that subordinates others. How people organize marriage, then, and how much say a woman has over her marriage, often determines how much inequality exists between men and women. However, no studies to date have considered the relationship between general cultural inequality and the intensification of female children's labour.

Cross-culturally, researchers argue that children are assigned more chores as egalitarian foragers become more settled (e.g., Draper & Cashdan 1988). This may be partially because children are more productive in settled communities, as the chores and tasks affiliated with settled life are more appropriate for children's labour (Lancaster & Lancaster 1987; Wenke 1990: 237). In addition, Munroe et al. (1983) argue that horticultural and agricultural cultures must invest significantly more energy than foragers in chores to maintain their numerous possessions, including land, dwellings, and animals. Amongst small-scale horticultural or agricultural societies, children undertake chores including food processing, cleaning, carrying water, feeding animals, weeding and harvesting (Bock 2002; Kramer 2002; Munroe et al. 1983; Whiting & Edwards 1988; Whiting & Whiting 1975). Several authors argue this transition toward increased work for children is because such chores are not particularly demanding in terms of skill or strength, and do not require extended training (Bock 2002; Hames & Draper 2004; Kramer 2002). In contrast, foragers use resources that are relatively distant, not managed, and not predictable, making children's participation in this work far more difficult (Hames & Draper 2004). That is not to say that forager children never help with provisioning or economic work. Indeed, labour varies in both the short and long term among both settled and mobile peoples (Blurton Jones et al. 1997; Bock 2002; Munroe et al. 1984). For foragers, children's contributions depend on a multitude of factors, including their environment. For example, Hadza children are known for their extensive foraging, while San children rarely forage, likely due to differences in the degree to which children can safely navigate the bush without adults (e.g., Blurton Jones et al. 1997). However, even when forager children frequently work, they generally do so under their own volition and less intensively than agricultural children (Blurton Jones et al. 1994; Konner 2016).

More specifically, among settled peoples cross-culturally girls are assigned disproportionately more chores than boys, and at a younger age (Bloch & Adler 1994; Condon & Stern 1993; Draper & Cashdan 1998; Morelli 1997; Munroe et al. 1984). In addition, their chores are foundationally different from those assigned to boys. Girls tend to be assigned housework and other chores close to adults, meaning they are frequently reassigned (Condon & Stern 1993; Morelli 1997; Whiting & Edwards 1973). Their work also appears to be of longer daily duration, and to continue for more years than it does for boys (Barry et al. 1957, 1959; Ember 1973: 426, 1981: 540, 555; Nag 1962, Nag et al. 1978; Whiting & Edwards 1988: 177–82). Sibling caretaking is particularly gendered in these contexts, and cross-cultural sources report again and again that girls are recruited into childcare roles earlier and far more frequently than boys (Hames 1988; Hames & Draper 2004). Boys, on the other hand, might be sent to mind livestock or gather firewood, offering them greater freedom (e.g., Draper & Cashdan 1988). In contrast, amongst more mobile foragers, if children are asked to help with economic duties, adults are less likely to differentiate their requests between boys and girls (Morelli 1997). Yet even among the broadly egalitarian Hadza, Kaplan et al. (2000: 159) argue that young women are economically independent from other adults and capable of completely providing for themselves by age 15, while young men are not comparably independent until age 20. These data suggest that the earlier transition to work that girls experience among settled small-scale societies may be an amplification of a trend that already exists among mobile foragers (Boyette 2016a).

Broadly, a variety of authors argue that assigning children gender-specific tasks is a cross-culturally important precursor to the development of more rigid gender roles (Draper 1985; Draper & Cashdan 1988; Ember 1973; Quinn 1977). When comparing mobile and settled San, Draper & Cashdan (1988: 359) note that the behaviour of settled San children 'had changed in the direction that begins to approximate that of children in societies with longer traditions of settled food production, sex-role differentiation and peer-rearing'. Beyond economic activities, children also showed marked differences in other behaviours. For example, mobile San children showed no gendered differences in rough and tumble play, while sedentary

