

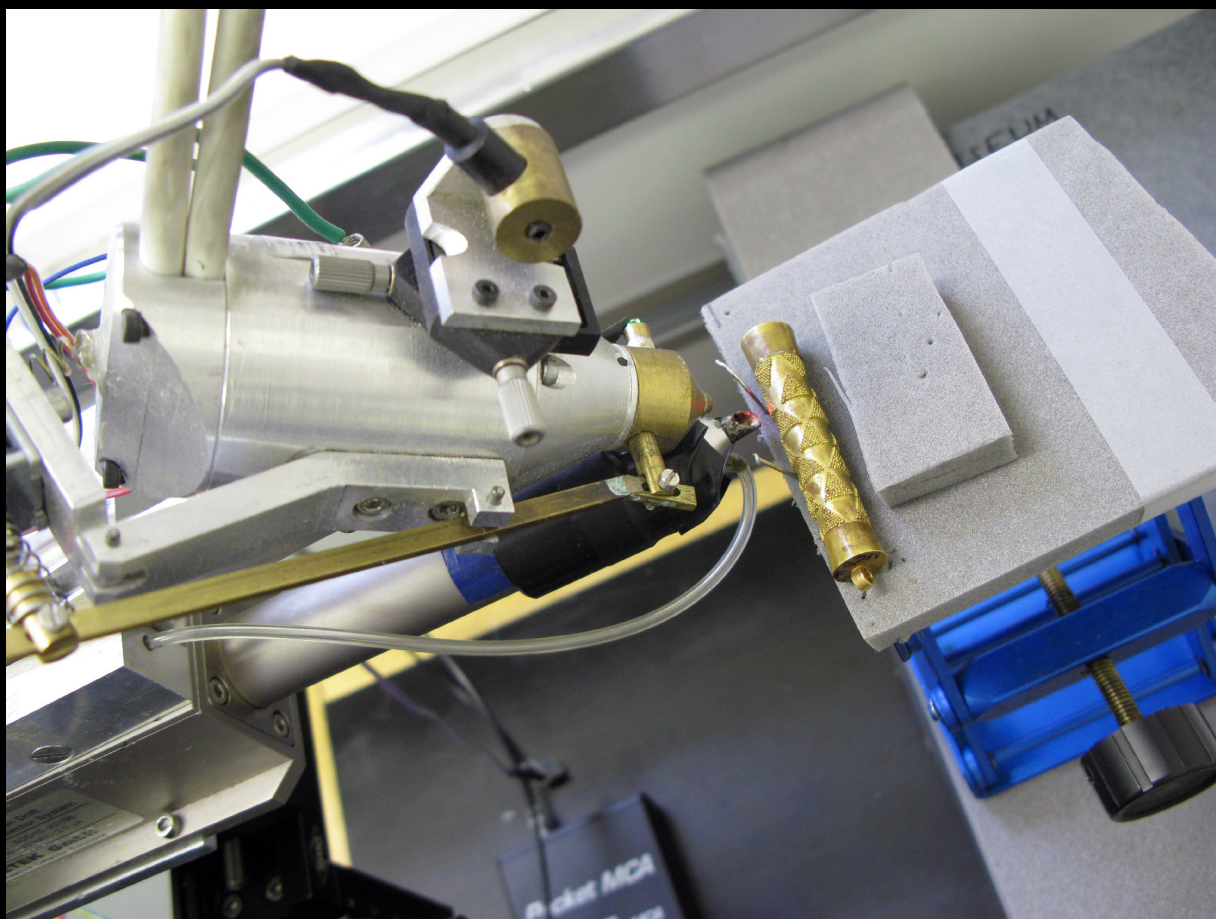


McDONALD INSTITUTE MONOGRAPHS

Ancient Egyptian gold

Archaeology and science in jewellery
(3500–1000 BC)

Edited by Maria F. Guerra, Marcos Martín-Torres
& Stephen Quirke



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with contributions from

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On the front cover: *Analysis of the gold cylindrical amulet from Haraga at The Petrie Museum of Egyptian Archaeology (UC6482) using a portable XRF spectrometer.*

On the back cover: *Details under the SEM of the triangular designs of granulation on the tube of the cylindrical amulet from Haraga.*

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Editorial foreword

This volume aims to present a wide range of perspectives on early Egyptian goldwork, integrating the complementary yet distinct approaches of archaeology, materials science, jewellery and Egyptology. On one level, our primary task has been to present new analytical data on the manufacturing technology and elemental composition of dozens of artefacts preserved at six European museums. At the same time, we have sought to anchor and contextualize this new information based on current research from three perspectives: an introduction to the fundamental geochemistry and material properties of gold, a reanalysis of historical sources and of goldwork manufacturing-techniques, and a guide to the key analytical techniques employed. In this way, we wish to ensure that the volume is accessible to specialists and students from different backgrounds. We anticipate that this body of material will provide a rich source of information for further interrogation and discussion in the future, and our concluding chapter offers a first synthesis of some key points emerging from this new research. There we focus particularly on the findings that seem to us most significant, alongside open questions and suggestions for future work. In so doing, we explicitly highlight some of the many strands beyond the scope of the work presented here, hoping that they may provide pointers for others. We emphasize that the volume is addressed not only to those interested in the archaeology of Egypt in the timespan covered, but equally to scholars researching past technologies and archaeological goldwork elsewhere, who may find technical observations of broader scope that could prompt cross-cultural comparisons.

In spite of the substantial amount of data compiled here for the first time, it is important to remind ourselves of some potential biases that are inherent to this work and may thus skew our interpretations. The most important of these concerns the selection of

objects. This project starts and, in many ways, remains throughout its course with the exceptional group of gold jewellery buried in Qurna, on the west bank of Thebes in Upper Egypt, with a woman and child whose names are unknown to us, at some point in the 17th or 16th century BC. Today the Qurna group is the most important Egyptian assemblage in the National Museum of Scotland, Edinburgh. In 2008, curator Bill Manley with materials scientists Jim Tate, Lore Troalen and Maria Filomena Guerra launched a programme of new analyses of the goldwork from the group. Already in this first investigation, the scope extended to comparison with jewellery from the preceding and following centuries (Tate et al. 2009; Troalen et al. 2009). With funding obtained from the CNRS, Guerra could then expand the range of collections involved in collaboration with Thilo Rehren at UCL, to include the UCL Petrie Museum of Egyptian Archaeology and the UCL Institute of Archaeology with its laboratory facilities, as well as the National Museums of Scotland and the British Museum as project partners (CNRS project PICS 5995 EBAJ-Au). On the initiative of Jim Tate, contact had been established already with colleagues Matthew Ponting and Ian Shaw at the University of Liverpool. As a result, the Garstang Museum is also participant in the wider project, together with the Manchester Museum, through the support of curator Campbell Price, and the Louvre Museum, through the support of curator H  l  ne Guichard and the late Sandrine Pag  s-Camagna, material scientist at C2RMF (Centre de Recherche et de Restauration des Mus  es de France). We wish to emphasize here the fundamental role of Sandrine Pag  s-Camagna in crucial stages of the project; without her participation the project could not have achieved a significant part of its aims – notably comparison between the Qurna group and the nearest securely dated examples of royal goldwork from the reigns of kings Kamose and Ahmose.

