



McDONALD INSTITUTE CONVERSATIONS

Towards a Broader View of Hunter-Gatherer Sharing

Edited by Noa Lavi & David E. Friesem



Towards a Broader View of Hunter-Gatherer Sharing



McDONALD INSTITUTE CONVERSATIONS

Towards a Broader View of Hunter-Gatherer Sharing

Edited by Noa Lavi & David E. Friesem

With contributions by

Olga Yu. Artemova, Ran Barkai, Nurit Bird-David, Adam H. Boyette,
Hillary N. Fouts, David E. Friesem, Peter M. Gardner, Barry S. Hewlett,
Robert K. Hitchcock, Emmanuelle Honoré, Jean Hudson, Robert L. Kelly,
Noa Lavi, Jerome Lewis, Sheina Lew-Levy, Alan J. Osborn, Spencer R. Pelton,
Magalie Quintal-Marineau, Erick Robinson, Kenneth Sillander, Penny Spikins,
Gilbert B. Tostevin, Bram Tucker, George Wenzel & Thomas Widlok



This book was funded by the EU 7th Framework Programme (7FP), TropicMicroArch 623293 Project (http://cordis.europa.eu/project/rcn/187754_en.html). The book will be Open Access, thanks to FP7 post-grant Open Access (<https://www.openaire.eu/postgrantoapilot>).

Published by:

McDonald Institute for Archaeological Research
University of Cambridge
Downing Street
Cambridge, UK
CB2 3ER
(0)(1223) 339327
eaj31@cam.ac.uk
www.mcdonald.cam.ac.uk



McDonald Institute for Archaeological Research, 2019

© 2019 McDonald Institute for Archaeological Research.
Towards a broader view of hunter-gatherer sharing is made available under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 (International) Licence: <https://creativecommons.org/licenses/by-nc-nd/4.0/>

ISBN: 978-1-902937-92-2

Cover design by Dora Kemp and Ben Plumridge.
Typesetting and layout by Ben Plumridge.

On the cover: *Sharing space and selves among Nayaka people in South India.*
Image taken and processed by D.E. Friesem and N. Lavi.

Edited for the Institute by James Barrett (*Series Editor*).

CONTENTS

Contributors	ix
Figures	xi
Tables	xi
Acknowledgements	xiii
Introduction NOA LAVI & DAVID E. FRIESEM	1
Why hunter-gatherers? Why sharing?	1
About the book	4
Innovative perspectives of sharing: chapters outline	5
Concluding remarks	9
Part I Intimacy, presence and shared-living	
Chapter 1 Where have all the kin gone? On hunter-gatherers' sharing, kinship and scale	15
NURIT BIRD DAVID	
The unscalability of kinship identities	17
Enter individuals	18
Kinship as a root metaphor	19
Demand-sharing constitutes social relations	20
Re-enter kinship, talk and presence	21
Conclusions	22
Chapter 2 Extending and limiting selves: a processual theory of sharing	25
THOMAS WIDLÖK	
What is wrong with evolutionary models of sharing?	25
The problem of historical diversity	26
The problem of outcome	27
Extending the self	28
Limiting the self	30
The analytical purchase of the new theories of sharing	32
The opportunity to request	32
The opportunity to respond	34
The opportunity to renounce	34
Conclusions	36
Chapter 3 Intimate living: sharing space among Aka and other hunter-gatherers	39
BARRY S. HEWLETT, JEAN HUDSON, ADAM H. BOYETTE & HILLARY N. FOUTS	
Density of households: Sharing space in settlements	40
Sharing space in a home	42
Sharing space in a bed	44
Sharing interpersonal space: touching	45
Hypothetical implications of intimate living	49
Summary and conclusion	52
Chapter 4 Sharing and inclusion: generosity, trust and response to vulnerability in the distant past	57
PENNY SPIKINS	
Sharing in an evolutionary perspective	58
Sharing and care for injury and illness in the distant past	60
Sharing, tolerance and diversity	61
Contrasting emotional schemas – sharing through generosity and calculated collaboration	64
Conclusions	66

<i>Chapter 5</i>	The demand for closeness: social incentives for sharing among hunter-gatherers and other groups	71
	KENNETH SILLANDER	
	Open aggregation	72
	Relatedness	77
	Conclusion	81
<i>Chapter 6</i>	An ethnoarchaeological view on hunter-gatherer sharing and its archaeological implications for the use of social space	85
	DAVID E. FRIESEM & NOA LAVI	
	Ethnoarchaeology of hunter-gatherer use of space	86
	Social dynamics and their archaeological implications	86
	Archaeological implications	90
	Concluding remarks	93
Part II	Senses of connectedness beyond the horizons of the local group	
<i>Chapter 7</i>	Sharing pleasures to share rare things: hunter-gatherers' dual distribution systems in Africa	99
	JEROME LEWIS	
	Pygmies today	99
	BaYaka cultural area	100
	BaYaka egalitarianism and demand sharing	101
	What is not shared on demand	102
	Economies of joy	104
	The regional economy and contemporary change	105
	A dual economy	106
	Hunter-gatherers' dual economic systems	106
	Conclusion	108
<i>Chapter 8</i>	The archaeology of sharing immaterial things: social gatherings and the making of collective identities amongst Eastern Saharan last hunter-gatherer groups	113
	EMMANUELLE HONORÉ	
	The concept and the practice of sharing in archaeology	113
	Sharing: an ambivalent concept	113
	Approaching the sharing of immaterial things in archaeology	115
	Interaction and the making of social existences by sharing performances	115
	Group cohesion and the different forms of sharing	118
	Conclusion	119
<i>Chapter 9</i>	Information sharing in times of scarcity: an ethnographic and archaeological examination of drought strategies in the Kalahari Desert and the central plains of North America	123
	ALAN J. OSBORN & ROBERT K. HITCHCOCK	
	Beads, adornment and information	124
	Behavioural ecology and signalling theory	125
	Beads and ethnology: the Kalahari Desert of Southern Africa	126
	Beads and archaeology in the North American Great Plains	132
	Discussion and conclusions	135
<i>Chapter 10</i>	Studying sharing from the archaeological record: problems and potential of scale	143
	ROBERT L. KELLY, SPENCER R. PELTON & ERICK ROBINSON	
	Archaeological studies of sharing	144
	Sharing in the prehistory of Wyoming, USA	147
	Conclusions	150

<i>Chapter 11</i>	An elephant to share: rethinking the origins of meat and fat sharing in Palaeolithic societies	153
	RAN BARKAI	
	Thoughts about sharing	154
	Becoming an elephant/mammoth	157
	The origins of fat and meat sharing in the Palaeolithic	161
	Endnote	163
Part III	Learning and sharing of knowledge	
<i>Chapter 12</i>	Identifying variation in cultural models of resource sharing between hunter-gatherers and farmers: a multi-method, cognitive approach	171
	ADAM H. BOYETTE & SHEINA LEW-LEVY	
	Sharing in forager and farmer thought	172
	Sharing and early life experiences	173
	Evolutionary approaches to resource sharing	173
	Ethnographic setting	174
	Hypotheses and qualitative predictions	175
	Methods	175
	Results	177
	Discussion	180
	Conclusion	182
<i>Chapter 13</i>	Foragers with limited shared knowledge	185
	PETER M. GARDNER	
	Actual learning processes	186
	The challenge of cognitive diversity	189
	Evidentiary criteria for knowledge claims	190
	Closing thoughts	191
<i>Chapter 14</i>	The sharing of lithic technological knowledge	195
	GILBERT B. TOSTEVIN	
	Framing the question	195
	Why should one share flintknapping knowledge?	197
	But to what extent can one share one's flintknapping knowledge?	198
	The importance of the tactical vs. strategic knowledge distinction for the experimental investigation of the sharing of flintknapping knowledge	199
	What does it mean to share flintknapping knowledge?	201
	Sharing space	201
	Sharing time	202
	Conclusion: how do we test our assumptions about when a given lithic technology must have been shared?	203
Part IV	Sharing in times of change	
<i>Chapter 15</i>	Men hunt, women share: gender and contemporary Inuit subsistence relations	211
	MAGALIE QUINTAL-MARINEAU & GEORGE W. WENZEL	
	Methods	211
	<i>Ningiqtuq</i> : the traditional sharing system	211
	Women, the mixed economy, sharing and subsistence	213
	Discussion	217
	Postscript	218

<i>Chapter 16</i>	The pure hunter is the poor hunter?	221
	OLGA YU. ARTEMOVA	
	Preliminary notes	221
	Twists of fate	223
	'Absolutely tribal people'	226
	There is no other way	227
	'That's enough for me'	227
	'We cannot be like them'	228
	When generosity is stressed	229
	Retrospect	231
<i>Chapter 17</i>	Ecological, historical and social explanations for low rates of food sharing among Mikea foragers of southwest Madagascar	237
	BRAM TUCKER	
	Mikea of Madagascar	239
	Mikea food sharing	239
	Why Mikea rarely share, explanation 1: culture history and property relations	241
	Why Mikea rarely share, explanation 2: competitive self-interest	242
	Why Mikea rarely share, explanation 3: social exchange	244
	Conclusions	245

CONTRIBUTORS

OLGA YU. ARTEMOVA

Institute of Ethnology and Anthropology, Russian Academy of Sciences, 119991, Leninsky prospect 32a, Moscow, Russia.

