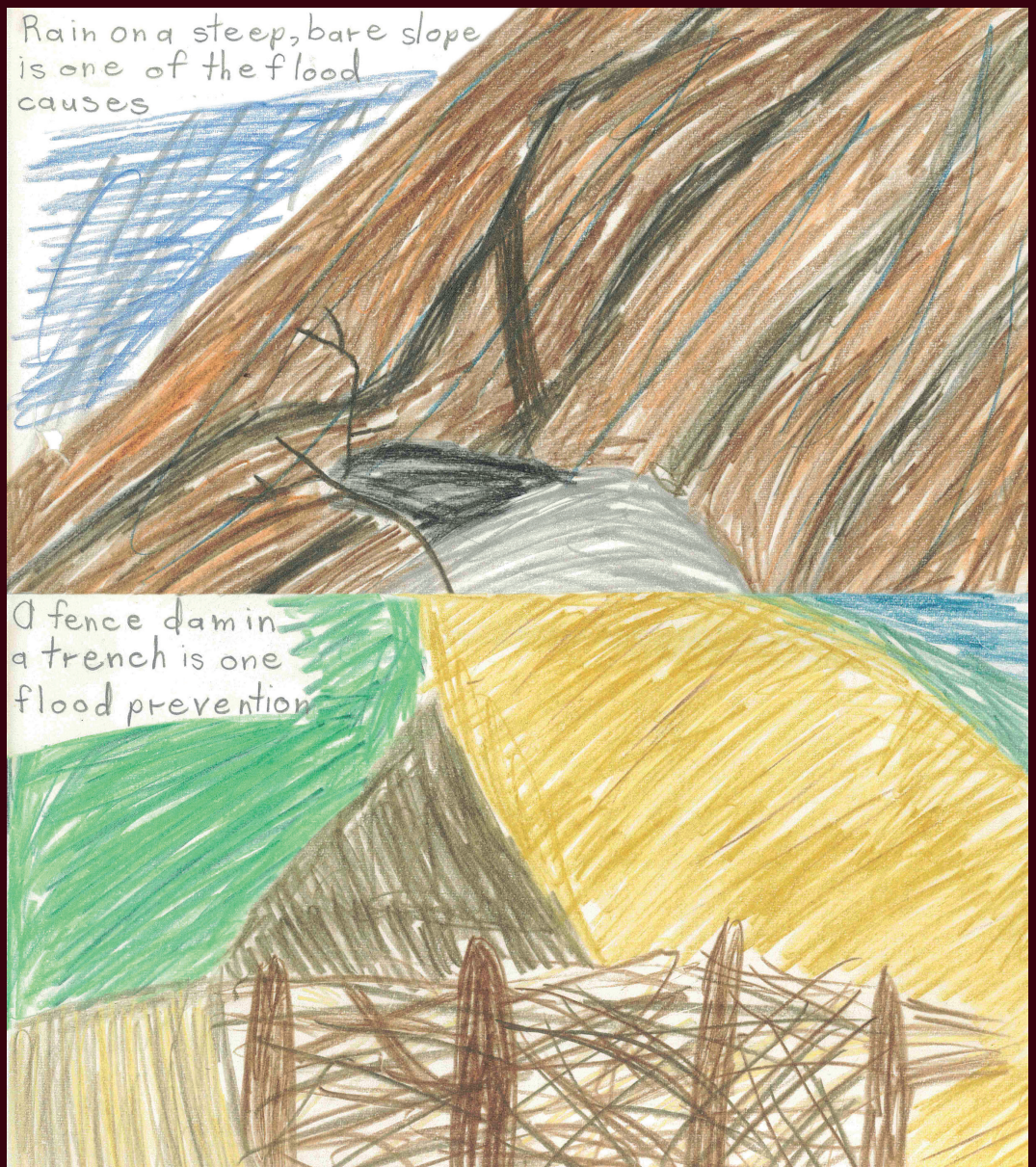
McDONALD INSTITUTE CONVERSATIONS

Inspired geoarchaeologies: past landscapes and social change

Essays in honour of Professor Charles A. I. French

Edited by Federica Sulas, Helen Lewis & Manuel Arroyo-Kalin



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Essays in honour of Professor Charles A. I. French