Other institutions participated with the provision of access to particularly specialized equipment: AGLAE facilities at C2RMF, Bundesanstalt für Materialforschung und –prüfung, and LIBPhys at NOVA University of Lisbon

With this new support, the research agenda was able to grow organically, adapting to fresh questions emerging from preliminary results, while contingent on the artefacts present in museums that were accessible to the project. Indeed, the history of the collections has been a significant factor, both enabling and constraining our research. The Louvre collections contain a range of jewellery from early excavations in Thebes, including representative material from the late second millennium BC settlement Deir al-Madina, and major works from 16th century royal burials uncovered during fieldwork directed by Auguste Mariette. The British Museum and the other participating museums in England and Scotland also preserve a mixture of material from documented excavations and earlier undocumented collecting practice. Here colonial history frames the kinds of material available. During and after the full British military occupation of Egypt (1882–1922), the Antiquities Service of Egypt under French Directors permitted officially recognized institutions to excavate in Egypt and, in return for the enrichment of the Egyptian Museum Cairo, to take a share of finds from excavations. Following division of finds in Egypt, excavation funding bodies based at Liverpool (since 1903) and London (since 1882) distributed finds to dozens of sponsoring museums (Stevenson 2019). The university museums in Liverpool and London were among the major recipients

of these finds, and also hold substantial excavation archives. The Qurna group itself and several other sets of jewellery analysed during the project are unusual examples of this pattern of dispersal, where the vast majority of items distributed belonged to the types of objects found in large numbers in fieldwork. The project was therefore able to investigate objects from a wide social spectrum, from palace production (Qurna group, Haraga fish and cylinder, items of kings Ahmose and Kamose from Thebes) to finds in cemeteries of regional rural towns and villages (Qau, Badari, Matmar). At the same time, in expanding the chronological scope of analyses forwards to the New Kingdom and back to the late prehistory of Egypt, the participating museums could not cover every social group for every period. Most notably, and perhaps surprisingly for those outside the museum circle, these collections hold none of the major goldwork from the age of the great pyramids, the mid-third millennium BC. At that period, the concentration of power at Memphis around kingship separates the royal court from the regions, and this is reflected in the tombs of the period and in the distribution of finds. Gold and gilt ornaments are more prominent in burials at the Memphite cemeteries: Giza and Saqqara. The single outstanding assemblage of Egyptian goldwork from the mid-third millennium BC is the unparalleled burial of material related to Hetepheres, mother of king Khufu; the finds are on display in the Egyptian Museum Cairo. Egyptologists from Cairo, Vienna, Boston, Hildesheim and Leipzig directed excavations at Giza; their museums received a share in finds (Manuelian 1999). The museums in our project, from Paris to Edinburgh,

Table 0.1. *Numbers of artefacts (museum inventory numbers) analysed by site and period.*

	Dyn 1-2	First IP	Middle Kingdom	Second IP(-Dyn18)	New Kingdom	?	Total
Memphis					2		2
Riqqa			4		7		11
Haraga			13 + 1?				14
Lahun			5				5
Ghurab					1		1
Sidmant			1		1		2
Amarna					8		8
Qau area		15		5			20
Abydos	4		2 + 2?	2		3	13
Naqada			2				2
Thebes			2	2 + 7?	4		15
*Qurna				12			12
Buhen			1				1
?		1	5	2	22		30
TOTAL	4	16	36	30	45	3	136

are not on that distribution map. With this and other lesser gaps, our sample, however extensive, cannot and does not claim to be random or representative of an underlying population of 'Egyptian goldwork'. On our chronological range from fourth to second millennia BC, there are peaks and troughs in the frequency of artefacts, and we encourage the reader to keep these in mind graphically, in order to assess our interpretations in context and to develop their own further research agendas (see Table 0.1).

Another delimiting factor in the selection of objects derives from our focus on technique, directing our attention predominantly to jewellery, rather than other gold elements such as the prominent use of sheets for gilding larger substrates of wood or plaster. Gold foils were included for comparative purposes, particularly in the investigation of composition, but to a lesser extent. Furthermore, within the rich repertoire of Egyptian gold jewellery, we took a particular interest in select assemblages, starting with the Qurna group itself, and within these certain specific features, such as the small beads found in the child's coffin and the adult's girdle. While these are fascinating manifestations of both technology and consumption, they are not necessarily representative of a broader corpus. We would also emphasize that we sought primarily artefacts with well-recorded archaeological contexts, as these evidently allow for more robust inferences, and provide the most secure foundations on which to build further research. Where the museums could provide access to material not from documented excavations, but acquired before 1970, we have included certain items if they helped to complete gaps in understanding, as a secondary circle of supplementary information. In each such case we have done our utmost to investigate their authenticity and source, but undeniably any interpretation based on an unprovenanced object will have to remain tentative. Indeed, one of our analytical investigations demonstrated the risks in building historical conclusions on material without documented

excavation context; a gold shell inscribed with the name of king Taa, who reigned close in time to the Qurna group, presents disconcerting features more consistent with modern rather than with ancient manufacture.

A final and equally important constraint concerns the background and expertise of the editors and contributors to this volume. While together we span interdisciplinary breadth, and have found synergies in our research, inevitably there remain areas beyond our interests and access, and indeed beyond the time scope of the project. For example, our data may be used as a starting point to address issues of provenance, but targeted consideration of the extraction methods and possible geological sources of gold is not addressed in detail in this volume. Instead, much more emphasis has been placed on issues of technology, and the application of the results to a concluding interpretation of the Qurna group. We look forward to seeing how others may take up such topics, and feel sure that the woman and child of Qurna will continue to pose new questions.

Finally, for the opportunity to share our discussions and findings with a wider research audience, we would like to express our gratitude to the McDonald Institute for Archaeological Research for including this volume in its series.

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Appendix 1

Map of Egypt with cited sites



Appendix 2

Egyptian chronology 4th millennium BC – AD 395

For general framework and discussion of problems in establishing a chronology for ancient Egypt from C14 dates of archaeological material, scale of monumental architectural activity within a reign, contemporary inscriptions dated by years of reign, Old and Middle Kingdom annals excerpts, New Kingdom and later kinglists, and correlations with archaeological and historical chronologies of connected regions, see Horning et al. (2006) and J. von Beckerath (1997).

For dates of Naqada Period and 1st Dynasty, see Dee et al. (2013). For Middle Kingdom dates, the chronology of the 12th Dynasty applies the sequence of reigns and years established by D. Franke (1988), adjusting the BC year dates at pages 134–8 to the correspondence of year 1 of Senusret III with 1872 BC as proposed by U. Luft (1992, 224–9).