Email: artemova.olga@list.ru

RAN BARKAI

Department of Archaeology and Near Eastern Cultures, Tel-Aviv University, Tel-Aviv, 69978, Israel.

Email: barkaran205@gmail.com

NURIT BIRD-DAVID

Department of Anthropology, University of Haifa, Mt. Carmel, 31905 Haifa, Israel.

Email: n.bird@soc.haifa.ac.il

ADAM H. BOYETTE

Max Planck Institute for Evolutionary Anthropology, Department of Human Behavior, Evolution, and Culture, Deutscher Platz 6, 04103 Leipzig, Germany.

Email: adam_boyette@eva.mpg.de

HILLARY N. FOUTS

Department of Child and Family Studies, University of Tennessee, Jessie W. Harris Building, Knoxville, TN 37996, USA.

Email: hfouts@utk.edu

DAVID E. FRIESEM

McDonald Institute for Archaeological Research, University of Cambridge, Downing Site, CB2 3ER, Cambridge, UK.

Email: df360@cam.ac.uk

PETER M. GARDNER

Department of Anthropology, University of Missouri, 112 Swallow Hall, Columbia, MO 65211, USA.

Email: GardnerP@missouri.edu

BARRY S. HEWLETT

Department of Anthropology, Washington State University, Vancouver, WA 98686, USA.

Email: hewlett@wsu.edu

ROBERT K. HITCHCOCK

Department of Anthropology, University of New Mexico, MSC01 1040, Albuquerque, NM 87131-0001 USA.

Email: rhitchcock@unm.edu

EMMANUELLE HONORÉ

McDonald Institute for Archaeological Research, Downing Street, CB2 3ER Cambridge, UK.

Email: eigh2@cam.ac.uk

JEAN HUDSON

Department of Anthropology, University of Wisconsin, Milwaukee, 3413 N. Downer Ave. Sabin Hall 390, Milwaukee, WI 53211, USA.

Email: jhudson@uwm.edu

ROBERT L. KELLY

Department of Anthropology, University of Wyoming, Laramie, WY 82071, USA.

Email: RLKELLY@uwyo.edu

NOA LAVI

Department of Anthropology, University of Haifa, Mt. Carmel, 31905, Haifa, Israel.

Email: noalaviw@gmail.com

JEROME LEWIS

Department of Anthropology, University College London, 14 Taviton Street, WC1H 0BW London, UK.

Email: Jerome.lewis@ucl.ac.uk

SHEINA LEW-LEVY

Department of Psychology, Robert C. Brown Hall RCB 5246, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6 Canada.

Email: sheinalewlevy@gmail.com

ALAN J. OSBORN

Department of Sociology and Anthropology, University of Nebraska-Omaha, 383G ASH, Omaha, NE 68182 USA.

Email: aosborn2@unomaha.edu

SPENCER R. PELTON

Transcom Environmental, 331 N. 3rd St., Douglas, WY 82633, USA.

Email: spencerpelton@gmail.com

MAGALIE QUINTAL-MARINEAU
Centre Urbanisation Culture Société, Institut
national de la recherche scientifique 385 Sherbrooke
Street E., Montreal, Canada H2X 1E3.
Email: magalie.quintalm@ucs.inrs.ca

ERICK ROBINSON
Department of Sociology, Social Work, and
Anthropology, Utah State University, 0730 Old
Main Hill, Logan, Utah 84322-0730, USA.
Email: Erick.Robinson@usu.edu

KENNETH SILLANDER
Swedish School of Social Science, University of
Helsinki, P.O.Box 16, 00014 Helsinki, Finland.
Email: kenneth.sillander@helsinki.fi

PENNY SPIKINS
Archaeology PalaeoHub, University of York,
Wentworth Way, Heslington. York YO10 5DD, UK.
Email: penny.spikins@york.ac.uk

GILBERT B. TOSTEVIN
Department of Anthropology, University of
Minnesota, 395 H.H. Humphrey Center, 301 19th
Ave. S Minneapolis, MN 55455, USA.
Email: toste003@umn.edu

BRAM TUCKER
Department of Anthropology, University of
Georgia, Athens, GA 30602 USA.
Email: bramtuck@uga.edu

GEORGE WENZEL
Department of Geography, McGill University, 805
Sherbrooke Street W., Montreal, Canada H3A 0B9.
Email: george.wenzel@mcgill.ca

THOMAS WIDLÖK
African Studies, University of Cologne, Albertus-
Magnus-Platz, 50923 Köln, Germany.
Email: thomas.widlök@uni-koeln.de

Figures

2.1.	<i>The waves of sharing.</i>	28
2.2.	<i>Screenshots from a field video documenting sharing among ≠Akhoe Hai//om.</i>	29
2.3.	<i>Small foraging camp of a ≠Akhoe Hai//om person in the north of Namibia.</i>	33
2.4.	<i>An Owambo agro-pastoralist homestead in northern Namibia.</i>	33
2.5.	<i>Advertisement for a gated community in Nairobi, Kenya (2015).</i>	33
2.6.	<i>≠Akhoe Hai//om burial ground.</i>	36
2.7.	<i>≠Aonin Nama burial ground.</i>	36
3.1.	<i>Four people co-sleep on an Aka bed.</i>	45
3.2.	<i>Percentage of time forager and farmer infants, children and adolescents are held or touched during the day.</i>	47
3.3.	<i>Feedback loops between intimate shared spaces and other forms of sharing.</i>	53
4.1.	<i>Significant cognitive-emotional capacities involved in sharing in mobile hunter-gatherer contexts.</i>	58
4.2.	<i>Evolutionary pressures, motivations to share and sharing behaviours in early humans.</i>	59
4.3.	<i>Example of an embedded figures test.</i>	62
4.4.	<i>Example of portable art showing embedded figures (or overlapping forms).</i>	63
4.5.	<i>Examples of embedded forms (or overlapping figures) in parietal art.</i>	64
4.6.	<i>Contrasting internal working models and social behaviour between sharing through generosity and calculated collaboration.</i>	65
8.1.	<i>The sharing of material things (dividing) and the sharing of immaterial things (multiplying).</i>	114
8.2.	<i>Location map and general view of Wadi Sūra II, Eastern Sahara.</i>	116
8.3.	<i>The central panel of Wadi Sūra II paintings.</i>	116
8.4.	<i>A group of human figures depicted with bent legs in the rock art of Wadi Sūra II.</i>	117
8.5.	<i>Human figures in a row at Wadi Sūra II.</i>	117
8.6.	<i>A row of human figures holding possible musical instruments at Wadi Sūra II.</i>	117
9.1.	<i>Interpretive framework for understanding the interrelationships between social recognition and quality signals.</i>	126
9.2.	<i>Distribution of San language groups in southern Africa.</i>	128
9.3.	<i>Ju/'hoan beadmaker at Nyae Nyae (//Xao//oba).</i>	130
9.4.	<i>Tubular bone beads from the Felis Concolor Site (25SM20) in central Nebraska.</i>	132
9.5.	<i>Spatial distribution of sites with tubular bone beads in the Central Plains of North America.</i>	133
9.6.	<i>Temporal distribution of sites with tubular bone beads in the Central Plains of North America.</i>	134
10.1.	<i>The Winterhalder-Kelly model of sharing relations between groups of foragers.</i>	146
10.2.	<i>Radiocarbon dates, groundstone, nearest neighbor, and obsidian distance for the study area.</i>	148
11.1.	<i>An Acheulean flint biface from Lower Paleolithic Revadim site, Israel.</i>	157
11.2.	<i>An experiment in using flint handaxes in butchering operations.</i>	159
11.3.	<i>A biface made on an elephant bone from the site of Fontana Ranuccio.</i>	160
12.1.	<i>Box plot of cultural competency scores for Aka and Ngandu men and women.</i>	177
14.1.	<i>The relationship between equifinality and the likelihood of accurate reverse engineering of core reduction processes.</i>	204
15.1.	<i>Country food consumption and financial support to harvesting activities.</i>	216
16.1.	<i>Map of Australia.</i>	224
16.2.	<i>Phillis Yankaporta throws the cast net.</i>	225
16.3.	<i>Lucky family.</i>	225
16.4.	<i>The interior of an Aurukun house.</i>	229
16.5.	<i>The children of Aurukun.</i>	230
17.1.	<i>Map of the forest camp of Belò in 1998, showing households clustered by space and kinship.</i>	240

Tables

3.1.	<i>Measures of settlement density in five forager groups.</i>	41
3.2.	<i>Average nearest neighbour in forager groups with data.</i>	41
3.3.	<i>Average size and space per person in Aka and Efe homes.</i>	43