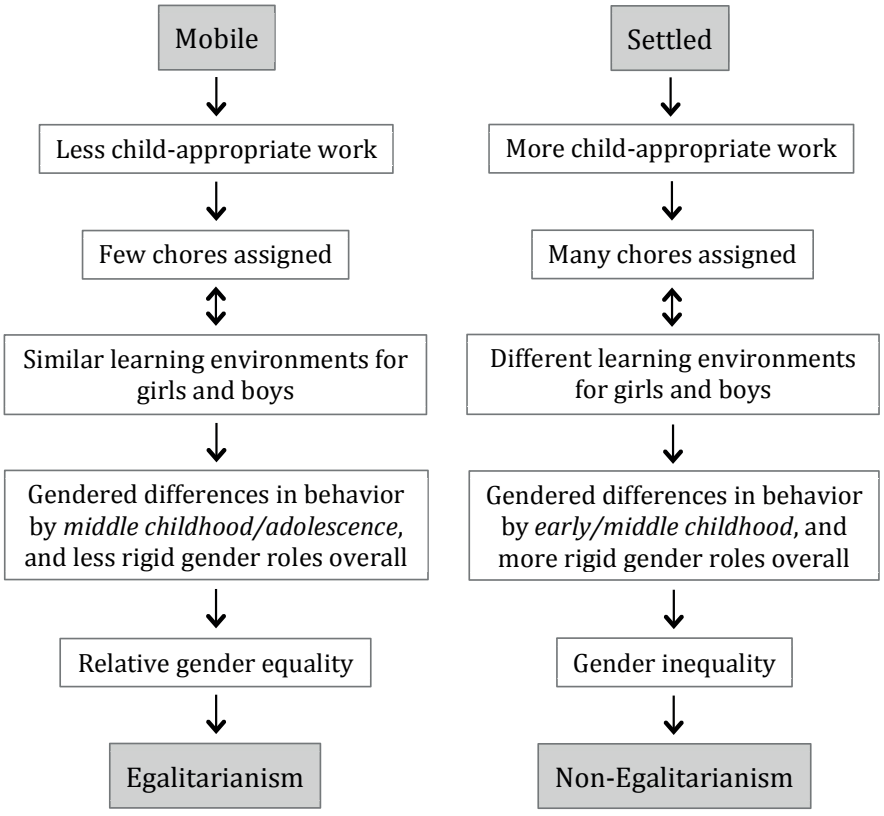

Figure 2.2. *Flowchart of the potential relationship between relative mobility, chore assignment, gendered learning environments and egalitarian or non-egalitarian social structures.*

San boys were more likely than girls to participate in rough and tumble play. Among settled San (Draper 1975), Inuit (Condon & Stern 1993) and in Arnhem Land (Cowlinshaw 1982), children of any gender were not only more readily assigned chores, they also had clear ideas as to the nature of gender differences by adolescence. Indeed, they were shamed for engaging in a non-gender-conforming fashion, including ignoring chores.

Overall, the cross-cultural evidence synthesized here argues that autonomous learning decreases among many forager groups when they become less mobile, while gendered chore assignment increases. In other words, when mobility decreases, gender inequality increases thanks partially to increased gendered regimes of chore assignment for children. Figure 2.2 shows a graphic version of processes that may reinforce increased gender equality among mobile foragers, and decreased gender equality as foragers become more settled. To better understand the relationships between the various steps in these simplified flow-charts, we need more cross-cultural data on the transition from play to work of boys and girls in forager groups of varying mobility. Right now, we are noting a correlation and not necessarily a causation. In addition, we need data considering how decreasing mobility impacts not only what girls and boys do, but how parents and children perceive those changes.

Mixed-age playgroups, same-age playgroups and competitive behaviour

An ethos of competition does not spontaneously occur in adulthood, but is learned socially throughout a child's life (e.g., Bandura et al. 1961; Fry 1990). In the ethnographic literature, it is clear that competition is at the heart of non-egalitarian forager societies (e.g., Hayden 1994; Keeley 1988; Kelly 2013; Smith & Choi 2007). For some people to hold prestige over others, they or their ancestors must have competed effectively for control over important resources, and those with prestige must continue to effectively compete to maintain their status and property (Kelly 2013). In this system initially, individuals have to choose to relinquish their autonomy to a leader in return for some perceived benefit (Riches 1984). Perhaps that