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Periods		Approximate dates including 'dynasties' 1–30	
Naqada Period		c. 3900–3100 BC	
Early Dynastic Period		Dynasty 1	c. 3100–2900 BC
		Dynasty 2	c. 2900–2700 BC
		Dynasty 3	c. 2700–2600 BC
Old Kingdom		Dynasty 4	c. 2600–2450 BC
		Dynasty 5	c. 2450–2300 BC
		Dynasty 6	c. 2300–2150 BC
First Intermediate Period		Dynasty 7/8	c. 2150–2100 BC
		Dynasty 9/10	c. 2100–2025 BC
Middle Kingdom		Dynasty 11	c. 2050–1976 BC
		Dynasty 12	c. 1976–1795 BC
		Dynasty 13	c. 1795–1650 BC
Second Intermediate Period		Dynasty 15	c. 1650–1550 BC
		Dynasty 17	c. 1650–1550 BC
New Kingdom		Dynasty 18	c. 1550–1292 BC
	Ramesside Period	Dynasty 19	c. 1290–1185 BC
		Dynasty 20	c. 1185–1070 BC
Third Intermediate Period		Dynasties 21–24	c. 1070–664 BC
Kushite Period in Egypt		Dynasty 25	c. 725–663 BC
Late Period		Dynasties 26–30	664–332 BC
Macedonian rule		332–305 BC	
Ptolemaic Period		305–30 BC	
Roman Period		30 BC – AD 395	

Appendix 3

Kings cited in text, with tentative dates, by dynasty

'Dynasties' 1–30	Kings	Tentative dates of reigns (bc)
1	Aha	c. 3050 *
	Djer	c. 3000 *
	Djet	c. 3000 *
	Den	c. 2950 *
	Semerket	c. 2950 ? *
	Qaa	c. 2900 *
2	Khasekhemwy	c. 2700 *
3	Netjerket (Djoser)	c. 2675 *
	Sekhemket	c. 2625 *
4	Sneferu	c. 2600 *
	Khufu	c. 2575 *
	Khafra	c. 2550 *
5	Wenis	c. 2325 *
6	Teti	c. 2300 *
11	Nebhepetra Mentuhotep II	2046–1995
	Nebtwayra Mentuhotep IV	1983–1976
12	Senusret I	1956–1811
	Amenemhat II	1914–1879
	Senusret II	1882–1872
	Senusret III	1872–1854
	Amenemhat III	1854–1806

'Dynasties' 1–30	Kings	Tentative dates of reigns (bc)
13	Khasekhemra Neferhotep I	c. 1750 ? **
	Khaneferri Sobekotep IV	c. 1750 ? **
	Sekhemra Wadjkhau Sobekemsaf I	c. 1700 ? **
17	Sekhemra Shedtawy Sobekemsaf II	c. 1600 ? **
	Nubkheperri Intef	c. 1650 ? c. 1575 ? **
	Seqenenra Taa	c. 1570 *
	Kamose	c. 1550 *
18	Ahmose I	1550–1525
	Thutmose III	1479–1425
	Thutmose IV	1397–1388
	Amenhotep III	1388–1351
	Akhenaten	1351–1334
	Tutankhamun	1333–1323
19	Sety I	1290–1279
	Ramses II	1279–1213
20	Ramses IV	1152–1145
	Ramses IX	1125–1107
21	Psusennes (Pasebakhamniut)	1044–994

* length of reign uncertain; date of reign estimated from place in dynasty

** precise place within Second Intermediate Period uncertain

Appendix 4

Sudan chronology

Early Kerma Period	2450–2050 BC
Middle Kerma Period	2050–1750 BC
Classic Kerma Period	1750–1450 BC
Napatan Period	800–300 BC
Meroitic Period	300 BC – AD 300

Appendix 5

List of objects analysed

BM – British Museum; GM – Garstang Museum of Archaeology; ML – Louvre Museum; MM – Manchester Museum; NMS – National Museums Scotland; PM – Petrie Museum of Egyptian Archaeology; D – Dynasty; IP – Intermediate Period; MK – Middle Kingdom; NK – New Kingdom

Acc. No.	Collection	Origin	Object	Period	Chapter
EA37532	BM	T1730 Abydos	Diadem	Naqada II	7.3
UC35689 (A-D)	PM	T B10 Abydos	Foils	1D	7.3
UC36517	PM	T500 Abydos	String	1D	7.3
UC18092	PM	T7923 Qau	String	1IP	7.4
UC18054	PM	T7923 Qau	Bracelet	1IP	7.4
UC18055	PM	T7923 Qau	Bracelet	1IP	7.4
UC20651	PM	T4932 Badari	Heh amulet	1IP	7.4
UC18059	PM	T1030 Qau	String	1IP	7.4
UC18060	PM	T1030 Qau	String	1IP	7.4
UC20896	PM	T7777 Qau	String	1IP	7.4
UC18025	PM	T4903 Badari	String	1IP	7.4
UC18026	PM	T4903 Badari	String	1IP	7.4
UC20881	PM	T5270 Badari	String	1IP	7.4
UC20882	PM	T5281 Badari	String	1IP	7.4
UC20649	PM	T4915 Badari	String	1IP	7.4
UC20589	PM	T3306 Badari	String	1IP	7.4
UC42397	PM	T3053 Matmar	Cowrie beads	1IP	7.4
UC34110	PM	?	Button seal	1IP	7.4
UC42422	PM	T3029 Matmar	String	1IP	7.4
UC36832	PM	Khasekhemwy Abydos	Chain	1IP	7.4
A.1914.1079	NMS	T72 Haraga	Fish pendant	MK	8.2
A.1914.1080	NMS	T72 Haraga	Fish pendant	MK	8.2
A.1914.1081	NMS	T72 Haraga	Fish pendant	MK	8.2
A.1914.1082	NMS	T72 Haraga	Fish pendant	MK	8.2
A.1914.1084	NMS	T72 Haraga	Scarab	MK	8.2
A.1914.1091	NMS	T72 Haraga	String	MK	8.2
A.1914.1092	NMS	T72 Haraga	String	MK	8.2
A.1914.1094	NMS	T72 Haraga	String	MK	8.2
A.1914.1096	NMS	T72 Haraga	String	MK	8.2
A.1914.1097	NMS	T72 Haraga	String	MK	8.2