3.4.	<i>Comparison of space per person in a typical household of mobile hunter-gatherers and farmers.</i>	43
3.5.	<i>Average home size and living area per person in developed countries.</i>	44
3.6.	<i>Average space per person in a bed among Aka hunter-gatherers and Ngandu farmers.</i>	44
3.7.	<i>Infant holding and other measures of caregiver sensitivity.</i>	47
3.8.	<i>Percentage of time intervals G/wi adults touched or were within proximity of other males and females in the camp setting during daylight hours.</i>	48
3.9.	<i>Percentage of time G/wi adolescents touched or were within proximity of other males and females in the camp setting during daylight hours.</i>	48
3.10.	<i>Husband-wife co-sleeping in hunter-gatherers versus other modes of production.</i>	49
3.11.	<i>Average frequency of sex per week among married couples in three age groups among Aka foragers, Ngandu farmers and U.S. middle-class market economists.</i>	49
7.1.	<i>Southern Mbendjele mokondi massana (spirit plays) organised according to context of use.</i>	102
9.1.	<i>Late Stone Age and recent forager sites in the Kalahari that have evidence of ostrich eggshell beads.</i>	127
9.2.	<i>Iron Age sites in the Kalahari Desert region of Botswana with ostrich eggshell beads.</i>	130
9.3.	<i>Evidence for severe droughts on the plateau of southern Africa during the Iron Age Interpretive framework for understanding the interrelationships between social recognition and quality signals.</i>	131
10.1.	<i>Obsidian Frequencies by Wyoming County and Time Period.</i>	149
12.1.	<i>Interview questions and associated hypothetical domain.</i>	176
12.2.	<i>Percent of forced-choice responses by ethnicity and domain.</i>	178
12.3.	<i>Rankings of responses to the question: who teaches children to share?</i>	178
12.4.	<i>Rankings of responses to the question: Who do children share food with?</i>	179
12.5.	<i>Ranking of responses to the question: Who do children share non-food items with?</i>	180
15.1.	<i>Ningiqtuq/sharing interaction sets in the Inuit social economy.</i>	212
17.1.	<i>Per cent of different foods given away to other households among Mikea and Ache foragers.</i>	240
17.2.	<i>Mikea foods and the predictions of the marginal utility model of tolerated theft.</i>	243

Acknowledgements

First and above all, we wish to express on behalf of all the authors of this monograph our deepest gratitude to the people and communities with whom each of us worked and shared experiences. Without their sharing of selves, thoughts, actions, space and time, the studies presented here could not be possible. We are grateful for their help and trust and hope this volume will promote better understanding of their unique ways of sharing as they see it.

This monograph is a result of a conference we organized at the McDonald Institute for Archaeological Research at the University of Cambridge on ‘Sharing among hunter-gatherers’, which aimed to promote a wider notion of sharing. We are especially indebted to Nurit Bird-David and Peter Gardner for being our source of inspiration for the theme of this conference and for their endless support and encouragement along the road. We also thank Jerome Lewis who was extremely supportive and helpful in making the conference both attractive and successful.

A number of people at the McDonald Institute for Archaeological Research formed an important and essential part of the conference and we are grateful to all of them. Especially, to Emma Jarman and Laura Cousens, who were there from the beginning and made every request and need possible and simple. To Cyprian Broodbank and Simon Stoddart for their institutional support. To Patricia Murray, Luc Moreau,

Emily Hallinan, Emmanuelle Honoré, Tanja Hoffmann, Cynthia Larbey and Laure Bonner, who made sure everything went smoothly and professionally. The success of the conference was truly thanks to them.

The publication of this monograph owes much to the work of those involved in the McDonald Conversations Series and we are very thankful to James Barrett for his support, help and advice and to Ben Plumridge for his editing and typesetting work. We are also grateful for the anonymous reviewers who helped us improve each chapter and the monograph as a whole. Thanks too to Elizaveta Friesem for her help and invaluable comments on earlier versions of the text.

The conference and the monograph were funded by the McDonald Institute for Archaeological Research, the University of Cambridge and the People Programme (Marie Curie Actions) of the European Union’s Seventh Framework Programme (FP7/2007-2013) under REA agreement no. 623293 (granted to D.E.F.). OpenAIRE, the European Research Council FP7 post-grant OA publishing fund, contributed to the open-access publication of the monograph.

Lastly, we would like to thank all the people who took part in the conference and the writing of this monograph for imparting their knowledge, experiences and thoughts, giving their time and helping us to promote a better and more holistic understanding of the core social notion and practice of sharing.

Noa Lavi & David E. Friesem,
Cambridge, October 2019

Introduction

Noa Lavi & David E. Friesem

In a lecture about how children learn kinship terms in different societies, a linguist presented a short video showing an interaction between a two-year-old aboriginal child and his aunt while she was grilling a fish. The lecturer pointed out the kinship terms used by the aunt when referring to the child and how she encouraged the child to use a specific kinship term when referring to her. Following the lecture, in an informal discussion, a colleague of ours, a biological anthropologist, asked us whether we noticed how the video is showing from whom children learn basic social notions, emphasising the role of close kin in cultural transmission. As a social anthropologist (Lavi), I actually found this video to show a wonderful example of how children learn how to properly (indirectly) demand their share of food while respecting others' personal autonomy. I pointed out that following the child's request for the grilled fish, his aunt instructed him to 'not say you want a fish, say you *do not have* a fish'. Once the child re-phrased his words, he was immediately given a part of the fish. However, as an archaeologist (Friesem) I was actually focusing on the materials used for grilling and cutting the fish and the residues left on the ground as markers for this activity.

The story above demonstrates how the same social interaction can be examined from different perspectives. It also suggests that disciplines often direct their members towards specific questions and specific perspectives. For this reason, multi-disciplinary approaches are encouraged within academia, allowing one to regard one's object of study from many different perspectives. An effective way to do so, we feel, is

simply be engaged in conversation with people from different disciplines who can view one's data through a different prism and might suggest new and refreshing ways of thinking about it.

This book re-opens the discussion about the practice of sharing among foragers and other small-scale societies, rethinking this practice's social importance, its place in constructing everyday life and social ethics and the conditions it requires. It offers a look at this central social notion in its broadest sense, regarding not only sharing of food (as was common in previous studies of the topic) but all kinds of sharing that comprise the everyday experience of foraging societies. As its title suggests, this book is about promoting a broader view of sharing by bringing together social and biological anthropologists and archaeologists who study past and present hunter-gatherers across the world. This cross-disciplinary integration yielded innovative and thrilling new theories, ideas and thoughts that help to shed light on this unique social trait and refine our understanding of the life of hunting and gathering communities in the past and present.

Why hunter-gatherers? Why sharing?

Hunting and gathering, or foraging, societies have been at the focus of anthropological and archaeological research since the early days of these disciplines. As suggested by the very name attributed to them, different communities were initially grouped together under this category primarily following economic aspects. Preceding the emergence of agriculture, around 11,000 years ago, all humans were considered to be hunting and gathering for subsistence. Hunting and gathering as the main subsistence economy is still practiced among a few communities around the world inhabiting diverse environments including deserts, rainforests and Arctic regions. And yet, this category

has long been debated by both anthropologists and archaeologists (e.g. Barnard 1983; Bird-David 1990; Ingold 2000; Schrire 1984; Schweitzer et al. 2000). The first question that comes to mind is how valid the category of hunter-gatherers is. Can we really use it to group together different societies living in diverse environments and under diverse social circumstances? Can we link between the present and the deep past, using contemporary hunter-gatherers as an analogy to understand the lives of those who lived a thousand and a million years ago? Last, how relevant is this narrow economic category in regard to such people today, considering that many, if not all, of those previously described as hunter-gatherers engage now in market economy, wage labour, agriculture or animal husbandry and gradually become active participants in nation state politics? While these questions are under constant examination and discussion, it has often been argued that *there are* unique similarities between these groups which override their differences, especially in comparison with their surrounding neighbours (e.g. Bird-David 1990). Moreover, many ethnographers highlight similarities in social notions, ethics and practices that are not only more central to people's lives than any specific economic engagement, but are also often maintained even in cases where actual hunting and gathering subsided. Scholars working across the globe had emphasized the communities' small scale, their high mobility, personal autonomy, egalitarianism and the practice of sharing as part of what they termed foragers' 'ethical framework' (Endicott 2011), ontology (Bird-David 2008), or 'foundational schemas' (Hewlett et al. 2011).

