McDONALD INSTITUTE CONVERSATIONS

Fierce lions, angry mice and fat-tailed sheep

Animal encounters in the ancient Near East

Edited by Laerke Recht & Christina Tsouparopoulou

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with contributions from
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On the cover: *Shepherd with sheep, palace ruins in background, photograph taken by Gertrude Bell at Mashetta, Jordan in March 1900; A_232, The Gertrude Bell archive, Newcastle University.*

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Figures

Tables

Abbreviations and sigla

ABL	Harper, R.F., 1892–1914. *Assyrian and Babylonian Letters Belonging to the Kouyunjik Collection of the British Museum*, 14 volumes. Chicago: University of Chicago Press.
AHw	von Soden, W., 1959-1981. *Akkadisches Handwörterbuch*. Wiesbaden.
AKA I	Wallis Budge, E.A. & L.W. King, 1902. *Annals of the Kings of Assyria: The Cuneiform Texts with Translations and Transliterations from the Original Documents in the British Museum*. Vol. I. London: The Trustees of the British Museum.
AMT	Campbell Thompson, R., 1923. *Assyrian Medical Texts.* Milford, Oxford: Oxford University Press.
AnOr 8	Pohl, A., 1933. *Neubabylonische Rechtsurkunden aus den Berliner staatlichen Museen.* (Analecta Orientalia 8.) Rome: Pontificium Institutum Biblicum.
AO	Siglum of objects in the Louvre Museum, Paris (Archéologie Orientale).
ARM 2	Jean, Ch.-F., 1950. *Lettres diverses.* (Archives royales de Mari 2.) Paris: Lib. Paul Geuthner.
ARM 9	Birot, M., 1958. *Textes administratifs de la Salle 5 du Palais*. (Archives royales de Mari 9.) Paris: Lib. Paul Geuthner.
ARM 10	Dossin, G., 1978. *Correspondance feminine*. (Archives royales de Mari 10.) Paris: Lib. Paul Geuthner.
ARM 14	Birot, M., 1974. *Lettres de Yaqqim-Addu, gouverneur de Sagarâtum*. (Archives royales de Mari 14.) Paris: Lib. Paul Geuthner.
ARM 15	Bottero, J. & A. Finet, 1954. *Repertoire analytique des tomes I à V.* (Archives royales de Mari 15.) Paris: Lib. Paul Geuthner.
ARM 26	Durand, J.-M. *et al*., 1988. *Archives épistolaires de Mari.* (Archives royales de Mari 26.) Paris: Lib. Paul Geuthner.
ARM 27	Birot, M., 1993. *Correspondance des gouverneurs de Qaṭṭunân*. (Archives royales de Mari 27.) Paris: Lib. Paul Geuthner.
ARM 28	Kupper, J.-R., 1998. *Lettres royales du temps de Zimri-Lim*. (Archives royales de Mari 28.) Paris: Lib. Paul Geuthner.
ARM 30	Durand, J.-M., 2009. *La nomenclature des habits et des textiles dans les textes de Mari*. (Archives royales de Mari 30.) Paris: Lib. Paul Geuthner.
AUCT 1	Sigrist, M., 1984. *Neo-Sumerian Account Texts in the Horn Archaeological Museum.* (Andrews University Cuneiform Texts 1.) Berrien Springs: Andrews University Press.
BabMed	Babylonian Medicine online [no year]: 'Corpora', https://www.geschkult.fu-berlin.de/e/babmed/Corpora/index.html
BAM	Köcher, F., 1963–1980. *Die babylonisch-assyrische Medizin in Texten und Untersuchungen*, 6 Vols. Berlin: De Gruyter.
BCT 1	Watson, P.J., 1986. *Neo-Sumerian Texts from Drehem*. (Catalogue of Cuneiform Tablets in Birmingham City Museum I.) Warminster: Aris & Phillips.
BIN 1	Keiser, C.E., 1917. *Letters and Contracts from Erech Written in the Neo-Babylonian Period*. (Babylonian Inscriptions in the Collection of James B. Nies, vol. 1.) New Haven: Yale University Press.
BIN 3	Keiser, C.E., 1971. *Neo-Sumerian Account Texts from Drehem.* (Babylonian Inscriptions in the Collection of B.J. Nies, vol. 3.) New Haven: Yale University Press.
BM	Siglum for objects in the British Museum, London.
BPOA	Biblioteca del Proximo Oriente Antiguo (Madrid: Consejo Superior de Investigaciones Científicas, 2006ff.)
BPOA 6	Sigrist, M., & T. Ozaki, 2009a. *Neo-Sumerian Administrative Tablets from the Yale Babylonian Collection. Part One* (Biblioteca del Próximo Oriente Antiguo 6.) Madrid: Consejo Superior de Investigaciones Científicas.
BPOA 7	Sigrist, M., & T. Ozaki, 2009b. *Neo-Sumerian Administrative Tablets from the Yale Babylonian Collection. Part Two* (Biblioteca del Próximo Oriente Antiguo 7.) Madrid: Consejo Superior de Investigaciones Científicas.
BRM 1	Clay, A.T., 1912. *Babylonian Business Transactions of the First Millennium B.C.* (Babylonian Records

in the Library of J. Pierpont Morgan, Part 1.) New York: Privately printed.

CAD *The Assyrian Dictionary of the Oriental Institute of the University of Chicago.* Chicago: The Oriental Institute, 1956–2010.

CBS Siglum for objects in the University Museum in Philadelphia (Catalogue of the Babylonian Section).

CDLI Cuneiform Digital Library Initiative, https://cdli.ucla.edu

CHD Goedegebuure, P.M., H.G. Güterbock, H.A. Hoffner & T.P.J. van den Hout (eds.), 1980–. *The Hittite Dictionary of the Oriental Institute of the University of Chicago*. Chicago: The Oriental Institute.

CM 26 Sharlach, T.M., 2004. *Provincial Taxation and the Ur III State.* (Cuneiform Monographs 26.) Leiden: Brill.

CT 22 Campbell Thompson, R., 1906. *Cuneiform Texts from Babylonian Tablets in British Museum*, vol. 22. London: British Museum.

CT 32 King, L.W., 1912. *Cuneiform Texts from Babylonian Tablets in British Museum*, vol. 32. London: British Museum.

CT 55 Pinches, T.G. 1982. *Cuneiform Texts from Babylonian Tablets in the British Museum Part 55. Neo-Babylonian and Achaemenid Economic Texts*. London: British Museum Publications.

CTH Laroche, E. 1971. *Catalogue des Textes Hittites*. Paris: Klincksieck.

DAS Lafont, B., 1985. *Documents Administratifs Sumériens, provenant du site de Tello et conservés au Musée du Louvre*. Paris: Editions Recherche sur les Civilisations.

DMMA Siglum for objects in the Département des Monnaies, médailles et antiques de la Bibliothèque nationale de France.

DUL Del Olmo Lete, G. & J. Sanmartín, 2015. *A Dictionary of the Ugaritic Language in the Alphabetic Tradition*. Translated and edited by W.G.E. Watson. Third revised edition. 2 vols. (Handbuch der Orientalistik 112.) Leiden: Brill.

EA Siglum for the Tell El-Amarna Letters, following the edition of Knudtzon, J. A., 1915. *Die El-Amarna-Tafeln.* Leipzig: J.C. Hinrichs'sche Buchhandlung.

ePSD Electronic version of *The Pennsylvania Sumerian Dictionary*, http://psd.museum.upenn.edu

ETCSL Black, J.A., G. Cunningham, J. Ebeling, E. Flückiger-Hawker, E. Robson, J. Taylor & G. Zólyomi (eds.), 1998–2006. *The Electronic Text Corpus of Sumerian Literature.* Oxford, http://etcsl.orinst.ox.ac.uk/

FM 2 Charpin, D. & J.-M. Durand (ed.), 1994. *Recueil d'études à la mémoire de Maurice Birot*. (Florilegium Marianum II.) Paris: Société pour l'étude du Proche-Orient ancien.

Hh *The Series HAR-ra='hubullu'*, Materials for the Sumerian lexicon (MSL), 5, 6, 7, 9, 10 & 11. Rome: Pontificium Institutum Biblicum, 1957–.

HSS 14 Lacheman, E.R., 1950. *Excavations at Nuzi V. Miscellaneous Texts from Nuzi, Part 2, The Palace and Temple Archives.* (Harvard Semitic Studies 14.) Cambridge (Mass.): Harvard Univ. Press.

HW² Friedrich, J. & A. Kammenhuber (eds.), 1975–. *Hethitisches Wörterbuch. Zweite, völlig neubearbeitete Auflage auf der Grundlage der edierten hethitischen Texte*. Heidelberg: Winter.

IB Siglum for finds from Isin (Isan Bahriyat).

IM Siglum for objects in the Iraq Museum, Baghdad.

ITT 5 de Genouillac, H., 1921. *Inventaire des Tablettes de Tello conservées au Musée Imperial Ottoman*. *Tome V. Époque présargonique, Époque d'Agadé, Epoque d'Ur III*. Paris: Édition Ernest Leroux.

KAH 2 Schroeder, O. 1922. *Keilschrifttexte aus Assur historischen Inhalts, Heft II*. (Wissenschaftliche Veroffentlichungen der Deutschen Orient-Gesellschaft 37.) Leipzig: J.C. Hinrichs'sche Buchhandlung.

KBo *Keilschrifttexte aus Boghazköi* (Bd. 1-22 in Wissenschaftliche Veroffentlichungen der Deutschen Orient-Gesellschaft) Leipzig/Berlin, 1916 ff.

KRI Kitchen, K.A., 1969–1990. *Ramesside Inscriptions. Historical and Biographical,* 8 vols. Oxford: Blackwell.

KUB *Keilschrifturkunden aus Boghazköi*, Berlin 1921 ff.

LAPO 16 Durand, J.-M., 1997. *Les Documents épistolaires du palais de Mari, tome I.* (Littératures anciennes du Proche-Orient 16.) Paris: Éditions du cerf.

LAPO 18 Durand, J.-M., 2000. *Les Documents épistolaires du palais de Mari, tome III.* (Littératures anciennes du Proche-Orient 18.) Paris: Éditions du cerf.

LD Lepsius, C.R., 1849–59. *Denkmäler aus Aegypten und Aethiopen* (plates), 6 vols. Berlin: Nicolaische Buchhandlung.

LKU Falkenstein, A., 1931. *Literarische Keilschrifttexte aus Uruk.* Berlin: Berlin Staatliche Museen zu Berlin Vorderasiatische Abteilung.

M Siglum for texts from Mari.

Moore, Mich. Coll.
Moore, E., 1939. *Neo-Babylonian Documents in the University of Michigan Collection*. Ann Arbor: University of Michigan Press.

MSL VIII/I Landsberger, B., 1960. *The Fauna of Ancient Mesopotamia. First Part: Tablet XIII.* (Materialien zum Sumerischen Lexikon VIII/1.) Rome: Pontificium Institutum Biblicum. [with the assistance of A. Draffkorn Kilmer & E.I. Gordon].

MVN 8 Calvot, D., G. Pettinato, S.A. Picchioni & F. Reschid, 1979. *Textes économiques du Selluš-Dagan du Musée du Louvre et du College de France (D. Calvot). Testi economici dell'Iraq Museum Baghdad*. (Materiali per il Vocabolario Neosumerico 8.) Rome: Multigrafica Editrice.

MVN 11 Owen, D.I., 1982. *Selected Ur III Texts from the Harvard Semitic Museum*. (Materiali per il Vocabolario Neosumerico 11.) Rome: Multigrafica Editrice.

MZ Siglum for finds from Tell Mozan.

NBC Siglum for tablets in the Nies Babylonian Collection of the Yale Babylonian Collection.

NCBT	Siglum for tablets in the Newell Collection of Babylonian Tablets, now Yale University, New Haven.
OIP 99	Biggs, R.D., 1974. *Inscriptions from Tell Abu Salabikh*. (Oriental Institute Publications 99.) Chicago: The University of Chicago Press.
OIP 115	Hilgert, M., 1998. *Cuneiform Texts from the Ur III Period in the Oriental Institute, Vol. 1: Drehem Administrative Documents from the Reign of Šulgi.* (Oriental Institute Publications 115.) Chicago: The Oriental Institute.
OIP 121	Hilgert, M., 1998. *Cuneiform Texts from the Ur III Period in the Oriental Institute, Volume 2: Drehem Administrative Documents from the Reign of Amar-Suena*. (Oriental Institute Publications 121.) Chicago: The Oriental Institute.
P	CDLI (Cuneiform Digital Library Initiative) number.
PDT 1	Çig, M., H. Kizilyay & A. Salonen, 1956. *Die Puzris-Dagan-Texte der Istanbuler Archäologischen Museen Teil 1: Texts Nrr. 1-725.* (Academia Scientiarum Fennica Annales, série B, tome 92.) Helsinki: Academia Scientiarum Fennica.
PKG 18	Orthmann, W., 1985. *Der alte Orient*. (Propyläen Kunstgeschichte 18.) Berlin: Propyläen Verlag.
PTS	Siglum for unpublished texts in the Princeton Theological Seminary.
RGTC	*Répertoire géographique des textes cunéiformes*. (Beihefte zum Tübinger Atlas des Vorderen Orients, Reihe B.) Wiesbaden: Reichert, 1974–.
RIMA 2	Grayson, A.K., 1991. *Assyrian Rulers of the Early First Millennium BC I (1114–859 BC).* (The Royal Inscriptions of Mesopotamia, Assyrian Periods Vol. 2.) Toronto, Buffalo & London: University of Toronto Press.
RIME 1	Frayne, D., 2008. *Presargonic Period (2700–2350 BC).* (The Royal Inscriptions of Mesopotamia, Early Periods Vol. 1.) Toronto: University of Toronto Press.
RIME 4	Frayne, D., 1990. *Old Babylonian Period (2003–1595 BC).* (The Royal Inscriptions of Mesopotamia, Early Periods Vol. 4.) Toronto: University of Toronto Press.
RINAP	The Royal Inscriptions of the Neo-Assyrian Period; Open Richly Annotated Cuneiform Corpus, available at http://oracc.museum.upenn.edu/rinap/index.html
RLA	*Reallexikon der Assyriologie und vorderasiatischen Archaologie.*
RS	Siglum for documents from Ras Shamra (Ugarit).
SAA 2	Parpola, S. & K. Watanabe, 1988. *Neo-Assyrian Treaties and Loyalty Oaths.* (State Archives of Assyria 2.) Helsinki: Helsinki University Press.
SAA 7	Fales, F.M. & J.N. Postgate, 1992. *Imperial Administrative Records, Part I: Palace and Temple Administration*. (State Archives of Assyria 7.) Helsinki: Helsinki University Press.
SAA 10	Parpola, S. 1993. *Letters from Assyrian and Babylonian Scholars*. (State Archives of Assyria 10.) Helsinki: Helsinki University Press.
SAA 11	Fales, F.M. & J.N. Postgate, 1995. *Imperial Administrative Records, Part II: Provincial and Military Administration*. (State Archives of Assyria 11.) Helsinki: Helsinki University Press.
SAA 12	Kataja, K. & R. Whiting, 1995. *Grants, Decrees and Gifts of the Neo-Assyrian Period.* (State Archives of Assyria 12.) Helsinki: Helsinki University Press.
SAA 13	Cole, S.W. & P. Machinist, 1998. *Letters from Assyrian and Babylonian Priests to Kings Esarhaddon and Assurbanipal*. (State Archives of Assyria 13.) Helsinki: Helsinki University Press.
SAA 17	Dietrich, M., 2003. *The Neo-Babylonian Correspondence of Sargon and Sennacherib*. (State Archives of Assyria 17.) Helsinki: Helsinki University Press.
SAA 19	Luukko, M. 2012. *The Correspondence of Tiglath-pileser III and Sargon II*. (State Archives of Assyria 19.) Helsinki: The Neo-Assyrian Text Corpus Project.
SAA 20	Parpola, S. 2017. *Assyrian Royal Rituals and Cultic Texts*. (State Archives of Assyria 20.) Helsinki: The Neo-Assyrian Text Corpus Project.
SAT 2	Sigrist, M., 2000. *Sumerian Archival Texts. Texts from the Yale Babylonian Collection 2*. Bethesda: CDL Press.
SF	Deimel, A., 1923. *Schultexte aus Fara*. (Wissenschaftliche Veröffentlichung der Deutschen Orientgesellschaft 43.) Leipzig: J.C. Hinrichs'sche Buchhandlung.
SP	Alster, B., 1997. *Proverbs of Ancient Sumer*. Bethesda: CDL Press.
TCL 12	Conteneau, G., 1927. *Contrats Néo-Babyloniens I, de Téglath-Phalasar III à Nabonide*. (Textes cunéiformes, Musées du Louvre 12.) Paris: P. Geuthner.
TCL 13	Contenau, G., 1929. *Contrats néo-babyloniens II. Achéménides et Séleucides.* (Textes cunéiformes, Musées du Louvre 13.) Paris: P. Geuthner.
TRU	Legrain, L., 1912. *Le temps des rois d'Ur: recherches sur la société antique d'après des textes nouveaux*. (Bibliothèque de l'École des Hautes Études 199.) Paris: H. Champion.
TU	Thureau-Dangin, F., 1922. *Tablettes d'Uruk à l'usage des prêtres du Temple d'Anu au temps des Séleucides.* (Musée du Louvre. Département des antiquités orientales. Textes cunéiformes.) Paris: P. Geuthner.
U.	Siglum for finds from Ur.
UCP 9/1,I	Lutz, H.F., 1927. *Neo-Babylonian Administrative Documents from Erech: Part I.* (University of California Publications in Semitic Philology Vol. 9 no. 1/I.) Berkeley (CA): University of California Press.
UCP 9/1,II	Lutz, H.F., 1927. *Neo-Babylonian Administrative Documents from Erech: Part II*. (University of California Publications in Semitic Philology Vol. 9 no. 1/II.) Berkeley (CA): University of California Press.
UDT	Nies, J.B., 1920. *Ur Dynasty Tablets: Texts Chiefly from Tello and Drehem Written during the Reigns of Dungi, Bur-Sin, Gimil-Sin and Ibi-Sin*. Leipzig: J.C. Hinrichs'sche Buchhandlung.

VA Siglum for objects in the Vorderasiatisches Museum, Berlin (Vorderasiatische Abteilung).

VAT Siglum for objects/tablets in the Vorderasiatisches Museum, Berlin (Vorderasiatische Abteilung. Tontafeln).

VS 1 Ungnad, A. & L. Messerschmidt, 1907. *Vorderasiatische Schriftdenkmäler der Königlichen Museen zu Berlin*. Vol. 1, Texts 1–115, Königliche Museen zu Berlin. Sammlung der Vorderasiatischen Altertümer. Leipzig: J.C. Hinrichs'sche Buchhandlung.

VS 16 Schröder, O., 1917. *Altbabylonische Briefe*. (Vorderasiatische Schriftdenkmäler der königlichen Museen zu Berlin 16.) Leipzig: J.C. Hinrichs'sche Buchhandlung.

VS 17 van Dijk, J. 1971. *Nicht-kanonische Beschwörungen und sonstige literarische Texte*. (Vorderasiatische Schriftdenkmäler der Königlichen Museen zu Berlin 17.) Berlin: Akademie Verlag.

WB Erman, A. & H. Grapow (eds.), 1971. *Wörterbuch der ägyptischen Sprache,* 5 vols. Berlin: Akademie Verlag.

WMAH Sauren, H., 1969. *Wirtschaftsurkunden aus der Zeit der III. Dynastie von Ur im Besitz des Musée d'Art et d'Histoire in Genf*. Naples: Istituto orientale di Napoli.

YBC Siglum for tablets in the Yale Babylonian Collection.

YOS 7 Tremayne, A., 1925. *Records from Erech, Time of Cyrus and Cambyses (538-521 B.C.)*. (Yale Oriental Series, Babylonian Texts, vol. 7.) New Haven: Yale University Press.

YOS 8 Faust, D.E., 1941. *Contracts from Larsa, dated in the Reign of Rim-Sin*. (Yale Oriental Series, Babylonian Texts, vol. 8.) New Haven: Yale University Press & London: H. Milford, Oxford University Press.

YOS 11 van Dijk, J., A. Goetze & M.I. Hussey, 1985. *Early Mesopotamian Incantations and Rituals*. (Yale Oriental Series, Babylonian Texts, vol. 11.) New Haven: Yale University Press.

YOS 17 Weisberg, D.B., 1980. *Texts from the Time of Nebuchadnezzar*. (Yale Oriental Series, Babylonian Texts, vol. 17.) New Haven: Yale University Press.

YOS 19 Beaulieu, P.-A., 2000. *Legal and Administrative Texts from the Reign of Nabonidus*. (Yale Oriental Series, Babylonian Texts, vol. 19.) New Haven: Yale University Press.

Preface

Augusta McMahon

The chapters in this volume invert traditional approaches to past human-animal relationships, placing animals at the forefront of these interactions and celebrating the many ways in which animals enriched or complicated the lives of the inhabitants of the ancient Near East. The authors embrace insights from text, archaeology, art and landscape studies. The volume offers rich evidence for the concept that 'animals are good to think' (Levi-Strauss 1963), enabling humans in categorizing the world around us, evaluating our own behaviours, and providing analogies for supernatural powers that are beyond humans' control. However, totemism has never fit the ancient Near East well, because most animals had varied and endlessly complicated relationships with their human associates, as these chapters vividly describe. Taboos on eating or handling animals ebbed and flowed, and the same animal could have both positive and negative associations in omen texts. Animals were good (or bad) to eat, good (or bad) to think, good (or bad) to live with (Kirksey & Helmreich 2010) and good (or bad) to be. Through detailed, theoretically informed and well-supported case studies, this volume moves the study of human-animal-environment interactions forward, presenting animals as embedded actors in culture rather than simply objectified as human resources or symbols.

The chapters in the first section emphasize the agency of animals via their abilities to resolve crises for humans and deities and to shift between animal and human worlds. Animals have paradoxical affects: as metaphors for wilderness and chaos, or as valued companions, helpers, or votive sacrifices. The variety of interactions and assumptions cautions us to treat animals, as we do humans, as individuals. Reconstruction of animals in past rituals has a long history, usually focused on animals associated with the gods and/or animals used in formal religious sacrifice. But the chapters in the second section also examine the impact of lesser-known animals and less formal encounters, e.g., in the landscape or in funeral contexts within the home. The value and meanings of animals could vary with context.

The fascination engendered by hybrid or composite figures is also well represented. The persistence of composite figures in the Near East, from fourth millennium BC human-ibex 'shamans' on northern Mesopotamian Late Chalcolithic seals to *lamassu* and *mušhuššu* of the first millennium BC, suggests that the division and recombination of animal body elements fulfilled a human need to categorize powerful forces and create a cosmological structure. The anthropomorphizing of animals is another facet of the flexibility of animal identifications in the past. The authors here also grapple with the question of whether composite images represent ideas or costumed ritual participants.

The chapters also cover the most basic of animal–human relations, that of herd management, use in labour, and consumption, digging deeply into details of mobility, breeding and emic classifications. Economic aspects of the human-animal relationship are currently being rejuvenated through archaeological science techniques (e.g., isotopes, ZooMS), which give us unparalleled levels of detail on diet, mobility, herd management, and species. Matching these insights from science, the issues raised here include the value of individual animals versus that assigned to species, the challenges of pests, the status ascribed to and reflected by different meat cuts, animals as status and religious symbols, and animals' tertiary products or uses (e.g., transport versus traction, bile). These studies allow a more detailed reconstruction of Near Eastern economy and society, as well as emphasizing the flexibility of the relationships between animals, as well as between human and animal.