Appendix 5

Acc. No.	Collection	Origin	Object	Period	Chapter
5966	MM	T124 Riqqa	Pectoral	MK	8.3
5969	MM	T124 Riqqa	Min amulet	MK	8.3
5968	MM	T124 Riqqa	Shell	MK	8.3
5967	MM	T124 Riqqa	Winged beetle	MK	8.3
UC6391	PM	? Haraga	Shell	MK	8.4
UC6411	PM	T520 Haraga	Fish pendant	MK	8.4
UC6482	PM	T211 Haraga	Cylinder amulet	MK	8.5
UC11365	PM	? Lahun	Scarab	MK	8.4
UC7537	PM	? Lahun	String	MK	8.4
UC6475	PM	T67 Haraga	Foils	MK	8.4
UC7605 i-iii	PM	T7 Lahun	Foils	MK	8.4
UC7606	PM	T7 Lahun	Foils	MK	8.4
UC7607i-iv	PM	T7 Lahun	Foils	MK	8.4
UC6571	PM	T7 Lahun	Foils	MK	8.4
UC11353	PM	? Naqada	Scarab	MK	8.4
UC29057	PM	? Naqada	Scarab	MK	8.4
UC21026	PM	? Buhen	Bead	MK	8.4
E.944	GM	T405 Abydos	Heart-scarab	MK	8.6
E.2380	GM	T492 Abydos	String	2IP/18D	8.6
E.2365	GM	T459 Abydos	Cylinder amulet	MK	8.6
E.5727	GM	T381 Abydos	Gilded wood	MK	8.6
E.5728	GM	T381 Abydos	Gilded wood	MK	8.6
E.5726	GM	T353 Abydos	Gilded wood	MK	8.6
E.432-24	GM	? Abydos	Foils	MK	8.6
E.432-25	GM	? Abydos	Foils	MK	8.6
UC52202	PM	?	Cylinder amulet	MK	8.7
UC8971	PM	?	String	MK	8.7
UC8973	PM	?	String	MK	8.7
UC36475	PM	?	String	MK	8.7
EA3077	BM	? Thebes	String	MK?	8.8
EA37308	BM	TG62 Abydos	finger-ring	MK	10.4
A.1909.527.1	NMS	Qurna	Foil	2IP	9.2
A.1909.527.16A	NMS	Qurna	Bangle	2IP	9.2
A.1909.527.16B	NMS	Qurna	Bangle	2IP	9.2
A.1909.527.16C	NMS	Qurna	Bangle	2IP	9.2
A.1909.527.16D	NMS	Qurna	Bangle	2IP	9.2
A.1909.527.18A	NMS	Qurna	Earring	2IP	9.2
A.1909.527.18B	NMS	Qurna	Earring	2IP	9.2
A.1909.527.19	NMS	Qurna	Collar	2IP	9.2
A.1909.527.17	NMS	Qurna	Girdle	2IP	9.2
A.1909.527.43A	NMS	Qurna	Earring	2IP	9.2
A.1909.527.43B	NMS	Qurna	Earring	2IP	9.2
A.1909.527.11	NMS	Qurna	Necklace	2IP	9.2
EA7876	BM	? Dra Abu al-Naga	Heart-scarab	2IP	9.3
EA57698	BM	with Intef	Finger-ring	2IP	9.3

Appendix 5

Acc. No.	Collection	Origin	Object	Period	Chapter
EA57699	BM	with Intef	Spacer-bar	2IP	9.3
EA57700	BM	with Intef	Spacer-bar	2IP	9.3
E7725	LM	with Ahhotep	Finger-ring	2IP/18D	9.4
E3297	LM	with Ahhotep	Scarab	2IP/18D	9.4
E7659	LM	with Ahhotep	Seth amulet	2IP/18D	9.4
E7715	LM	with Ahhotep	Seth amulet	2IP/18D	9.4
E7168	LM	Kamose Dra Abu al-Naga	Armband	2IP	9.4
UC26052	PM	T7352 Badari	Crescent bead	2IP	9.5
UC26018	PM	T3757 Badari	Coiled spirals	2IP	9.5
UC26019	PM	T3757 Badari	Coiled spirals	2IP	9.5
UC11850	PM	with Kamose	Pendant	2IP	9.5
UC11847	PM	with Taa	Shell	2IP	9.5
UC26275	PM	T7323 Qau	String	2IP	9.5
UC26277	PM	T7323 Qau	String	2IP	9.5
UC42860	PM	? Abydos	Foils	2IP	9.5
N 1855 A	ML	? Palestine	Hawk pendant	NK	6.3
A.1913.388	NMS	T296 Riqqa	String	NK	10.2
A.1913.389	NMS	T296 Riqqa	Rib. pen. earring	NK	10.2
A.1913.390	NMS	T296 Riqqa	Rib. pen. earring	NK	10.2
A.1913.391	NMS	T296 Riqqa	Rib. pen. earring	NK	10.2
A.1928.160	NMS	?	Rib. pen. earring	NK	10.3
A.1937.691	NMS	?	Rib. pen. earring	NK	10.3
A.1965.368	NMS	?	Rib. pen. earring	NK	10.3
6146a	MM	Cemetery C Riqqa	Rib. pen. earring	NK	10.3
6146b	MM	? Riqqa	Pen. earring	NK	10.3
UC 31416	PM	Cemetery C Riqqa	Rib. pen. earring	NK	10.3
E 14435B	ML	T1371 Deir el-Medina	Rib. pen. earring	NK	10.3
E 14435C	ML	T1371 Deir el-Medina	Rib. pen. earring	NK	10.3
E 14435D	ML	T1371 Deir el-Medina	Rib. pen. earring	NK	10.3
N 2084	ML	?	Pen. earring	NK	10.3
AF 2444	ML	?	Pen. earring	NK	10.3
N 1855 B	ML	?	Pen. earring	NK	10.3
EA14346	BM	?	Pen. earring	NK	10.3
A.212.12	NMS	?	Finger-ring	NK	10.4
A.1965.362	NMS	?	Finger-ring	NK	10.4
UC12683	PM	?	Finger-ring	NK	10.4
UC12689	PM	?	Finger-ring	NK	10.4
UC58121	PM	?	Finger-ring	NK	10.4
N747	ML	with Horemheb	Finger-ring	NK	10.4
AF2462	ML	?	Finger-ring	NK	10.4
EA71492	BM	? Memphis	Finger-ring	NK	10.4
EA4159	BM	?	Finger-ring	NK	10.4
EA2922	BM	?	Finger-ring	NK	10.4
EA49717	BM	?	Finger-ring	NK	10.4
A.1883.49.1	NMS	? Amarna	Finger-ring	NK	10.4 & 10.5

Appendix 5

Acc. No.	Collection	Origin	Object	Period	Chapter
A.1883.49.2	NMS	? Amarna	Finger-ring	NK	10.4 & 10.5
A.1883.49.8	NMS	? Amarna	Finger-ring	NK	10.4 & 10.5
EA2923	BM	?	Finger-ring	NK	10.4
EA54547	BM	?	Finger-ring	NK	10.4
A.1883.49.6	NMS	? Amarna	Sequin	NK	10.5
A.1883.49.9	NMS	? Amarna	Ear stud	NK	10.5
A.1883.49.10	NMS	? Amarna	Ear stud	NK	10.5
A.1883.49.13	NMS	? Amarna	String	NK	10.5
A.1883.49.15	NMS	? Amarna	Foils	NK	10.5
E2990A	ML	Memphis, serapeum	Chain	NK	10.7
E22658	ML	?	String	NK	10.7
EA66827	BM	Tomb 3 Wives Thutmes III ?	String	NK	10.6
EA14696	BM	?	String	NK	10.6
UC12323	PM	?	Sheet Cartouche	NK	10.7
UC45602	PM	? Gurob	String	NK	10.7
UC38580	PM	T406 Sidmant	Nefer pendants	NK	10.7

Appendix 6

Index of objects analysed

A. Index of objects by site from south to north

SUDAN

Buhen

Town Temple Area AT room 2: [UC21026](#) lozenge bead, Middle Kingdom? From a mixed context yielding MK and NK beads and amulets, according to the Petrie Museum register for UC21026-21046, citing old mark or label 'AT (2) Town Temple Area'; group not included in Emery et al. (1979).