benefit is specialized knowledge, or spiritual power, or in-group protection from others. Among many non-egalitarian foragers, prestige may be given to a leader in order to coordinate communal labour and manage free-riders (Eerkens 2012). Large-scale competitive feasting or gift-giving becomes common in many of these cultures, but they also often foster smaller-scale day-to-day competitive behaviours (Sanday 1981). The potlatch is an excellent example of conspicuous competitive behaviour among non-egalitarian foragers; on the Northwest Coast of North America, forager peoples like the Kwakwak'awakw, Tlingit and Haida undertake extensive prestige gift-giving, competing to exchange the most elaborate and valuable gifts (Coupland 1985; Drucker & Heizer 1967). Cross-culturally, this kind of competitive behaviour is linked to increased gender segregation and inequality, as well. In a study of more than 150 'tribal' societies, Sanday (1981) makes the connection between a cultural endorsement of competition and the segregation of men and women in work and childcare. In general, as people (particularly men) come to see competition and controlling other people's labour as 'the primary way of achieving goals', inequality continues to grow (Kelly 2013: 266).

More broadly, the idea that children in WEIRD (Western, Educated, Industrialized, Rich and Democratic) societies are more competitive than children in other cultures has seen significant research in psychology in particular (e.g., Kagan & Madsen 1971; Madsen 1971; Miller & Thomas 1972; Shapira & Madsen 1969). These studies suggest that an increase in competitive games and behaviours among children does not only occur in the transition from mobile groups to settled, but also if cultures become more urbanized, or more integrated into WEIRD societies. When comparing children from various Mexican cultures with Euro-American children, for example, or kibbutz and urban children in Israel, Madsen (1971), Kagan & Madsen (1971) and Shapira & Madsen (1969) find that the Euro-American children and urban children exhibit consistently more competitive behaviour. Miller and Thomas (1972) find similar patterns among Blackfoot children, who cooperated effectively much more consistently than urban Canadian children. Miller's (1973) study in an integrated school, however, finds that integrated teams of Blackfoot and non-Indian students exhibited rates of cooperation midway between those of Blackfoot students at non-integrated schools and urban Canadian children alone. Work with Australian Aboriginal children has similar results, suggesting increased competitive behaviour correlates with increased integration into WEIRD societies (Sommerlad & Bellingham 1972).

Among egalitarian forager groups, children spend a great deal of their time in mixed-age and gender playgroups, learning from one another and playing at adult activities (Boyette 2013, 2016a; Endicott & Endicott 2008; Konner 1976, 2005; Lew-Levy et al. 2019; Turnbull 1978). In these small groups, there are generally not enough children to form an entire playgroup of 10 to 12 year-olds, for example, or five to seven year-olds. Playgroups, therefore, will often consist of children of any gender, ranging in age from toddlers to adolescents (Figure 2.1). Indeed, Konner (1976; 2005) argues that, in an average San camp, the chance of an individual having one agemate on his or her first birthday is approximately 88 per cent given infant mortality, while the odds of the same child having even as few as three peers is just 5.4 per cent. There simply are not enough children born in very small groups to allow each child to have multiple age-mates.

As a result, the mixed-age playgroup creates an environment where playing competitive games is unsatisfying and not culturally appropriate, and therefore uncommon. As Draper (1976) writes of the San:

> *The limited and heterogeneous assortment of playmates available to a child poses interesting constraints on the kind of games which children can play […] 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.*

Endicott & Endicott (2014) and Lewis (2002) agree that games in mixed-age playgroups among the Batek and BaYaka are generally non-competitive. Aside from the issue of having age-mates with whom to play, Boyette (2016a) also argues that, if we expect play to create and reinforce culturally relevant behaviours, it should be unsurprising that competition is infrequently employed in broadly egalitarian cultures, where dominance, ranking of people and strict adherence to rules are de-emphasized (Boyette 2016a; Turnbull 1978). Nor do children have models among older children or adults from whom to learn competitive games. This does not mean that children's games cannot be fiercely contested, or that people do not notice an individual's particular

skill. In addition, mixed-age and sibling playgroups are hardly without conflict. As Weisner (1984: 348) notes of the San, 'fierce feuds, bitterness, and competition can characterize sibling relationships in childhood and adulthood. Teasing, benign neglect and the domination by older children of younger ones are frequent'.