The authors implicitly advocate for a posthumanist multispecies ethnography, which incorporates

nonhumans and argues for equal care to be given to nonhumans in the realms of shared landscapes, violence, labour and especially ecology (Kirksey & Helmreich 2010; Kopnina 2017; Parathian *et al*. 2018). This approach advocates for nonhumans' agency in creating shared worlds, in contrast to the traditional approach to animals as symbols or resources in the service of humans. Going forward, the challenge will be to convert the acknowledgement of equal cultural contribution into support for nonhuman species to speak for themselves; this shift from passive subject of research inquiry to genuine active agency in academic writing does not have an easy or obvious path, and many nonhuman animals may be overlooked. Indeed, multispecies ethnography ideally seeks to incorporate plants, microbes, stones and more (Ogden *et al*. 2013; Smart 2014), many of which are ephemeral in the archaeological record and all but omitted in ancient texts. However, ancient texts do support a new approach which questions our modern boundaries between species. Our perpetual struggle to translate terms for different species of equids, to distinguish whether a word refers to rats or mice, or to link zooarchaeological remains to lexical lists, reinforces the complexity and flexibility of these concepts, and the futility of attempts at absolute categorization.

The chapters in this volume should inspire colleagues to grapple with animals, nonhumans and contexts that could not be included here. For instance, the snake has as lengthy a history of human engagement in the Near East as does the lion and had similarly unusual powers. While the lion was an icon of strength, the perfect symbol for the proximity of the emotions of awe and fear, the snake has the sneaky ability to slither between worlds, to avoid capture, and to deliver an almost imperceptible lethal injury. Fear of the snake conquers awe. Like the fox, the presence or actions of the snake, as listed in *Šumma ālu*, may be positive or negative omens. The snake was present at key moments in both Mesopotamian and Biblical literature; its actions (stealing the plant of immortality, offering the fruit of the tree of knowledge) changed the fate of humans forever. Whether represented coiled and copulating on Late Chalcolithic seals, grasped by Late Uruk 'Masters of Animals' or first millennium BC *lamaštu*, snakes and their paradoxical nature deserve deep scrutiny. There are many other nonhuman animals deserving of similar problematization and integration, and the eclectic and exciting research stream represented by this volume shows us the way.

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Chapter 1

Introduction: encountering animals in the ancient Near East

Laerke Recht & Christina Tsouparopoulou

This volume is a tribute to the animals of the ancient Near East. To the sheep that clothed, the donkeys that moved, the lions that inspired, and the rats that pestered. The animals are far too many and too varied to all be properly represented here, but we hope to provide a taste of the richness of human-animal relations in the ancient Near East. Our aim with this volume has been not only to bring animals and their impact on human lives (as well as the impact of humans on animal lives) to the fore, but to offer a range of perspectives in an interdisciplinary manner that adds to the discourse of moving beyond seeing animals purely as calories or economic objects.

Animals have always been an integral part of human existence; in the ancient Near East, this is evident in the record of excavated assemblages of faunal remains, iconography and texts. Animals had great impact on social, political and economic structures (e.g. Zeder 1991) – for example cattle in agriculture and diet, sheep in textile production, or donkeys and horses in transport, trade and war (Fig 1.1). The analyses of faunal remains have also sparked broader debates concerning taboos, identity and ethnicity; the absence/presence of pigs at Levantine sites is a particularly pertinent example of this (see e.g. Hesse 1990; Lev-Tov 1999; cf. Price *et al*. 2017 for northern Mesopotamia). Fantastic mythological beasts such as the lion-headed eagles or Anzû-birds found in Mesopotamia, or indeed many of the Egyptian deities, were part of religious beliefs and myths, while exotic creatures such as lions and ostriches were part of elite symbolling. In some cases, animals also intruded on human lives in unwanted ways by scavenging or entering the household; this especially applies to small or wild animals.

Initially, animals were predominantly examined as part of consumption, economy and symbolism, and while these are important aspects of society in the ancient Near East, the relationships between humans and animals were extremely varied and complex. Studies in the last few decades have begun to expand on this (see also Hesse 1995), in particular in the areas of the Levant and Anatolia (and even more so in prehistoric periods, as e.g. Peters & Schmidt 2004; Russell & Meece 2006; Allentuck 2015). Animals were attributed agency with the ability to solve problems and the distinction between humans and other animals blurs in ritual, personal and place names, fables and royal ideology. They were helpers, pets and companions in life and death, peace and war. An association with cult and mortuary practices involves sacrifice and feasting, while some animals held special symbolic significance. The volume has a broad representation of these varied relationships, including large and small, wild and domesticated animals, and the many ways in which they connect with human lives. This includes challenging categories of wild and domestic, human, animal and supernatural. The regional and temporal focus is the Near East in a broad sense (including Mesopotamia, Anatolia, the Levant and Egypt, with the majority of chapters discussing material from sedentary sites and/or from northern and southern Mesopotamia), from the fourth through first millennia BC.

A key feature of the book is the combination of faunal, textual and iconographic studies. While a combination of several strands of evidence features in much work on Anatolia and the Levant (also with a greater integration of stable isotope analyses – see e.g. Arnold *et al*. 2016), these avenues of research traditionally tend to be kept separate in Mesopotamian studies. The advantage of bringing them together is clear in the chapters, providing new and more dynamic perspectives of human-animal relations in the past. Each chapter on its own is a valuable study of a specific aspect of human-animal relations in the ancient Near East, but together, they offer a fascinating array of some of the many ways in which animals influence

Figure 1.1. *Fat-tailed sheep at the site of Nığde-Kınık Höyük, Nığde Province, Turkey. Photo by Nancy Highcock.*

human life and death, and explore new perspectives in the exciting field of human-animal studies as applied to this part of the world.

This volume and the chapters within it build on and develop earlier work on animals in the ancient Near East, and could not exist without this previous research (e.g. van Buren 1939; Collins 2002; Greenfield 2014; see also more recently Mattila *et al*. 2019). We have grouped the chapters in sections that thematically explore aspects of human-animal relations, but many chapters span several sections: for example, although there is a section dedicated to animals in ritual and cult, this aspect can be found in chapters throughout the volume.

Before turning to each of these thematic sections, a short note on terminology is in order. First, the word 'animal' is of course extremely broad and can in no way do justice to the variety of creatures that exist and existed in the Near East. Used as such, there is the risk of a great loss of resolution in the act of lumping together: both separate species and individual animals may disappear within this overarching term. We admit that the term is in this sense inadequate, and therefore would like to encourage an awareness of the diversity that it encompasses at all times. Second, but very much related, we want to clarify that the term as used here includes *all* types of living creatures (real and imaginary) – in other words, humans, mammals, fish, birds, reptiles, insects, hybrids and so on. This also means that the term human-animal is really short for human-nonhuman animal, but as this is rather cumbersome, we have chosen to keep the shorthand, with this proviso in mind.

Animal agency and human-animal interactions

The agency, personhood and social impact of animals have been increasingly recognized in archaeology and other disciplines in the last few decades through the so-called 'animal turn' (Ritvo 2004; Kalof 2017; Recht 2019 and references therein). This can be seen as part of a broader post-humanist movement that decentres humans and places them in world-contexts. Animal agency acknowledges the ability of animals to actively engage with humans and shape both their own lives and the nature of the human-(nonhuman) animal relationship. In the relationship, animals are understood as *social agents*: not simply as passive objects to which humans do as they please without any kind of feedback.

Just as relations between humans themselves, relations with other animals are in fact extremely varied, complex and indeed even contradictory. Love, hate, fear, violence, companionship, admiration, respect, indifference, exploitation, and awe can all feature prominently in such relations, sometimes simultaneously. When we speak of animal agency, we speak about a conscious and deliberate acknowledgement that animals also make choices, and that these choices shape the kinds of relationships that animals have with humans. That is not to say that they have unlimited choice or that the various interactions are equal, but to understand that animals do in fact push back. At the most basic, we see this in how humans have to adapt to the specific needs of each species and even individual animals.

Studies on animal agency in the ancient Near East are still rare, so the chapters in this section are particularly welcome. When looking at animal agency in the past, there are two aspects to the discussion. One is etic: our own acknowledgement of animal agency and its significance, and our use of it as a framework to understand various features of past societies (whether specifically focused on animals or not). The other is emic: it seeks to identify evidence of *ancient* views of animals that imply agency. Throughout this volume, we encounter both aspects, but the chapters in this section in particular explore examples where animals in the past were clearly perceived as social agents, acting on and influencing humans (as well as other animals and the environment).

Detecting animal agency – emically or etically – can be very challenging. However, the research of

the last few decades especially demonstrates that we are getting better at it. The sources of the ancient Near East also bring their own set of challenges and peculiar gaps in the evidence; nevertheless, we are extremely fortunate in the richness they provide. The chapters here are excellent examples of the depth of the material and the information that can be teased out.

We thus feel it is most appropriate to start the volume off with a chapter that explores animals represented as very actively engaging and intervening in the world of humans. Verderame presents us with Sumerian narratives where the fox, the fly, the bird Anzû and the raven act as protagonists. The animals in these stories are anthropomorphized and participate in dialogues, but they are not simply humans in animal disguise: they may 'speak human', but they still act according to their species and individuality (or personhood). These animals also in a sense act as intermediaries between humans and the divine sphere – something which is also significant when looking at the role of animals in ritual and the marking of sacred space.

Vilela takes up the theme of the fox as a social agent, along with dogs and wolves. She explores how these animals fit within (urban) concepts of 'wilderness' and 'civilized', as related to the city. In so doing, some of the ambiguities and complexities of animal characters come to life. A level of agency and individuality is recognized in the fact that one species can have many different roles and relations to humans, some more positive than others. This is shown in particular in the case of dogs, which can act both as guardians but also constitute a physical threat to humans in times of despair.

Sharing with cats, dogs continue to be centre stage in Fadum and Gruber's chapter. With them, we move to Egypt and the extensive and characteristic practice of mummification of both animals and humans. The authors identify several aspects of human-cat and human-dog relations, where the role of the animals would be as pet, companion, holy animal or votive offering.

Animals in ritual and cult

Animals were central to ritual and religious practice of the ancient Near East. Specific species and animal body parts became powerful symbols, and many deities are characterized by their animal attributes (Black & Green 1992; Watanabe 2002; Ikram 2017) – in fact, the visual mark itself of divinity, the horned headdress in Mesopotamia, is an animal-inspired symbol. Here we see perhaps most clearly how not all animals were equal: only certain species were suitable for direct association or interaction with deities. Thus, there is a preponderance of cattle, lions and birds, while species such as fish, dogs and hybrid creatures are also common. Animals were thus a powerful way of imagining, visualizing and connecting with the supernatural and divine sphere.

Physical encounters with animals could occur in any space, from private houses through palaces and temples, in all landscapes, in the water, in the sky, on and below the ground, and the species would vary accordingly. Erskine picks up on three species that merchants on long distance journeys between Kültepe-Kaneš in Anatolia and Assur in Assyria would have come across: cattle, boars and eagles. Using a Deleuzo-Guattarian framework, he explores how these encounters informed and influenced ritual at Kültepe-Kaneš, in particular in cultic paraphernalia in the form of zoomorphic vessels.

An example of the association of a deity with a specific animal is given by Nett in her discussion of the Mesopotamian healing goddess Gula. In the visual evidence, she is strongly associated with dogs, with either Gula herself sometimes represented in shorthand as a dog, or with that animal resting at her feet. The exact role of dogs in her cult is still not well-known, but textual records and faunal remains make it clear that actual dogs were kept (fed and buried) at some of her sanctuaries and temples (see also Tsouparopoulou 2020). As we will see in a number of chapters throughout this volume, dogs seem to represent one of the most multifaceted animals of the ancient Near East.

Beside the direct association of animals with deities as represented in the visual culture and cuneiform sources of the Near East, animals were also a very real part of ritual practice. Animals were sacrificed for divination, oaths, feasting, building deposits, burials and other ritual ceremonies (Recht 2011; Hesse *et al*. 2012; Friedman *et al*. 2017; Mouton 2017). Again, not all animals were equal: extispicy typically required sheep, and a range of other rituals prescribed exactly the type of animal to be used (see e.g. Richardson 2010; Koch 2011; Robson 2011). Complete and partial animal bodies were included with human burials. Here, we see a greater but still carefully selected range of animal species (sheep, goat, cattle, equid, deer/gazelle, pig/boar, dog, hare, bird and fish), although sheep, goat and cattle were by far the most common. There is an interesting disjunction with the species directly associated with deities, but rather than this being an oddity, it helps illustrate the diversity of rituals and human engagement with animals. Complete animal bodies, again limited to certain species, also acted as markers of sacred space and/or building deposits (Ellis 1968; Recht 2018).

Alhaique, Romano and D'Agostino examine the zooarchaeological record of Abu Tbeirah in southern

Iraq in the third millennium BC. Their findings indicate limited differences in animal species in 'sacred' and 'profane' contexts. However, other, more subtle variations come to light, such as for example the age of the animals selected for cult activities. That individual species held specific meanings is also revealed. For example, dogs and equids played a significant role in the cultural sphere, while wild boar and mollusks appear in burials, and interpreted as most likely associated with the deceased's identity 'formation' rather than with ritual practice per se.

In many of these rituals, there was an element of violence and death: animals were deliberately killed in the process. But not all cult and ritual practices involved the killing of animals. Other types of divination consisted of observing the attributes and behaviour of live animals (Maul 2007); healing rituals could include both live and dead animals. In this case, certain species again held special significance.

Blurred lines: humans as animal, animals as humans

Not all animals or even anthropomorphic beings fit into neat categories. The Near Eastern repertoire is full of hybrid creatures and 'monsters' (Black & Green 1992; Wengrow 2014; Konstantopoulos 2015), from 'bull-men' and 'goat-fish' to Assyrian *lamassu*, Babylonian 'dragons', and Egyptian deities (Roth 2011). These creatures challenge the boundaries of what is human and what is animal, not to say our traditional Linnaean classification system. There is clearly a mythological and/or religious aspect to many of these creatures, and some will already have been met in chapters in the previous sections. They are often liminal beings, and as such, can have special powers that make them particularly suitable for ritual enactments and moving between spheres.

The animal-men found in Hittite texts discussed by Mouton took part in rituals that involved a sequence of events. The elements of performance were of central importance, and it is clear from the texts that these were real rituals, not merely referring to mythological events. They were some kind of cultic personnel, dressed (or naked) for the occasion, but the hybridity did not simply reside in physical appearance or wearing of a mask or skin. The king, priestesses, deities and the assembly took part in the rituals, which were a complete sensory experience that in some cases required barking of the participants – not just the 'dog-men'. Much is still to be learnt about these embodied practices where human-animal boundaries break down.

Returning to the world of canines and animal agency, Sövegjártó takes us through the varied roles of the fox and its ability to move between nature ('wilderness'), the city (human space), and the divine sphere. Its physical and behavioural characteristics become intertwined and its complex 'personality' was fully embraced in the literature. Like a Mesopotamian Loki or Odysseus, it is a cunning creature whose intelligence may have positive, negative or unvalued connotations. The fox is thus a good example of a liminal animal as represented in the literature, and even when anthropomorphized, keeps its individual characteristics.

Speaking of classification systems, it may be prudent to not impose too strict a distinction between 'real' and 'imaginary', or to insist on assuming a taxonomy exactly like the one used in the modern western world. Lexical lists suggest an overall correlation of categories that means we can to a great extent identify with ancient worldviews. The Sumerian grammatical convention of generally classing humans and deities as animate and animals and objects as inanimate (see also Verderame's chapter in this volume) may also resonate with many people today. However, there are many 'oddities' in these lists that reveal non-correlations and categories based on different criteria.

Besides hybrid beings, there is a shifting back and forth between human and animal, and the use of animal qualities in the creation and negotiation of identities, human and animal, but also in terms of landscape and landmarks. The latter is discussed by Dirbas, who presents an overview of the many wonderful ways in which animals were incorporated into Semitic place names (building on earlier research on animals in personal names – Dirbas 2019). The toponyms refer to the use of the landscape in relation to animals, animal species, and physical and occupational features. As such, they reveal much about how animals were observed and related to, along with deeper environment-animal-human entanglements.

The shifting between human and animal is at the centre of Watanabe's study of the relationship between the lion and the king in the Neo-Assyrian period. She demonstrates how the king is associated with the lion and assimilates leonine characteristics in powerful metaphors. The association is positive, and the lion is seen as a fierce and worthy opponent (Fig 1.2). The apparent contradiction created by this and the well-known practice of lion hunting is elegantly explained by Watanabe by reference to the fact that only the king himself was allowed to kill lions. The qualities of a single animal are transferred to a single human – however, in this case, the anthropomorphization of animals that we saw in other instances (especially in Verderame, Sövegjártó and Vilela) does not occur. The king is a lion, but the lion is not a king.

Managing animals

There is also a very practical side to human-animal relations. Humans are dependent on animals for survival on many different levels, but perhaps the most visible one is that of consumption. Animals were hunted for meat (and other resources), but from the third millennium BC, meat came primarily from domesticated animals. These animals were in turn dependent on humans for their sustenance. Engaging in the kind of relationship that we refer to as 'domestication' implies close proximity of human and animal on a regular if not daily basis. It also implies a greater, more immediate type of sharing: shared space, and shared food, in particular. The large herds and flocks of especially sheep, goats and cattle needed to be maintained and cared for, and fodder provided either in the form of pasture or grain. The implications of this are manifold, and study of the evidence for how animals were managed reveals much about the interactions, social structures, technological developments and how humans place themselves within their environment.

Figure 1.2. *Carved ivory lion (probably furniture element) from Nimrud, ninth–eighth centuries BC. Courtesy of The Metropolitan Museum of Art (accession no. 54.117.6). CC.*

Another example of environment-animal-human interaction is offered by Kalaycı and Wainwright. The movement of herds in search for pasture had a significant impact on the landscape, and part of this can be detected in the phenomenon known as hollow ways (Wilkinson 1993; Wilkinson *et al*. 2010; Ur 2017). Developing the previous research on this topic, Kalaycı and Wainwright analyse the evidence from geomorphology, using an agent-based model. This analysis shows the great extent of these hollow ways and the manner in which cattle and sheep, mediated by humans, changed the landscape.

Kozuh instead examines cattle management from the point of view of administrative texts from the Neo-Babylonian period. The result is a subtle but revealing and insightful analysis of human-cattle relations. This relationship is an excellent example of animal-led technologies and practices, where the type of animal, in this case cattle, determines human behaviour. In this sense, this section could as well have been called 'Managing humans'. Looking carefully at the ancient classifications of bovines, Kozuh is able to identify further nuances in human-cattle relations in terms of gender and age. An important aspect of the classifications used here is the context of administrative records, which document only very specific activities, to the complete neglect of others; meaning that only terms relevant for such records were included.

Outside medicinal texts (see below), incantations (Thomsen 2018) and the occasional appearance in fables or omen literature, we hear very little of the creepy-crawlies that are bound to have been everyday encounters for the vast majority of people (Fig. 1.3). Spiders, flies, locusts, ticks and other insects and arachnids leave no skeletal remains behind, so we must find other ways to detect their presence and impact. This is exactly what Brachmańska does in her chapter, bringing examples from texts, images, archaeological contexts and archaeoentomological analysis together to examine the evidence for locusts, rodents and other pests in ancient Egypt. Most of the human-animal relations presented in this volume were actively entered into by humans; in the case of pests, the roles were reversed, and it is the animals that primarily choose to engage, and humans pushing back.

Animals in society and as a resource

An in-depth examination of faunal remains at a site can reveal information about social structures and local practices. Using the Neo-Assyrian period site of Tepe Ziyaret (ancient Tushan) as their case study,

Figure 1.3. *Two faience jerboa figurines, Egypt, possibly from the Memphite Region, Heliopolis, Middle Kingdom, Dynasty 12–13 (c. 1850–1640 BC), Courtesy of The Metropolitan Museum of Art (accession nos. 26.7.899 & 26.7.901). CC.*

T. Greenfield and Matney demonstrate differential consumption of animals in the sections of the settlement. They classify the faunal remains according to species and elements of the body, and interpret certain animal species and cuts of meat as consumed by commoners and elite persons, and are thus able to associate certain spaces with particular levels of society. This very promising approach shows how animals form part of expressions of identity and ideology, in this case in terms of consumption.

Beyond the hunting and keeping of animals for meat, the animals and their products are a diverse resource (Trantalidou 2001). These of course include the most widely known secondary products of dairy and wool. Receiving less attention are products such as beeswax, honey and dung, all of which have a variety of uses in daily life and production. All parts of an animal body can be used: textile, leather, covers, binding, glue, threads, beads, seals, inlays and plaques, luxury items, furniture, harness elements, medicine, and a wide variety of (bone) tools for everyday use and production are just some of the products that we know were made from animal parts in the ancient Near East (Moorey 1999; Englund 2003; Tsouparopoulou 2013; Russell 2016).

Since many of these organic products have not preserved well in Mesopotamia at least, we rely primarily on information from the textual and visual records (for Egypt's and Nubia's rich preserved material associated with animals, see for example Ikram 2012). The archaeological invisibility means that there are certain gaps in our knowledge, since not all were necessary or relevant for administrative records, or special enough to be shown in the iconography. Detailed analysis of raw materials and products made from animal parts can provide information concerning technology and craftsmanship, everyday production, movement of goods, and medicinal knowledge and practices, and of course specific human-animal relations.

There are layers of complexity in these animal encounters. Humans (one species of animal) may use tools wholly or partly made from animal bones to create another product made with animal parts (say an ivory blinker); that item itself may be decorated with an animal motif, and ultimately used with yet another animal – the horse (Fig. 1.4). From this network and layering of relations we can unravel a whole world of social, economic, technological and relational developments.

Interestingly, it is especially in medicinal texts that we encounter a much broader range of animal species than those found in other texts and types of evidence. Such texts reveal a deep world of healing rituals and remedies, and the many natural ingredients used in

the concoctions. Some ingredients with animal names have been said to refer to names of plants (Chalendar 2016), but others reveal the actual use of very specific animal species. Arbøll examines one of these, the *kuppû* eel. Besides offering a glimpse into what was clearly an extensive practice in health and healing, his chapter provides one of the rarer examples of the role of fish. Its high-resolution analysis of specific species shows the detail of ancient knowledge and observation of animals.

Devillers' comparison of the occurrence of wild animals in the faunal and glyptic record of ancient Mesopotamia reveals fascinating insights into the ideologies reflected in art. Her analysis of the geographical distribution of the animals in the fourth and third millennium BC, partly based on faunal remains, and partly based on SDM (Species Distribution Modelling, see e.g. Guisan & Thuiller 2005) is in itself a most useful contribution, but the two different lines of evidence and their discrepancies also allow inferences concerning which wild animals were encountered and considered meaningful in visual representations.

Symbols of power: birds

Certain animals or categories of animals occur more frequently than others in the iconographic repertoire of the ancient Near East. One of these is the category of birds. Birds could be powerful symbols, as perhaps most potently illustrated by one of the most famous Mesopotamian creatures, Imdugud/Anzû, or the Egyptian god Horus with his falcon head. Bird bones are recorded in the faunal assemblages of the Near East, and were also occasionally included in funerary offerings (e.g. Recht 2011: Appendix F). However, like aquatic species, they tend to have a low visibility compared to mammals due to their small and often fragile size (combined with sometimes less than ideal collection methods, especially for early excavations). Fortunately, the under-representation in faunal assemblages finds some compensation by the many visual representations of birds.