EGYPT

Thebes (Wadi Qubbanat al-Qurud, Deir el-Medina, Dra Abu al-Naga/Qurna)

Wadi Qubbanat al-Qurud, burial of three queens of Thutmes III, ascription not securely documented: restrung pendants and beads British Museum [EA66827](#), purchased in 1966 from E. Spencer-Churchill.

Deir el-Medina tomb 1371: penannular earrings Louvre Museum [E14435 B-D](#).

Dra Abu al-Naga: 'Qurna burial group' National Museums Scotland, Edinburgh:

(a) adult woman: [A.1909.527.1](#) (foil), [A.1909.527.16](#) (4 armlets), [A.1909.527.17](#) (girdle), [A.1909.527.18](#) (2 earrings), [A.1909.527.19](#) (collar);

(b) child: [A.1909.527.11](#) (necklace), [A.1909.527.43](#) (2 earrings).

Dra Abu al-Naga: Louvre Museum [E7168](#) armband elements with name of king Kamose, from his coffin.
Dra Abu al-Naga (?): British Museum [EA7876](#), king Sobekemsaf heart scarab with gold base-plate

Findplace within site not documented: British Museum [EA3077](#), restrung beads, pendants, amulets, Middle Kingdom except for lotus pendant, New Kingdom or later.

Naqada

Findplace within site not documented (if purchased during the season, perhaps found elsewhere): Petrie Museum [UC11353](#) scarab with gold base-plate, inscribed for lady of the house Mununib; Petrie Museum [UC29057](#) scarab with gold base-plate bearing floral design (Ben-Tor 2007, pl.1.41 with parallels in late Middle Kingdom scarab corpus).

Qift/Coptos

Findplace within site not documented: Petrie Museum [UC12683](#) gold ring with carnelian scarab inscribed with name of Ramses II; purchased during the season, perhaps found elsewhere, see Adams (2002, 5-22) and p. 20: 'I bought some interesting things from the Keineh dealers lately', n.60 identifying the 'agate scarab of Ramessu II in the original gold ring' as [UC12683](#).

Abydos

Petrie (1901-1902 fieldwork) cemetery G, tomb 62: British Museum [EA37308](#) obsidian scarab mounted on gold base-plate with gold shank.

Garstang (1907 fieldwork) tomb 381, no details on construction or human remains, location given as 'On south of 381, row of pits numbered 416' (Snape 1986, 229); on 416 see Kemp & Merrillees (1980, 112) for possibility that some items identified as from 381 may have been deposited originally in 416). The recorded finds indicate a heavily disturbed context including

shabtis (Snape 1986, 230 nos.8, 10) presumably of New Kingdom, Third Intermediate or Late Period (Snape 1986, 462 for drawings of gilt wood fragments, pottery vase and coffin fragment with inscription): Garstang Museum [E.5727](#) and [E.5728](#) gilt wood fragments. [E.5728](#) comprises the left part of curved round straight-topped gilt wood funerary amulet (broad collar?), on gilt wood curving rod. Two rows of figures are depicted in black on one side of the amulet: upper row vulture and winged scarab, lower row seated god and goddess signs). The combination of motifs suggests a date in the Late Period or Ptolemaic Period (cf gold plaques discussed by Stünkel (2015)).

Garstang (1908 fieldwork) tomb 405, no details on location, construction or human remains, contents listed from Garstang records as 1. gold base-plate, 2. pottery vessel, 3. two eye inlays with blue glaze eyebrows from a rectangular coffin, as attested for the Middle Kingdom (cf. Schiestl 2007), 4. green glaze figurine head, 5. green glazed perforated disk, 6. gold shell, 7. granite kohl pot, 8. plaster fragment with seated man hieroglyph, 9. small red pottery cosmetic vessel, 10. blue glaze cylinder beads, 11. wood fragment with gold leaf, 12. fragments of blue-painted stuccoed coffin, 13. inscribed black stone, 14. fragments of green glaze, 15. small green glaze beads (Snape 1986, 238, drawings on p.474); the finds indicate a heavily disturbed context, possibly all from a single Middle Kingdom burial, but impossible to determine likelihood of number of burials in absence of information on any human remains or number or size of chambers: Garstang Museum [E.944](#) heart scarab gold base-plate, SIP (slightly different listing in Kemp 1979).

Garstang (1908 fieldwork) tomb 459, no details on location, construction or human remains, contents listed from Garstang records as 1. crystalline calcite vessel, 2. serpentinite vessel, 3. scarab, 4. composite gold and faience ornament; the contents indicate one or more heavily disturbed late Middle Kingdom to Second Intermediate Period burials (Snape 1986, 253, drawings on p.490); the drawing by Snape shows scarab design as single Z-spiral between lozenges with internal lines, scarab back with horizontal criss-cross lines; a close parallel for the motif, but without the internal lozenge lines, is Ben-Tor (2007) pl. 32.19 Egyptian Second Intermediate Period corpus (= Brunton 1930, pl.19.24), cf. Ben-Tor (2007) pl.32.16, .24, .27, .29 with variant lateral motifs, and examples of the element with internal lines at pl.32.8-.9; *ibid.* pl.75.1, .3, .5 Z-spiral between > and < elements, from the late Palestinian corpus (= scarabs produced in Palestine c. 1650–1550 BC); the scarab in this context seems

likely to have been produced in Egypt during the Second Intermediate Period c. 1700–1550 BC: Garstang Museum [E.2365](#) cylinder amulet with gold caps, Middle Kingdom.

Garstang (1908 fieldwork) tomb 492, no details on location, construction or human remains, contents listed from Garstang records as 1. beads now Garstang Museum [E.2380](#), 2. dark stone *wedjat*-eye amulet, 3. fragment of a clay sealing with impression, not illustrated (Snape 1986, 260, drawings on p.496): Garstang Museum [E.2380](#) restrung beads, Middle Kingdom.

Garstang (1908 fieldwork) tomb 533, no details on location, construction or human remains, contents listed from Garstang records as 1.-2. pottery vessels, 3.-5. stone vessels (Snape 1986, 273, drawings on p.512): Garstang Museum [E.5726](#) fragments of gilt wood object (date?).

Garstang (1909 fieldwork) tomb 941, one of two main chambers in a vaulted mid-18th Dynasty shaft tomb, group 941-944 and 949, on the East ridge (identified by Snape 1986, 15-8 with 9-10 fig. 2 as a once raised area of ground, no longer in existence, located east of the Middle Cemetery, and south of the area of the ancient town and Osiris temple), with eight burials, of which four were intact (Snape 1986, 360-1, citing a Garstang report of 1909, reproduced at p.149, for 941 as containing ‘several superposed layers of interments, in one stratum of which a set of jewels was discovered’): Liverpool World Museum 1977.108.6, .7 two pairs of pennanular earrings.