Ethnographers have long since singled out the practice of sharing as having a significant role in the lives of hunting and gathering communities around the world (among many others, see Bird-David 1990, 1999, 2005; Fortier 2001; Gomes 2011 in Asia; Bodenhorn 1990, 2000; Collings et al. 1998; Wenzel 1995, 2000 in the Arctic; Hawkes et al. 2001; Kitanishi 2000, 2006; Lewis 2005; Widlok 2004, 2013, 2017; Woodburn 1998 in Africa; Musharbash & Barber 2011; Peterson 1993 in Australia; Kaplan 1984 in the Americas). As such, it attracted the attention of many scholars who strived to understand its mechanism, reasons, implications and history. From an evolutionary perspective, hunter-gatherer sharing was often considered enigmatic as it was not clear why should an individual provide hunted or collected resources obtained through great effort to someone who has not helped to pay the cost and is not an immediate kin (Bliege Bird & Bird 1997). As a result, different models were suggested to explain this practice in terms of cost-benefit theories and risk reduction (e.g. Bliege Bird & Bird 1997; Blurton Jones

1987; Kaplan & Hill 1985; Hawkes 1991; Wood & Marlow 2013 to mention but a few). It has been suggested that due to the unpredictable availability of resources (e.g. hunted animals) and lack of storage, sharing provides a rational strategy, a sort of risk management bonding together the members of the group in a form of exchange and reciprocal relationships. Kaplan & Hill (1985) have shown that where large animals are shared, such sharing does indeed increase the nutritional well-being of the group as a whole, although not equally between all members. Blurton Jones (1984, 1987) offered a model he termed 'tolerated theft' to explain how the cost of *not* sharing resources among foragers is too high to pay due to the unpredictable nature of resources that often arrive in large quantities and are divided into smaller units. The use of the term theft in this model, however, was criticized as potentially misleading (as agreed by Blurton Jones himself, see Hawkes et al. 2014) because food is not perceived as private property among hunter-gatherer groups (Marlow 2010). In order to explain why foragers seem to prefer and invest significant effort in collecting large-sized resources under pressure to share, as opposed to obtaining smaller resources that could have been directed exclusively to their own families, Hawkes (1991) offered the 'show-off hypothesis', arguing that social reputation plays a significant role in the choices of resource acquisition and sharing behaviour (e.g. Hawkes 1991, 1993a; Hawkes & Bliege Bird 2002). Furthermore, it has been argued that competition, not necessarily over resources but for status gained through sharing, acts as an important spur to the economic productivity among humans (Hawkes et al. 2014). From an economic perspective, for many decades sharing has been understood through a market-derived theory of value, as a generalized form of reciprocity or as exchange (e.g. Sahlins 1972). In this sense, too, sharing has the potential to produce both prestige (of those who hunt and share more) and obligations (to share with those who shared with you).

In recent decades, the view of sharing as a generalized form of reciprocity has been debated by numerous social anthropologists who argued that sharing among foragers is *not* reciprocal and *should not* be taken as a form of exchange (e.g. Bird-David 2005; Peterson 1993; Widlok 2004, 2013, 2017; Woodburn 1998). Hunter-gatherers, it was argued, occasionally *do* store food, or have the ability to do so. Sharing does not always involve extraordinary quantities of meat that would otherwise be thrown away, and many foragers share ordinary food and items (Bird-David 1990, 1991; Widlok 2013, 2017, 75; Woodburn 1998, 48). Additionally, in many groups, scholars showed that the hunter has very limited control over the dis-

tribution of meat. Meat is usually given to everyone present at the moment, regardless of their capacity for future giving. Meat cannot be directed by the hunter to past or potential future donors and likewise does not bind the recipient to reciprocate and thus does not allow future claims (Woodburn 1998). On the other hand, it was also argued that sharing should not be considered an act of generosity as it often follows demands by people who see themselves as entitled to receive a share (Peterson 1993). Such analysis of sharing emphasizes donor obligation and recipient entitlement without implying any obliging long term engagements, because the obligatory nature of the donation disconnects it from the right to receive (Peterson 1993; Widlok 2004, 63; Woodburn 1998, 49–50). In this regard, sharing can be read as a levelling mechanism meant to reduce material inequality (e.g. Woodburn 1980, 1982, 1998).

Various mechanisms and methods were reported among different groups showing how the hunter is systematically decoupled from the meat and the giver from the receiver. These include depreciating the share and the provider (e.g. Turnbull 1966, 183; Woodburn 1982, 440–1 about African Mbuti and Hadza respectively), not involving the hunter in the act of butchering (e.g. Woodburn 1998, 51, about the Hadza), regarding as giver others than the hunter (e.g. his wife; see Bodenhorn 2000 about Alaskan Inupiaq; the owner of the dart, see Endicott 1988, 115–16, about Malaysian Batek), or attributing a dominant role in the division of shares to children (e.g. Bird-David 2017, 145, about South Indian Nayaka). Among some foraging societies, food is further detached from the person who hunted or gathered it as it is perceived as *given* to all the people by the environment or an environment-related being, such as the master of animals or the hunted animal itself (e.g. Bird-David 1990; Bodenhorn 2000b; Ingold 1996; Jackson 1995; Naveh 2007; Tanner 1979).

Although sharing is not the sole mode of resource transfer among foragers (e.g. Wiessner 1982 about *hxaro* exchange among the !Kung; Bird 1983, 78–9, about instantaneous payment for services by fellow Nayaka; Bodenhorn 2000, 31–2, about different ways of distribution of different kinds of prey among the Inupiaq; Woodburn 1998, regarding hunters' entitlement to at least some of the meat among the Hadza), it is considered a dominant practice as it is closely linked to people's sense of personhood and relatedness, deriving from and reinforcing social relations (e.g. Bird-David 1999, 2006; Endicott 1988; Gomes 2011; Kwok 2011; Myers 1986; Peterson 1993; Widlok 2017). Myers described sharing as one of the main social actions people are required to constantly

perform in order to reaffirm kinship ties (Myers 1986, 104). Bird-David argued that by sharing, persons are 'made' relatives, and this in turn invites further sharing, which is required for the maintenance and generation of relatedness (Bird-David 1999, 73). Furthermore, it has been argued that the focus in sharing is not on dispersing property but on uniting people, expanding group boundaries and forming relatedness and a shared identity, a sort of extended self (Widlok 2013, 25; 2017, 20–4). Sharing not only shapes relations and affects the material culture, it also acts as a major factor in decision making, use of space and the formation of the dwelling environments (Bird-David 2009; Lavi & Bird-David 2014; Myers 1986; Friesem & Lavi 2017). The notion of sharing, coupled with that of non-sharing, is therefore ever present in the everyday lives of foragers. This argument is strengthened by many contemporary cases that demonstrate the persistence of sharing long after actual hunting and gathering has been abandoned or relegated to a marginal economic activity due to recent changes in the environments and lifeways of those traditionally called hunter-gatherers (e.g. Bird 1983; Bodenhorn 2000; Collings et al. 1998; Gomes 2011; Hart 1978; Kitanishi 2006; Musharbash & Barber 2011; Naveh 2007; Peterson 2013; Smith et al. 2010; Wenzel 2000; Widlok 2013).

Encouraged by the ethnographic observations on the role of sharing in the lives of contemporary hunter-gatherers, some archaeologists have tried to find evidence for sharing among prehistoric and early agrarian societies. However, being limited to the analysis of materials which are preserved in the archaeological record, only a few studies have discussed this issue directly (e.g. Bogaard et al. 2009; Enloe 2003; Parmalee & Klippel 1983; Speth 1990; Stiner et al. 2009). The main reason lies in the difficulty identifying in the archaeological record the social and ecological perceptions and behaviours that are associated with sharing and distinguishing them from other modes of food distribution (see more in Chapter 9 by Kelly et al.). It is therefore not surprising that most of the archaeological discussion about sharing relies on ethnoarchaeological studies (e.g. Kelly 1995; Yellen 1977, Binford 1984, to mention but a few) which aim to link between contemporary hunter-gatherers' practices and the formation of specific patterns of material distribution that can later be used as a reference framework to interpret the archaeological record.

Among the few studies that argued for an evidence of hunter-gatherer sharing in the archaeological record is the work of Isaac (1978a, 1978b) that interpreted the distribution of stone tools and animal bones dated to about two million years ago in East Africa to evince meat sharing among early hominins.

Bunn & Kroll (1986) used the frequencies of animal bones and cut marks found in Olduvai Gorge, Tanzania, dating to 1.75 million years ago, to argue for systematic butchery of substantial quantities of meat and marrow resulting in sharing on a significant scale. However, both of the above studies from East Africa were criticized for presenting patterns that could have resulted from carnivore or scavenger activity and not necessarily from human behaviour (see comments in Bunn & Kroll 1986). Parmalee & Klippel (1983) examined the spatial distribution of carcasses in the Rhoads site in Illinois as an indication of economic interaction within a campsite, concluding that the distribution of deer carcasses was a result of sharing practices between individuals or families. Enloe (2003) analysed the spatial distribution of individual reindeer carcasses from the late Upper Palaeolithic site of Pincevent in France. He argued for clear evidence of food sharing by using carcass refitting which demonstrated that bones from the same carcass were transported to different households located at the same archaeological level. Stiner et al. (2009) reported a high abundance of randomly orientated cut marks on large game bones from Qesem Cave, a late Lower Palaeolithic site in Israel. They argue that meat distribution 400-200 thousand years ago may have been highly individualized, with little or no formal apportioning of meat. By comparing these patterns with bones from Middle and Upper Palaeolithic sites that present systematic cut marks, Stiner et al. (2009) suggest that important differences in the practical and social mechanics of meat-sharing appear between the late Lower Palaeolithic and later periods.