'Birds' in itself covers a great variety of species with many different shapes, sizes and behavioural traits. The various species of birds could have very different roles within Near Eastern society. Imdugud/Anzû was another hybrid being, probably a bird of prey with a lion head. Birds of prey could be encountered in the landscape and inspire religious symbolling (even at the prehistoric sites of Göbekli Tepe and Çatalhöyük; Peters *et al*. 2005; Russell 2019), as we saw in Erskine's chapter; it is also possible that they acted as helpers in the hunt, as argued for Anatolia (Canby 2002), and there is evidence of raptors in captivity from Egypt (Ikram *et al*. 2015).

Other types of birds may be categorized based on their preferred habitat, as for example waterfowl, which

Figure 1.4. *Ivory blinker carved with a sphinx. From Nimrud, eighth century* BC. *Courtesy of The Metropolitan Museum of Art (accession no. 54.117.1). CC.*

Figure 1.5. *Ostrich eggshells converted to vessel, with inlays of mother-of-pearl and red paste in bitumen. From Ur, Mesopotamia, Early Dynastic III* (c. *2550–2400* BC). *Courtesy of The British Museum (museum no. 123556). CC BY-NC-SA 4.0.*

provide the topic for Greet's chapter. Focusing on the visual evidence for waterfowl in the Levant, he argues for a close connection with Egyptian practices, and for a use of these types of birds especially in imagery associated with the elite. Though generally humble, waterfowl finds a range of strong symbolic meanings in the iconography of seals, vessels and ivory objects.

Battini also explores waterfowl – more specifically, ducks, geese and swans. With a geographical focus further to the east, in Mesopotamia, she discusses the identification of these three birds in the visual evidence, along with how their roles are reflected in the textual records. In what appears to be a different situation than the Levant, Battini comes to the conclusion that these birds are mainly found in non-official representations in Mesopotamia, but the connection with divinity was found in both areas.

A very different kind of bird is discussed by Popova and Quillien: the ostrich. The iconography of this large bird can be likened to that of the lion in Neo-Assyrian depictions of hunting. It also appears to have been a royal prerogative to hunt ostriches, and Popova and Quillien identify a similar association when ostriches were used as a resource and in gift giving. While the eggs themselves could be eaten (especially at the king's table), the relatively thick eggshells were used to make vessels, and feathers were used for garments and other ornamentation. Ostrich eggshell vessels are perhaps the most well-known and certainly preserve the best in the archaeological record, as the extravagant examples from the Royal Cemetery at Ur demonstrate (Fig. 1.5).

What the chapters in this section also highlight is the issue of careful and deliberate selection. We have emphasized that the term 'birds' covers many species, and the chapters both here and in other sections do indeed introduce quite an exciting range of bird species. Yet these are only a small assortment of the full range that would have existed in the ancient Near East. There were, in other words, certain species that were particularly meaningful and powerful symbols.

Companions and working animals: equids and dogs

Perhaps one of the most socially pervasive human-animal relations was that involving labour and companionship. Working animals were a labour force in their own right. Cattle and equids would facilitate farming as plough animals, while equids in particular facilitated movement of heavy goods over very long distances, as is most famously demonstrated by the early second millennium Assur-Kaneš trade (Veenhof 1972; Larsen 2015). In this and other impressive long-distance exchanges, the local and short-distance are easily lost: but Goulder here shows the importance of donkeys on these scales as well, and the impact they could have on the everyday lives of citizens (Goulder 2020). Taking full advantage of her ethnographic studies of the use of donkeys (and cattle) in rural areas of Burkina Faso and Ethiopia, she offers a hint of the working lives of donkeys and their human handlers. The micro- and grass level scales explored highlight how easily our research becomes skewed, partly due to the uneven nature of our evidence, and partly due to interests. It also illustrates the value of carefully conducted ethnographic study in helping to understand and interpret ancient practices.

The other side of the coin, where donkeys were some of the most seasoned long-distance travellers of

the ancient Near East, is presented by H. Greenfield, Ross, T. Greenfield and Maeir. Remains of donkeys found at the site of Tell eṣ-Ṣâfi (ancient Gath) in the Levant show that these animals were central to at least some segments of the population. Stable isotope analysis of teeth suggest that some individuals travelled from Egypt to Safi in the Early Bronze Age (Arnold *et al*. 2016). Here, we learn more about their roles at the site itself, as deduced from the faunal remains. They were not only important beasts of burden, but were also consumed for their meat and skinned for their hides, and in a return to the role of animals in cult, we see them placed as complete skeletons in ritual deposits below floors.

The role of equids as working animals were not confined to agriculture and transport. They were also trained as helpers in hunting and battle, starting at least in the third millennium BC (Zarins 2014 and references therein). A similar pattern can be detected for dogs (revealing yet another role played by that species), which were part of the army and under care of specific generals (Tsouparopoulou 2012). Most fascinating is the multifaceted relationship between equids and dogs, as mediated by humans. This (nonhuman) animal–(nonhuman)animal relation as represented in third millennium Mesopotamia is the topic of our own chapter (Tsouparopoulou & Recht). We show that equids and dogs were companions in war and in death. In war, they occur side by side in visual representations. This companionship is likely also what is reflected in equid-dog-human co-burials. Another side of the relationship is the feeding of equids to dogs, as documented in Ur III archives, and hinted at with examples of gnawed equid bones discovered at Near Eastern sites.

Avenues for future research

The chapters in this volume offer a great tour of encounters with animals in the ancient Near East. They also suggest potential avenues for future studies. There are many different directions that such research could take, and we would simply like to point to a few, by no means exclusive, possibilities.

As we have emphasized, and as the chapters throughout demonstrate, there are many nuances and complexities in human-animal relations. What is striking but rarely directly addressed is the violence and death involved in many of the relations (exceptions include Lau & Gamerschlag 2015; Lau 2018). Large numbers of animals were killed – for food, for resources, in battle, as part of rituals, as pest control, and as 'sports' or for ideological purposes. There is much to explore here, both in terms of ancient perceptions of 'violence', and animal rights and sentience, but also in terms of acknowledging animal agency (and potential suffering), regardless of ancient views of various animal species and individuals.

Another topic that runs through many of the chapters is that of classification, on many different levels, both modern and ancient. For example, some of our dichotomies, with their structuralist baggage, may deserve a deeper investigation. We speak of 'domestic' and 'wild' animals – but how about the feral, the tamed, the hybrids? Where do foxes and dogs belong? Closely related is the distinction between 'city'/'civilized' and 'wilderness'/'nature', but where, then, do we place villages, farms, fields, roads, rivers, and so on? Do the shepherds with the sheep or goats halfway up the mountain belong to the city or the wilderness? An important aspect which is only touched upon here, but can be found in other literature (e.g. Rosen 2016), is that of the role of animals in (mobile) pastoralist and other groups that are not primarily sedentary, where daily interacting, often predicated on animals, was very different from that of city-dwellers or even farmers. Evidently, the relations do not easily fit into neat, opposing categories, nor can the many different animal species and types of animals always be placed in boxes that directly correspond to modern categories.

Finally, we would like to highlight the low visibility of certain animal species and animal-derived resources as a potential focus for future research. We still know comparatively little about animals that leave no or few archaeological traces, especially various smaller species. And while some work has been done on animal-derived products, for example those made of leather (e.g. Tsouparopoulou 2013; Veldmeijer 2014), much is still to be learned about the processes, technology and human-relations involved.

In 1962, Levi-Strauss wrote that 'animals are good to think [with]' ('Les animaux sont bons à penser'). This idea has found hold in many different disciplines, and has also made its mark on archaeological, historical and art historical studies. The chapters in this volume are a great testament to and demonstration of this idea. But we hope to do more than simple 'add animals and stir': thinking through and with animals provides a wealth of knowledge and insightful interpretations of the past. A shift in balance can develop this further by acknowledging the agency and personhood of animals in the past; by analysing the impact of humans and animals equally, even if their impact was not equal. Many of the chapters in this volume are moving in this direction, and their contributions thus greatly enrich our understanding of human-animal encounters in the ancient Near East.

We hope that they, and their animal actors, inspire further research into this topic.

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Part I
Animal agency and human–animal interactions

Chapter 2

Animal agents in Sumerian literature

Lorenzo Verderame

Animals play a major role in Sumerian literature[1] in the construction of metaphors and similes (Heimpel 1968; Black 1996; 1998; 2000). Bovines are recalled as a comparison for beauty and might, while rampaging bulls, spitting venom reptiles, gaping mouth felines, and other wild animals provide images of danger and fierceness.

> (Sud) stood, the object of admiration, like
> a magnificent *yellow* cow.
> *Enlil and Sud* A 8

> I am (Šulgi) a dreadful-eye *panther*
> generated by the dragon …
> I am a gaping-mouth *panther* of Utu …
> I am a mule fit for the road.
> I am a horse, whose tail waves on the
> highway.
> I am a stallion of Šakkan, who loves to
> run.
> *Šulgi A* 3, 14, 16–18

Occasionally animals are described as part of the landscape. High quality and exotic animals are mentioned in lists of tributes, sacrifices, and banquets.

> Monkeys, mighty elephants, water
> buffalo, *exotic* beasts,
> Jostle each other in the broad street,
> *Mixed* with dogs, lions, mountain ibexes
> (var.: mountain livestock; horses),
> and *alum* sheep with long wool.
> *The Curse of Agade* 21–3

Apart from being protagonists of fables, proverbs, and debates (*Heron and Turtle, Grain and Sheep, Bird and Fish*), animals are absent or passive in Sumerian narratives, where gods and humans are the main actors and share the same space and features, even the grammatical ones. In fact, the Sumerian language distinguishes grammatically two classes instead of two genders. The Animate Class (or Class A) is used for animate beings, namely gods and humans. Animals, plants, things, etc., are marked with element of the Inanimate Class (or Class B), unless they are characters in proverbs and disputes.

In a few cases, animals act in human and divine narratives by playing a minor, though crucial, role. This chapter explores such dynamics of animal intervention in divine and human narratives, as well as the relationships between animals, humans, and deities.

The Fox in *Enki and Ninhursaĝa*

The text known as *Enki and Ninhursaĝa* (= ETCSL 1.1.1; Attinger 1984)[2] is composed of three narrative blocks: the foundation of Dilmun, the chain creation of a series of deities, and the curse of Enki by Ninhursaĝ and his final recovery. The myth begins with Enki founding and ordering Dilmun. The god gives the site to Ninsikila (Ninhursaĝa), and then copulates with her. Ninhursaĝa becomes pregnant and gives birth to NinSAR. Enki sees the new-born goddess and copulates with her. NinSAR gives birth to Ninkura. Again, Enki sees the new-born goddess and copulates with her. Finally, Ninkura gives birth to Uttu. At this point, Ninhursaĝa advises Uttu; the following passage is fragmentary. It is unclear if the text continued with Ninhursaĝa giving specific instructions to Uttu on how to act with Enki, or something else happens. After a gap of *c.* 13 lines, the text continues with Uttu asking Enki for fruits (cucumbers, apples, and grapes), which the god obtains from the gardener. Enki goes to the house of Uttu with the fruits and the two gods eventually copulate. However, Ninhursaĝa intervenes and removes Enki's sperm from Uttu; she then creates

eight plants. Enki sees the plants and decides to taste them and fixes their fate. Ninhursaĝa then curses Enki: 'I will never look upon him with an eye of life until he dies!' (l. 220–21). The text is not explicit, but from what follows it is clear that Enki falls ill and becomes paralysed, while Ninhursaĝa escapes and hides herself. The great gods (Anunna) are in despair and sit down on the dust.[3] The situation of crisis is solved by the Fox. Ninhursaĝa returns and heals Enki, creating a god for each part of Enki's healed body.

Apart from the beginning, most of the Fox episode in *Enki and Ninhursaĝa* (ll. 223–46?) is lost. Soon after Ninhursaĝa has cursed Enki, the Fox (ka$_5$-a) offers help to Enlil in exchange for a reward (ni$_3$-ba). Enlil replies to the Fox that he will erect two *ĝišgana* trees for the Fox and its name will be praised. The following lines are full of gaps. Apparently, the Fox unsuccessfully seeks divine help at the beginning, but succeeds at some point in the gap, for Ninhursaĝa returns and heals Enki.

> The Fox said to Enki:
> '(If) I bring back Ninhursaĝa, what will be my reward?'
> Enlil answered the Fox:
> '(If) you really bring back Ninhursaĝa,
> I shall plant two *ĝišgana* trees in my city and make your name renown!'
> The Fox first anointed its body,
> First loosed its fur/hair,
> First put kohl on its eyes.
> (four lines fragmentary)
> 'I went [to Nippur(?)] and Enlil […],
> I went [to Ur(?)] and Nanna […],
> I went [to Larsa(?)] and Utu […],
> I went [to Uruk(?)] and Inanna […],
> […] that/who is […] my life […].
> (seven lines fragmentary)'
>
> *Enki and Ninhursaĝa* 223–46

The Sumerian language does not mark gender grammatically and it is unknown if the Fox is female or male. Even the acts that the Fox performs in ll. 228–30 (anointing the body, loosening the hair/fur, putting kohl over the eyes) cannot be identified as specifically male or female. In this episode, the Fox is not preceded by the divine determinative, but acts as an animate being for the grammatical elements are those of the Animate Class (or Class A).

In Sumerian literature, the fox plays a major role as a cunning and treacherous animal protagonist of proverbs and mentioned in wisdom literature (Vanstiphout 1988; Kienast 2003; Cohen 2017; Verderame 2017a, 396–400). As in other cultures, the eyes and the tail are the relevant and symbolic parts of the animal. This fame is paralleled in iconography. The fox is often depicted on seals of different periods. Occasionally mid second millennium Babylonian boundary stones (*kudurru*) have the image of a fox or jackal among other gods symbols (Seidl 1989, 143–4) and it may be related to the homonymous Mesopotamian star (MUL.KA$_5$.A; see Deimel 1914, 81; Kurtik 2007, 239–41), possibly to be identified with Alcor (80 *Ursae Maioris*) and also known as a learned name for the planet Mars (Reynolds 1998, 351–52).

Dumuzi and the Fly

Inanna's Descent to the Netherworld (= ETCSL 1.4.1; Sladek 1974; Kramer 1980) is another myth where an animal intervenes to solve a crisis by finding a hidden character. Here, Inanna decides to go to the Netherworld. On arriving in the court, the infernal gods address Inanna with a deadly look, an 'ill body' word, and an accusing scream. Inanna is sentenced to death and transformed into a corpse. With Enki's help, the goddess is revived but cannot leave the Netherworld unless she provides a substitute. Inanna returns from the Netherworld to choose a substitute followed by the infernal gendarmes, the *galla*. After having excluded the gods of her circle who have correctly observed the mourning for her 'death' (Ninšubur, Šara, Lulal), Inanna chooses her lover Dumuzi as substitute. The *galla* demons who go with Inanna arrest and beat Dumuzi, while Inanna addresses him with a deadly look, an 'ill internal' word, and an accusing scream. Dumuzi seeks help from the god Utu, asking him to transform his limbs into those of a reptile (muš). Utu grants his request and Dumuzi eventually escapes. In distress, Inanna seeks Dumuzi. The Fly (nim) helps the goddess to find Dumuzi, whose deadly fate is then fixed.[4]

The passage of the Fly's aid is described in few lines. As with the Fox, the Fly asks Inanna for a reward (ni$_3$-ba). Because of the help the Fly offered to Inanna, the goddess fixes the fate of the Fly.

> [The Fly] spoke to holy Inanna:
> '(If) I [show] you where your man is, what will be my reward?'
> [Holy Inanna] answered the Fly:
> 'If you show me where my man is, this will be your reward:
> I will cover […]!'
> The Fly [*helped*] holy Inanna.
> The young lady, Inanna, decreed the destiny of the Fly:
> 'In the beer-house, may …… bronze vessels *to drink* …… for you.

[You *will live*] like the sons of the wise!'
The destiny (decreed by) Inanna [thus] came to be.
Inanna's Descent to the Netherworld 394–403

Contrary to the lost story of the Fox, the Fly's reward is preserved in the text. Despite the fragmentary passage, it is clear that the destiny decreed by Inanna for the Fly will be that of lord/mistress of the beer-house – as with the case of the Fox, it is not possible to determine the gender of the Fly (see above). In Sumerian literature, most references to the fly are related 'to fly like a fly' (nim-gin$_7$ … dal) or to the buzzing produced by the fly (bu, nim). However, in one passage one can find the direct association of the fly with beer. In *The Home of the Fish*, the fish is persuaded to enter his 'house' (trap) describing an idyllic situation, clearly opposite to normal life, 'No flies buzz around in your house where beer is poured out' (e$_2$ ki kaš de$_2$-a-zu nim nu-mu-un-bu-bu-bu, l. A 8). The relation of Inanna with the alehouse is well-known, as for example, in *Inanna I* A 16–17, where it is mentioned: 'When I sit in the alehouse, I am a woman, and I am an exuberant young man', or in the *The Song of the Ploughing Oxen* 146–7: 'In the alehouse, the joy ……, …… Inanna …… a place of relaxation'. Moreover, in the Akkadian *Epic of Gilgameš* (X 1) the goddess Ištar appears to Gilgameš as Šiduri, the tavern-keeper (*sābītu*) living by the seashore.

Lugalbanda and Anzu

Lugalbanda and Anzu (= ETCSL 1.8.2.2; Wilcke 1969) is either the sequel to *Lugalbanda in the Mountain Cave* or is part of the same composition. In *Lugalbanda in the Mountain Cave*, after the protagonist has departed from Uruk towards Aratta, he falls ill and lies in the cave until he is finally recovered. At the beginning of *Lugalbanda and Anzu*, Lugalbanda is lost in the midst of the mountains. In order to reach his brothers and Uruk's army besieging Aratta, he seeks the help of Anzu, the mythical lion-headed eagle. The episode detailing the meeting of Lugalbanda and Anzu is very long; at two hundred lines, it comprises half of the entire composition, the second part of which describes the siege of Aratta and the Uruk victory. In brief, Lugalbanda finds Anzu's nest and feeds its chicks with fine food, paints their eyes with kohl, and puts *eren*'s scent on them. Then he hides, waiting for Anzu to return to the nest.

Lugalbanda is knowledgeable and he achieves great things.
To (the preparation of) the sweet breads for the gods
He added carefulness to carefulness.
On the bread *dough* he spreads honey and he added more honey to it.
He set them before the nest of the Anzu's chick,
He gave the chick fatty meat to eat. He fed it sheep's fat.
He *placed nindaidea*-breads into its beak.
He laid down the Anzu's chick in its nest,
Painted its eyes with kohl,
Placed white *eren* onto its head,
Put up a … of salt meat onto its head.
Lugalbanda and Anzu 50–60

When Anzu arrives, he is pleased with his chick and wants to fix a good fate for the one who did this. Lugalbanda shows himself to Anzu and the mythical bird decrees his destiny. First, Anzu offers him precious metals and piles of grain, apples, and cucumbers with which he can return to Kulaba, but Lugalbanda refuses (ll. 132–41). Second, Anzu offers him magic arrows, but Lugalbanda refuses (ll. 142–8). Third, Anzu offers him mythical weapons (helmet, breastplate, battle-net), but Lugalbanda refuses (ll. 149–54). Fourth, Anzu offers him plenty of milk and dairy products, but Lugalbanda refuses (ll. 155–59).[5] Finally, Lugalbanda asks for the power of running instead.

Holy Lugalbanda replied to him:
'Let the (power of) running be on my shoulder and that I will never be tired!
Let there be strength in my arms,
Let me stretch my arms wide, let my arms never become weak!
Like the sunlight, moving, like Inanna,
Like the seven storms, the storms of Iškur,
Let me raise like a flame, blaze like lightning!
Let me go wherever I look to,
Set foot wherever I raise my eyes,
Reach wherever my heart desires,
And in whatever place my heart has named to me let me spread my sandals!'
Lugalbanda and Anzu 167–77

In exchange for the good fate decreed by Anzu, Lugalbanda promises that he will fashion a marvellous wooden statue of Anzu and make his name renowned across Sumer.

When Utu will let me enter my city, Kulaba,
…

I will make the woodcarvers fashion a
statue of you, and you will stay as an
object of admiration,
Your name will be made manifest
in Sumer
And in the temple(s) of the great gods it
will stay for fitting.
Lugalbanda and Anzu 181–83

Differently from the stories of the Fox and the Fly, Anzu is marked by the Inanimate Class (or Class B) elements, although he speaks and acts as an animate being. Furthermore, the gender of Anzu can be determined by Lugalbanda assertion '"You shall be my father" he said' (za-e ad-da-ĝu$_{10}$ he$_2$-me-en bi$_2$-in-du$_{11}$) in l. 127, paralleled by the assertion '"Your spouse shall be my mother" he said' (dam-zu ama-ĝu$_{10}$ he$_2$-am$_3$ bi$_2$-in-du$_{11}$) in the previous line.

In the story of *Lugalbanda and Anzu*, Lugalbanda's first act, the care of Anzu's chick, is a kind of present that facilitates contact with the mythical bird. After four good fates offered by Anzu, all refused by Lugalbanda, the latter asks for a specific power, that of running, which is granted by Anzu. The reward of Anzu is Lugalbanda's promise to fashion a statue[6] and make Anzu's name famous.

Ninurta and the Anzu's chick

Not Anzu, but his chick acts at the beginning of a myth known as *Ninurta and the Turtle* (= ETCSL 1.6.3; Alster 1972). The story seems to be a sequel to the Akkadian Anzu myth. It begins after the defeat of Anzu by Ninurta. Struck by the god, Anzu drops the MEs, the divine plans (ĝiš-hur), and the Tablet of destinies which return to the *abzu*. Possibly with the intent of recovering them, Anzu's chick (amar-anzu^{mušen}) takes Ninurta by the hand and leads him to the *abzu* of Enki, where the rest of the composition takes place.

At [the words (of the chick?)] of Anzu
Ninurta filled with treachery (or: was
silent in treachery).
[Ninme]na gave out a wail:
'As for me, its divine powers (me) have
not fallen into my hand. Shall I not
exercise their authority?
Shall [I] not live like him *in* the shrine in
the *abzu*?'
Father Enki in the *abzu* knew what had
been said.
The Anzu chick took the hero Ninurta by
his hand
And drew near with him to Enki to the
abzu.
The Anzu chick returned Uta-ulu
(Ninurta) to the *abzu*.
The lord rejoiced for the hero,
Father Enki rejoiced for the hero
Ninurta.
Ninurta and the Turtle B 5–14

In this composition, another animal intervenes, the turtle (ba-al-gu$_7$). Fashioned by Enki from clay, the turtle is used to ambush Ninurta. It grabs the tendon of Ninurta and draws him down in a pit that it has excavated. The turtle is a creature of Enki, obeying its master's orders, and has no active role in the development of the story.

Inanna, Šukaletuda, and the Raven

The last example of animal agents can be found in the myth known as *Inanna and Šukaletuda* (= ETCSL 1.3.3; Volk 1995). The myth is composed of two parts with different protagonists. After the description of Inanna's departure from heaven and various gaps, the text continues (l. 49) with the story of the Raven (uga^{mušen}) and the creation of the date palm (Verderame 2020). The second part contains the story of Šukaletuda, the gardener, who sexually abuses the goddess Inanna who is resting in his garden. Šukaletuda escapes the quest and the rage of the goddess thrice thanks to the help of his father, probably Enki, but Inanna eventually finds him. The goddess punishes Šukaletuda, but at the same time she decrees his future fame.