Peet (1911–12 fieldwork) cemetery C, tomb 52 (?); Peet C 52 comprises a shaft and 4 chambers, two of which each contained 3 bodies, other finds indicating a date in the Second Intermediate Period to early Dynasty 18 (c. 1700–1500 BC): gold foil Petrie Museum [UC42860](#) (findplace not recorded in the publication or on the tomb-card in the Egypt Exploration Society archive tomb-cards for Peet Cemetery C online at <https://www.flickr.com/photos/egyptexplorationsociety/sets/72157661132666022/>; it is possible that [UC42860](#) is instead the ‘small piece of gold foil in shaft’ recorded from Peet Cemetery C tomb 62, a shaft tomb with large chamber on south, no finds in chamber, no other finds recorded)

Petrie (1921–2 fieldwork) among tombs of First Dynasty courtiers around royal funerary enclosures, North Cemetery, at the enclosure for king Djer, tomb 500: restrung beads Petrie Museum [UC36517](#); note that the beads are neither cited in the publication (Petrie 1925), nor mentioned in the finds index-card for tomb 500, in the Petrie Museum archive, and so the 1970s–1980s

museum inventory register may be the only evidence for the ascription of the beads to Djer enclosure subsidiary tomb 500.

Frankfort (1925–6 fieldwork) tomb 1730: beads from a head ornament British Museum [EA37532](#).

Ascription to Abydos uncertain: four fragments of gold foil Petrie Museum [UC35689](#) identified in the 1970s–1980s museum inventory register as having had an old label ‘with Narmer’, interpreted in the register as ‘possibly Tomb B10, Tomb of Hor-Aha, Petrie’s “Narmer”’; the ‘with Narmer’ label leaves uncertain whether the fragments were from Tomb B10 in the Petrie 1899–1901 excavations in the Umm al-Qaab, the Early Dynastic royal cemetery at Abydos; the association with Narmer may relate to a find-group in excavation, or to a purchase of the fragment with ‘Narmer’ material, but in either case the criteria for the dating are not stated.

Qau to Matmar (excavations directed by Brunton 1922–1931 and, at Qau 1923–1924, Petrie)

A note on dating: For the dating of 3rd millennium BC tombs in these cemeteries, Brunton used for sequential blocks of time the framework of Dynasties from the Hellenistic king-lists attributed to the 3rd century BC Egyptian writer Manetho. Although roughly aligned, his dynasty dates give a false impression of precision; the continuing confusion in museum labelling and in secondary literature demonstrates the need to avoid that approach. More appropriate date-blocks in phases (*Stufen*) are provided from the seriation by Seidlmayer (1990, with particular reference to p.135–9 and the concordance chart at p.395). Seidlmayer omits from his results those tombs with an insufficient range of object types for an estimate; in these cases, the Brunton date is rendered by rough period dates according to the equation ‘Dynasty 6’ = end of the Old Kingdom, ‘Dynasties 7–8’ = early First Intermediate Period, ‘Dynasties 9–10’ = late First Intermediate Period.

For the 2nd millennium BC tombs, Brunton applied broad period names, avoiding the problems of applying ‘Dynasty’ dates to contexts.

Qau (cemeteries in the area of the ancient town, excavations directed by Brunton and Petrie 1922–1925)

Tomb 1030, shaft with chamber on south, partly disturbed, individual identified by excavators as young woman, with gold bangle on each wrist, necklaces, string of minute gold beads and amulets, anklets of

Conus shells and carnelian leg-amulets and beads; three mirrors, copper fastener from a box, two calcite vases, no pottery (Brunton 1927, 33, pl. 45; Brunton 1928, pl. 59 tomb register); dated to the early First Intermediate Period by Seidlmayer 1990, 137 (IIC): restrung beads and pendants found at the neck Petrie Museum [UC18059](#) (Xia Nai bead corpus card 434); restrung small gold beads found at left wrist Petrie Museum [UC18060](#) (Xia Nai bead corpus card 435).

Tomb 7323, shaft with chamber on south, burial of an adult woman (body A), two children beside her (B, C), and a third child prone (D near C), perhaps originally in its own wood coffin or box, not preserved (Brunton 1930, 9); dated by Brunton to the early First Intermediate Period: restrung beads found with body of child B Petrie Museum [UC26275](#); restrung beads found with body of child D, strung with copper rings perhaps the ones in mouth of child B Petrie Museum [UC26277](#).

Tomb 7578, shaft tomb with partly disturbed chamber on West, with one burial at higher level (body A), and burials of three women (bodies B, D, F), one man (along north wall, body disturbed), and two infants (bodies C, E) at lower level, with no evidence of a coffin for any of the bodies in the chamber (Brunton 1930, 9); pottery and beads indicate a Second Intermediate Period date: crescent bead restrung with an uninscribed green-black hard stone scarab and a steatite scarab bearing motif of a schematic *wedjat*-eye and lateral > space-filler either side of an S-spiral with internal lines in loops Petrie Museum [UC26052](#), recorded in museum register as from ‘? Body F? or A?’.

Tomb 7777, shaft with chamber on south, intact, individual identified by excavators as female, with grindstone, mirror, one pottery vessel type, and beads and leg-amulets (Brunton 1928, pl.63 tomb register); dated to the late First Intermediate Period by Seidlmayer (1990: 139, IIIA): restrung beads and leg-amulets Petrie Museum [UC20896](#) (Xia Nai bead corpus card 787); tomb-card in Petrie Museum archive identifies small beads as a necklace, and one gold bead as found with a copper mirror disk, grindstone, and pottery cosmetic vase deposited on the east of the burial chamber in front of the face of the deceased.

Tomb 7923, shaft with chamber on south, intact, sex of individual uncertain, with pottery, stone vases, mirror, gold bracelets, faience beads, and gold cowries and disk beads which ‘may have come from the ankles’ (Brunton 1927, 37), though cowries later are more typical of girdles (see Qurna group); dated to the early First Intermediate Period by Seidlmayer (1990,

139 IIB): two gold bracelets Petrie Museum [UC18054](#) and [UC18055](#); restrung beads Petrie Museum [UC18092](#) (Xia Nai bead corpus card 777).

Badari (cemeteries along the low desert in the area of Badari and other villages, excavations directed by Brunton 1922–1925)

South group of cemeteries at wadi near Sheikh Isa

Tomb 4903, chamber without shaft, burial of individual identified by excavators as female, with pot 33h at corner, mirror in front of face, cosmetic vase and box at pelvis, stone vase and bag (?) of pigment, bone pint, *Conus* shell, jasper pebble, amulet fragment, and human hair; 'Six different strings of beads from the neck and waist'; faience cylinder, four gold amulets, a disk seal-amulet at neck and waist; 'At each ankle the usual string of *Conus* shells with a carnelian leg' (Brunton 1927, 36); dated to the early First Intermediate Period by Seidlmayer (1990, 138 IIB): restrung beads and amulets found at neck Petrie Museum [UC18025](#) (Xia Nai bead corpus card 743); restrung beads [UC18026](#) (Xia Nai bead corpus card 744).

Tomb 4915, shaft with chamber on west, intact burial of individual tentatively identified by excavators as female, evidence for a stuccoed coffin, pottery types 22H, 35N, 48E,P, 88W, beads, amulets types 38G3 (bee), 45F6 (falcon), 62F10 (x2, *wedjat*-eye), 63G6 (x2, crown), 63G8 (crown) (Brunton 1928, pl. 62 tomb register); dated to the early First Intermediate Period by Seidlmayer (1990, 138, IIC): restrung amulets and beads Petrie Museum [UC20649](#) (Xia Nai bead corpus cards 119[a-b]).