Edited by Federica Sulas, Helen Lewis & Manuel Arroyo-Kalin

with contributions from
Michael J. Allen, Andrea L. Balbo, Martin Bell, Nicole Boivin, Christopher Evans, David Friesem, Kasia Gdaniec, Lars Erik Gjerpe, Michael Gill, Martin Green, Ann-Maria Hart, Robyn Inglis, Martin Jones, Gabriella Kovács, Helen Lewis, Johan Linderholm, Roy Loveday, Richard I. Macphail, Caroline Malone, Wendy Matthews, Cristiano Nicosia, Bongumenzi Nxumalo, Innocent Pikirayi, Tonko Rajkovaca, Rob Scaife, Simon Stoddart, Fraser Stuart, Federica Sulas & Magdolna Vicze

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On the cover: *Hand drawn illustration by Charly French, aged around 10 years old. Courtesy of Kasia Gdaniec.*

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Contents

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Mike's (BSc, PhD, MCIfA, FLS, FSA) research and geoarchaeological interest was originally based around the analysis of colluvium and land snails, including in the South Downs, Dorchester, Cranborne Chase, Stonehenge and Avebury in particular; these were the subject of both his undergraduate and PhD research. He has combined a career dominated by commercial archaeology with involvement in university research projects and as a staff lecturer at Sussex, Bournemouth and Oxford Universities. He was Environmental Manager at Wessex Archaeology for twenty years and for fifteen years has run his own geoarchaeological consultancy from a purpose-built bespoke lab, where he is involved in research designs and coordination of environmental archaeology from fieldwork to publication. Projects have been as diverse as intertidal zone research and Maltese prehistoric temples. His interests now lie principally in landscape archaeology and the development and creation of landscapes through prehistoric human intervention. He has worked with – and still is working with – Charly French in Cranborne Chase, the Stonehenge Riverside Project, and both recent Avebury landscape projects. He is vice-president of the Conchological Society, and as founding editor of the Prehistoric Society Research Papers has seen ten peer-reviewed volumes through to publication.

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Manuel is Associate Professor of Geoarchaeology at the Institute of Archaeology, UCL. He is interested in the Anthropocene, Human Niche Construction, and Historical Ecology and uses earth science methods, including soil micromophological analysis, to study past anthropic landscape modification and anthropogenic soil formation. His main research focus is the pre-Colonial human landscape history of tropical lowland South America, particularly the Amazon basin, where he is engaged in the long-term comparative study of Amazonian Dark Earths. He has also been involved in geoarchaeological studies in other world regions and published on the archaeology and palaeodemography of the Amazon basin. In recent years he has coordinated an intercultural and interdisciplinary research project focused on the northwest Amazon region.

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Following his PhD at the University of Cambridge (2008), Andrea conducted geoarchaeological research at the Spanish Research Council (CSIC) and at the University of Hamburg. Since 2019 he has been employed at the ALIPH Foundation for the protection of heritage in conflict areas, based in Geneva, where his main focuses are the linkages between climate change, conflict and cultural heritage protection, and the role of documentation and ICT in cultural heritage protection. Co-founder and CEO of Platform Anthropocene Ltd., Andrea leads the development of a comprehensive interdisciplinary web repository on the Anthropocene. He also maintains university teaching in archaeology, heritage and human-environment interaction and acts regularly as a scientific evaluator, rapporteur, and monitor for the European Commission.