From the representative studies mentioned above it is clear that despite the great attention given to this significant practice, the examination of sharing among foragers by both archaeologists and anthropologists has been almost entirely directed to the distribution of food, particularly large game. There are various possible explanations for this particular focus. First, hunting (especially that of large game), being an impressive act, thought of as requiring both skill and talent, attracted more scholarly attention than lower key daily actions such as fruit picking, tuber digging or sitting around the fire. Additionally, it might be easier to spot evidence of sharing of large game in archaeological records, for example by examining the spatial distribution of animal bones (e.g. Bogaard et al. 2009; Bunn & Kroll 1986; Isaac 1978a, 1978b; Parmalee & Klippel 1983), refitting animal carcasses (e.g. Enloe 2003) or analysing patterns of cut marks made on bones (e.g. Stiner et al. 2009). Nevertheless, *there are* few archaeological accounts which could be read as evidence of what we might interpret as sharing

of knowledge or other immaterial aspects (see the overviews provided by Tostevin and Honoré in this volume), but those were usually not framed by their authors in terms of sharing. Within anthropology, there are also a few rarer accounts describing the sharing of other non-edible material objects (e.g. see Widlok 2017, 114, about tobacco; Bird-David 1990; Wenzel 2000 about work tools; Peterson 1993 about money). Yet there are almost no papers that go beyond the sharing of material objects (whether edible or not) while making use of the terminology, mechanics and social rationality of *sharing*. One particular exception can be found in Bird-David's description of the Naya-aka she worked with as sharing not only things, but also *actions, spaces and their very selves* with each other (Bird-David 1999; 2009; 2017). Despite this absence of data, there are some cases that suggest that different types of sharing are likely connected and inter-dependent. For instance, some accounts showed that reduction in opportunities of being together with relatives (which can be viewed as sharing of selves, actions, time, etc.) results in reduction of sharing and is reflected in the local relationships (e.g. Kwok 2011, 165–6; Lavi 2018, 132–48). It seems of great importance to refer to this gap in the data. Studying sharing beyond game meat and even beyond any material aspect may open a window to new ideas about the practice of sharing, its working and significance among the people practicing it.

About the book

This edited monograph emerged from a conference titled 'SHARING: The Archaeology & Anthropology of Hunter-Gatherers', held at The McDonald Institute for Archaeological Research at the University of Cambridge in September 2016. The aim of the conference was to bring together archaeologists, social anthropologists and biological and evolutionary anthropologists studying hunting and gathering societies in the past and present, with a particular focus on sharing as a central cultural pillar. Assembled together, leading scholars from different fields who famously engaged with the topic of sharing discussed sharing in its broader sense to include sharing of space, actions, knowledge, selves and identities. This fruitful discussion yielded innovative ideas and theories regarding various aspects of sharing.

As a result of the conference, this edited monograph brings a collection of papers that re-open and re-examine this well-studied concept of sharing among hunting and gathering societies in the past and present. It presents novel theories and offers new frameworks that re-shape the ways we should think

about and understand this central practice, its social implications and people's daily life. Broadening the concept of sharing brought about engagements with fascinating new aspects of this practice (e.g. sharing of selves, space and time to be equally perceived and valued by people as sharing of food) as well as new perspectives about its more intangible aspects such as relatedness, sociality, values, identities and social, self and environmental perceptions. Involving scholars from diverse fields, the book provides inter-disciplinary perspectives for the study of hunting and gathering societies from the early Palaeolithic to modern times and in a wide range of geographic areas and contexts. Each chapter brings a different angle to examine the practice of sharing and its meaning and impact on everyday behaviour, the formation and maintenance of social relations, decision making, social identities, perceptions of self and the environment, patterns of use of space and material culture. In addition, the book's chapters re-open the questions of the social conditions and realities that such practice creates and allows, and what conditions it requires, alongside the fine-tuning of its working.

A cross-disciplinary discussion between archaeologists and social, biological and evolutionary anthropologists such as the one offered in this book is surprisingly rare. This is mostly due to the difficulty and reluctance in associating contemporary foragers with Palaeolithic ones and tying between mundane ethnographic observations and evolutionary models. Yet, as the following chapters will show, while caution is indeed required in engaging in such mutual discussions, they nonetheless yield fascinating new questions and perspectives. In each chapter, writers were encouraged to consider the possible contributions of their theories to other disciplines and *vice versa*. The emergent ideas can advance our thinking toward both past and present societies. Sharing serves as a good common ground for such a cross-cultural discussion. Being first and foremost a practice, sharing can be more easily observed and studied through field observations and/or material culture. Thus, the focus on sharing, as a practice *and* a foundational social schema, can therefore aid to unravel social aspects of foraging societies, which are otherwise intangible to mere material analysis, without implying a direct analogy between the present and past.

Apart from the contribution to the academic audience and advancing our knowledge of the human past, this new discussion on sharing is highly relevant to the understanding of the contemporary realities of modern foragers. In today's context, some of these communities are seen by their neighbours, developers and state agents as poor, lazy, irresponsible or lacking

motivation to work to assume what non-foragers often call 'well-being'. Some of the perspectives presented in this book may offer an alternative view, even contradicting that above, for the meanings, reasons and implications of common daily practices among foragers.

Innovative perspectives of sharing: chapters outline

The first grand contribution of this book lies in a new in-depth discussion about the centrality of **intimacy, presence and shared-living** (Part I) in the practicing of sharing. Looking at those aspects reframes sharing not so much as a strict social rule or an official norm but more as a derivate of a specific way of life which allows it. In the opening chapter of this part Bird-David (Chapter 1) urges scholars of hunter-gatherer communities to address the importance of intimate living to the working of sharing by re-introducing the aspect of scale into the analysis of those called 'small-scale/indigenous societies'. By examining five well-known studies of foragers' sharing (Marshall 1962; Woodburn 1980; Bird-David 1990; Peterson 1993; Widlok 2013; 2017), she shows that the consideration of the scalar and kinship frameworks of hunter-gatherer sharing has been neglected in previous ethnographic writing. Bird-David argues for the necessity of training attention to scale and scaling (as a practice). Foragers' tiny communities, she shows, are hyper-relational and hyper-perspectival. All members are interconnected kin; each is uniquely and multiply related to each of the others. She demonstrates how the small size of the group plays a central role in their concepts of community. Living closely together, sharing space, resources and living (in a sense even sharing themselves) is crucial in how these foragers understand and form relatives. Consequently, the smallness of the group and its kinship are critical to our understanding of all aspects of the forager world, and in particular for the context that allows sharing.

The second chapter by Widlok (Chapter 2) offers a new theoretical model of sharing which has a temporal, processual dimension, while not relying on the assumptions of behavioural ecology. He highlights the central place of *presence* in the practice of sharing. The pressure to share, he argues, is 'felt' through presence, co-residence and participation in each other's lives. Re-thinking the terms through which we understand hunter-gatherers' sharing, Widlok's account suggests seeing it not in terms of moral *obligation* (as it is often viewed) but in terms of *opportunities*. Co-presence provides *opportunities* to request (from others), to respond (to others) and to let go (for others); without

them the practice of sharing does not take place. The temporality of sharing is due to the fact that sharing comes to an end when requests come to an end and when shared presence comes to an end (ranging from mere physical separation to its ultimate expression, death). One implication of this temporal aspect is explaining why sharing decreases when people are culturally less exposed to their own finiteness and to that of others, for instance as a result of ideologies that deflect and bracket out this finiteness.

In line with the theoretical considerations offered by the two opening chapters, Hewlett, Hudson, Boyette & Fouts (Chapter 3) engage with the centrality of close presence and shared lives from a different angle, offering an innovative approach by looking at *sharing of space* and its implications for the practice of sharing in general. Comparing the Aka hunter-gatherers to their Ngandu farming neighbours in Central African Republic, Hewlett et al. regard the sharing of space in four domains: settlements, houses, beds, and interpersonal interactions (touching). They show how the Aka's spatial patterns are dictated by their desire to stay physically close to others. The intimate shared space during the day and night, the high frequency of touching, along with the sensitive care, provide a multi-modal (biological, psychological, cultural) environment in which to learn trust, empathy, and cultural models. These in turn help to contribute to other features of forager life, such as extensive sharing of food, childcare, and knowledge.

Spikins (Chapter 4) examines the significance of sharing and its evolutionary implications as part of intimate social and emotional relationships in the distant human past. She offers an explanation to understand the widespread care for illness, injury and impairment throughout the Palaeolithic, which at first does not seem to fit with a rational evolutionary sense due to its high cost and low pay. Spikins argues that the intimate life people shared led to complex evolved cognitive-emotional capacities in which people are inclined to give without necessarily receiving a direct return. Furthermore, the compassion and generosity involved in sharing an intimate life and care for others is suggested by Spikins to result in inclusion, support and appreciation of various skills and talents, which may also bring disadvantages and vulnerabilities (e.g. autism). Overall, the social, emotional and inclusive relationships people developed in their intimate communities may well explain the formation of human diversity as we recognize it today and its deep roots in human prehistory.