At the beginning of the story, the protagonist is the Raven, then changes to Šukaletuda. The crucial point that merges the two stories, where the protagonist changes from the Raven to Šukaletuda, is lines 91–2.

[... Šukale]tuda was his name,
[*Son*] of Igisigsig, the [gardener(?)],
Was to water [garden plots]
And was to build a well [among the
plants].
Inanna and Šukaletuda 91–4

It is generally assumed that Šukaletuda is a new character introduced in these very lines. Considering his activities, the word 'gardener' is usually hypothesized in the gap of l. 91 (Volk 1995, 58), being the gardener a main character in the Sumerian and Akkadian literature (Besnier 2002; Rendu Loisel 2013). Igi-sig$_7$-sig$_7$ (lit. 'very green eye/face'), which appears in the following line and who is supposed to be the father of Šukaletuda, is identified as 'the chief-gardener of An' in the gods

list *An = Anum* ([192] nu-ĝiš$kiri_6$-an-na-ke_4). Furthermore, Šukaletuda has been identified with Išullānu, the gardener, lover of Ištar, transformed into a toad in the *Epic of Gilgameš* (Volk 1995, 53–64; see note 7). However, the relationship between the two stories and the change of protagonist in *Inanna and Šukaletuda* has never been properly examined and it is possible that an identification of the Raven with Šukaletuda cannot be excluded *a priori*.

For the purpose here, the story of the Raven is the relevant part of the composition. After a gap in the lines 42–8, Enki calls the Raven and instructs it as follows:

> The kohl of/for the Eridu's art of exorcism,
> With oil/fat and water in a lapis-lazuli bowl
> Placed in the room of the *agrun*
> You … with the axe and chew.
> Then *plant* (it in?) a watered trench (lit. swamp) for leeks in a vegetable plot;
> Then you should [pull out (?) …].
> *Inanna and Šukaletuda* 51–6

The Raven follows Enki's instruction and something odd happens. From the mix of the 'watered trench for leeks' and the 'vegetable plot', a new and unknown plant grows, the date palm.

> A plant growing in a plot like leeks,
> An *enemy* standing up (var.: growing straight) like a leek, who had ever seen it before?
> It *gathered* [...], *continued growing* ...
> A bird like the Raven performing the work of man,
> Breaking upward the clod and settling it downward,
> Breaking downward the clod and raising it upward,[7] who had ever seen it before?
> The Raven raised on the *enemy*
> And with a harness climbed up *to the sky* the date palm.
> *Inanna and Šukaletuda* 66–73

After a fragmentary line where the Raven does something with the kohl (l. 74), follows a description of the date palm, its parts and their uses (ll. 75–84). The passage of the bird performing man's tasks is repeated (ll. 85–7). The story of the Raven ends as it began, with it entering the *abzu*, after which begins Šukaletuda narrative.

> At its master's command, the Raven entered the *abzu*.
> Now, what did one say to another?
> Did […] add *a single thing*?
> *Inanna and Šukaletuda* 88–90

The kohl (šembi, šem-bi-zi) deserves further attention. It appears several times in the Raven's story and it may be a link with Šukaletuda. The kohl is used for the eyes and there may be a relationship between the kohl and the episode of Šukaletuda's story when the protagonist complains that the storm wind has struck his eyes with the dust of the mountain (igi-ĝu_{10} sahar-kur-ra im-mi-ib-ra, l. 146). Furthermore, the name of the supposed father of Šukaletuda, Igi-sig_7-sig_7, is composed of the terms 'eye' (igi) and 'green' (sig_7). Kohl is usually described as 'green' (e.g. šem-bi sig_7-sig_7-ga-bi, *Lugal-e* 636) and, in the lexical lists, Igi-sig_7-sig_7 is equated to *amurriqānu* 'jaundice' (CAD A *s.v.* 91–2), whose symptoms are often green/yellow (sig_7) eyes or face, and to *sinnurbû* (CAD S *s.v.* 294), possibly similar to *sinlurmâ* (CAD S *s.v.* 285), a disease of the eyes; see also *šišû* (CAD $Š_3$ *s.v.* 127).

In this composition, the Raven is marked with Animate Class (or Class A) grammatical morphemes and it is not possible to determine its gender. As for the fox, the uga[mušen], identified with the raven (Weszeli 2007), is a popular character in literature, particularly in fables and proverbs (Veldhuis 2004, 299–301; Verderame 2017a, 402–3) as well as in divination (Guinan 2018). The bird depicted on *kudurru*s may be a crow or a raven (Seidl 1989, 148–9). The Raven star (MUL.UGA[mušen]), possibly to be identified with Corvus constellation (Deimel 1914, 47–9; Kurtik 2007, 557–61), is often used as a learned name for Mars, as the Fox star (see above; not mentioned in Reynolds 1998).

A raven makes its appearance in another Sumerian composition, *Enlil and Namzitara*. In this brief composition, Enlil appears to Namzitara disguised as a raven. Notwithstanding Enlil's disguise, Namzitara recognizes the god and receives from Enlil a good fate in reward.

Conclusions: magical helpers and the metamorphosis human-animal

Sumerian literature conveys the idea of a divine-human connection. Civilized humans live in the city, a space ordered and protected by the divine presence in the temple (Verderame 2011); animals are almost omitted in this ideal structure. In divine and human narratives, animals may be listed as objects or, in the case of wild and exotic animals, as a mark of alterity regarding the civilized urban life. Even in Sumerian language, gods and humans are marked by the

same grammatical class (Animate/A), as opposed to the others, including animals, which are marked by another class (Inanimate/B).

In a few cases, animals escape their objectification or anthropomorphizing, which is typical of wisdom literature. The animals acting in the compositions discussed here are not common animals. First, they speak and perform 'human' actions. Some are mythical beings such as Anzu, and others act in mythical time and their fate will be fixed as a consequence of their actions (fox, fly). Except for the fly, all the others (fox, raven, Anzu) are important figures in Mesopotamian culture. They either have a position in the pantheon and a role in mythical narrative (Anzu) or are popular animal protagonists in wisdom literature (fox, raven). Apart from their presence in the textual record, they are documented in iconographic sources and their fame is further demonstrated by celestial identification with astral bodies (fox, raven, Anzu[8]).

Two literary motifs can be outlined from the passages discussed above: the animal intervention and the metamorphosis. Firstly, the animal intervenes to solve at a critical moment or impasse. This is the case of the Fox in *Enki and Ninhursaĝa* and the Fly in *Inanna's Descent to the Netherworld*. Both animals help in the quest of a hidden character and ask for a reward (ni$_3$-ba 'share'). Thus, the god, Enlil or Inanna, fixes the animal's fate, the destiny or a feature the animal will have from that moment onward. This theme may be found in relationship to Anzu and his chick as well. In *Lugalbanda and Anzu*, Anzu helps Lugalbanda, who is separated from the rest of the Uruk's army and lost in the middle of the mountains. In *Ninurta and the Turtle*, Anzu's chick leads Ninurta to the place where the story will take place, the *abzu*.

In terms of the narrative structure, according to Propp's folktale analysis, they can be described as magical helpers or donors (Propp 1965, 6; 1977, 179–206).[9] They help the protagonist in his quest in exchange for a gift. This is the fate rewarded to the Fox, the Fly, and Anzu. This is also true for Anzu's chick, who becomes a 'magical helper' after the hero defeats Anzu. In fact, the story of *Ninurta and the Turtle* begins after Ninurta's victory over Anzu. As Anzu, most of the defeated 'chaotic monsters' become the god's serfs and assistants. They are lieutenants of the god or appear as guardians of the temple gates. This is the case of Ninĝirsu/Ninurta's adversaries (Wiggermann 1992, 151–64; Heimpel 1996), as well as Marduk's in the later tradition. This can also be the case with the seven assistants of Hendursaĝa, described as animals or beings with animal features, which may be the forerunners of the Seven demons (Verderame 2017a,b). The latter are represented as animal-headed beings in first millennium iconography and are assistants of the god Nergal and help Gilgameš in his travel to the Kur (*Gilgameš and Huwawa*).

The second motif emerges from the story of the Raven in *Inanna and Šukaletuda*, which is different from the other stories. The Raven is the main protagonist of the first part of the story, substituted by Šukaletuda in the second part. It is difficult to determine the relationship between the Raven and Šukaletuda and, particularly, if the animal is identified or becomes human. However, we know that in later traditions, the opposite happens: Šukaletuda is transformed into an animal instead. In the famous list of Ištar's lovers in the *Epic of Gilgameš* (VI 32–79), Gilgameš holds the list of her doomed partners against the goddess. The list begins with Dumuzi, followed by two animals (the *alallu*-bird and the horse) and two men, Išullānu, the gardener, and the shepherd. Išullānu can be identified with Šukaletuda. The two humans are transformed into animals by the goddess: Išullānu into what is perhaps a toad, the shepherd into a wolf. Metamorphosis is well documented in Mesopotamian tradition. In Sumerian language literature, we may recall the case of Dumuzi animal transformations in order to escape the chasing demons (*Dumuzi's Dream*, *Inanna's Descent to the Netherworld*) or Enlil disguised as a raven in *Enlil and Namzitara* discussed above. The metamorphosis of human into animal bridges the apparent gap or, instead, establishes the boundaries between the two entities and opens a different perspective on the human-animal relationship.[10]

Notes

1 For overviews and introductions to Sumerian literature see Krecher 1978, Edzard & Röllig 1987, Rubio 2009, Verderame 2016. Most of the Sumerian literature is available on the *Electronic Text Corpus of Sumerian Literature* (= ETCSL, http://etcsl.orinst.ox.ac.uk); an updated bibliography of Sumerian literature is presented by Attinger 2019. In this article the reconstruction of the main text as well as line numbering follows ETCSL's, while translations in English from Sumerian are mine.

2 For the interpretation of the myth, see Kirk 1970, 91–9; Rosengarten 1971, 7–38; Civil 1973; Alster 1978; Dickson 2007; Rodin 2014; Ceravolo 2019.

3 This is an act of affliction often accompanied by interjection of woe. The expression 'the lord said "Oh!" and sat in the dust' (en-e u$_8$ bi$_2$-in-du$_{11}$ sahar-ra ba-an-da-tuš/ba-da-an-tuš) is used for Gilgameš after the encounter with the ghost of Enkidu in *Gilgameš, Enkidu and the Netherworld* A 253 and for Lugalzagesi in *Sargon and Ur-Zababa* C 7. However, it is also used specifically as part of mourning. After Inanna descends

to the Netherworld, Ninšubur, Šara, and Lulal 'sat in the dust and clothed himself in a filthy garment' (saharra im/ba-da-an-tuš tug$_2$-mu-dur$_7$-ra ba-an-mu$_4$, *The Descent of Inanna to the Netherworld* 308, 331, 341); see in general Alster 1983, and in a comparative and anthropological perspective, De Martino 1958. This interpretation fits perfectly with the state of death or non-life of Enki decreed by a negation of life meant in Ninhursaĝa's curse. Note that also the passage of *Gilgameš, Enkidu and the Netherworld* A 253 refers to a mourning contest as may well be the case for *Sargon and Ur-Zababa* C 7, but because it is fragmentary we do not know the news brought by the messenger to Lugalzagesi that cause his distress.

4 In the *The Dream of Dumuzi*, it is the friend who betrays Dumuzi revealing where the god hides, after the *galla* have offered him 'a river of water' and a 'field of grain' and he accepted them (ll. 142–43).

5 The second, third, and fourth presents of Anzu are related to the gods Šara, Ninurta, and Dumuzi introduced in the very first line of the section: 'Like Šara, beloved son of Inanna, shoot forth with your barbed arrows like a *sunbeam*' (^{142} ^{d}šara$_2$ dumu-ki-aĝ$_2$-^{d}inana-gin$_7$ ^{143} ti zu$_2$-zu-a u$_4$-gin$_7$ e$_3$-i$_3$); 'May Ninurta, the son of Enlil, cover your head (lit. skull) with the helmet "Lion of Battle"' (^{149} ^{d}nin-urta dumu-^{d}en-lil$_2$-la$_2$-ke$_4$ ^{150} ^{tug2}saĝšu piriĝ-me$_3$-a ugu-za he$_2$-eb-dul); 'The plenty of Dumuzi's holy butter churn …' (^{149} he$_2$-ĝal$_2$ ^{dug}šakir ku$_3$-^{d}dumu-zi-da-[ka-ka]).

6 For images of Anzu in Mesopotamian temples, see Pongratz-Leisten 1995.

7 These lines have been translated differently by Volk 1995, followed by ETCSL, who hypothesizes that the 'lump' (lag) is the counterweight of a *shadouf*, thus the Raven would move upward and downward the watering tool to irrigate the date palm; see the discussion in Volk 1995, 53–64. Volk's hypothesis is suggestive and may be right, but I have preferred to give a more direct translation of the Sumerian text. Note that in the history of Išullānu (see below) the gardener is transformed into an animal, possibly the toad, 'who cannot go up … who cannot go down …' (*ul e-lu-ú mi-ih-ha ul a-rid da-l*[*u*(-) x x x x], *Epic of Gilgameš* VI 78), the same movement performed by the Raven in *Inanna and Šukaletuda*'s passage (^{70} lag an-še$_3$ sag$_3$-ge-da ki-še$_3$ tuš-u$_3$-da ^{71} lag ki-še$_3$ sag$_3$-ge-da an-še$_3$ e$_3$-de$_3$-da).

8 For the Anzu star, see Deimel 1914, 79, and Kurtik 2007, 219–21; as the Fox star and the Raven star, Anzu star is known as a learned name for Mars, see Reynolds 1998, 355.

9 The role played by the animal in these cases may recall that of the *deus ex machina* or ἀπὸ μηχανῆς θεός of the Greek tragedy, who intervenes and solves a seemingly unsolvable situation. However, some relevant differences must be drawn between the cases here discussed and the *deus ex machina*. First, the *deus ex machina* is a scenic trick and its context is that of the tragedy. Second, the agents that intervene to solve the impasse are gods. This is the case of Homeric compositions as well, where the gods influence human events by helping their human protégés. I am grateful to Roberto Nicolai for his observations on this point.

10 For an overview of the sources, see Sonik 2012; an article on metamorphosis in Sumerian and Akkadian literature is in preparation by Andrea Rebecca Marocchi Savoi and the present writer.

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Chapter 3

Canines from inside and outside the city: of dogs, foxes and wolves in conceptual spaces in Sumero-Akkadian texts

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When reading Sumerian and Akkadian literary texts, it is often possible to observe a strong opposition between the world in which humans live, considered ordered and civilized, and the natural world, the realm of wild animals, but also associated with supernatural entities. This dichotomy can be observed in many texts, as in the epics of Lugalbanda, in which the sick hero has to be abandoned by his peers in the wilderness. The natural world appears there as something threatening and overwhelming, beyond human control, and Lugalbanda's journey is bathed both in awe and fear of what cannot be understood or controlled.[1] This distinction is also indicated in the *Epic of Gilgamesh* (tablet I, col IV: 23–6) in which, after being 'civilized' through his encounter with the harlot, the wild-man Enkidu is unable to go back to his old life: the animals among which he had lived peacefully were now afraid of him and ran away (George 2003). The connection with the natural world is depicted as severed once Enkidu had been integrated into the world of humans.

In many texts, the city is often depicted as the perfect incarnation of the human world, the very core of civilization and order. It is as such opposed to the natural world, seen as wild and chaotic. This is of course not a geographical division, but a conceptual one, for many human activities occur outside urban spaces. Roads, fields and pastures, military and nomadic camps, are all as deeply attached to the idea of civilization as the city itself. However, the point of view expressed in written sources is mostly the one of urban populations, thus explaining why most of the attention seems to be focused on the city.

The opposition established between the city and the natural world also facilitates a reference to the conflict between order and chaos. As such, the animal species associated with each of these conceptual spaces can embody the forces of civilization as opposed to everything that refuses to bend to it. This chapter will focus on three canine species, exploring how dogs, foxes and wolves are depicted as fitting either inside or outside the world associated with humans. While the position occupied by each of those species in this dualistic pattern might seem obvious, things can be more complex than what they seem to be at first sight, with the possibility of establishing a third aspect of this mental space, a form of 'in-between'.

Canines from the 'inside': dogs

While dogs might seem easy to fit in the opposition inside/outside, many sources reveal that this animal is not that easy to classify. This is illustrated by the position of the dog in the lexical list ḪAR-ra = *ḫubullu*, in which the dog is not mentioned with domestic animals in tablet XIII, but with wild animals in tablet XIV (Landsberger 1962). However, the dog cannot be fully set apart from the civilized sphere since it lives within the typically human world as a domestic animal. Moreover, many depictions of dogs in texts locate the animal in the very core of the realm of humans, the city. This can be noted in proverbs from the end of the third millennium BC, but also much later, for example in first millennium BC omen collections such as *šumma ālu ina mēlê šakin* – which we will refer to as ŠA – in which no less than three tablets focus exclusively on dogs. This animal was then associated with urban space from early periods and remained so.

Its presence is also attested in domestic spaces. Such mentions of the animal can be noted in Sumerian proverbs[2] such as SP 2.109: 'A sniffing dog enters all houses' (ur si.im.si.im é.é.a ku_4.ku_4) (Alster 1997, 67). Many first-millennium BC omens also mention the presence of dogs in houses, as in ŠA tablets 47, 23'–32' (Freedman 2017, 62) and 48, 18–29 (Freedman 2017, 66–7).

While it is difficult to establish to what extent dogs were allowed into houses or workplaces, their presence in such spaces does not appear as unusual in texts. However, it is clear that, while being valued as a useful guardian, the dog could also be perceived as potentially troublesome. This is often the case when dealing with its presence in workshops, as in SP 2.112: 'The smith's dog couldn't overturn the anvil, (so) it overturned the water-pot' ([1]ur.simug.ke$_4$ na$_4$.šu.mìn.e nu.mu.un.zi, [2]pisan$_2$.dug.a i.im.zi) (Alster 1997, 68). Mentions of dogs in similar situations are also attested in the first millennium BC, as in another proverb quoted by Esarhaddon in ABL 403: 'When the potter's dog enters the kiln it will bark at the potter'[3] (ABL 403: [5]ur.gi$_7$ *šá* [lú]baḫar$_2$, [6]*ina* šà udun *ki-i i-ru-bu*, [7]*a-na* šà [lú]baḫar$_2$ *ú-nam-bàḫ*) (Lambert 1996, 281).

Omen collections such as ŠA also inform us that the presence of a dog inside a house was not seen as an ominous sign on its own, but as a regular everyday occurrence. Indeed, when an animal enters a place where it does not belong, its presence alone can be interpreted as an omen and details about its attitude are therefore not necessary (Vilela 2019). Such a situation can be noted on several occasions, such as when a wild animal enters a city, which would be considered as an omen per se, as in ŠA 44, 42': 'If a gazelle enters in a city, that city will fall' (diš maš.dà *ana* šà uru tu-*ba* uru bi šub-*di*) (Freedman 2017, 35). But when dogs are involved, behavioural descriptions are on the contrary essential to establishing a prediction. This suggests that it was not the presence of the animal itself that was noticeable, but rather its actions, as illustrated by ŠA 47, 30': 'If a dog urinates on a man's bed, severe sickness will afflict that man' (diš ur.gi$_7$ giš.ná lú *iš-tin* lú bi gig *pa-áš-qu* dib-*su*) (Freedman 2017, 62). It is here clearly this specific action, which should not happen inside the house, and much less on a man's bed, that leads to an ominous interpretation.

According to this corpus, the dog is then an animal whose presence in urban and even domestic space is common. But while ŠA omens regarding dogs focus on observations made in a city or a house, there are other texts that depict the animal in a very different environment. For although being introduced as the main location of the human sphere in literary texts, the city is just one aspect of the civilized world. Indeed, every aspect of human society and economy are part of this mental structure, including pastoral activities. It is when it comes to protecting the flocks and assisting the shepherds that the dog comes to embrace its full potential as a manifestation of the forces of civilization. Its usefulness is praised in many texts, turning the dog into a natural shield for pastoral activities.

This can be seen with the role of the dog in the *Fable of the Fox*,[4] a composition from the first millennium BC in which the dog faces both the fox and the wolf to stop them from endangering the flocks under its protection. In this text, the dog introduces himself in such terms: 'Their lives (those of the sheep) are entrusted to me as if (to) the shepherd and the herdsman. I guide (them) safely on my regular path (through) the steppe and the water places (…)' (VAT 13836: [20]*ki-i-ma* sipa^{meš} *ù na-qi-di na-piš-ti-ši-na pa-aq-da-a-ni*, [21][*ṣē*]-*ra maš-qa-a ka-ia-ma-ni-ia ur-ḫa šu-tu-ra-a-ku*) (Lambert 1996, 192–3). He also adds in line 23 'At my howls, the panther, the cheetah, the lion (and) the wild cat run away in panic' (*a-na ri-ma-ti-ia ig-ru-ru nim-ru mi-di-nu la-a-bu-ú šu-ra-nu*) (Lambert 1996, 192–3).

So, while living outside the city and even in the steppe itself, the dog never ceases to belong to the human world which it comes to embody in literary representations. This aspect is made evident by the fact that it is often the dog, rather than the shepherd, which is depicted chasing away the wild animals threatening the sheep. The dog is then not an emanation of the civilized world in literary texts simply because of its status as a domestic animal nor because it lives among men, but because it is *active* in fighting beings coming from the natural world, such as the wild animals mentioned in the *Fable of the Fox*. The dog's image then becomes perfectly appropriate for illustrating the conflict between civilization and the chaotic forces threatening it. As such, the dog is able to assume the role of a symbolic guardian against evil beings, which were thought to live in the wilderness, just as wild animals. This transfer of the dog's usefulness from the natural world to the supernatural one is attested through the use of dog figurines in rituals to keep evil forces at bay.

Some incantations against demons might indeed describe them as living outside the cities, roaming through the steppes, marshes and mountains. This can be seen in an incantation against the demoness Lamaštu,[5] which clearly indicates that 'she came down from all the mountains' ([35]*kul-lat* kur-*i ú-ri-dam-ma*) (Farber 2014, 100). A few lines later, she is expelled to her place of origin: 'Go away to the mountain that you love!' ([41]*at-la-ki a-na* kur-*i šá ta-ram-mi*) (Farber 2014, 101). Moreover, a ritual indicates that dog figurines were to be used to chase her (Farber 2014).[6] The employment of such figurines is attested in other rituals, as in *šēp lemutti ina bīt amēli parāsu*, which concerns evil forces in general (Wiggerman 1992) and clay dog figurines serving this purpose have been found buried under doorways (Wiggerman 1992; Watanabe 2002).

The affiliation of the dog with civilization manifests itself through its role as a guardian against

both natural and supernatural forces coming from the wilderness. It is by fighting wild animals and demons that the dog represents the realm of humans, by opposition with the chaotic forces from the wild (and thus uncontrolled) world. However, this is but one aspect of the dog's complex figure, for the dog is one of the most ambivalent animals appearing in cuneiform literature.