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Christopher was the executive director/director of research of the Cambridge Archaeological Unit (CAU), University of Cambridge until 2021. Having worked in British archaeology for over forty years – with his initiation to Fenland archaeology coming at Fengate – following on from the Haddenham Project, he co-founded the CAU with Ian Hodder in 1990. He has directed a wide variety of major fieldwork projects, both abroad – Nepal, China and Cape Verde (the latter sometimes involving Charly) – and in the United Kingdom. A fellow of the Society of Antiquaries of London, in 2018 he was elected a fellow of the British Academy. He has published widely, including monographs arising from both his own landscape projects and those of earlier-era practitioners in the CAU's 'Historiography and Fieldwork' series (e.g. Mucking in 2016). Together with Tim Murray, he edited Oxford University's *Histories of Archaeology: A Reader in the History of Archaeology* (2008).

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Kasia works as an archaeological curator at Cambridgeshire County Council, advising local planning authorities on managing change to the historic environment, and scoping investigation programmes for developers and commercial archaeologists that promote both academic rigour and public engagement. Her particular interests lie in the technical difficulties of preservation *in situ* as a long-term archaeological management technique, the ceramic traditions of Neolithic and Bronze Age Britain, the evolution of the East Anglian fens and the adaptation of local communities to their changing environments, and the history and legacy of post-medieval fen draining schemes and how this shapes current competing land use and environmental pressures.

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Lars has a Masters and PhD in archaeology from the University of Oslo, with a thesis on Iron Age settlement and property rights in southeastern Norway. He has directed several large-scale heritage management excavations for the Museum of Cultural History at the University of Oslo, mainly targeting Iron Age burials, settlements and agricultural remains, while including other periods and relics. As a result, he has been editor and main author of publications on cemeteries (*Gravfeltet på Gulli*, University of Oslo 2005) and Iron Age settlements. Interdisciplinary cooperation and environmental archaeology, including archaeometric analysis (e.g. seeds, charcoal and soil), have been an integrated part of these projects. He has also been editor for the journal *Primitive tider* and academic editor of Trond Løken's 2020 *Bronze Age and Early Iron*

Age House and Settlement Development at Forsandmoen, South-western Norway. Currently, he is a member of the steering committee for large-scale heritage management excavations at the NTNU (Norwegian University of Science and Technology).

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Martin began a fieldwalking survey as a lad on Cranborne Chase in the latter 1960s. Following experience gained on a number of field projects, he began excavating independently in the region in 1976. He joined Richard Bradley's and John Barrett's Cranborne Chase Project the following year, contributing four site excavations to *Landscape, Monuments and Society* in 1991. He continued independent fieldwork in the early 1990s in collaboration with Mike Allen, in particular on the Fir Tree Field shaft which revealed a remarkable sequence of deposits dating from the late Mesolithic to the Beaker period, and worked with Charly French on the Upper Allen Valley Project 1998–2003, contributing four further site excavations to *Prehistoric Landscape Development and Human Impact in the Upper Allen Valley, Cranborne Chase, Dorset* (2007). Since that time, he has continued independent research, also in collaboration with Josh Pollard and Southampton University, on the Dorset Cursus, on Down Farm and in the Knowlton environs whilst continuing to increase the biodiversity on his small farm. He was made an FSA (Fellow of the Society of Antiquaries) in 2004 and received an honorary Doctor of Science degree from Reading University in 2006.

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Ann-Maria is currently working in contracts and commercial management within the Australian defence industry, but still maintains an interest in her former career as a geoarchaeologist.

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Robyn is a geoarchaeologist interested in the formation of the archaeological record and its impact on our understanding of Palaeolithic dispersals. After receiving her BA in Archaeology and Anthropology from Cambridge, she gained her MSc in Geoarchaeology from Reading. Her PhD in the McBurney Laboratory focussed on the micromorphological reconstruction of sedimentation at the Haua Fteah, Libya, and its implications for understanding human/environment interactions. From 2011–8 she led geoarchaeological survey in Saudi Arabia to further understand the Palaeolithic occupation of the Red Sea littoral and its role in hominin dispersals, first as part of the DISPERSE project at the University of York, and later as a Marie Skłodowska-Curie Global Fellow (University of York and Macquarie University). She now works in research development at the York Environmental Sustainability Institute, University of York, and is an Honorary Research Associate in the university's Department of Archaeology.