Tomb 4932, shaft with chamber on west, heavily disturbed, no information on body, evidence of a wood coffin, one globular pottery vessel, and the incomplete gold amulet Petrie Museum [UC20651](#) (Brunton 1928, pl. 63 tomb register); dated to the early First Intermediate Period by Seidlmayer (1990, 138, IIC).

Tomb 5270, shaft without chamber, burial intact, individual identified by excavators as female, evidence of a wooden coffin, pottery vessel types 23Q, 81G, grindstone, beads and amulet type 49C6 (Brunton 1928, pl. 68 tomb register); dated to the late First Intermediate Period by Seidlmayer (1990, 139, IIIA): amulet Petrie Museum [UC20881](#).

Tomb 5281, shaft with chamber on south, burial heavily disturbed, no information on body, evidence of a wood coffin, pottery type 37D, beads and amulet type 49C3 (Brunton 1928, pl. 68 tomb register); dated to the

late First Intermediate Period by Seidlmayer (1990, 138, IIIA): amulet Petrie Museum [UC20882](#).

North group of cemeteries nearer Badari

Tomb 3306, intact surface burial, evidence of stuccoed coffin, with (Brunton 1927, 35) 'Tightly contracted immature body, probably female', one globular pot of type 48P, seven necklaces including 'short one of gold rings' and two amulets (a schematic forked form in faience identified by Brunton as a scorpion, type 42H15, and an ivory vulture, type 46H6), at the waist an uncertain number of long strings of faience disk beads with two seal-amulets, and at each ankle two anklets, one with fourteen *conus* shells and a carnelian leg-amulet, the other with fourteen flat ovals and a blue-glazed faience leg-amulet; dated to the early First Intermediate Period by Seidlmayer (1990, 138 IIC): select beads and amulets, including forked gold amulet or pendant, restrung as Petrie Museum [UC20589](#) (Xia Nai bead corpus card 134).

Tomb 3757, chamber c. 90 × 225 × 208 cm³ without separate shaft, heavily disturbed, no information on human remains, traces of wood coffin, with a serpentinite kohl-vase, three steatite scarabs, gold, glass, shell and faience beads, and gold earrings, glass earrings (Brunton 1930, pl. 5 tomb register); the vase, scarabs and earrings may have been made in the late Middle Kingdom to Second Intermediate Period; the presence of glass would suggest a date after the Second Intermediate Period, but the material requires re-identification from the restrung set Petrie Museum [UC26020](#): restrung gold beads on two strings meeting at double bead Petrie Museum [UC26018](#); two gold earrings each formed of two coils Petrie Museum [UC26019](#).

Matmar

Tomb 3029 (Brunton 1948, pl.28 register), shaft with chamber on south, intact: 'Untouched female in stuccoed coffin. Beads on both arms, and necklaces of carnelian ring beads with gold amulets, and blue faience with three small scarabs (pl.xxxiii, 65, 75, 78), and other amulets. Copper ring on right hand (pl. xxxv, 27). Close to the head was an alabaster vase (pl. xxxiv, 24) a quartzite grinder, and a copper razor blade (pl.xxxv, 22). The pot, 24p, containing a little brown organic matter, stood in front of the face, outside the coffin' (Brunton, Matmar, 40, section 76).

Dated to the late First Intermediate Period by Seidlmayer (1990, 136, IIIA): restrung beads and amulets found at the neck Petrie Museum [UC42422](#).

Tomb 3053 (Brunton 1948, pl. 27 register), heavily disturbed shaft tomb with chamber on south, burial of an individual identified in the excavation report as female, traces of a wood coffin; pottery of types 61P, 63J, 63Q; carnelian, faience, shell and four gold beads; dated to the end of the Old Kingdom by Seidlmayer (1990, 136, IIA): restrung beads Petrie Museum [UC42397](#).

Amarna

Royal Tomb, attribution uncertain, acquired from W. Ready: National Museums Scotland, Edinburgh [A.1883.49.1](#), [A.1883.49.2](#), [A.1883.49.8](#) rings; [A.1883.49.9-10](#) ear studs; [A.1883.49.13](#) restrung beads; [A.1883.49.15](#) foil.

Sidmant

Deposit 1300, miscellaneous materials in a chamber without evidence of a burial, all finds consistent with a late Middle Kingdom date (Lilyquist 2009): restrung beads Petrie Museum [UC18836](#).

Tomb 406: *nefer* pendants Petrie Museum [UC38580](#).

Madinat al-Ghurab

Findplace within site not documented, assemblage of New Kingdom material: restrung beads, gold-mounted scarabs, and scorpion pendant Petrie Museum [UC45602](#) (Xia Nai bead corpus card 864).

Lahun

Pyramid precinct of king Senusret II, tomb 7, identity of individual unknown: Petrie Museum [UC7605 i-iii](#), [UC7606](#), [UC7607i-iv](#) gold leaf.

Pyramid precinct of king Senusret II, tomb 8, of the king's daughter Sathathoriunet: Petrie Museum [UC6571](#).

Findplace within site not documented, recorded on old label in museum as 'found together': restrung beads Petrie Museum [UC7537](#) (Xia Nai bead corpus card 612).

Haraga

Finds from excavations directed by Reginald Engelbach in 1913–1914 for the Petrie funding body the British School of Archaeology in Egypt.

Cemetery F, Tomb 67; shaft burial Middle Kingdom, no sex given so body perhaps not preserved, with

intrusive late Dynasty 18 burial from which gold foil is recorded; finds Petrie Museum [UC6475](#) (gold foil), late Dynasty 18 pot type 46O, and, from the Middle Kingdom burial, pottery, beads, 2 flint flakes, an eye inlay from a mummy mask or case.

Cemetery A, Tomb 72: description in Middle Kingdom chapter; finds Edinburgh National Museums Scotland [A.1914.1079](#), [A.1914.1080](#), [A.1914.1081](#), [A.1914.1082](#) (fish pendants); [A.1914.1084](#) (mounted scarab); [A.1914.1091](#), [A.1914.1092](#), [A.1914.1094](#), [A.1914.1096](#) (restrung beads); [A.1914.1097](#) (shells)

Cemetery A, Tomb 211: Petrie Museum [UC6482](#) (cylinder amulet).

Cemetery Wady II, Tomb 520: Petrie Museum [UC6411](#) (fish pendant).