Canines from the 'in-between': stray dogs

This complexity can be explained by the presence of two very distinct categories of dogs. First, we have the dog attached to a master, useful as a guardian, whose aggressiveness is controlled by humans and serves their interests. But there is also another kind of dog: the stray dog, which is an entirely different matter. Those animals were feared and described as dangerous and unpredictable, forming packs and roaming the streets. Many omens concerning stray dogs often insist on their aggressiveness and the verb *šegû* ('to rage, to become rabid') is frequently used in their descriptions, as in ŠA 46, 1: 'If dogs are persistently going wild (…)' (diš ur.gi$_7$.meš *it-te-niš-gu-u$_2$* (…)') (Freedman 2017, 52). Moreover, the verbal form employed is usually that of the Gtn system, with the infix *-tan-* emphasizing the repetitive aspect of the action. This suggests that it was not simply occasional outbursts of aggressiveness that attracted attention, indicating that sporadic hostile behaviour from stray dogs was not considered unusual. It is also interesting to note that the presence of such animals in high numbers was seen as a bad omen, as indicated by ŠA 46, 2: 'If dogs are numerous in a city: trouble for [the city]' (diš ur.gi$_7$.meš *ina* uru *i-mi-du na-zaq* [uru]) (Freedman 2017, 52).

Stray dogs differ greatly from their domestic counterpart. While living in the cities, they had to survive by themselves and find whatever food sources they could. Their behaviour was not controlled by humans, but they lived nevertheless in the core of the world associated with the civilized sphere: the city. This put them in a very special situation, in which they had daily interactions with people, while technically being semi-wild animals which did not completely fit the world they inhabited and escaping human authority.

This could lead to several problems, such as the question of their feeding habits. Since they had no master to provide them a regular source of food, they had no choice but to resort to eating any kind of waste they could find. As such, they could be useful, taking care of part of the garbage, but many sources also mention the possibility of them eating human corpses if given the chance. Images of dogs tearing at corpses were included in several kinds of texts, from myths to royal inscriptions, and used to illustrate frightening and threatening situations.

Unsurprisingly, this aspect of dogs is often mentioned in Assyrian royal inscriptions from the first millennium BC, when kings wanted to threaten anyone who would not respect their will or destroy their inscriptions. It can be seen in a text from Assurbanipal: 'May the dogs tear apart his corpse as it lies unburied!' (SAA 12, 26: 31: lú.úš-*šú i-na la qí-bí-ri li-ba-aṣ-ṣi-ru* ur.gi$_7$.meš) (Kataja & Whiting 1995, 28) and in Esarhaddon's Succession Inscription: 'May dogs and pigs drag the teats of your young women and the penises of your young men before your eyes through the place of Assur! May the earth not receive your bodies (and) your sepulture be in the stomach of dogs and pigs!' (SAA 2, 6: [481](…) *si-si šá ar-da-te-ku-nu*, [482]mat-*nat šá* lú guruš.meš-*ku-nu ina ni-ṭil* igi.2-*ku-nu* ur.gi$_7$ šaḫ.meš, [483]*ina re-bit aš-šur li-in-da-šá-ru* lú úš.meš-*ku-nu* ki.tim, [484]*a-a im-ḫur ina kar-ši* ur.gi$_7$ šaḫ.meš *lu na-aq-bar-ku-nu*) (Parpola & Watanabe 1988, 49).

Other compositions refer to this fearsome aspect of the dog. In *Lugal.e*, the description of the effects of the fight opposing the god Ninurta to the monster Asakku uses the image of blood-licking dogs to emphasize the devastation resulting from it: 'The lance was stuck into the ground and the water channels were filled with blood. In the rebel lands dogs licked it up like milk' ([259]*ár-ka-a-tim ina* ki-*tim iš-tu-ma ḫar-ra da-ma um-tal-li*, [260]kur *nu-kúr-ti ki-ma ši-iz-bi kal-bi uš-te-te-li-*`) (van Dijk 1983, 83–4).

This is to be related with the fear of being denied funeral rites. In societies in which exposure is considered normal, scavenging animals are not perceived negatively. However, in the Mesopotamian context, the image of dogs tearing human bodies apart is extremely negative and induced fear and disgust. This leads to a negative perception of the stray animal, contrasting with the positive vision of the domestic dog as a protector and a helper. Such a perception of the scavenging aspect of the dog is not exclusive to Mesopotamia and can be observed in other societies. Even in Homer's *Iliad*, when Achilles describes what he plans to do with Hector's body, the image of dogs tearing it apart is called upon: 'Hail, I bid thee, O Patroclus, even in the house of Hades, for even now I am bringing to fulfilment all that aforetime I promised thee: that I would drag Hector hither and give him raw unto dogs to devour (…)' (*Iliad*, XXIII, 19–21; translation from Murray 1963, 495–7).

Cuneiform sources go even further in presenting the danger of starving dogs, portraying them as able to attack and devour living humans as well. However, such mentions remain extremely rare, and

associated with exceptional situations, such as in the description of the fall of Akkad: 'The dogs were gathered in the silent streets. Two men came there. They were both eaten. Three men came. The three of them were eaten' ([185]ur sila si.ga ka ba.ni.ib.kéš, [186]šà. ba lú min du téš.e ba.ni.ib.kú, [187]lú eš$_5$ du téš.e ba.ni. ib.kú) (Cooper 1983, 58).

The mistrust of stray dogs can also be explained by the problem posed by rabies. With so many animals roaming free, this disease could spread quickly and the risk of infecting humans grew higher. The lethal aspect of rabies likely contributed to the development of a negative image of the dog, especially stray animals that were harder to monitor. Many corpora reveal that those dogs were not just despised, but also feared. In literary texts, frightening beings were sometimes compared to rabid dogs, such as the monster Asakku in *Lugal.e*, described as a rabid dog (ur.idim) in line 171 (van Dijk 1983). Omens also consider such animals dangerous, as can be seen in a prediction from *Iqqur īpuš*, which says that 'Dogs will become rabid and bite humanity. The (bitten) men (and) women shall not survive' (*Iqqur īpuš*, 69, 13: ur.gi$_7$.meš idim.meš-*ma* nam.lú.u$_{18}$.lu ka.kud.meš guruš mu[nus n]u.t[i.l]a.meš) (Wu 2001, 36).

The combination of the stray dog's feeding habits, along with its unpredictability and potential aggressiveness, which could be enhanced by rabies, explains how this type of dog ended up being perceived as a physical threat. As such, stray dogs could even be associated with evil entities such as demons. This can be seen in *Hendursaga's Hymn*, in which the god's seven demons are each compared with an animal.[7] All the species mentioned are either predators or scavengers, which enables them to be associated with the ideas of death and chaos. They are all wild animals, except for the dog. Given that both shepherd dog and watchdog were seen as allies and had a positive image, the dog mentioned in this hymn is most probably a stray animal, which could easily be associated with the ideas of danger and death.

However, even if they were seen as a threat, stray dogs were nevertheless closely related to the world of humans and civilization: they lived in the streets, in the city itself, and interacted with urban populations on a regular basis, contrary to wild species such as foxes and wolves. While being symbolically closer to forces that could be associated with the natural and chaotic world, such as demons, those dogs lived in the core of the civilized world, making it impossible to fully dissociate them from it. As such, stray dogs can be seen as belonging to some sort of in-between zone, a transition between the human world and the wild world.

Canines from the outside: wolves and foxes

Contrary to dogs, foxes and wolves are indeed clearly identified in our sources as animals of the 'outside', coming from the wilderness. They appear in many texts, not just roaming in their natural environment, but also very often trying to intrude in the space belonging to humans. As such, they appear as a potential threat for some economic activities, such as pastoral ones. This also has an impact on their symbolic value, turning them, on some occasions, into manifestations of the forces of chaos, threatening the civilized order.

Unsurprisingly, the wolf is described as the natural enemy of sheep. Its role as a predator of domestic animals is at the core of its symbolic image, to the point that almost every mention of the wolf in literary sources describes it as snatching a lamb or a sheep from the flock. In *Enmerkar and Ensuḫgirana*, this image is employed to describe the king's messenger's speed: 'He speeds like a wolf that has caught a lamb' ([49]ur.bar. ra sila$_4$ šu ti.a.gin$_7$ ul$_4$.ul$_4$.e im.ĝin) (Vanstiphout 2003, 30–1). Later in the same text, when the old woman Sagburru faces the sorcerer Urgirnunna, she makes a wolf appear magically from the stream, taking away the ewe made by her opponent: 'The sorcerer pulled out an ewe and its lamb from the water. Old Woman Sagburru pulled out a wolf from the river. The wolf took the ewe and dragged (it) to the wide steppe' ([233]maš. maš.e u$_8$ sila$_4$.bi a.ta im.ta.an.[è], [234]um.ma sag.bur.ru ur.bar.ra a.ta im.ta.an.[è], [235]ur.bar.ra u$_8$.e in.kar edin. dagal.šè ba.an(!).ùr) (Vanstiphout 2003, 42–3). Proverbs also seem to focus on this aspect of the animal, with entries such as SP 5 Vers. A 71: 'At a place where the wolf snatches the lamb away, the shepherd does not graze his sheep' ([1]ki ur.bar.ra sila$_4$ in.kar.re, [2]sipa.dè udu nu.mu.ni.lu.lu) (Alster 1997, 134).

However, there are almost no mentions of wolves attacking humans. One of the very few examples presenting the wild canine as a danger is in the flood tale from the *Epic of Gilgamesh*. On tablet XI, Enki offers several alternatives to diminish the numbers of living humans and avoid having to resort to the flood again in the future. Among the possibilities, the role of predators is mentioned: 'Instead of the Deluge you caused, a lion could arise and diminish the people! Instead of the Deluge you caused, a wolf could arise and diminish the people!' ([188]*am-ma-ku taš-ku-nu a-bu-ba,* [189]ur.maḫ *lit-ba-am-ma* ùg^{meš} *li-ṣa-aḫ-ḫi-i*[*r*], [190]*am-ma-ku taš-ku-nu a-bu-ba,* [191]ur.bar.ra *lit-ba-am-ma* ùg^{meš} *li-ṣa-*[*ḫi-ir*]) (George 2003, 714–15).

It is striking to note that the wolf is then, at least according to its description in literary sources, seen as less of a threat to humans than the stray dog. This can be explained by the fact that, since those dogs lived

in the cities and roamed the streets freely, there was a greater risk of being bitten or feeling threatened by one of them than by a wolf. Since those sources express a purely urban point of view, the focus on the dog as the main threat is to be expected.

However, a deeper analysis of the wolf's image suggests that its symbolism is broader than that of a simple predator. Indeed, when attacking the flocks, the wolf also threatens economic activities, hence enabling a perception of it as a danger to the human world in general. Even without being a direct threat to people, the wolf appears as a considerable problem through its impact on pastoral activities. The wolf then becomes a manifestation of wilderness and the chaotic forces inhabiting it, which are seen as constantly threatening the very structure of the world inhabited by humans and gods. As such, it can be used to represent what is out of control and refuses to be integrated into what the texts consider to be the civilized scheme.

Several sources use the image of the wolf to symbolize what, and who, lives outside the system and refuses to bend to its rules. This can be seen in *Naram-Sîn and the Enemy Hordes*,[8] when the king refuses to follow the instructions given by the gods, claiming: 'What wolf (ever) consulted a dream-interpreter? I will go like a brigand according to my own inclination and I will cast aside that (oracle) of the god(s) (…)' ([81]*a-a-ú* ur.bar.ra *iš-al šá-il-tu*, [82]*lul-lik ki-i* dumu *ḫab-ba-ti ina me-gir* šà-*bi-ia*, [83]*ù lu-ud-di šá* dingir-*ma* (...)) (Westenholz 1997, 317, 348). By refusing to submit to the gods, the king contests the authority of the ordered world, thus becoming similar to creatures of the wilderness. Unsurprisingly, his refusal to follow the gods' orders results in a defeat against the enemy, which is presented in the text as the consequence of the king's hubris and disregard for the established order.

The wolf could thus be described either as a real threat to pastoral activities, or it could symbolically represent those who refuse to bend to the established cultural, social and political scheme, being therefore a threat to the global structure. It is an emanation of 'outside' forces, not only as a predator representing wilderness, but also to make intelligible the refusal to bend to the norm. Just as the wolf, the fox was also seen as a potential problem, though in a different way. Whereas the wolf's temper was almost never mentioned, the fox had a very striking personality. It was depicted as arrogant, untrustworthy and, above all, as a liar that no one should trust. Such a vision of the animal was established quite early, for it is the same logogram that means both fox (ka_5) and liar (lul).

This aspect of the fox's personality is clearly expressed in proverbs, with many entries referring to this animal and its manipulative side. In SP 2.58, we learn that even gods should be weary of the fox: 'The fox [lies] even to Enlil' (ka_5.a.a ^{d}en.líl lul ba.[e].[sì(?).ke_4(?)]) (Alster 1997, 56). As for SP 5 Vers. A 71, it depicts the fox bluntly trying to trick a pack of wolves:

> Nine wolves caught ten sheep. There was one (more) to place, (so) they couldn't divide their share. Then a fox came to them. 'I want to divide for you: You are nine, (so) there is one [for you?]. I am alone, (so) I take nine. This is the share of my heart (= that I like)', he said ([1]ur.bar.ra 9.bi 10.àm udu.ḫi.a an.[...], [2]diš. àm ab.si.àm ḫa.<la>.ne nu.ḫ[a.la.a], [3]ka_5.[a] [ugu.b]i.[šè] ù.bí.i[n.DU], [4]g[á.e ga.m] u.e.ne.ḫa.[la], [5]9 za.e.me.en.zé.en diš.à[m ...], [6]gá.e dili.mu 9 šu ga.[b]a.ab.[ti], [7]ne.en ḫa.la.[š]à.mu.e.[še]) (Alster 1997, 132–3).

This last example shows us that, even according to wild standards, the fox was untrustworthy. Its image in proverbs is associated with that of the cunning liar, the trickster with no second thoughts about disrespecting the rules and therefore threatening the order of society.

In some literary texts, both foxes and wolves could be described working together and trying to intrude the world of humans, only to be chased away… not by humans themselves, but by dogs. Such a situation is described in the *Fable of the Fox*: 'They were chased away and went (back) to (their) holes. The Fox went to the bottom of (his) hole, the Wolf crouched in the middle of (his) hole. The Dog took position at their entrances and blocked […]' (VAT 13836:[12]*iṭ-ṭa-ar-du-ma e-ru-bu ana ḫur-ri* tu *še-li-bu ana eš-du ḫur-ri*, [13]*ir-bi-iṣ bar-ba-ru i-na* $murub_4$ *ḫur-ri ṣa-bit kal-bu* $ka^{meš}$-*šu-nu-ma iš-te-ni-`-a* x […]) (Lambert 1996, 192).

We also have a proverb in which a fox and his wife try to enter the city but end up running away, once again not from humans, but from dogs:

> The fox said to his wife: 'Come! Let us crush Uruk with our teeth like a leek. Let us strap Kullab upon our feet like sandals.' Hardly had they come within a distance of 600 *nindan* (=100m) from the city, before the dogs began to howl from the city. 'Slave-Girl-of Tummal, Slave-Girl-of Tummal, come with me to your place! All kinds of evil are howling from the city' (said the fox)
> (SP 2.69: [1]ka_5.a.a dam.a.ni an.na.ab.bé, [2]gá. nu unu^{ki} $garaš_3^{sar}$.gim zú ga.àm.gaz.e.en. dè.en, [3]kul.aba$^{ki\ kuš}$e.sír.gim gìr.me.a ga.àm. ma.ab.si.ge_4.en.dè.en, [4]uru.šè $géš_x$u.GAR.uš

nu.te.a.ba, [5]uru.da ur.re sig_{14} àm.da.gi_4.gi_4, [6]$geme_2$.tum.ma.al^{ki} $geme_2$.tum.ma.al^{ki}, [7]dúr. zu.šè gá.nam.ma.da, [8]uru^{ki}.da níg.ḫul.e sig_{14} àm.da.gi_4.gi_4) (Alster 1997, 59)

The dynamics of the interactions between dogs, foxes and wolves in literary texts is therefore not to be seen just as the reproduction of a natural opposition between watchdog and predators. It must be understood as the symbolic representation of a much broader conflict between what is kept under control and what is not.

Conclusion

Each of the three canine species mentioned in this work can be strongly associated either with the human world, usually symbolized by the city, or to the natural world, seen as out of human reach and control. Those two structures were used to manifest the dichotomy order/chaos, and the species studied here were employed in some texts to express this conflict. Among them, the dog remains the most complex, occupying an ambiguous position. As a guardian whose aggressiveness is controlled by a master and orientated against enemies, it is associated with the civilized world, often living in the city and therefore belonging to what we could call 'inside' forces. However, as a stray and uncontrolled animal, it clearly did not belong to the civilized sphere. Yet its presence in the core of urban spaces made it impossible to fully associate the stray dog with the purely wild world, leaving this animal in a mental transitionary zone, some sort of 'in-between'. There is, however, no ambiguity when it comes to the fox and the wolf, both species clearly belonging to the natural world, the 'outside'. As wild animals and predators, they represent not exactly the natural world itself, but the chaos that inhabits it, which is always threatening the city. As such they are depicted not only roaming outside, but also waiting for an occasion to leap forward.

The opposition civilization/natural world associated with the representation of those animal species is strongly expressed by the fact that it is not even humans that are shown chasing away foxes and wolves, but dogs. The descriptions of those canines in cuneiform sources not only inform us of the relationship humans had with them, but also provide elements for a better understanding of how those urban societies perceived their own relationship with the natural world, which was seen as a dangerous and hostile environment. The duality urban space/wild space became on the mental aspect an opposition between ordered, civilized forces and chaotic forces, each facing the other and with the chaos always threatening to take over, as can be seen in this last proverb: 'In the city of no-dog, the fox is overseer' (SP 2.118: uru^{ki} nu ur.gi_7.ra ka_5.a nu.bànda. àm) (Alster 1997, 17).

Notes

1 See *Lugalbanda and the Cave* and *Lugalbanda and Anzu* (Vanstiphout 2003).
2 For this collection, see Alster's edition from 1997. We shall refer to those omens through the abbreviation SP.
3 This proverb is mentioned by the king in a letter to those he refers to as 'the non-Babylonians' (ABL 403, 2: *la* ^{lú}tin. tir.meš) (Reynolds 2003, 4) who have been complaining to him about his own servants in Babylonia. Esarhaddon replies by threatening them and stating that they are in no position to complain whatsoever. This proverb also has close parallels both in Syriac and Arabic traditions (Lambert 1996, 281).
4 This composition, also known as *iškar šēlebi*, remains incomplete for now, so many passages remain obscure. We chose to use the appellation 'Fable of the Fox', proposed by W.G. Lambert, since our citations come from tablets edited in *Babylonian Wisdom Literature* (Lambert 1996).
5 Seventh incantation from the second series against Lamaštu (edited in Farber 2014).
6 They are mentioned in the seventh ritual of the second series against Lamaštu (edited in Farber 2014).
7 For a detailed study about the animals mentioned in this text, see Verderame 2017.
8 Also known as the *Cuthean Legend*. For an edition of the text, see Westenholz 1997.

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Chapter 4

A Human–Animal Studies approach to cats and dogs in ancient Egypt: evidence from mummies, iconography and epigraphy

Marina Fadum & Carina Gruber

In comparison with other established disciplines, Human-Animal Studies is a relatively new field which attempts to validate human-animal relationships from a zoocentric point of view while considering the animal as an equally valued actor in processes within societies (Otterstedt & Rosenberger 2011; DeMello 2012; Wiedenmann 2015; Kompatscher *et al.* 2017). The concept of *animal agency* depicts the animal as an agent whose actions may have an impact on human perceptions, attitudes and/or actions (Shapiro 2008; DeMello 2012; Ferrari 2015; Joy 2011; Chimaira 2013; Roscher 2015; Wirth 2015). Roscher (2015, 86) defines *animal agency* as the ability of animals to influence human concepts and even human history, without (human) language, morality, culture and conscience. In western societies, most people consider themselves as humans and refer to other creatures as 'animals'. This belief that humans are separate from the animal world is referred to as 'human exceptionalism'. However, this semantic distinction does not exist in all human societies. Even in those which do have separate terms for humans and other animals, the borders are often fluid (DeMello 2012, 32–5; Chimaira 2013; Friedrich 2014; Wirth 2015).

The use of animals in religious rituals in ancient Egypt is well documented (David 2002; Teeter 2002; Zivie & Lichtenberg 2005; Petrie 2013; Ikram 2017). Animals were used as votive offerings, whereby an animal was sacrificed in order to facilitate the delivery of prayers (Ikram 2005). Significant numbers of cats, for example, were sacrificed to the goddess Bastet; a comparable number of dogs purportedly functioned as votive offerings for the canid deities Anubis, Khentamentiu or Wepwawet (Malek 1993; Fitzenreiter 2003; Ikram 2005; Rice 2006; Zahradnik 2009; Listemann 2010; Lange-Athinodorou 2018).

Keeping animals as pets is usually only practiced in those social groups with abundant resources. It follows, that in ancient societies, only the elite could afford to care for animals that did not earn their keep (DeMello 2012, 147–51; Chimaira 2013).

This chapter considers the human relationship with cats and dogs in ancient Egyptian culture using evidence from studies of cat mummies and inscriptions relating to the dog in ancient Egypt. It is argued that the evidence reveals differences in how the animals were treated according to the role allotted to them in ancient Egyptian society.

Human–cat relationships in ancient Egypt: the cat as an animal mummy

Ikram (2005) uses four categories for studying animal mummies: pets, victual, cult animals and votive offerings (taken from Atherton-Woolham *et al.* 2019, 128). In a similar way this article considers the cat as votive mummy, as pet mummy, and as holy animal in ancient Egyptian society during the New Kingdom (*c*. 1539–1077 BC); the Late Period (*c*. 722–332 BC); and the Greco-Roman Period (*c*. 32 BC – AD 395).

Many authors have discussed the phenomenon of mummification in ancient Egyptian society. However, this treatment was not exclusive to humans (Fitzenreiter 2003; Assmann 2005; Ikram 2005; Lange-Athinodorou 2018). Evidence for non-human mummification can be found in the great number of animal cemeteries, which have revealed vast numbers of animal mummies (Malek 1993; Engels 2001; Ikram 2005; Lorenz 2013; Lange-Athinodorou 2018). The wide variety of mummified animals discovered includes crocodiles, birds, snakes, canids and felines (Malek 1993; Ikram 2005; Lorenz 2013). The findings mainly date from the periods of the New Kingdom, the Late Period and the Greco-Roman Period. Through mummification the body remained intact. According to the ancient Egyptian belief system, this ensured the passage to

afterlife (Engels 2011; Fitzenreiter 2003; Ikram 2005; Lorenz 2013; Lange-Athinodorou 2018).

The largest category in terms of number of mummies found belongs to the cat as votive mummy. Ikram (2005) defines the votive mummy to be 'generally identified as an offering consisting of a specific mummified animal that was dedicated to its corresponding divinity so that the donor's prayers would be addressed to the god throughout eternity' (Ikram 2005, 9; Lange-Athinodorou 2018, 13). One such divinity prayed to was the cat goddess Bastet (Malek 1993; Lange-Athinodorou 2018, 14). Both, Ikram (2005) and Malek (1993), have stated that the animal was bred, killed, mummified and then sold to pilgrims to be a votive offering. In addition, Ikram (2005) further considers that the votive mummies were rather treated like objects: 'The votive mummies acted much in the same way as the candles purchased and burned in churches, except they were long lasting' (Ikram 2005, 9). This phenomenon became more and more popular during the Late Period and, according to Kessler, also became commercialized at this time (Fitzenreiter 2003; Kessler 2003, 51; Lange-Athinodorou 2018, 16).

Evidence from studies on animal mummies shows that the animals which were classed as votive offerings were treated much more harshly during their lives. According to Kessler (2003) a large number of animals were bred in temples specifically for the purpose of being used as votive offerings. This phenomenon increased throughout the Late Period (Malek 1993; Fitzenreiter 2003; Kessler 2003; Lange-Athinodorou 2018). The evidence from the animal mummies shows that these animals were brutally killed at a very young age (Fitzenreiter 2003; Ikram 2005; Lange-Athinodorou 2018).