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Martin was the first George Pitt-Rivers Professor of Archaeological Science at the University of Cambridge. He works on archaeobotany and archaeogenetics, in the context of the broader archaeology of food. In his earlier career he explored the development of agriculture in later prehistoric and Roman Europe, after which he was very much involved in the development of biomolecular approaches within archaeology. These he applied to research into the spread of farming of both major and minor crops across Asia, most recently in the context of the Food Globalization in Prehistory Project. His latest project is exploring the co-evolution and Eurasian biogeography of crops and bees.

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Gabriella (PhD) is a museologist and soil micromorphologist at the Hungarian National Museum National Institute of Archaeology. Her main interest is the Middle Bronze Age tell settlement of Százhalombatta-Földvár, under the framework of the international SAX (Százhalombatta Archaeological Expedition) project. Besides this site, other Bronze Age settlements of Hungary are also part of her research interests, regarding the comparison of single and multi-layered settlements of the period, mainly the so-called Vatya Culture. She focuses on the use of space and building techniques via soil micromorphology to add details to traditional archaeological methods.

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Helen is an associate professor at University College Dublin School of Archaeology. Her background is in archaeology and anthropology (BA University of

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Johan trained in archaeology and chemistry, specializing in soils and archaeology (BSc and MSc Umeå University). His PhD dealt with soil chemical aspects on settlement organization over time and general human impact on soils. He has been working with research and contract archaeology in several large projects over the last thirty years, mainly in Scandinavia but also in Gibraltar, Italy, France and the UK. Currently he holds a position as associate professor at Umeå University and is conducting research related to reflectance spectroscopy at the Environmental Archaeology Laboratory (MAL), University of Umeå.

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Richard trained in geology and geography, specializing in soil science (BSc Swansea University). An MSc in pedology and soil survey (Reading University) prepared him for a soil science PhD on podzol development on heathlands (Kingston Polytechnic). An English Heritage-funded archaeological soil contract at the Institute of Archaeology (University College London) provided further training and international research opportunities were developed, including working with the Soil Survey of England and Wales and Macaulay Institute, UK, the CNRS, France, and the Soprintendenza, Italy. This led to the publication of *Soils and Micromorphology in Archaeology* (with Courty and Goldberg; Cambridge University Press 1989), the founding of the International Archaeological Soil Micromorphology Working Group, and training weeks at UCL. As a result, *Practical and Theoretical Geoarchaeology* (Blackwell 2006; Wiley 2022) and *Applied Soils and Micromorphology in Archaeology* (Cambridge University Press 2018), both with Goldberg, were written. Macphail is a recipient of the Geological Society of America's Rip Rapp Award for Archaeological Geology (2009), and is a fellow of the Geological Society of America. He is also the 2021 co-awardee (with P. Goldberg) of the International Union of Soil Sciences Tenth Kubiëna Medal for Soil Micromorphology. The paper included here also reflects more than two decades of research across Scandinavia.

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Wendy is a specialist in Near Eastern Archaeology and geoarchaeology, focusing on micromorphology of the built environment and long-term perspectives on sustainability (MA Edinburgh 1984; PhD Cambridge 1992, 'Micromorphology of occupational sequences and use of space in a Sumerian city'). She was a research associate and fellow of the McDonald Institute (1993–2000) and is an associate professor in Archaeology at the University of Reading, following a semester as visiting lecturer at UC Berkeley. She was a member of the *Çatalhöyük* team and steering committee, Turkey (1993–2017). She co-directs the *Central Zagros Archaeological Project* investigating the Neolithic of the Eastern Fertile Crescent, Iraq, Iran (2007–), and has conducted research in Syria and Bahrain. She has co-supervised twenty-two PhD students and teaches modules on past, present and future sustainability; micromorphology; and Mesopotamia. She co-designed a new prehistory gallery at the Slemani Museum with Iraqi and Reading colleagues, with sustainability as a central theme.