Sillander (Chapter 5) joins the authors of previous chapters in arguing that sharing is socially conditioned through aspirations for closeness. Studying

Southeast Asian shifting cultivators and horticultural societies which lead a social life featuring abundant sharing, he suggests that a rigid economic explanation is insufficient to explain sharing. He focuses on several qualities of sociality: open aggregation, relatedness and inclusive classificatory kinship. Sillander argues that a performative social order involving social indeterminacy and small-scale societal demographic conditions compels sharing as a means for accessing social and material resources. Close social relations based on intimate practical association give rise to positive moral valuation of relatedness and sharing. Sillander revisits kinship as a central socially constituted force in hunter-gatherer and like societies, instrumental in legitimating demands in immediate sharing contexts and providing the underlying rationale for long-term personal sharing dispositions.

In the closing chapter for this part (Friesem & Lavi, Chapter 6), we attempt to frame hunter-gatherer sharing as echoed by previous chapters in this part of the monograph – to include the intimacy of living-together, shared social identity and co-presence – into a methodological approach towards the archaeological record. By drawing on our ethnographic and ethnoarchaeological work among the Nayaka, a South Indian forest-dweller society, we show how the practice of sharing selves, space, actions and things is expressed by people's use of space in terms of site structure, the formation of activity areas and finally the deposition of activity residues. We discuss how sharing behaviour may result in specific patterns of material deposition and present a brief example for the application of this interpretative framework on archaeological case studies from the Ancient Near East and how it can help to study past social behaviour.

The second part of the book revolves around the role of sharing in the creation of **senses of connectedness and joy** and in turn, a particular **sense of community**, that extends **beyond the horizons of the local group** (Part II). Bridging between the first and second parts of the book, Lewis (Chapter 7) urges ethnographers to consider the value individuals place on positive emotional relationships and experiences as a central power behind the resilience of systems of sharing, particularly the sharing of rare and non-local items. Surveying three different systems for sharing non-local products across three African groups (the *massana* ritual performances among the BaYaka, San *xaro* gift-giving, and Hadza gambling), he shows that despite structural differences, the motor that drives all three systems is the desire for joy, companionship and intimacy. These motivations, referred to by Lewis as pleasure-seeking, work to move valued items over

hundreds of kilometres and distribute them surprisingly evenly across groups. They also establish a sense of connection and cultural community beyond the immediate camp – constituting an extended sense of ‘us’, of a society. The extended community and members, who would otherwise be unknowable, are made present through those systems which bring their products to communities throughout the cultural area.

Like Lewis, Honoré (Chapter 8) turns to examine ritual (dance) performance, this time from an archaeological point of view augmented by her own discussion of the notion of group identity and contact. Examining rock art from the Libyan Desert massifs dating to 9000-7000 years ago, Honoré offers an intriguing case study of the immaterial aspects of sharing in archaeology. She argues that sharing of dance performances has been a more cohesive form of sharing than subsistence-related shares amongst the Late Stone Age hunter-gatherer groups in North-Eastern Africa. The images presented in the chapter show that while people were depicted similarly when illustrating the performance of ritual dances, they were individualized in other group activities like hunting. Honoré suggests that the social importance of painting such performances and shared moments lies in the formation of social memories and identities, whose definition could differ depending on the activity performed. Group identity was therefore formed by sharing the image of the group performing the dance no less than in sharing the performance of the dance itself. Thus, rock art was used as a means of sharing a certain idea of the group not only within the group but ultimately also beyond, with any onlooker.

In an exceptional integration between ethnography and archaeology, Osborn & Hitchcock (Chapter 9) explore the relations between body adornment, information sharing, and environmental uncertainty. They combine ethnographic data from the Ju/'hoansi people in the Kalahari Desert of Southern Africa regarding their *xaro* system and an exceptional archaeological record of beads from the American Great Plains dating back to AD 1280–1300. They show how beads as body adornment can be used for signalling social identity that would facilitate social interaction and sharing of information between foragers, cultivators and pastoralists. Osborn and Hitchcock suggest that environmental conditions, and in particular mega-droughts, resulted in groups shifting from local, kin-based societies that relied upon social recognition for sharing information to regionally extensive populations that made use of quality signals to enhance inter-group social interaction. They conclude that gift-giving and receiving and information sharing was especially important during periods of environmental stress,

and that social and material exchanges and signalling represented key means of coping with uncertainty.

The chapter by Kelly, Pelton & Robinson (Chapter 10) follows the previous chapters by offering an important discussion on the differences in the observational scales of archaeology and ethnography. They suggest that archaeology's coarse-grained observational scale is not a weakness but a strength in understanding the conditions and primary factors under which hunter-gatherers share food, land, and information within a broad chronological perspective. Their argument is then demonstrated by an overview of Wyoming's prehistory, through its 11,000 years, using a large database of radiocarbon dates, settlement patterns and provenance of obsidian tools and the distance they travelled. Kelly et al. present a synthesis for the transition in hunter-gatherers' sharing of food, land and information, not only within the group but mostly between groups, as means to cope with changes in the availability of foods, changes that were jointly linked to both climate and human population density and brought significant transitions in the social interactions and sharing between groups.

Regarding contact not only beyond the local group but also beyond human partners, Barkai (chapter 11) engages in a stimulating discussion offering a new perspective to interpret the origins of sharing and how it was affected by the relations between early humans and elephants. He suggests that meat sharing could have emerged already two million years ago due to the preference for hunting elephants and the enormous quantities and qualities of fat and meat provided by a single elephant. As opposed to other hunted game, the surplus of elephant meat could have initiated sharing as a means to resolve this dissonance. Supported by ethnographic studies regarding hunter-gatherer perception of personhood and co-living with non-human beings, Barkai offers a novel interpretation for the extensive use of inedible elephant parts as tools, pendants and figurines, suggesting they indicate human respect for the hunted elephant as part of sharing existence in-the-world with non-human beings. According to Barkai, the special relationships of humans with elephants may well have led to the subsequent assimilation and adoption of the practice of sharing in other realms of life.

The third part of the book turns to look at **learning and sharing (and non-sharing) of knowledge** (Part III). Boyette & Lew-Levy (Chapter 12) open this part by not only examining the way knowledge is shared and transmitted, but by looking at the social background of people's learning to share. They present the underlying cultural models which motivate sharing among Aka foragers and Ngandu farmers in

their respective cultural contexts. They look at early life experiences as key in shaping motivations and imparting the foundational schema of sharing, which persists throughout childhood and into adulthood. Both Aka and Ngandu, they show, rank sharing highly among the things that are most important for a child to learn, and thus actively socialize children to sharing. Yet, sharing practices are tempered by different core cultural values in each of the two compared groups, which in turn shape distinct beliefs and practices surrounding sharing. Sharing norms are more highly conserved among the Ngandu, for whom social relationships are strictly governed by foundational schemas of hierarchy, communalism, and a material basis to social relationships. Conversely, while Aka motivate unconditional sharing, their foundational schema of respect for autonomy suggests more acceptance of variability in sharing patterns even when it comes to not sharing.

Gardner's account (Chapter 13) on sharing of knowledge reflects similar ideas about the importance of autonomy in shaping the process of learning and knowledge acquisition. Gardner regards the topic of sharing from a new perspective by highlighting foragers' limited *sharing of knowledge*, particularly in regard to descriptive knowledge. He argues that we overestimate the amount of knowledge to be acquired and transmitted, the centrality of oral tradition and the need for uniformity for a culture to function effectively. Focusing particularly on South Indian Paliyan and American Subarctic Dene, Gardner examines how learning takes place, how they handle cognitive diversity and how claims to knowledge are established. In both cases, he shows the primary shared value that one must respect all others and refrain from hampering their autonomy (including that of children) is of key importance in this regard. Wishing to avoid violating autonomy, people refrain from excessive talk and particularly from direct explanations and requests for explanations. Knowledge therefore derives mainly through observation and personal experience. While this results in considerable interpersonal variation in how people frame and express what they know, none is considered wrong or correct. As Gardner shows, these are social systems in which high cognitive diversity is acceptable, which deny the existence of experts, and avoid generalizations and attempts to establish uniformity.

Following the ethnographic perspectives about sharing of knowledge, Tostevin (Chapter 14) provides an archaeological overview on sharing of knowledge, focusing on flint-knapping and production of stone tools in prehistory. By looking at archaeological evidence, experiments and cultural transmission

theory, he offers a processual discussion of what *can* and *cannot* be shared in relation to flint-knapping knowledge. According to Tostevin, as opposed to other types of skills and performances, the nature of flint-knapping, characterized by rapid blows to stone cores that produce flakes, is so fast in its execution that learning the bodily performance with anything akin to accuracy through observations alone is difficult and unlikely. He argues that flint-knapping knowledge can therefore only be shared as a performance that is followed by the observers practicing the motions, through abundant repetitions, in order to replicate that incommunicable knowledge within themselves. In line with the papers in Part I of the book, he suggests that sharing of space and time are therefore crucial to allow such sharing of knowledge. Tostevin concludes that the nature of sharing lithic technology knowledge among foragers may present greater variability in the archaeological record than from the sharing of other intangible bodies of knowledge, such as ideas and beliefs.