Recent studies such as those from the Universities of Manchester, Zagreb and Trento, are shedding light on animal mummies through scientific analysis (Spencer 2007; McKnight 2014). Cat mummies have been analysed using modern techniques such as Multi-Slice Computer tomography, CT-Scans, MRT-Scans and X-Rays (Zivie & Lichtenberg 2005; Spencer 2007; Nicholson 2016; Lange-Athinodorou 2018). Such techniques offer a non-invasive examination, which avoids damage to the often-fragile mummies (Petaros *et al.* 2015). The results have revealed massive traumata in the majority of animal mummies found. The fact that most of the trauma was found in the spine disks of the neck led the team to conclude that the animals suffered a violent death. Analysis of teeth and bones showed most of the cats to have been between six months and two years old although younger cats were also identified (Malek 1993; Engels 2001; Zivie & Lichtenberg 2005; Fitzenreiter 2008; Lorenz 2013; McKnight 2014; Nicholson 2016). Other findings show similar traumata (Ikram 2005; Nicholson 2016). Evidence from the examination of holy animals and pets, however, reveals a different situation.

Holy animals were considered to be the incarnation of a god or a goddess. They were held at the temples within the cemetery compounds and treated with great honour throughout their lives. They were then mummified with skill and attention to detail (Goedicke 1986; Kessler 2003; Ikram 2005; Malgora *et al.* 2012; Lange-Athinodorou 2018). Such practices involved great effort. After their careful mummification holy animals were buried in beautifully designed sarcophagi. In contrast to the results of tests on votive mummies, holy animal mummies did not reveal traumata (Malek 1993; Kessler 2003; Ikram 2005; Malgora *et al.* 2012; Nicholson 2016). The same was the case for pet mummies. Analysis of the Trento Cat for example showed no traumata, and its body had been carefully wrapped in bandages (Malgora *et al.* 2012).

The Trento Cat is part of the collection of the Trento Buonconsiglio museum. The animal mummy can be dated to the Late Period, more precisely to the 26th or 27th Dynasty, however the exact provenance of the cat mummy is unknown (Malgora *et al.* 2012, 354). The Trento Cat is 39 cm long and in very good condition. It is covered in several layers of bandages which have been carefully wrapped in a rhombic pattern. The bandages vary in colour: the rhombic pattern is formed with dark red bandages, the remainder of the mummy those of a light earth colour. The head of the mummy features painted-on eyes, nose and mouth, and attached stuff-ears. CT-Scans of the mummy have revealed an entire cat skeleton under the layers of bandages (Zivie & Lichtenberg 2005, 118; Malgora *et al.* 2012). The scans further show that the cat was mummified in a sitting position (Malgora *et al.* 2012, 356). CT analyses of the bones, teeth and spine have shown a void skull with no remaining brain material. X-Rays have revealed signs of cracks within the skull bone which may have occurred post mortem. No other major fractures or traumata have been found: the spine and the remainder of the skeleton are perfectly intact (Malgora *et al.* 2012, 354). The delicate bandages and the general lack of traumata suggest that it is a pet mummy, as these types of animal mummies rarely show forms of traumata and additionally were more delicately wrapped than simple votive mummies (Malek 1993; Ikram 2006; Fitzenreiter 2008; McKnight 2014; Nicholson 2016; Lange-Athinodorou 2018).

DeMello suggests that the human-animal border in ancient Egyptian society existed but was not 'absolute', and further notes that cats were treated similarly to humans, in that they were mummified (DeMello

2012, 35). Arguably the Egyptians believed the animal had the chance to enter the afterlife in a similar way to humans. The evidence from the treatment of holy-animal mummies and pet mummies would support this assertion. In this case, the cats were treated in a similar way to humans without distinction between animal and human in terms of post mortem bodily treatment.

Human–canine relationships in ancient Egypt: the dog as companion animal

> The Egyptian experience of the human-canine relationship is particularly apt as it is by far the most ancient of which we have a documented record and the earliest in which the dog was consciously brought into membership of the human family in a settled context. (Rice 2006, 11)

It has been established that the dog in ancient Egypt could be a companion animal, as a several thousand-year co-evolution of dog and human, explained in more detail by Haraway (2003). A large number of iconographic sources illustrate the close relationship of the Egyptian elite with their pet dogs (Germond 2001; Zahradnik 2009; Listemann 2010; Bohms 2013). The dog is mostly depicted in private graves and was generally illustrated in a standing or running position by its owner´s side or sitting or lying under its owner´s seat (Zahradnik 2009; Listemann 2010). Furthermore, the dogs are shown running free (cf. Listemann 2010, tablet XXX, 6–7) or led on leashes (cf. Zahradnik 2009, fig. 133). The range of illustrations showing dogs as companion animals together with their owner, especially those in private graves, suggests that pet dogs were highly appreciated in Egyptian elite society (Zahradnik 2009; Listemann 2010). A good example of the appreciation of a pet dog is the richly ornamented coffin of the official Khui (Egyptian Museum Cairo, JE36445) which has an illustration of Khui together with his dog, *Iupu* [*mnjw-pw*], which is kept on a leash (cf. Listemann 2010, tablet XXVI, 4). According to Rice (2006, 68), 'he [Iupu] and Khui typify the Egyptian and his dog, walking together for all eternity in the Islands of the Blest'. From a *HAS* point of view, it can be argued that *Iupu*, as companion animal, had a 'social place' (DeMello 2012, 155) in Khui's life and played an important emotional role to him.

Further evidence of the close relationship between dogs and humans in ancient Egypt is shown by the fact that humans named their dogs. In ancient Egypt, giving names to pets was not as usual as it is nowadays (Bohms 2013). Therefore, the fact that they were named is arguably evidence that a higher esteem was given to particular animals. Indeed, it is believed that dogs were one of the most preferred pets of the Egyptian family (Rice 2006; Bohms 2013). Evidence shows that dogs were given human names or names based on their typical character traits, for example *m3'tj*, meaning 'the reliable', or '*d3wtt*' meaning 'good-for-nothing' (Zahradnik 2009, 351; Listemann 2010, 62; Bohms 2013). Names for dogs have been found from the First Dynasty onwards until the Late Period (Zahradnik 2009). As shown in the next paragraph, evidence of naming is to be found on the stele of King Wahankh Intef II (Houlihan 1996; Störk 1998; Rice 2006; Zahradnik 2009). As stated in the introduction, giving a pet a name allows better communication since it is easier to address the animal directly (DeMello 2012; Krüger & Steinbrecher 2015). It is interesting to note that this practice occurred in ancient Egyptian society: the fact that they were naming some dogs suggests that these animals were considered important and part of the family.

Another indication of the nature of human-canine relationships in ancient Egypt is found in how the pet names were recorded. Some pet dogs are mentioned by name on funerary stelae and grave paintings (Zahradnik 2009; Listemann 2010; Bohms 2013). The Egyptians attached much importance to stelae as they were part of the personality cult in ancient Egypt (Martin 1986). As the Egyptians ordered funerary stelae for themselves before death, it is notable that some pet owners commissioned the illustration of their dogs on objects of such importance. An impressive example of this phenomenon is the funerary stele of King Wahankh Intef II (Egyptian Museum Cairo, CG20512), which shows an image of Intef surrounded by five of his dogs (cf. Rice 2006, fig. 62). One of Intef's dogs, *Behkai*, is pictured at his feet, indicating that this was probably his favourite pet (Houlihan 1996; Rice 2006). The name of *Behkai*, of Libyan origin meaning 'gazelle', is recorded on the stele as are those of the other dogs. The other inscriptions are *Abaquer* ('the hound'), *Phetes* ('the black one'), *Tegra* (meaning 'kettle') and *Tekenru* (Houlihan 1996; Störk 1998; Rice 2006; Zahradnik 2009). It is suggested that these five dogs, grouped around their owner, were accorded an extraordinary honour to be pictured and mentioned by name on the stele for all eternity. The honour accorded to pets among the elite in ancient Egypt adds weight to the suggestion that emotional bonds existed between them, and therefore implies a positive human-dog relationship in this context.

Additional evidence that there was a developed human-dog relationship in ancient Egypt is the use of dog collars and leashes from the Predynastic Period

onwards. This practice is very similar to that of modern societies. The leashes could be attached to the dog collar (Rice 2006), the pet and owner thus forming a single unit. Treating the animal in this way arguably demonstrates a great significance of the dog in such an early civilization as that of ancient Egypt (Zahradnik 2009; Listemann 2010). Different types of collars have been handed down to us: some with spherical pendants (cf. Listemann 2010, tablet XIII, 3), others with wrapped ties and loops (cf. Listemann 2010, tablet XX, 1), even some which were richly ornamented, as for example two leather collars (Egyptian Museum Cairo, JE33774, CG24076; cf. Listemann 2010, cat. 63, figs. 1–2). In addition, the use of leashes to tie or lead the dog, and further presumably to define the dog as a domesticated one, was a common phenomenon in ancient Egypt (Listemann 2010). The 'Golenischev dish' (Pushkin Museum Moscow, N2947), which dates back to Naqada I, can be taken as an example, as it is the oldest illustration in ancient Egypt of domesticated dogs on leashes (Zahradnik 2009; cf. Listemann 2010, tablet XIII, 1). The fact that the use of collars built a connection between the dog and its owner may show a bond of affection between canids and humans. Furthermore, this could be seen as an expression of *animal agency* since in this situation the dog interacts with its owner (Krüger & Steinbrecher 2015). In addition, it might also be an indication for ownership, which would then have a negative effect on the animal's *social agency* (Lauffer 2011; Krüger & Steinbrecher 2015).

In contrast to the dog as a companion animal, stray dogs in ancient Egypt were disdained (Bohms 2013; cf. Papyrus Anastasi IV, British Museum, EA10249), and hunting hounds were abused for hunting activities (Listemann 2010; Rice 2006; Zahradnik 2009). Listemann (2010) states that dogs were set on wild animals to rush them, until both of them, the prey and the hunting dogs, were exhausted and the human hunters would have an easy game (Rice 2006; Zahradnik 2009; cf. Listemann 2010, tablet XIX, 3). Moreover, millions of dogs were killed to be used as votive mummies interred in mass graves, as for example in the catacombs of the *Anubieion* in Saqqâra (cf. Ikram *et al.* 2015). Flossmann-Schütze's (2018) analysis of dogs which functioned as votive mummies reveals similar fractures and traumata to those discovered through the analysis of cat mummies (Ikram 2007; Listemann 2010; Flossmann-Schütze 2018; Lange-Athinodorou 2018). After being killed by strangulation or poison, dogs of all ages, from puppy to grown dog, were sacrificed to the canid deities Anubis, Khentamentiu or Wepwawet (Ikram 2007; Listemann 2010; Ikram, Nicholson & Mills 2015; Lange-Athinodorou 2018).

Conclusion

The analysis of cat mummies shows notable variations in the treatment of cats in ancient Egypt. In turn, the relationships between humans and cats have been shown to vary according to the circumstances and category of cat considered. In particular, significant divergence was found between the treatment of cats being bred for use as votive mummies and those whose function was to be a temple holy animal or pet.

From the available evidence, it seems reasonable to conclude that the cats used as votive offerings were treated more severely than those which functioned as holy animals or pets. The human-cat distance relationship in terms of emotions and values was likely closer for the pets and holy animals than for the votive offering animals.

The variety of iconographic sources showing dogs in action has established that dogs played an important role in ancient Egypt. Furthermore, these sources provide an insight into the *animal agency* which might have been attributed to these canids. The evidence also shows that dogs as pets were companion, friend and part of the family. Similarly to the evidence regarding cats, companion dogs were shown to have a closer relationship with humans and to have been treated better than was the case for other categories of dogs, particularly those used as votive mummies.

Future research in this area could develop knowledge about the relationships between humans and animals in the situations described. Although the studies described in this chapter have significantly helped our understanding of this area, there is still the need for more detailed analysis. As Petaros *et al.* state: 'Although mummy studies are being extensively published in international literature, there has been little discussion on forensic radiological species identification and analysis of mummified nonhuman remains' (2015, 55). The concept of *animal agency* in particular is still under-researched. It is hoped that further research in this area would provide further details about cats and dogs as subject within the era of ancient Egypt.

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Part II
Animals in ritual and cult

Chapter 5

Encountered animals and embedded meaning: the ritual and roadside fauna of second millennium Anatolia

Neil Erskine

The interactive importance of religion and landscape in people's learned understandings of their world is a common theme in social theory (e.g. Bourdieu 1977; Giddens 1979; Munn 1986; 1990; Pandya 1990; Ingold 1993). Belief systems are fundamental to perceptions of the world and direct our attention, thought-processes, and decision-making (Klauer *et al*. 2000; Colzato *et al*. 2008; Fry & Debats 2011). Exposure to religious symbols has significant impacts on social psychological processes (Bilewicz & Klebaniuk 2013; Ysseldyk *et al*. 2016) and immediately and emotively reinforces complex concepts (Jung 1964; Ortner 1973; Freud 2000 [1938]; Butz 2009). Meanwhile, landscapes and places, which frequently enjoy intimate, reflexive relationships with religion (Mazumdar & Mazumdar 2004, 387), actively influence how individuals experience, understand, and appropriate sociocultural rules and beliefs (Bourdieu 1977; Tuan 1977, 35; Giddens 1979, 218–19; Proshansky *et al*. 1983; Harris & Lipman 1984; Lefebvre 1991, 191; Ingold 2000, Chapter 10; Ottosson & Grahn 2008). The interaction of religion and landscape therefore represents a reflexive process in which the sociocultural meaning and perception of supernature and place(s) both shape and are shaped by each other (Bourdieu 1977; Munn 1986; Pandya 1990). Consequently, their intersection represents a lucrative avenue for studies of ancient perceptions of the world.

It is unsurprising then, that these topics have seen attention in interpretative archaeological approaches (e.g. Hastorf 2007; Casey 2008; Biehl 2011; Laneri 2015). Where landscape and religion's interaction is considered in archaeological contexts, however, studies most often foreground either anthropomorphic interventions in the landscape or natural topography. Less common is the consideration of how the animals present in a landscape might inform religiously loaded understandings of place(s). This is a shame, as animal interactions carry significant social power (Stone-Miller 2004; Kockelman 2011), especially those with dangerous species (Ghosal *et al*. 2015) or in rural landscapes (Neihardt 1932: Chapter 4).[1] In the already emotive and powerful intersection of religion and landscape, then, faunal encounters present an interesting and potentially lucrative dataset.

Here, a Deleuzo-Guattarian framework is applied to a second millennium Anatolian case study to explore how the animal experiences of Assyrian traders painted the landscape with emotive meaning. By considering how religious ideas associated with representations of animals encountered in cultic contexts informed later experiences with real animals, I suggest a reconstruction of how these traders came to understand the landscapes they passed through as they moved between Kültepe and Aššur. Over time, their cumulative experiences of ritual and real animals reinforced one another and implanted feelings of safety, danger, security, and disquiet in the landscapes in which they were encountered.

Deleuze, Guattari, and reconstructing ancient understanding

Archaeological research seeking to illumine landscape experience tends to be dominated by phenomenological frameworks. These, I believe, are poorly suited to archaeological analysis and should be replaced. Phenomenology, most indebted in archaeological use to Tilley (1994), drawing upon Merleau-Ponty (1964; 2014 [1945]), believes that because bodies are essentially alike, different bodies' experiences of similar phenomena are also alike. It follows, Tilley argues, that modern interpreters can therefore extrapolate ancient experience by exposing themselves to similar contexts. The underlying assumptions about the fundamental similarity of bodies and their perceptions of the material world have seen sustained criticism (e.g. Feher *et al*. 1989; Featherstone

et al. 1991; Shilling 1993; Douglas 1996; Meskell 1996; Brück 1998; Fowler 2002, 59; Hamilakis *et al*. 2002, 9), whilst the ability of modern researchers to situate themselves in the context of persons in the deep past simply by inhabiting the same geography has received scathing rebuttal (e.g. Bintliff 2009, 30). Phenomenological landscape studies of the ancient past simply cannot overcome their cultural and chronological distance. I believe the work of Deleuze and Guattari presents an avenue down which we might cross this gap seek to understand ancient experience by reconstructing the perceptions of ancient people themselves.

Deleuzo-Guattarian philosophy has only recently begun to find explicit use in the archaeological literature (e.g. Wright 2016; Hamilakis & Jones 2017; Harris 2017; 2018),[2] but presents a suite of concepts that help the interpreter develop contextual reconstructions of ancient individuals' understandings of their world. Here (see also Erskine *forthcoming*), I draw on Hamilakis' (2017) work on Deleuzian *assemblages* (hereafter *arrangements*[3]) and Wright's (2016) on Deleuzian *folding*, and add two further Deleuzian concepts, *plateaus* and *rhizomes*, to access ancient landscape experience. The *arrangement* (Deleuze & Guattari 1980; 1991), is the combination of a material object(s) and its non-material components. Meanwhile, the *fold* (Deleuze 1988), describes the internalization of external experiences and the consequent altering of understanding. Interactions with *arrangements* are *folded* in and all participants, be they persons, objects, ideas or anything else are changed. Consequently, if we can draw out how an individual understood the sociocultural ideas embedded in specific *arrangements*, we can make nuanced inferences about how an individual understood their interactions with that *arrangement* and the consequences it had for their perceptions of other related things and ideas.

To develop how the ancient individual understood related concepts, we can turn to two more Deleuzo-Guattarian concepts. The *rhizome* (Deleuze & Guattari 1980) stresses relational interpretations of social phenomena by presenting those phenomena as being in continual interaction with one another and therefore in perpetual development: they have no beginning, end, or defined directionality, and instead lie in a web of constantly accumulating *folded* interactions. In archaeological applications, this means that every identifiable experience we can assign to individuals allows us to further develop how they understood other interactions.

The *rhizome*, containing all interactions between all things, is too massive to deal with fully. It is made more manageable, however, by *plateaus* (Deleuze & Guattari 1980). These are groups of distinguishable, though fluid and intertwining, experiential planes that can be experienced repeatedly and in any order and inform how we perceive other *plateaus*.

Consider, for example, Anatolian beak-spouted pitchers (for an artistic representation, see Gates 2017, fig. 6; and for a generic example, see Özgüç 1986a, pl. 94–1). These vessels are commonplace in domestic contexts and graves as well as appearing in the glyptic repertoire as cultic paraphernalia employed in libations (Heffron 2011, 179–80). They are *arrangements* of material components including clay, temper, and whatever liquids might be held inside; sensory components such as texture, weight, and smells imparted by their contents; and sociocultural components like perceptions of tableware, funerary practice, ritual, and art. The experience of these vessels emerges from the complex relations between the individual, the vessel, and these components. Every previously *folded* experience that the individual has had of the components involved reside in *plateaus* that inform their understanding of the vessel. Consequently, the more we can learn about that individual's experiences of tableware, funerals, libation practices, or glyptic depictions of vessels, the more nuanced our interpretations of their new experience of beak-spouted pitchers can be.

In sum, by analysing human interactions with specific *arrangements* it is possible to extrapolate individuals *folded* experiences with them, and thereafter how plateaus of folded experiences shaped how individuals perceived other things and ideas. In this study, this allows us to consider Assyrian traders' interactions with animal-motif ritual objects and the impact this had on understandings of landscape when those traders later encountered real-world versions of those animals within them.

Landscape, religion, and putting meaning in place

Through most of the Middle Bronze Age (see Table 5.1), Assyrian traders maintained extensive business operations in Anatolia. Throughout late-March to late-November (Stratford 2015, 303), Assyrian caravans brought tin and textiles into Anatolia, participated in redistributive trade around the region's kingdoms (Michel 2011a), and sent gold and silver back to their capital, Aššur, on the Tigris. Heads of mercantile families generally remained in Aššur and sent representatives to administer their Anatolian operations in a *kārum*[4] adjoining an Anatolian city (Bryce 1998, 30). Many of those sent to Anatolia married local women, raised families, and incorporated Anatolian linguistic and religious traditions into their lives, creating hybridized communities and long-lasting inter-regional familial and trade links (Michel 2008; 2010, 9–10; 2014, 77–8).

Table 5.1. *Anatolian Middle Bronze Age Chronology (after Barjamovic* et al. *2012, 34; Gates 2017, 189). For the comparative merits of different chronologies see Barjamovic* et al. *(2012, 3–40).*

Middle Chronology	Low Chronology	Ultra-Low Chronology	Archaeological Period	Historical Period	Kültepe Lower Town Levels
c. 1970–1840	*c.* 1920–1790	*c.* 1870–1740	MBA I	Old Assyrian	II
c. 1840–1700	*c.* 1790–1650	*c.* 1740–1610	MBA IIa		Ib
Ahistorical			MBA IIb	Hittite Old Kingdom	Ia

Each *kārum* was relatively autonomous on a local level, but Aššur retained supreme authority, administering economic and foreign policy via the *kārum* at Kültepe, the hub of Assyrian mercantile operations (Bryce 1998, 25–6; Barjamovic 2011, 5–6). It is this centre of Assyrian operations that provides the bulk of the data utilized here.

Kültepe, situated on the Kayseri plain in southern central Anatolia, has been under continuous excavation since 1948 and provides considerable textual and archaeological data. Over 23,000 cuneiform tablets have been discovered in the private archives of Assyrian and Anatolian businesspersons (Veenhof 2008, 41–2; Michel 2011a, 319). Supplemented by smaller collections from Boğazköy (ancient Ḫattuš), and Alişar Höyük, these texts provide great detail on economic matters, including trade journeys, as well as accounts of religious practices and practitioners that, alongside MBA cult spaces (e.g. Heffron 2016), cultic paraphernalia (e.g. Özgüç & Özgüç 1953, 131–3, pls. 265–77; Özgüç 1986a, 58–67; 1986b, 176, 8), and glyptics (e.g. Özgüç 1965; White 1993; Lassen 2014; Topçuoğlu 2016), grant access to *folded* experiences of cult.

Creatures, cult, and creating meaning

Given the interactive socializing power of landscape and religion, it is profitable to address landscape-meaning by considering how religious *plateaus* informed Assyrian traders' perceptions of landscape. The landscape therefore represents our *initial arrangement*, and we must select appropriate religious *plateaus* that allow us to reconstruct how Assyrian traders understood it. The data available makes this is a relatively straightforward exercise. Explicit archaeological manifestations of the religious life of second millennium Anatolia are surprisingly rare, and those that can be confidently connected to the landscape extremely so. However, one common element of the landscape, the fauna that lived amongst it, were also an important cultic motif and so plateaus of animal experiences provide a potential source of evidence that links religious and landscape experiences.

Animals were abundant in the landscape, and their prominent role in cultic activity is well-attested both archaeologically and textually, presenting a lucrative dataset. Furthermore, species can be associated with their preferred habitats and so placed in the landscape, allowing the reconstruction of traders' experiences on the road. The focus of this study therefore lies in *plateaus* of animal experience, and the *initial arrangement* upon which the analyses will begin is a group of enigmatic animal representations from Kültepe. By developing the experiences of Assyrian traders with these artefacts, it will then be possible to consider how they informed later engagements with animals on the road, and therefore with the landscape in which they resided.