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Cristiano is a geoarchaeologist working as full professor at the Department of Geosciences of the University of Padova, Italy. His research focuses on the study of anthropic deposits, on alluvial geoarchaeology, and on the human impact on soils and landscapes. He is currently the principal investigator of the ERC-funded GEODAP project (GEOarchaeology of DAily Practices: extracting Bronze Age lifeways from the

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Francis has studied the archaeology of the Fens since 1971. His major excavations in the region took place near Peterborough at Fengate, Maxey and Etton. In 1982 his team's survey of fenland drainage dykes revealed the timbers of a waterlogged Bronze Age timber platform and causeway at Flag Fen, which was opened to the public in 1989. He was a member of Channel 4's long-running series *Time Team*. He has written many popular books including *Seahenge* (2001), *Britain* BC (2003), *Britain* AD (2004), *The Making of the British Landscape* (2010), *Home* (2014), *Stonehenge* (2016) and *The Fens* (2019). His most recent book is *Scenes from Prehistoric Life* (Head of Zeus 2021).

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Tonko is chief research laboratory technician in geoarchaeology at the University of Cambridge. Involved in archaeology since his childhood, he held posts of archaeological site director and museum curator in Serbia (pre-1994) before moving to the UK to specialize in the late Upper Palaeolithic archaeology of ex-Yugoslavia via an MPhil (2004) at the University of Cambridge, and a PhD at the University of Ljubljana (2017). After four years at the Cambridge Archaeological Unit, he took up the post of geoarchaeology technician at the Department of Archaeology in 2008, and since then he has been working at the McBurney Laboratory of Geoarchaeology. He has directed and managed several archaeological projects, field and laboratory training in the UK and eastern Europe. He has authored several volumes and articles, including a monograph on preventive archaeology in ex-Yugoslavia published by Belgrade's Institute of Archaeology (2019) and a manual of archaeological excavation (co-authored with J. Appleby, 2015).

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Rob is a visiting professor of palaeoecology and environmental archaeology at the University of Southampton, and an honorary research associate of the McDonald Institute for Archaeological Research at the University of Cambridge. His first degree was in geography with geology, and an interest in the Pleistocene led him into palynology. He investigated the Late and Post-glacial vegetation changes of the Isle of Wight for his PhD (King's College London). Subsequently, he worked at the Institute of Archaeology, London, and the Ancient Monuments Laboratory at English Heritage. As a freelance palaeoecologist, he has continued to work across southern and eastern England, along with international studies in Italy, Turkey, Peru and Chile.

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Simon and Caroline have been engaged in the research of ancient landscapes for nearly forty years, with a

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Figures

Tables

Appendix to Chapter 11

Federica Sulas, Bongumenzi Nxumalo & Innocent Pikirayi

Table A11.1. *Selected ICPAES concentrations. Results in ppm (part per million) unless otherwise stated.*