The last part of the book looks at the practice of sharing in **contemporary contexts of ample social, economic and environmental changes** (Part IV). It raises questions that are asked by many who study foragers today, when most if not all are practicing new and diverse modes of subsistence (e.g. farming, wage labour, etc.) and many skills, customs and rites are forsaken. In this context, where the very identity of these groups as hunter-gatherers is often questioned, an in-depth examination of the practice of sharing allows questions of foundational social notions, cultural resilience, change and continuity to be addressed.

Quintal-Marineau & Wenzel (Chapter 15) examine contemporary mixed economy and mixed food systems that have become the reality of many Arctic Inuit communities, who combine country and store-bought foods, hunting and gathering and wage labour. In their paper, they challenge the traditional focus on men in the literature on Inuit subsistence practices. Studying how money has affected the normative sharing system, they show that contemporary economic transformations have in fact expanded the contribution of women within the traditional subsistence system. Money became an important resource in wild food acquisition due to the need to acquire expensive hunting equipment. Yet money is accessed today mainly by women who engage in permanent, full-time wage labour. Men continue to be the main providers of country foods, but the time required for hunting challenges their long-term engagement with wage employment. Sharing their income with active hunter-kinspersons, women become important money providers to men,

providing the critical support required for hunting. This works not only to maintain the cultural norms of subsistence but also makes women key actors in the mixed economy, with gender (and gender relations) becoming a visible dimension of contemporary Inuit sharing relations and subsistence.

Turning to the other side of the world, Artemova (Chapter 16) offers to re-think what seems like profound changes in the lives of Aboriginal Australians today, as well as the common question regarding why those communities do not get out of what the Anglo-Australian call poverty. She shows that although indigenous Australians seem to have abandoned many of their traditions, if we closely observe their actions and choices it is clear that they still retain the ideology and practice of sharing – the obligation to give what is requested, and the expectation that things will be procured with the help of others. Artemova highlights an important notion that often evades our attention, the tendency towards a *minimization of effort*. Such a tendency means that people do not try to maximize utility or efficiency. Once the immediate needs are satisfied, any additional effort to obtain more is perceived as useless. This perspective provides an important alternative interpretation for many behaviours observed today, such as the lack of interest in accumulating wealth, permanent jobs and personal belonging, the popularity of gambling (in which people are ‘hunting for money’) and the continuity of sharing through which money is quickly spent and things change hands, get broken down rapidly and are thrown away. The objective scarcity of resources, she shows, is not perceived as poverty by the indigenous people themselves. This is the key to the continuation of their communal life and preserving personal integrity. The social risk of reducing sharing to achieve what white people call wealth or well-being cannot be overestimated.

The closing chapter by Tucker (Chapter 17) examines a case of contemporary low rates of food sharing among the Mikea foragers of Madagascar, addressing the argument that their lack of sharing testifies that they are not genuine hunter-gatherers. Opposing this view, Tucker argues that the very definition of what hunter-gatherers are is an invention of European thought. Mikea, he claims, should be considered hunter-gatherers since they perceive themselves as such, in distinction to their agro-pastoral neighbours. Mikea do have a sharing ethos, but there would seem to be conflicting norms of generosity and property. Tucker offers three alternative possible explanations. The first is that due to Mikea’s agro-pastoral ancestry, they treat food as clan property; second, consistent with the tolerated scroung-

ing model, self-interested foragers are unlikely to share small and synchronously acquired foods; and third, social norms of generosity and property have changed due to market involvement and poverty. As Mikea have been increasingly drawn into the market economy, they may have shifted to thinking of foods and communal property as commodities and private property, changing from generalized to balanced reciprocity. While each explanation might not provide sufficient evidence, Tucker proposes that they should be considered simultaneously to offer a valid explanation for the question of Mikea sharing.

Concluding remarks

This edited monograph offers innovative perspectives into a broadened view of sharing among foragers that includes tangible and intangible forms, as a practice, a social notion and an experience which holds meanings far beyond the mere distribution of meat and material goods. Integrating different contexts and perspectives, the authors in this book demonstrate how hunting and gathering people apply similar perceptions, values and mechanics for sharing of space, actions, land, knowledge, time, self and identity, as previously highlighted by scholars mostly for meat sharing. Broadening the view of sharing therefore advances us to better understand its significance among the people who practice it. In addition, the exceptional integration between archaeologists and social, biological and evolutionary anthropologists offered by this edited volume expands the understanding of what is socially required for sharing, its development, what it allows in return and its implications not only for foraging societies, but for the social evolution of humanity as well. This cross-disciplinary volume raises an insightful discussion on the evolution and social complexity of non-agrarian societies in general and provides new tools and ideas to explore the complexity and diversity in the social world of past and contemporary foraging societies. Without implying that contemporary hunter-gatherers are a relic of prehistoric societies, the new concepts and understandings of sharing that emerge from this book provide a multi-layered framework which can be applied in contemporary ethnographic contexts, as well as in archaeological sites, aiding in unravelling intangible aspects of the hunter-gatherer world and lifeways and in testing similarities and differences between past and present. Last, a broader and more holistic view of contemporary foragers may aid in better understanding their perceptions and actions in a world of increasing modern interventions, attempts at assimilation and conflicts.

References

- Barnard, A., 1983. Contemporary hunter-gatherers: Current theoretical issues in ecology and social organization. *Annual Review of Anthropology* 12, 193–214.
- Binford, L.R., 1984. Butchering, sharing, and the archaeological record. *Journal of Anthropological Archaeology* 3, 235–57.
- Bird, N., 1983. Wage-gathering: Socio-economic change and the case of the Naiken of South India, in *Rural South Asia: Linkages, Changes and Development*, ed. P. Robb. London: Curzon Press, 57–86.
- Bird-David, N., 1990. The giving environment: Another perspective on the economic system of gatherer-hunters. *Current Anthropology* 31, 189–96.
- Bird-David, N., 1999. ‘Animism’ revisited: Personhood, environment, and relational epistemology. *Current Anthropology* 40, S67–S91.
- Bird-David, N., 2005. The property of sharing: Western analytical notions, Nayaka contexts, in *Property and Equality 1: Ritualization, Sharing, Egalitarianism*, eds. T. Widlok & W.G. Tadesse. New York and Oxford: Berghahn, 201–16.
- Bird-David, N., 2006. Animistic epistemology: Why do some hunter-gatherers not depict animals? *Ethnos* 71, 33–50.
- Bird-David, N., 2008. Feeding Nayaka children and English readers: A bifocal ethnography of parental feeding in ‘the giving environment’. *Anthropological Quarterly* 81, 523–50.
- Bird-David, N., 2009. Indigenous architecture and relational senses of personhood: A cultural reading of changing dwelling styles among forest-dwelling foragers. *Design Principles and Practices* 3, 203–10.
- Bird-David, N., 2017. *Us, Relatives: Scaling and Plural Life in a Forager World*. Berkeley: University of California Press.
- Bliege Bird, R.L. & D.W. Bird, 1997. Delayed reciprocity and tolerated theft: the behavioral ecology of food-sharing strategies. *Current Anthropology* 38, 49–78.
- Blurton Jones, N., 1984. A selfish origin for human food sharing: tolerated theft. *Evolution and Human Behavior* 5, 1–3.
- Blurton Jones, N., 1987. Tolerated theft, suggestions about the ecology and evolution of sharing, hoarding and scrounging. *Social Science Information* 29, 31–54.
- Bodenhorn, B., 1990. ‘I’m not the great hunter, my wife is’ – Inupiat and anthropological models of gender. *Etudes/Inuit/Studies* 14, 55–74.
- Bodenhorn, B., 2000. It’s good to know who your relatives are but we were taught to share with everybody: Shares and sharing among Inupiaq households. *Senri Ethnological Studies* 53, 27–60.
- Bogaard, A., M. Charles, K.C. Twiss, A. Fairbairn, N. Yalman et al., 2009. Private pantries and celebrated surplus: storing and sharing food at Neolithic Çatalhöyük, Central Anatolia. *Antiquity* 83, 649–68.
- Bunn, H.T. & E.M. Kroll, 1986. Systematic butchery by Plio/Pleistocene hominids at Olduvai Gorge, Tanzania. *Current Anthropology* 27, 431–52.
- Collings, P., G.W. Wenzel & R.G. Condon, 1998. Modern food sharing networks and community integration in the central Canadian Arctic. *Arctic* 51, 301–14.
- Endicott, K.M., 1988. Property, power and conflict among the Batek of Malaysia, in *Hunters and Gatherers. Vol. 2: Property, Power and Ideology*, eds. T. Ingold, D. Riches & J. Woodburn. Oxford: Berg, 110–27.
- Endicott, K.M., 2011. Cooperative autonomy: Social solidarity among the Batek, in *Anarchic Solidarity: Autonomy, Equality and Fellowship in Southeast Asia*, eds. T. Gibson & K. Sillander. New Haven: Yale University Southeast Asia Studies Monographs, 62–87.
- Enloe, J., 2003. Food sharing past and present: Archaeological evidence for economic and social interactions. *Before Farming* 1, 1–23.
- Fortier, J., 2001. Sharing, hoarding, and theft: Exchange and resistance in forager-farmer relations. *Ethnology* 40, 193–211.
- Friesem, D.E. & N. Lavi, 2017. Foragers, tropical forests and the formation of archaeological evidences: An ethnoarchaeological view from South India. *Quaternary International* 448, 117–28.
- Gomes, A., 2011. Give or take: A comparative analysis of demand sharing among the Menraq and Semai of Malaysia, in *Ethnography and the Production of Anthropological Knowledge: Essays in Honour of Nicolas Peterson*, eds. Y. Musharbash & M. Barber. Canberra: ANU E Press, 147–58.
- Hart, J.A., 1978. From subsistence to market: A case study of the Mbuti net hunters. *Human Ecology* 6, 325–53.
- Hawkes, K., 1991. Showing off: Tests of another hypothesis about men’s foraging goals. *Ethology and Sociobiology* 12, 29–54.
- Hawkes, K., 1993. Why hunter-gatherers work: An ancient version of the problem of public goods. *Current Anthropology* 34, 341–61.
- Hawkes, K. & R. Bliege Bird, 2002. Showing off, handicap signaling and the evolution of men’s work. *Evolutionary Anthropology* 11, 58–67.
- Hawkes, K., J.F. O’Connell & N.G. Blurton Jones, 2001. Hadza meat sharing. *Evolution and Human Behavior* 22, 113–42.
- Hawkes, K., J.F. O’Connell & N.G. Blurton Jones, 2014. More lessons from the Hadza about men’s work. *Human Nature* 25, 596–619.
- Hewlett, B.S., H.N. Fouts, A.H. Boyette & B.L. Hewlett, 2011. Social learning among Congo Basin hunter-gatherers. *Philosophical Transactions of the Royal Society B* 366, 1168–78.
- Ingold, T., 1996. Hunting and gathering as ways of perceiving the environment, in *Redefining Nature: Ecology, Culture and Domestication*, eds. R. Ellen & K. Fukui. Oxford: Berg, 117–55.
- Ingold, T., 2000. *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*. London and New York: Routledge.
- Isaac, G.L., 1978a. The food sharing behavior of protohuman hominids. *Scientific American* 238, 90–106.
- Isaac, G.L., 1978b. Food sharing and human evolution: Archaeological evidence from the Plio-Pleistocene of East Africa. *Journal of Anthropological Research* 34, 311–25.
- Jackson, M., 1995. *At Home in the World*. Durham: Duke University Press.