Folding animals in ritual

Animal motif vessels are amongst the most numerous cultic items discovered at Kültepe (Fig. 5.1). Amongst these vessels, lion- and antelope-shaped examples are particularly common (e.g. Özgüç & Özgüç 1953, pls. 265–77), but dogs, boars, eagles, partridges, cattle, rabbits, water buffalos, sheep and fish are also represented (e.g. Özgüç 1986a, 63–7). Such vessels are rare in Mesopotamia but near-ubiquitous for several millennia in Anatolia (Yener 2007, 218–20), and so it seems likely that they were not a feature in Assyrian traders' religious lives before they left home. Their presence in houses associated with Assyrians as well as Anatolians (Özgüç & Özgüç 1953, 131–3, 218–21)[5] is best explained as part of the hybridization process that took place as Assyrians settled into Anatolian contexts and began to incorporate Anatolian deities and locally produced ritual paraphernalia into their cultic lives (Michel 2011b, 104; 2014, 78). Alternatively, it is possible that distinct Anatolian and Assyrian traditions were practiced in the same households without crossover, but in either case, Assyrian traders would still be exposed to, and therefore *fold-in*, animal-shaped vessels in explicitly cultic contexts, even if as an outsider.

Though we cannot identify the precise practices in which these vessels were employed, that they served explicitly cultic functions, most likely in drinking/pouring rituals, is strongly supported by multiple

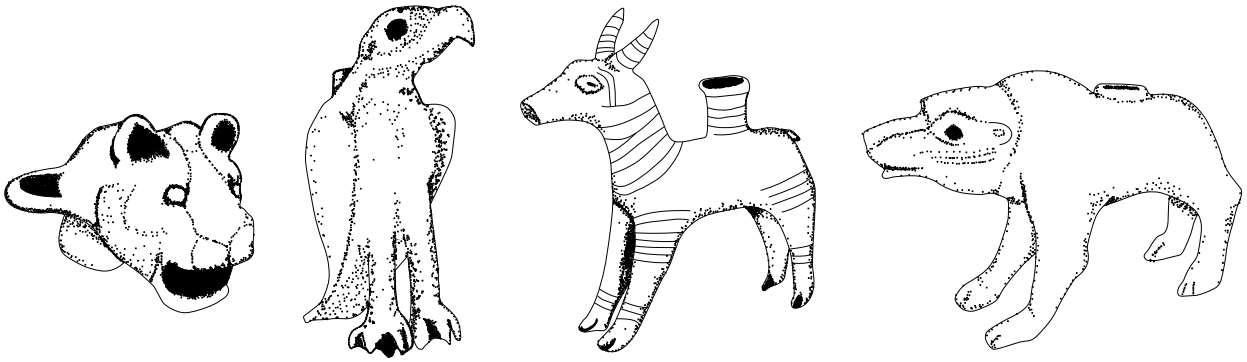

Figure 5.1. *Animal-shaped vessels from Kültepe. L-R: Kt.00/k. 025; Kt.86/k. 147; Kt.92/k. 784; Kt.92/k. 724 (redrawn from Kulakoğlu & Kangal 2010, figs. 195, 206, 211, 201 by the author).*

strands of evidence. Some are found in domestic spaces with cultic installations and paraphernalia and in assemblages associated with libations (Özgüç 1994; Kulakoğlu & Kangal 2010, fig. 232; Heffron 2016, 30). Meanwhile, a later tradition of 'god-drinking', known from Hittite texts, has been convincingly linked to the animal-shaped vessels of Kültepe (Heffron 2014). Though the specifics of god-drinking are disputed, it was a cultic drinking or libation practice performed in a broad variety of contexts and closely associated with animal-shaped vessels (see Kahya 2017 for a survey). Old Assyrian texts also refer to drinking vessels belonging to gods and several seals depict divinities holding drinking vessels (Kahya 2017, 48). Whilst specific forms are not detailed in the Old Assyrian texts, lion, deer, antelope, boar, ram, and bird-shaped vessels noted in Hittite texts are all paralleled by vessels excavated at Kültepe (White 1993, 279–82). It is reasonable therefore to conclude that the animal-shaped vessels of early second millennium Kültepe were employed in ritual interactions with divine actors, either as representatives of deities, containers of their essence and power, or as utensils for pouring libations to them.

When these vessels were employed in cultic activities, participants were engaging not only with an object, but with an *arrangement* of object and associated ideas. Consequently, users or onlookers *folded* in a wealth of physical and cognitive components and formed *rhizomatic* links with other experiences. when an individual exposed to ritual pouring or drinking from a bovine-shaped vessel, for instance, this was not an abstract act that happened to employ a vessel coincidentally shaped like a bovine, but a direct interaction with a supernatural actor embodied by and embedded in an object along with their associated attributes and responsibilities. *Arrangements* are immeasurably complex, but, fortunately, the textual corpus and glyptic repertoire allow us to make relatively confident inferences about the associations carried by these animals in cultic contexts, and therefore imbued in these vessels. By illustrating some of these associations, it is possible to outline how ritualistic engagements with the animal world informed later engagements with animals in the wild and, consequently, the role this played in developing understanding of the landscape.

Bulls, boars, birds

Cattle, often as bulls, represented the chief deities of both the Anatolian and Assyrian pantheons. They were the dominant species featured in early second millennium Anatolian art where they were associated with the Storm God(s) (Kryszat 2006, 121; Schwemer 2008, 19). Of these artistic depictions, a bovine glyptic present in both Anatolian and Assyrian styles has been convincingly interpreted as originating as a representation of the god Aššur (Lassen 2017). The glyptic motif includes a rectangular body frequently draped in fabric denoting royal or divine status, more naturalistic limbs, and in all but two cases, a cone or triangle upon its back, possibly representing Aššur as a mountain (Lassen 2017). The divine drapery, and the contrast with other bovine depictions, which are more naturalistic, has led to the symbol being understood as representing a real-world cult image (Gunter 2002, 90; Lassen 2017, 178–9), though no artefactual confirmation of this hypothesis has ever been presented.[6] Consequently, cattle and bovine-shaped vessels (Fig. 5.2) were associated with the heads of divine pantheons in both Anatolian and Assyrian traditions, associations that were frequently reinforced by art and possibly other ritual objects.

Boar-shaped vessels have been linked to the cult of Usmû (Özgüç 1998, 256), servant of Ea (Özgüç 1988, 25; Black & Green 1992, 75), whilst piglets were associated with Pannunta (Ertem 1965, 77), vizier to

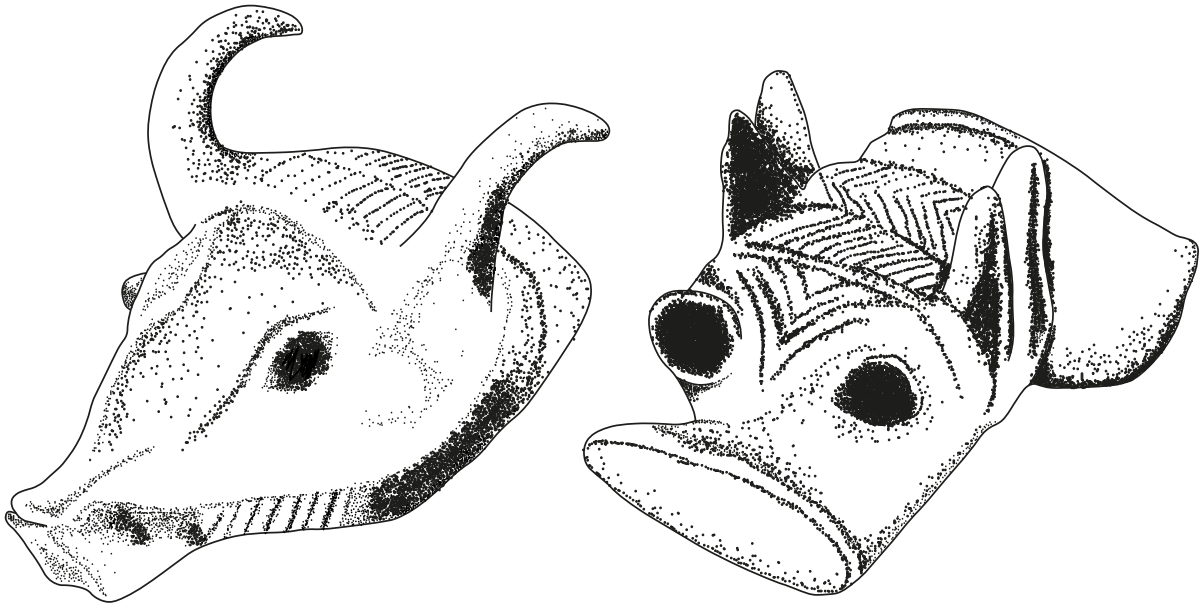

Figure 5.2. *Bull- (Kt. f/k. 299) and Boar-vessels (Kt.01/k. 167) from Kültepe (redrawn from Kulakoğlu & Kangal 2010, figs. 196 and 200 by the author).*

Šamaš (Krebernik 2003–2005): in both cases connecting porcine animals to divine intercessors. Fertility was a prominent porcine association and, given their use in healing rituals and exorcisms, as offerings to chthonic divinities, and their ability to taint humans through contact even in dreams, they were strongly linked to the netherworld, impurity, and liminality (Ünal 1996; Collins 2002b; 2006, 165, 8, 73–6). Meanwhile, eagles, and therefore eagle-shaped vessels (Fig. 5.3), were associated with the Protective Deity (Ertem 1965, 124). In Hittite cult, eagles functioned both as interlocuters, opening channels to communicate with the gods or carrying messages to them directly, and purifying forces, cleansing both places and people (Collins 2002a, 326).

Individuals' interactions with cultic representations of cattle, boars, and eagles were therefore experiences of *arrangements* of practice, object, animal, deity, and a range of associated concepts. Engagements with bovine vessels were engagements with the Storm God and therefore drew on experiences of weather and issues of land affordance and fears of environmental threats and may have been performed in association with an altar of sufficient importance to be pervasive in the artistic repertoire. Interactions with boar-vessels involved the *folding* in of the ritual mediation of dangerous liminality and impurity in association with servile deities working on behalf of Ea or Šamaš, who themselves have been associated with cleansing and destroying evil (Læssøe 1956, 66; Black & Green 1992, 184). They were also *folded* in with experiences of a foodstuff, with both boar and their domesticated cousins featuring in urban faunal assemblages, comprising 26.8 per cent of all faunal remains at Lidar Höyük (Kussinger 1988, 11–2) , and being the fourth most frequent species attested by bone fragments at Kültepe (Atici 2014, 203). Finally, eagle-vessels *arrangements* carried with them experiences of communication, of appeals to the gods, and of the purification of both place and person.

Furthermore, these vessels may have served to reinforce their own *arrangements* through self-referential messaging. A spouted bowl found at Kültepe in a house in grid-square LXI/130 (Kulakoğlu & Kangal 2010, fig. 232) depicts a human pouring a libation from

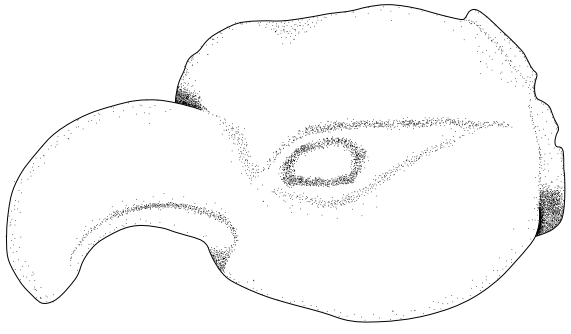

Figure 5.3. *Eagle-shaped vessel (Kt. j/k. 058) from Kültepe (redrawn from Kulakoğlu & Kangal 2010, fig. 213 by the author).*

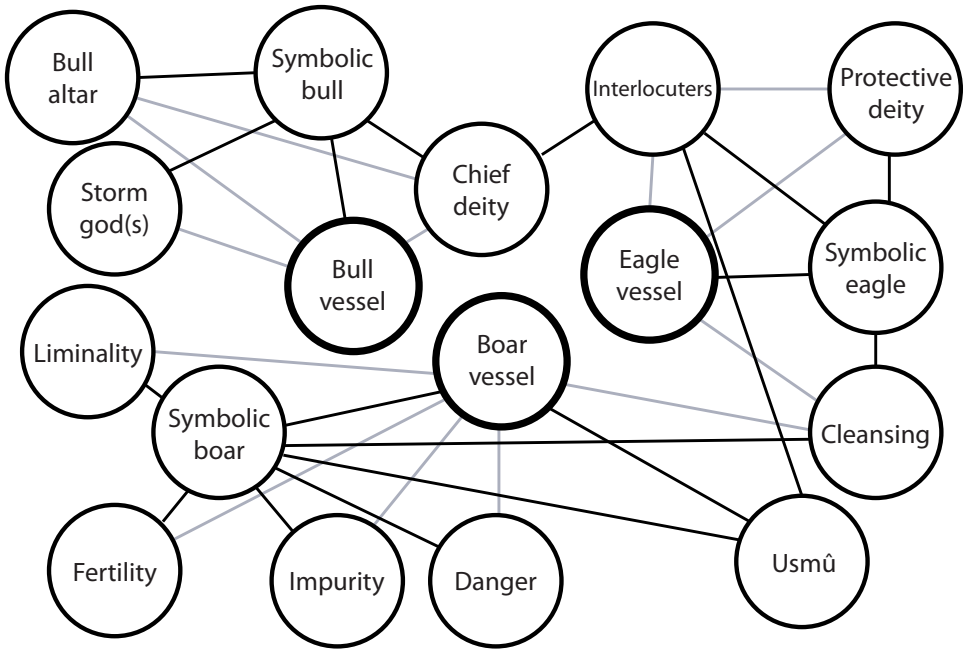

Figure 5.4. *Animal vessels* rhizome. *Black lines depict those connections that are attested in texts or suggested by the iconographic corpus. Grey lines illustrate further extrapolated experiential connections.*

a spout emerging from a bovine protome, mirroring the vessel's own bovine spout for use in cult practice (Heffron 2016, 30). Similar self-reinforcing may have been present in the practices using the vessels. It is possible, for instance, that ritual prayers or appeals to the divine utilizing boar-vessels or eagle-vessels represented multiple layers of channels to the gods: through the ritual itself, through supernatural interlocuters, and through the animal depicted. The domestic cultic experiences of individuals utilizing bovine, boar, and eagle-shaped vessels therefore embedded the vessels, practices, and the animals represented with overlapping and interconnected understandings of ritual objects; fauna; specific deities; fertility; danger, impurity, and protection against both; and communication with gods either directly or via another divinity (Fig. 5.4).

Folding animals on the road

Having illustrated some important *plateaus* of experiences associated with animal-shaped vessel *arrangements* in cultic contexts, it is possible to use the interconnectivity of the *rhizome* to explore how subsequent *folded* interactions with living animals in the landscape embedded meaning in the world. This provides an avenue down which archaeologists can begin to tackle the creation of *place*. By considering the landscapes in which these species were most frequently encountered, it is possible to draw out how *folded* interactions with them contributed to the sacralization of those landscape forms and played a role in the creation and/or maintenance of socioculturally meaningful landscapes. The first step then, is to situate both Assyrian travellers and animals in the landscapes between Kaneš and Aššur.

Reconstructions of the Assyrian trading sphere's historical geography and the trade routes themselves (e.g. Bilgiç 1945–1951; Özgüç & Özgüç 1949; Garelli 1963; Hallo 1964; Orlin 1970; Beitzel 1992; Yakar 2000; Michel 2002; Forlanini 2006; 2008; Barjamovic 2008; 2011) are yet to find consensus, though considerable overlap is apparent in certain regions, most strongly from Kültepe, through the Elbistan plain, and on to Lower Euphrates basin, a potential thoroughfare also highlighted by Palmisano's (2013; 2017) Kaneš-Aššur cumulative cost path modelling studies (Fig. 5.5).

Space does not allow a comprehensive survey of these hypothesized routes here, and so I take no position on the most likely route(s). However, for the purposes of this study, the focus will be placed on that NW-SE trunk of south-central Anatolia between Kültepe and the Lower Euphrates region where proposed routes exhibit the most consistency, and where all proposed routes cross similar landscape forms (Fig. 5.6). These routes begin at Kültepe, situated *c*. 1050 m above sea level in the Sarımsak river valley amidst rich alluvial soils encompassed by

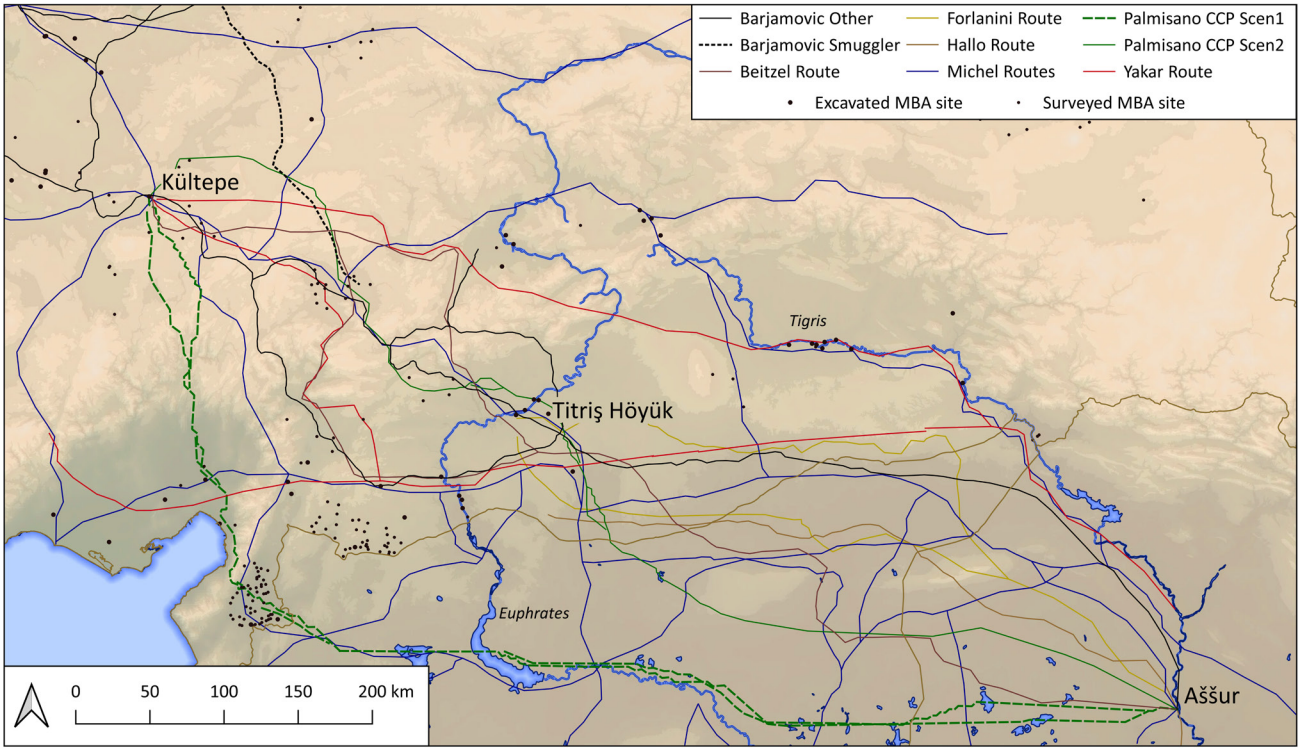

Figure 5.5. *Hypothesized early second millennium Assyrian trade networks.*

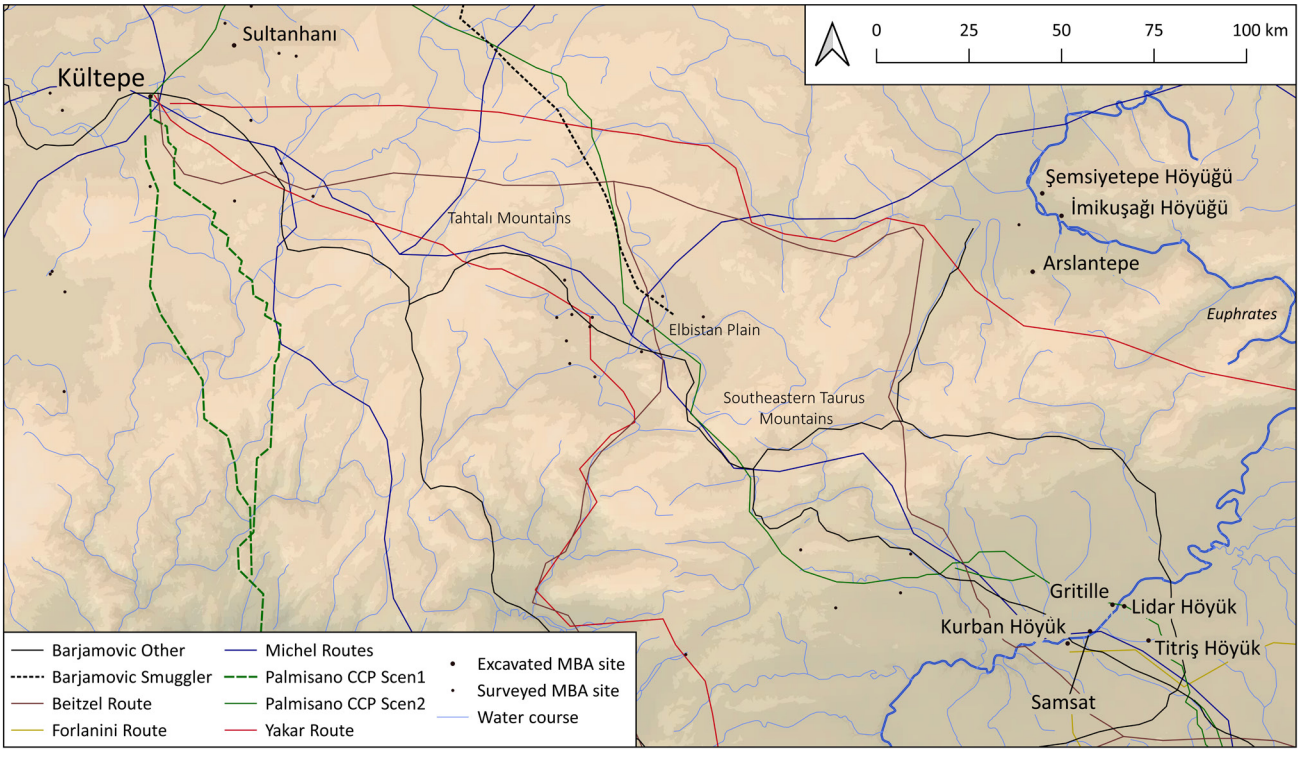

Figure 5.6. *Hypothesized early second millennium routes between Kültepe and the Lower Euphrates.*

barren rocky hills (Fairbairn 2014, 180–1). Whilst the alluvial soils were likely absent in the MBA, the bare hills probably retained reasonable woodland coverage (Zohary 1973, chapters 6 and 17; Roberts *et al*. 2011; Fairbairn 2014, 180–1). Moving south of Kültepe, the jagged and irregular Tahtalı Mountains rise to a peak of 2366 m ASL (Atalay & Efe 2014, 114), and descend to the flat, elevated plain (1000–1200 m ASL) of Elbistan (Konyar 2008, 131) before rising into the Southeastern Tauruses (Anti-Taurus). These mountains reach elevations of 2560 m ASL (Wilkinson 1990, 8) and are composed primarily of high, treeless limestone, with oak woodland and scrub on lower slopes and access is largely limited to high valleys and passes above 1500 m (Wilkinson 1990, 9) descending onto 900–1500 m ASL of sparse woodland with patches of exposed rock on the foothills (Wilkinson 1990, 9). Finally, the Lower Euphrates basin lies in a largely flat plain immediately south of the Anti-Taurus foothills. This *c*. 250 km long tract passing through the mountains and plains of south-central Anatolia represents the next arrangement for analysis.