Reference topsoil		N. samples	Al %	Ba	Ca %	Co	Cr	Cu	Fe %	K %	Mg %	Mn	Na %	Ni	P	Pb	Sr	Zn
Reddish brown fine sandy loam		3	2.4	473	1.8	19	459	37	3.3	1.1	2.2	529	0.3	189	1457	5	251	46
Dark brown fine sand silty loam		2	1.9	320	1.8	24	316	30	3.9	0.9	6.3	460	0.7	250	445	4	281	35
Area	**Sample ID**	**Depth cm**	**Al %**	**Ba**	**Ca %**	**Co**	**Cr**	**Cu**	**Fe %**	**K %**	**Mg %**	**Mn**	**Na %**	**Ni**	**P**	**Pb**	**Sr**	**Zn**
Samaria	Den Staat 1/1	30-40	6.5	640	2.3	23	193	47	4.7	1.8	1.3	743	1.3	70	950	13	311	65
Samaria	Den Staat 1/2	150-162	6.2	620	2.0	24	159	39	4.5	1.7	1.1	697	1.3	54	700	15	291	66
Samaria	GA2/1	0-8	1.6	300	0.6	13	641	22	1.8	0.7	0.8	275	0.2	103	340	3	95	26
Samaria	GA/2/2	2-28	1.8	350	0.9	15	275	24	2.2	0.7	1.0	315	0.2	131	400	2	134	27
Samaria	GA4/2	12-17	2.5	540	2.2	18	461	36	3.4	1.2	2.6	528	0.3	184	1310	<2	320	44
Samaria	GA4/3	35-54	2.5	530	2.8	21	485	41	3.6	1.2	3.0	529	0.3	196	1190	7	380	45
Samaria	GA5/2	10-42	2.3	510	1.7	22	429	33	3.5	1.1	2.1	571	0.3	193	940	5	254	45
Samaria	GA5/3	42-57	2.4	500	1.7	19	418	31	3.3	1.1	2.2	562	0.3	187	950	6	253	41
Samaria	GA6/1	0-8	1.9	350	1.1	12	303	24	2.6	0.9	1.5	396	0.2	129	570	3	160	36
Samaria	GA6/2	8-42	1.8	340	1.1	12	302	27	2.7	0.8	1.5	388	0.2	132	550	<2	156	29
Samaria	GA6/3	42-54	1.8	350	1.8	16	300	26	2.5	0.8	1.6	364	0.2	130	580	4	220	32
Samaria	GA7/1	0-8	1.9	340	0.8	12	302	22	2.4	0.8	1.2	365	0.2	115	440	3	131	28
Samaria	GA7/2	8-40	1.9	320	0.8	12	329	23	2.4	0.8	1.3	358	0.2	124	370	2	118	26
Samaria	GA7/3	40-55	1.9	320	1.0	15	276	25	2.4	0.7	1.4	348	0.2	115	360	<2	136	28
Samaria	GA8/1	0-5	1.6	270	0.8	4	179	17	1.5	0.8	0.5	246	0.2	43	2210	3	112	35
Samaria	GA8/2	5-15	1.6	260	0.8	4	183	19	1.9	0.8	0.5	292	0.2	44	2360	7	109	38
Samaria	GA8/3	15-31	1.6	280	1.4	7	145	22	1.4	0.8	0.9	289	0.2	42	2750	3	183	60
Samaria	GA8/4	31-48	1.6	260	1.1	7	151	25	1.4	0.7	0.6	239	0.2	42	2210	<2	147	40
Samaria	GA8/5	48-60	1.6	260	0.8	4	200	20	1.9	0.8	0.5	274	0.2	44	1670	3	114	33
Samaria	GA9/1	0-20	1.7	260	0.5	5	196	17	1.7	0.8	0.6	245	0.2	66	450	6	84	24
Samaria	GA9/2	20-44	1.8	270	0.5	5	165	18	1.7	0.8	0.6	249	0.2	71	370	8	82	22
Samaria	GA9/3	44-54	1.7	260	0.5	8	165	20	1.9	0.7	0.7	245	0.2	75	330	7	74	20
Samaria	GA10/1	0-7	2.5	340	1.4	12	187	26	2.3	0.9	1.0	331	0.7	81	780	4	171	37
Samaria	GA10/2	7-15	2.3	290	0.7	9	257	23	2.2	0.9	0.8	325	0.4	89	500	7	107	30
Samaria	GA10/3	15-51	2.1	280	0.6	8	213	21	2.0	0.7	0.9	296	0.3	90	370	3	95	24
Samaria	GA10/4	51-55	2.1	300	0.6	10	202	22	2.1	0.8	1.0	318	0.3	100	360	3	106	25
Samaria	GA11/1	0-4	4.6	320	2.4	15	171	39	3.0	1.0	1.1	532	1.5	81	830	7	176	56
Samaria	GA11/2	4-19	3.6	310	0.5	12	188	29	2.8	1.0	0.8	436	0.4	80	480	10	90	39
Samaria	GA11/3	19-34	2.9	300	0.5	9	194	26	2.3	0.9	0.8	363	0.3	82	360	5	87	32
Leowke	LKC1/2	60-70	2.3	390	1.7	22	236	33	3.8	1.1	4.3	465	0.5	226	300	4	253	29
Leowke	LKC2/2	30-40	2.4	390	2.0	26	355	43	5.1	1.1	3.0	624	0.6	285	600	6	245	43
Leowke	LKC2/3	70-85	2.2	380	2.2	27	372	34	4.6	0.9	3.6	559	0.4	273	510	8	287	41
K2	K2/1.1	20-32	2.4	360	0.7	7	40	14	1.6	1.2	0.4	196	0.5	31	360	4	80	14
K2	K2/1.2	60-73	1.9	410	1.9	9	65	20	2.0	1.0	0.6	247	0.4	48	390	6	142	13
K2	K2/2.1	10-20	2.6	410	1.5	4	29	13	1.5	1.3	0.5	234	0.4	22	510	12	91	17
K2	K2/2.2	32-44	3.1	510	0.7	4	21	15	1.5	1.6	0.4	196	0.6	17	460	11	74	19
K2	K2/2.3	76-86	2.9	460	1.2	4	31	15	1.5	1.5	0.5	224	0.5	21	710	10	88	17