On the other hand, when foragers become less mobile and live in larger groups, same-age playgroups, and gender-specific playgroups, become much more common (Lew-Levy et al. 2019). And, in turn, competitive games can become more interesting and more rewarding to undertake. Cross-culturally, Whiting & Edwards (1988) demonstrate that same-age playgroups tend to be more competitive than mixed-age playgroups. Lancy (1984, 2001) argues that children in mixed-age playgroups will play 'simpler' games than same-age playgroups. In a sample of seven small-scale Papua New Guinean societies, Lancy (1984) finds that children's games are limited by the younger members of mixed-age playgroups, meaning that the games they played were things like tag or target-shooting – games that could be played by children as young as four. In contrast, same-age playgroups among larger populations can play games with complex, age-appropriate rules, and even keep score.

The foregoing cross-cultural observations suggest that increased competitive play among children in less mobile cultures who live in larger groups contributes to a generally competitive ethos that fosters inequality. Another shift in competition and cooperation may occur between relatively small-scale settled societies and WEIRD societies, as demonstrated in research comparing rates of cooperation between Mexican farmers, Blackfeet, Australian Aboriginal children and children from WEIRD societies (Kagan & Madsen 1971; Madsen 1971; Miller 1973; Miller & Thomas 1972; Shapira & Madsen 1969; Sommerlad & Bellingham 1972). This research suggests that an emphasis on competition may begin with larger playgroups, but it appears to intensify with industrialization. Figure 2.3 demonstrates the theoretical relationship between multi-age playgroups and egalitarianism, and same-age playgroups and non-egalitarianism. However, we do not know whether there is a causal relationship between the tendency toward more competitive games among settled, formerly mobile forager children and

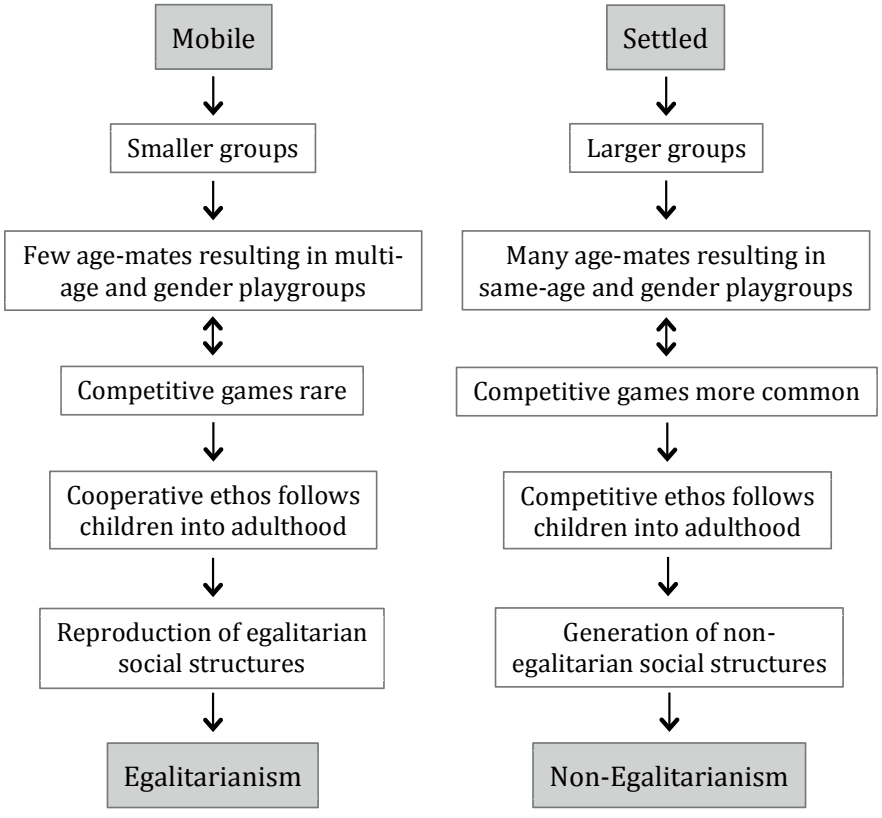

Figure 2.3. *Flowchart of the potential relationship between relative mobility, the composition of children's playgroups, competitive games, and egalitarian or non-egalitarian social structures.*

a more competitive ethos in adulthood. If children spend their childhoods playing games where there are clear winners and losers, where obvious leaders emerge, does that make them more likely to look for and then follow leaders in adulthood? Importantly, we also do not have good data on whether children from formerly mobile groups innovate competitive games in same-age and gender playgroups, or whether they merely adopt games from new neighbours. In addition, research into whether increased rates of competitive play in small-scale societies correlate with increased wealth disparities would help to elucidate whether there is, indeed, a relationship between increased inequality and competitive play.