- Kaplan, H., 1984. Food sharing among Ache hunter-gatherers of Eastern Paraguay. *Current Anthropology* 25, 113–15.
- Kaplan, H. & K. Hill, 1985. Food sharing among Ache foragers: Tests of explanatory hypotheses. *Current Anthropology* 26, 223–46.
- Kelly, R., 1995. *The Foraging Spectrum*. Washington DC: Smithsonian Institution Press.
- Kitanishi, K., 2000. The Aka and Baka: Food sharing among two central Africa hunter-gatherer groups. *Senri Ethnological Studies* 53, 149–69.
- Kitanishi, K., 2006. The impact of cash and commoditisation on the Baka hunter-gatherer society in Southeastern Cameroon. *African Study Monographs* 33, 121–42.
- Kwok, N., 2011. Owning your people: Sustaining relatedness and identity in a South Coast Aboriginal community, in *Ethnography and the Production of Anthropological Knowledge: Essays in Honour of Nicolas Peterson*, eds. Y. Musharbash & M. Barber. Canberra: ANU E Press, 159–74.
- Lavi, N., 2018. 'Developing' Relations: Rethinking the Experience of Aid and Development Interventions, a Case Study from the Nayaka of South India. PhD dissertation, University of Haifa.
- Lavi, N. & N. Bird-David, 2014. At home under development: A housing project for the hunter-gatherers Nayaka of the Nilgiris. *Eastern Anthropologist* 67, 407–32.
- Lewis, J., 2005. Whose forest is it anyway? Mbendjele Yaka pygmies, the Ndoki Forest and the wider world, in *Property and Equality 2: Encapsulation, Commercialization, Discrimination*, eds. T. Widlok & W.G. Tadesse. New York and Oxford: Berghahn, 56–78.
- Marlowe, F., 2010. *The Hadza: Hunter-gatherers of Tanzania*. Berkeley: University of California Press.
- Marshall, L., 1962. !Kung Bushmen religious belief. *Africa* 32, 221–5.
- Musharbash, Y. & M. Barber, 2011. *Ethnography and the Production of Anthropological Knowledge: Essays in Honour of Nicolas Peterson*. Canberra: ANU E Press.
- Myers, F., 1986. *Pintupi Country, Pintupi Self: Sentiment, Place, and Politics Among Western Desert Aborigine*. Washington DC: Smithsonian Institution Press and Australian Institute of Aboriginal Studies.
- Naveh, D. 2007. *Continuity and Change in Nayaka Epistemology and Subsistence Economy: A Hunter Gatherer Case from South India*. PhD dissertation, University of Haifa.
- Parmalee, P.W. & W.E. Klippel, 1983. The role of native animals in the food economy of the historic Kickapoo in central Illinois, in *Lulu Linear Punctuated: Essays in Honor of George Irving Quimby*, eds. R.C. Dunnell & D.K. Grayson. (Museum of Anthropology, Anthropological Papers 72.) Michigan: University of Michigan, 253–324.
- Peterson, N., 1993. Demand sharing: Reciprocity and the pressure for generosity among foragers. *American Anthropologist* 95, 860–74.
- Peterson, N., 2013. On the persistence of sharing: Personhood, asymmetrical reciprocity, and demand sharing in the Indigenous Australian domestic moral economy. *Australian Journal of Anthropology* 24, 166–76.
- Sahlins, M., 1972. *Stone Age Economics*. London: Tavistock.
- Schrire, C., 2016[1984]. *Past and Present in Hunter Gatherer Studies*. New York: Routledge.
- Smith, E.A., K. Hill, F.W. Marlowe, D. Nolin, P. Wiessner et al., 2010. Wealth transmission and inequality among hunter-gatherers. *Current Anthropology* 51, 19–34.
- Speth, J.D., 1990. Seasonality, resource stress, and food sharing in so-called 'egalitarian' foraging societies. *Journal of Anthropological Archaeology* 9, 148–88.
- Stiner, M., R. Barkai & A. Gopher, 2009. Cooperative hunting and meat sharing 400–200 kya at Qesem Cave, Israel. *Proceedings of the National Academy of Sciences* 106, 13207–12.
- Tanner, A., 1979. *Bringing Home Animals: Religious Ideology and Mode of Production of the Mistassini Cree Hunters*. London: Hurst and Co.
- Turnbull, C.M., 1966. *Tradition and Change in African Tribal Life*. Cleveland: World Publishing.
- Wenzel, G.W., 1995. Ningiqtuq: Resource sharing and generalized reciprocity in Clyde River, Nunavut. *Arctic Anthropology* 32, 43–60.
- Wenzel, G.W., 2000. Sharing, money, and modern Inuit subsistence: Obligation and reciprocity at Clyde River, Nunavut, in *The Social Economy of Sharing: Resource Allocation and Modern Hunter-Gatherers*, eds. G.W. Wenzel, G. Hovelsrud-Broda & N. Kishigami. (Senri Ethnological Studies 53.) Osaka: National Museum of Ethnology, 61–85.
- Widlok, T., 2004. Sharing by default? Outline of an anthropology of virtue. *Anthropological Theory* 4, 53–70.
- Widlok, T., 2013. Sharing: Allowing others to take what is valued. *HAU: Journal of Ethnographic Theory* 3, 11–31.
- Widlok, T., 2017. *Anthropology and the Economy of Sharing*. London and New York: Routledge.
- Wiessner, P., 1982. Risk, reciprocity and social influences in !Kung San economics, in *Politics and History in Band Societies*, eds. E. Leacock & R.B. Lee. Cambridge: Cambridge University Press, 61–84.
- Wood, B.M. & F.W. Marlowe, 2013. Household and kin provisioning by Hadza men. *Human Nature* 24, 280–317.
- Woodburn, J., 1980. Hunters and gatherers today and reconstruction of the past, in *Soviet and Western Anthropology*, ed. E. Gellner. London: Duckworth, 95–107.
- Woodburn, J., 1982. Egalitarian societies. *Man* 17, 431–51.
- Woodburn, J., 1998. Sharing is not a form of exchange: An analysis of property-sharing in immediate-return hunter-gatherer societies, in *Property Relations: Renewing the Anthropological Tradition*, ed. C. Hann. Cambridge: Cambridge University Press, 48–63.
- Yellen, J., 1977. *Archaeological Approaches to the Present: Models for Reconstructing the Past*. New York: Academic Press.