Table A11.2. *Archaeological soil micromorphology description.*

Area	Thin Section (imprint cm)	Unit cm	Description								Interpretation
			Structure	Porosity	Mineral components	c/f10µm -ratio	Organic components	Biogenic residues & inclusions	Groundmass	Pedofeatures	
Limpopo River	DS 1.1 (9.4x5)	30-40	Granular/ vughy (bioturbated)	10%: vesicles, vughs, channels	Quartz, feldspars, rare olivine (?)	50:50; moderately sorted silty fine sand	20%: amorphous, plant tissue residues, root fragments; charcoal, microcharcoal	Shell fragments; phytoliths (bulliform, saddle)	Close porphyric; brown (PPL; 10YR 3/2) undifferentiated with speckled domains	Strong organic staining; dusty clay coatings, iron-rich clay fragments, crust fragments of organic-rich clay; iron typic nodules	Buried, lower A silty fine sand, strong organic staining and bioturbation.
	DS 1.2 (12.4x5.7)	150-162	Granular/ vughy (bioturbated)	10-15%: packing pores, vesicles, vughs, channels	Quartz, feldspars, rare olivine (?)	40:60; moderately sorted very fine sand silty clay	15%: amorphous, plant tissue residues; charcoal, microcharcoal	Shell and (burnt) bone fragments; pollen, phytoliths (bulliform, saddle, trichome)	Close porphyric; dark brown (PPL; 10YR 3/3) undifferentiated to poro-striated	Dusty clay coatings, iron-rich clay coatings; crust fragments of organic-rich clay; calcite infillings and coatings (ash)	Buried Ah-B silty clay, moderate organic staining and bioturbation; porosity from seasonal waterlogging.
Mapungubwe	LKC 1.2 (8.5x6)	60-70	Vughy (bioturbated)	5-10%: vughs, channels	Quartz, feldspars, rare olivine (?)	60:40; moderately sorted sandy silt	5-10%: amorphous, charcoal	Phytoliths (bulliform, elongate)	Close porphyric; reddish brown (PPL; 5YR 4/4) crystallitic to undifferentiated	Common sparitic calcite in the groundmass; iron-rich dusty clay coatings; limpid clay fragments; iron typic nodules	Buried Bt sandy silt, moderate to strong organics staining and bioturbation.
	LKC 2.1 (11.6x5.6)	10-20	Complex (bioturbated)	10-15%: vughs, vesicles, channels	Quartz, feldspars, rare olivine (?)	80:20; poorly sorted silty fine sand	10%: amorphous, root fragments; charcoal, microcharcoal	Phytoliths (bulliform, bilobate, trichome, elongate)	Close porphyric; brown (PPL; 7.5YR 4/6) crystallitic to speckled	Common sparitic calcite in the groundmass; dusty clay coatings, iron-rich clay coatings and fragments; calcium carbonate infillings (ash); aggregates of coalesced (phosphatized) matter (dung)	Lower topsoil-Ah silty sand, moderate organic straining with common organic and ash.
	LKC 2.2 (11.2-5.7)	30-40	Subangular blocky	10%: vughs, channels	Quartz, feldspars, rare olivine (?)	80:20; poorly sorted clayey silt	10%: amorphous, iron-replaced root fragments; charcoal, microcharcoal	Shell fragments; sclerotia; phytoliths (trichome)	Close porphyric; brown (PPL; 7.5YR 5/3) crystallitic to speckled	Amorphous excremental matter and pellets (mites); limpid clay coatings; organic- and clay-rich fragments	Buried (Ah-)Bt clayey silt, moderate organic staining and bioturbation.