Conclusions

In sum, children in mobile, broadly egalitarian hunter-gatherer cultures are 'active learners who participate in learning by choice, and for whom learning is an ongoing, playful activity, not separated from the rest of life' (Lew-Levy et al. 2017: 386). As we have seen, these children lead autonomous lives; they participate in work and play at will, usually within a roving playgroup of mixed-age, mixed-gender children. They receive very little intervention, in the form of chore assignment or teaching, from adults. Children and adults consistently share space (Hewlett et al. 2019), which allows children to observe and participate in adult activities. Individuals can demand to participate in adult activities, just like they can demand for food to be shared with them. In so doing, children (and adults) ensure the free flow of information, as they do with goods and food. Finally, adults are not considered the primary holders and transmitters of knowledge. Children learn together, and from each other, within the playgroup. Given the importance of autonomy and of child-to-child learning within the playgroup, it makes sense that increasingly gendered chore assignment, changes to playgroup membership and increased competition between children would be linked to broader cultural changes and increased inequality. This chapter argues that current cross-cultural data supports a connection between changes to children's learning processes and increased inequality, but direct data demonstrating the causal links suggested here do not yet exist. Nonetheless, this chapter highlights the importance of taking children seriously when considering social transformation in the present, and in the past. Modern psychology and anthropology consider children active agents in their own development, and archaeologists must also acknowledge them as active agents in cultural transmission and change.

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Social inequality before farming?

Archaeological investigations over the past 50 years have challenged the importance of domestication and food production in the emergence of institutionalized social inequality. Social inequality in the prehistoric human past developed through multiple historical processes that operate on a number of different scales of variability (e.g. social, economic, demographic, and environmental). However, in the theoretical and linguistic landscape of social inequality, there is no clear definition of what social inequality is. The lifeways of hunter-gatherer-fisher societies open a crucial intellectual space and challenge to find meaningful ways of using archaeological and ethnographic data to understand what social inequality exactly is with regard to variously negotiated or enforced cultural norms or ethoses of individual autonomy. This interdisciplinary edited volume gathers together researchers working in the fields of prehistoric archaeology and cultural and evolutionary anthropology. Spanning terminal Pleistocene to Holocene archaeological and ethnographic contexts from across the globe, the nineteen chapters in this volume cover a variety of topics organized around three major themes, which structure the book: 1) social inequality and egalitarianism in extant hunter-gatherer societies; 2) social inequality in Upper Palaeolithic Europe (*c.* 45,000–11,500 years ago); 3) social inequality in prehistoric Holocene hunter-gatherer-fisher societies globally. Most chapters in this volume provide empirical content with considerations of subsistence ecology, demography, mobility, social networks, technology, children's enculturation, ritual practice, rock art, dogs, warfare, lethal weaponry, and mortuary behaviour. In addition to providing new data from multiple contexts through space and time, and exploring social diversity and evolution from novel perspectives, the collection of essays in this volume will have a considerable impact on how archaeologists define and theorize pathways both towards and away from inequality within diverse social contexts.

Editor:

Luc Moreau is a research affiliate and immediate-past Marie Skłodowska-Curie Fellow of the McDonald Institute for Archaeological Research at the University of Cambridge, United Kingdom. His research focuses on the study of Upper Palaeolithic behavioural variability and adaptations towards the Last Glacial Maximum. His publications deal with various aspects including stone tool technology and human mobility based on sites from Northwestern, Central and Eastern Europe. He is an affiliate member of the French *Unité Mixte de Recherches* (UMR) 7041 '*Archéologies et Sciences de l'Antiquité*' based in Paris/Nanterre, and Secretary of the International Society for Hunter Gatherer Research (ISHGR).

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