Findplace within site not documented: Petrie Museum [UC6391](#) (shell pendant), no tomb number recorded in museum register volume. The excavation report records small gold shells from tombs 154, 308 and 336 (Engelbach & Gunn 1923, pl. 50, types 32n, p), and the example published in photograph from tomb 154 seems more circular than [UC6391](#) (Engelbach 1923, pl. 22.2). According to the published 'dispersal list' (Engelbach & Gunn 1923, 35), finds from 336 went to Manchester, with no information on the destination of finds from 154; the shell from tomb 308 went to Cleveland, as also indicated on the Petrie Museum archive distribution page PMA/WFP1/D/22/40.2 'gold shell + amulet case (broken) 308'; it is now Cleveland Museum of Art 1915.25, see Berman (1999, 542 no.472). The Petrie Museum archive contains among the lists of objects distributed to sponsor institutions a page (PMA/WFP1/D/22/37.1 online at <http://egyptartefacts.griffith.ox.ac.uk/pmawfp1d22371>) which indicates some confusion over the allocation to Manchester, with one entry of jewellery identified initially as from tomb 316, corrected to 336; the entry contains no reference to a shell, but the same page has an entry with added 'gold shell, gold fish (bad)' added to 'Figures of man' for tomb 336.

Riqqa

Tomb 124: see Chapter 8.3 for description; finds Manchester Museum [5966](#), [5967](#), [5968](#) (pectorals); [5969](#) (Min figurine).

Tomb 296: see Chapter 10.2 for description; finds National Museums Scotland, Edinburgh [A.1913.388-391](#).

Cemetery C, disturbed context (Engelbach et al. 1915, pl. 51.3 (3) or (4), p. 31-2: 'four gold ribbed hair-rings' 'found far above the grave level, only about a foot below the surface').

Disturbed context?: penannular earrings Petrie Museum [UC31416](#), Manchester Museum [6146a](#) and [6146b](#).

Saqqara/Memphis

Saqqara Serapeum, Khamwaset object assemblage: loop chain Louvre Museum [E2990A](#).

Findplace within site not documented, ascribed to burial of general Djehuty: British Museum [EA71492](#), acquired in 1989, previously in various collections since Ashburnham acquired in 1825.

B. Museums

Edinburgh, National Museums Scotland

[A.212.12](#) ring, acquired in 1858, gift of J. Ivor Murray [A.1928.160](#), [A.1937.691](#), [A.1965.368](#) penannular earrings: [A.1928.160](#), 1928 gift Mrs. Wight; [A.1937.691](#), 1937 gift Lady Binning; [A.1965.368](#) 1965 gift C.T. Trechmann;

[A.1965.362](#), ring with hieroglyphic inscription gift C.T. Trechmann.

London, British Museum

[EA2922](#) ring with lapis cylinder in gold mount, acquired in 1837.

[EA2923](#) ring with frog figure, acquired in 1839 as part of the Anastasiou collection.

[EA4159](#) ring with invocation of Amun, purchased in 1840 from Edward Hogg.

[EA14346](#) penannular earring acquired in 1867 through Rollin and Feuarent.

[EA14696](#) restrung fish, duck, wallet beads, acquired in 1872 from Alessandro Castellani.

[EA49717](#) ring with name of Hatshepsut, acquired in 1911, anonymous donation.

[EA54547](#) gold ring with carnelian cat bezel, acquired from Franks bequest 1897, recorded as from Alexandria (place of purchase by Franks or other?).

[EA57698](#) scarab with name of Intef, acquired from Charles William Dyson Perrins in 1924.

[EA57699](#), [EA57700](#) two cat spacers with names of king Intef and king's wife Sobekemsaf, acquired from Charles William Dyson Perrins in 1924.

London, UCL Petrie Museum of Egyptian Archaeology

[UC8971](#) restrung beads with gold cowrie pendant, Middle Kingdom (old display label is of type indicating an acquisition by Flinders Petrie (1853–1942) but no further documentation)

[UC8973](#) restrung gold and gold-capped carnelian ball beads, Middle Kingdom (old display label is of type indicating an acquisition by Flinders Petrie (1853–1942) but no further documentation)

[UC11365](#) gold-mounted scarab, Middle Kingdom (Flinders Petrie acquisition before its publication in Petrie (1917) as 12.AD).

[UC11847](#) shell pendant inscribed with name of king Taa (Flinders Petrie acquisition before its publication in Petrie (1917) as 17.N).

[UC11850](#) cartouche pendant inscribed with the name of king Kamose (Flinders Petrie purchase at Bethell auction, entered in expenditure/acquisitions book under 1924–5 year).

[UC12323](#) cartouche pendant inscribed with the throne-name of Amenhotep III (Flinders Petrie acquisition before its publication in Petrie (1917) as 18.9.69).

[UC12689](#) ring with throne-name of Ramses II (Flinders Petrie acquisition before its publication in Petrie (1925b, pl.2, no.43).

[UC34110](#) disk 'button' seal-amulet, late Old Kingdom to early First Intermediate Period. This is cat. no. 434 in Wiese (1996, pl. 21), and see his p. 61 section 5.4.2.1.2 on double-falcon-head upper side, noting gold examples = his cat. nos. 236-237, 239, 240, 241, 257, 434, 758, 820; he concludes from the shared features and restricted number that they derive from one production group/ 'workshop' – 'Diese Einheitlichkeit lässt auf eine Entstehung in einer bestimmten Werkstatt schliessen') (Flinders Petrie acquisition before 1925 BDS).

[UC36475](#) restrung beads with gold shell pendant, Middle Kingdom (?) (Flinders Petrie acquisition before

1933 indicated by old bead-card label 'Upper Egypt: bought together', a style of label not employed by later department staff).

UC52202 gold cylinder pendant, Middle Kingdom (?) (Flinders Petrie acquisition before its publication in Petrie (1914, 29, no.133b).

UC58121 openwork *wedjat*-eye ring (Flinders Petrie acquisition before 1927). In Petrie (1927, 9-10 no.117, pl. 8) this and UC58120 are the openwork rings described as 'electrum'.

Paris, Louvre Museum

AF 2444 penannular earring (acquisition before 1970).

AF 2462 ring with design (acquisition before 1970).

E3297 scarab of Ahhotep mounted in gold, acquired in 1860 from L. Fould.

E7725 gold ring of Ahhotep, acquired in 1883 from E. Allemant.

E7659, E7715 gold figurines of Seth, acquired in 1883 from E. Allemant and 1884 from H. Pennelli.

E22658 restrung beads, acquired in 1938 as part of Curtis collection.

N747 ring with the name of king Horemheb, acquired in 1835 from the comte de Clarac, who had bought it at the Gastard sale 6 June 1834

N1855 A hawk pendant (19th century acquisition).

N1855 B penannular earring (19th century acquisition).

N2084 penannular earring (19th century acquisition).

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Appendix 7

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Ancient Egyptian gold

This book aims to provide a new level of synthesis in the study of gold jewellery made in Egypt between 3500 BC and 1000 BC, integrating the distinct approaches of archaeology, materials science and Egyptology. Following accessible introductions to the art and use of gold in Ancient Egypt, and to current advances in technical analyses, the volume presents detailed results on the manufacturing technology and elemental composition of some 136 objects in the collections of six European museums, with discussion of the findings in historical and cultural contexts. The questions generated by the jewellery buried with a woman and a child at Qurna (Thebes) led to investigation of assemblages and individual artefacts from later and earlier periods in varied social contexts, from the rural environment of Qau and Badari, to sites connected with urban or royal centres, such as Riqqa, Haraga and Lahun. A final discussion of the Qurna group provides an agenda for future research.

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