	K2 2.1 (9.5x5.8)	10-20	Crumb to subangular blocky	10%: vughs, channels	Quartz, feldspars, rare olivine (?)	70:30; moderately sorted silty very fine sand	5%: amorphous, punctuation; charcoal, microcharcoal	Bone fragments; sclerotia; fungal spores; phytoliths (elongate, trichome, bulliform)	Close porphyric; reddish brown (PPL; 5YR5/3); crystallitic to speckled	Dusty clay coatings; iron typic nodules; calcite nodules, calcite infillings (ash)	Topsoil – organic-rich silty sand.
	K2 2.2 (12.4x6)	32-44	Vughy to subangular blocky	10%; complex packing pores, channels, vughs	Quartz, feldspars, rare olivine (?)	80:20; moderately sorted silty very fine sand	10%: amorphous; root fragments; charcoal	Burnt bone fragments; phytoliths (bulliform, trichome, spherical)	Close porphyric; reddish brown (PPL; 5YR 4/4) crystallitic	Dusty clay coatings; iron-rich clay coatings; iron typic nodules; calcite infillings (ash); aggregates of coalesced (phosphatized) matter (dung)	Buried (Ah-)B silty fine sand, moderate organic staining and bioturbation.
	K2 2.3 (12.5.7)	74-86	Subangular blocky	10%: channels, vughs	Quartz, feldspars, rare olivine (?)	80:20; moderately sorted silty very fine sand	Amorphous; iron-replaced plant tissue residues, root fragments; charcoal, microcharcoal	Burnt bone fragments; fungal spores; phytoliths (bulliform, trichome, elongate); potsherds	Close porphyric; pale, reddish brown (PPL; 5YR 6/3); grano-striated to crystallitic	Dusty clay coatings; amorphous excremental matter; calcite infillings (ash)	Buried B silty fine sand, weak organic staining and common anthropic inclusions

Inspired geoarchaeologies

Geoarchaeological research captures dimensions of the past at an unprecedented level of detail and multiple spatial and temporal scales. The record of the past held by soils and sediments is an archive for past environments, climate change, resource use, settlement lifeways, and societal development and resilience over time. When the McDonald Institute was established at Cambridge, geoarchaeology was one of the priority fields for a new research and teaching environment. An opportunity to develop the legacy of Charles McBurney was bestowed upon Charles French, whose 'geoarchaeology in action' approach has had an enormous impact in advancing knowledge, principles and practices across academic, teaching and professional sectors. Many journeys that began at Cambridge have since proliferated into dozens of inspired geoarchaeologies worldwide. This volume presents research and reflection from across the globe by colleagues in tribute to Charly, under whose leadership the Charles McBurney Laboratory became a beacon of geoarchaeology.

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