Human–animal interactions

Having selected a conduit for Assyrian trade movement, it is now possible to consider the locations of animal species within that trunk of the Kültepe-Aššur route. Firstly, it is important to briefly justify the absence of agential animals in the discussion that follows.

Recent archaeological scholarship has begun to give considerable attention to the agency of animals (e.g. Armstrong Oma 2010; Hill 2013; Boyd 2017; Moss & Erlandson 2017; Recht 2019). In an effort to redress human-animal dualities, these studies foreground human-animal relationships and interactiveness rather than one-sided domination. Animal agency fits neatly within a Deleuzian framework. When Birke *et al*. (2004, 175) describe the socialization of horses by way of repeated shared actions through which 'both horse and human bodies *are changed*' (emphasis in original), for instance, it is decidedly reminiscent of Deleuzian *folding*, and Deleuze is sometimes cited as an influence on animal-studies within the broader post-humanist paradigm (Boyd 2017, 307). The attention to relations and frequent usage of terms like 'cohabitation' (Boyd 2017, 300) and 'co-creation' (Birke *et al*. 2004, 174; Armstrong Oma 2010, 179) share much with new materialist concerns with the fluid creation of meaning found in the relations between entities that are themselves heavily indebted to Deleuze (e.g. Bennett 2005, 445; 2010, viii, x; Coole & Frost 2010, 9; van der Tuin & Dolphijn 2010, 159; Witmore 2014, 206–7). Why then, is the Deleuzian analysis below decidedly anthropocentric?

Fundamentally, my focus here is placed on those animals that are represented in the cultic sphere. Whilst those animals' real-world incarnations had the ability to learn, solve problems, and make decisions, and were no doubt agents (Lindstrøm 2015, 223), they were wild species and had extremely limited and non-repeated interactions with the traders whose experiences I am seeking out. Consequently, they had little potential to affect the lives of those traders other than as animal categories (Armstrong Oma 2010, 177; Knight 2018, 343–4). These merchants on the road interacted with specific animals, but other than in exceptional circumstances, it was the species that mattered to the trader, not the agential animal. Future study could, and I believe should, foreground traders' relationships with the animals with whom they developed social contracts, particularly the donkeys on whom they relied, and who relied on them, for long journeys, but my focus remains on the traders for now.

The wild animals concerned are not confined to their natural habitats, and the precise locations of these habitats four millennia ago are in any case difficult to identify, these animals can be broadly associated with particular environments (Fig. 5.7).

As well as a foodstuff, cattle were both a source and symbol of Bronze Age Anatolian elite wealth (Archi 1987; Arbuckle 2014, 285–8). Consequently, they would have been most appropriately pastured near the centres of elite power for both accessibility and security reasons. Our travellers would therefore be most likely to encounter them in the agricultural hinterlands of Kültepe and the settlement clusters in the Elbistan plain and Lower Euphrates.

Cattle, embedded with perceptions of the chief deity, centres of the divine sphere, were therefore experienced close to the hubs of human civilization. In both socio-political and ontological terms, cities lay at the heart of society (Yakar 2000, 22; Barjamovic 2011, 5–6; Michel 2011a, 321–3) and Assyrians' fundamental perception of geography opposed *the* city, Aššur, with everything beyond its walls. By importing the home city's institutions to Anatolian cities, Assyrians recreated it abroad (Highcock 2018, 13, 26), replicating its ontological centrality and sharply contrasting it with the rural world beyond. The real-world bovine-*arrangements* served to reinforce this city's place at the cosmological centre of life by embedding its surrounding landscape with associations of the head of the pantheon. The sense of security provided by the city as the nexus of political control and proxy for the supreme city of Aššur, was echoed by the power of the

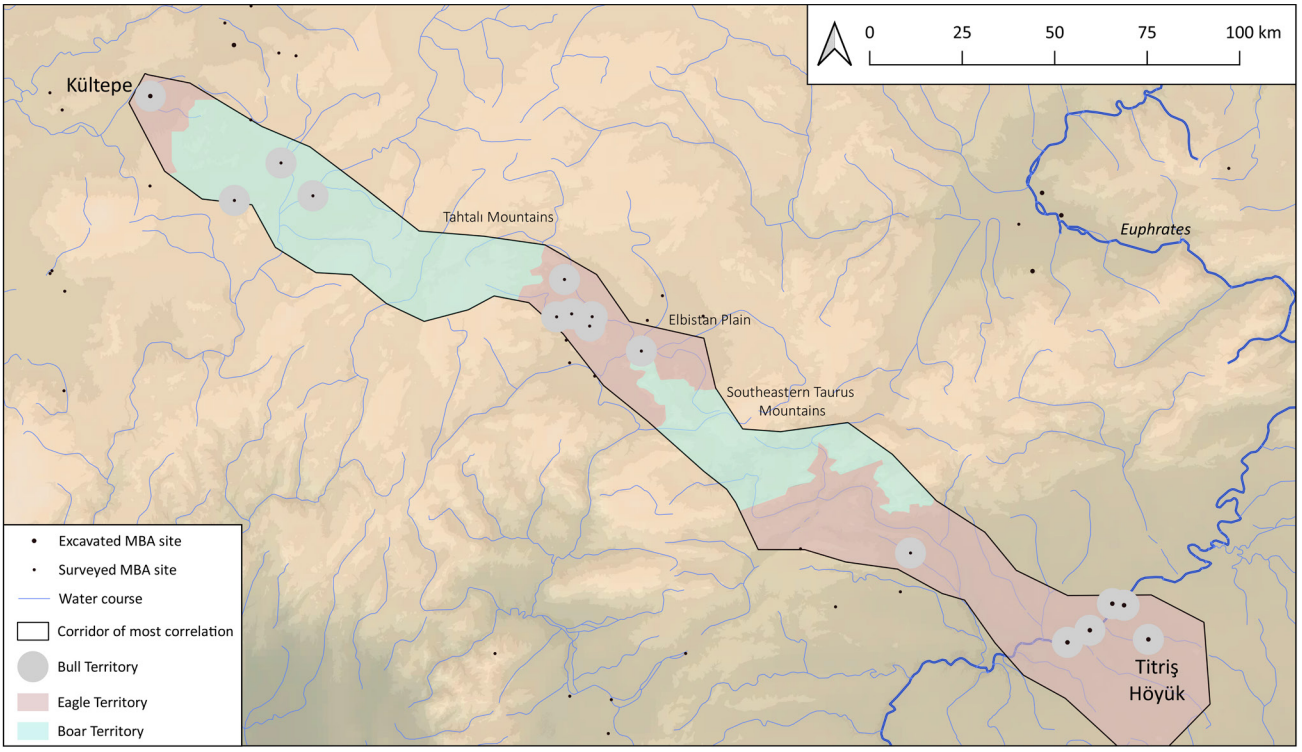

Figure 5.7. *Likely animal presence within the corridor of hypothesized routes' most consistency.*

chief deity, itself explicitly mirrored in the real-world physical power of the animal, and the environment took on inflections of sacral security, becoming an ever-more inviting, safe, familiar, and welcoming landscape on the approach. Conversely, departures, already worrying and intimidating events now not only represented journeys away from civilization's security, but away from divine safety.

In contrast to cattle at pasture, boars were more likely encountered further from the cities, in the rocky woodlands of the Tahtalı Mountains between Kültepe and the Elbistan plain, and the Southeastern Taurus Mountains between Elbistan and the Lower Euphrates. Though distribution patterns of large wild mammals are not comprehensively understood even in modern day Turkey (Can & Togan 2004, 48), wild boar favour rocky and wooded areas on both rocky and grassy terrain in most circumstances throughout the year (Singer *et al*. 1981; Massei *et al*. 1998; Fernández *et al*. 2006).

With cultic boar-*arrangements* being situated amidst particularly complex and often contradictory *plateaus*, their resultant experiential *folds* readied travellers for difficult, suspicious interactions with real-life boars. Old Assyrian texts record traders' fears of mountain bandits, their worries about, and preventative rites performed to avoid, wild animal attacks, and in one case, detail a pig attack that leaves a merchant unable to travel with a broken leg (Barjamovic 2011, 27). Real-world boar experiences, encountered in dangerous and foreboding terrain, reinforced these worries by embedding their context with the impure and liminal associations learnt through their use in the cultic sphere, but also represented positive concepts. The religiously loaded *fold*-tinted glasses through which they, and their *arrangements*, were experienced presented potential avenues for interaction with deities through their association with divine assistants; a source of cleansing tools; and powerful symbols of fertility. Consequently, boars simultaneously tainted the landscape with their presence and presented a purification device. The rocky woodlands of the south-central Anatolian uplands, already places of potential dangers, at risk of freezing and snow-blockage in the early and late trade season and exposure to extreme heat in the mid-season, providing cover for bandits, and taking travellers far from the security of the cities, were therefore painted with the dangers of ritual interaction with porcine species through encounters with boars during routine travel.

The eagles of Anatolia, which include golden eagles, lesser spotted eagles, steppe eagles, eastern imperial eagles, Bonelli's eagles, and booted eagles, all have habitats favouring varying combinations of mountains, steppes, and sparse woodland, and can

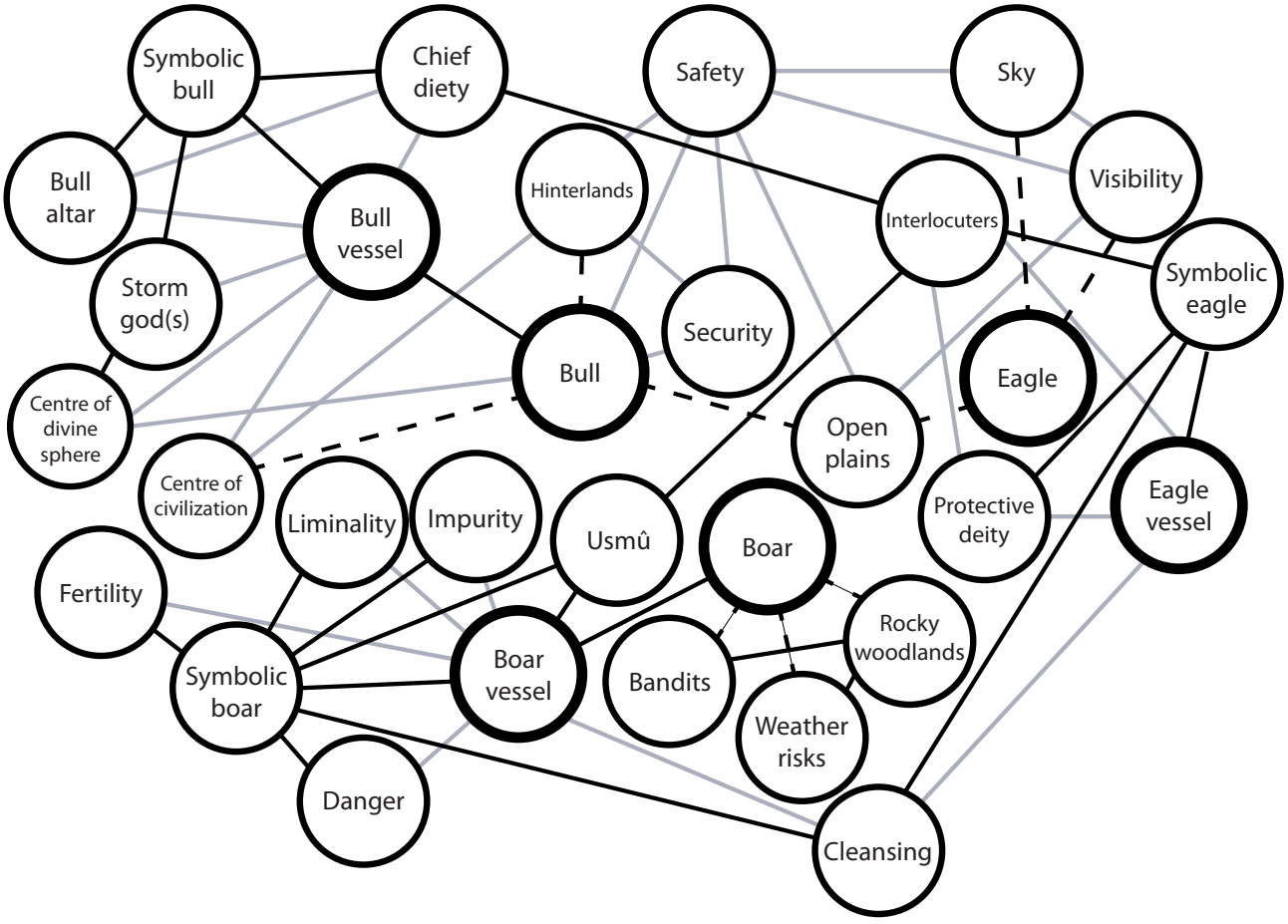

Figure 5.8. *Landscape* rhizome. *Black lines depict connections that are attested in texts or evidenced by the iconographic corpus. Dashed lines depict connections that can be made on account of the likely proximity of the* plateaus *that they connect in the landscape. Grey lines illustrate further extrapolated experiential connections.*

most often be seen above the plains and river valleys interspersing mountains (Forsman 1999, 16, 48, 74, 390, 404). These areas, which evolutionary psychological studies demonstrate are consistently found to be attractive by humans over other landscapes (Orians & Heerwagon 1992), characterized the traders' route around Kültepe, on the Elbistan plain, and on the final approach to the Lower Euphrates settlements.

The landscapes in which eagles were most often encountered therefore presented inviting spaces, close to or leading towards the safety of settlements, in wide flat areas with good visibility, albeit perhaps interspersed with tree cover, feelings that were duplicated by the *folded* experiences of divine protection associated with eagle motifs. The potential to send messages to the gods via eagles in the sky perhaps invited prayers and rituals to be conducted by the roadside, as they sometimes were by rivers on trade journeys (Barjamovic 2011, 196), further embedding sacred significance in a landscape already inflected with religious significance by the eagles above it. Through these reinforcing *folds*, the presence of eagles in the Anatolian sky created sacred landscapes embedded with divinely rooted safety and relief.

Considered together, the *plateaus* developed through individuals' interactions with animal-vessel *arrangements* allow the interpreter to paint the landscape *arrangements* encountered by those individuals with meaning (Fig. 5.8). The trip from Kültepe took travellers through a series of emotive and engaging landscapes including city hinterlands that spoke of safety and drew together cosmological and mundane hierarchies, rocky upland passes coloured with complex and intimidating liminal tensions, and inviting open plains where they escaped the discomfort of the hills and supernatural actors could be contacted. The cultic experiences of the city made animals inseparable from their divine associations, those animals in turn

made their religious associations an intrinsic part of their natural habitats, and those habitats became reinforcing devices for the cosmological ideas learnt in cult practices.

Conclusion

Having utilized Deleuzo-Guattarian philosophy to investigate the cultic and landscape experiences of Assyrian traders in second millennium Anatolia it has been possible to provide a reconstruction of how interaction with faunal representations transformed real animals into reflexive socialization tools that reinforced cosmology and made the landscape a meaningful and affective environment. Animals were important glyptic motifs, connoted particular meanings, and carried emotive religious weight through their association with specific deities. Interactions with the ubiquitous animal-motif vessels of Kültepe were internalized by those who used them or observed their use and later informed their experiences of real life versions of the same species. In turn, those animals imbued the landscapes in which they lived with the meanings projected by their artistic representations. Consequently, the Anatolian landscape encountered by those travelling through it became safe, inviting, intimidating, or frightening, depending on the species that inhabited it.

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Notes

1 Neihardt's *Black Elk Speaks* has been criticized for the editing and potential misrepresentation of its Lakota narrator, Black Elk, but the bison hunt narrative remains a striking example of the potentially deep social meaning of human-animal interactions.

2 Deleuzo-Guattarian thought has made its way into archaeological thought via the new materialists (e.g. DeLanda 2002; 2004; 2006; 2016; Bennett 2010) who draw heavily upon it, but rarely are Deleuze and Guattari utilized directly.

3 'Assemblage' has been the consistent English rendering of the French *agencement* used by Deleuze and Guattari. However, *agencement* implies a group or layout of distinct elements encountered together, in contrast to the coming together of components into a single form implied by 'assemblage' (Nail 2017, 22), and so I follow Hamilakis and Jones (2017, 80) and use *arrangement* here. This has the additional benefit of avoiding confusion with the traditional archaeological 'assemblage' denoting a collection of artefacts.

4 See Highcock (2018) for the difficulties of defining '*kārum*'. For this study, however, understanding the *kārum* as both an Assyrian merchant community and a political, legal, and economic institution is sufficient.

5 Or, at least, houses usually associated with one or the other on the basis of the names of the owners of archives found within them; a problematic assumption given the high rates of intermarriage and the cultural variability of the names passed to children (Larsen 2015, 252).

6 Özgüç (2009, 68) reports the discovery of a bull figurine with a cone on its back at Samsat which may represent such an object but includes no images.

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Chapter 6

The dogs of the healing goddess Gula in the archaeological and textual record of ancient Mesopotamia

Seraina Nett

This chapter discusses the role of the dogs in the cult of the Mesopotamian healing goddess Gula in a diachronic perspective, drawing upon both archaeological and textual evidence. The cult of the goddess Gula is attested at least from the late third millennium (Ur III period) up to the first millennium BC (Böck 2014, 9–10) and her connection with dogs is well established in the textual and archaeological record from ancient Mesopotamia (see e.g. Seidl 1971, Fuhr 1977, Ornan 2004, Collon 2009, Bonatz 2010, Tsouparopoulou 2020). Iconographically, she is often depicted with dogs reclining at her feet or symbolically represented as a dog. Inscribed and uninscribed dog figurines and dog burials have been discovered in and around her temple in Isin and there is ample evidence that her temple complex at that site (and possibly also elsewhere) housed a kennel of dogs. In what follows, I will discuss the evidence from Mesopotamian art and archaeology in a diachronic perspective, and contextualize the results in light of a group of Ur III-period administrative documents that suggest that packs of dogs were present in or around the healing goddess' temple as early as the third millennium BC.

In the earliest textual record, the Mesopotamian healing goddess that is the subject of this chapter is known by many names and it is only at the very end of the third millennium that these regionally distinct deities (such as Gula and Ninisina, but also Nintinugga, Baba and Ninkarrak) begin to merge into one overarching healing goddess under the names Gula and Ninisina, the lady of Isin. However, already in the third millennium, these names were on occasion used interchangeably, indicating a certain degree of syncretism, although these separate deities were still provided with their individual local cult. For example, the cultic travel of Nintinugga to Isin and of Ninisina to Nippur and the relationship between these goddesses is discussed by Sallaberger (1993, 152–4; see also the discussion of the degree of syncretism in the Ur III period in Tsouparopoulou 2020, 14–17).

The main cult locations for the many incarnations of the healing goddess differ according to the time period in question. While during the rule of the Third Dynasty of Ur (2112–2004 BC), her most important cult location was Umma (under the name Gula), we also have evidence for her cult in several other places, such as Isin for Ninisina (with the Egalmah as her main sanctuary), Lagaš for Baba, and Nippur for Nintinugga. Ninkarrak seems to have originated in Northern Mesopotamia (for an overview of the names and the cult of the healing goddesses, see Böck 2014, 9–14).

Unsurprisingly, the cult of the healing goddess as Ninisina, the lady of Isin, and related deities witnessed a marked increase in importance during the reign of the first dynasty of Isin at the beginning of the second millennium. The healing goddess remained an important deity from the middle of the second millennium onwards: she is from that period onwards most often referred to by the name Gula, except for inscriptions from Isin where the name Ninisina continues to be used at least during the Middle Babylonian period, either independently (e.g. in Walker 1978, 102 IB 940) or as an epithet of Gula (e.g in Walker 1978, 103 IB 942–4).

The dogs of Gula in Mesopotamian art

The close association of Gula with dogs has been well documented in Mesopotamian art for a long time and ample evidence is available throughout Mesopotamian history. The earliest clear examples that are backed up by epigraphic evidence stem from the Old Babylonian period, with a variety of cylinder seals and inscribed dog statues (Bonatz 2010), such as an early Old Babylonian dedicatory inscription to Ninisina for the life of king Sumu-El on a dog-shaped figurine, excavated at

Figure 6.1. *Middle Babylonian* kudurru *showing the dog as a symbol for the goddess Gula. BM 102485.*

Telloh (RIME 4.2.7.2001). Furthermore, the connection of Gula with dogs is also well attested in later periods, ranging from the depiction of Gula symbolized by a dog on a number of *kudurrus*, sometimes accompanied by an explanatory inscription (Fig. 6.1), to the ample representations of Gula seated on a throne with a dog at her feet depicted on a range of cylinder and stamp seals from the Neo-Assyrian and Neo-Babylonian periods (Figs. 6.2–6.3; see Collon 2009 for an overview of the Middle Babylonian and Neo-Assyrian evidence).

The association of Gula with dogs in art may even date back to the third millennium, but the examples are far from frequent and unclear in their identification and interpretation. Dogs are not uncommon in the art of the third millennium, but do occur predominantly on cylinder seals, especially during the Akkadian period, in a group of seals often associated with the Etana-myth or in scenes depicting ploughing or hunting (e.g. Collon 1982, Nos. 80, 151, 152, 155). Thus, as of now, no examples of a clear association of Gula with dogs are known from Mesopotamian art prior to the Old Babylonian period.

Dogs in Mesopotamian art after the Old Babylonian period mostly belong to two types: tall, slim greyhound-type dogs or heavy mastiff-types. The dogs associated with Gula in Mesopotamian art generally belong to the second type, and, from the second millennium onwards, the dogs of Gula are depicted relatively uniformly with pointed ears and snout and a curled tail (such as the dogs on the seals in Figs. 6.2–6.3), reminiscent of breeds such as the so-called 'Canaan Dog'.

It is unclear to what extent we should consider the dogs of Gula divine beings in their own right, but at least in some examples in the textual evidence, the dogs of Gula are written with the divine determinative.[1]

Beyond the representations in art, Gula is also associated with dogs in various rituals and incantations. The relevant evidence and, in particular, the evidence for the duality between Gula and Lamaštu in the context of the use and symbolism of dogs has been comprehensively discussed by Böck (2014, 40–4) who suggests that the suckling puppies held at the temple of Gula could have been used to help save babies from the destructive power of Lamaštu.

The Isin dog cemetery

The evidence for the association of Gula with dogs in Mesopotamian art is further supported by the finds from archaeological excavations at a variety of sites associated with the cult of the healing goddess.

We know a few of the locations where Gula was worshipped: around 40 names of temples and sanctuaries for Gula, Ninisina, Ninkarrak and other healing goddesses have been listed by George (1993). However, only her sanctuaries at Isin (Hrouda 1977a; 1981; 1987; 1992) and Nippur (Gibson 1993) have been excavated, alongside the temple of Ninkarrak at Terqa (Liggett 1982). Both the Isin and Nippur temples have yielded a number of terracotta dog figurines, some of which also bear votive inscriptions, and the Terqa temple was identified as a temple of the goddess Ninkarrak based on fragments of inscriptions and a bronze votive statue of a dog.

The small Kassite-period temple complex at Nippur was identified by the excavators as a temple of Gula based on a dedicatory inscription, as well as a number of dog figurines and small statues of human 'sufferers' holding on to various body parts (Gibson 1993, 14, figs. 11–12). The Nippur Gula temple yielded, as far as is known to me, no evidence for the presence of packs of dogs at the site.

Gula's (or rather Ninisina's) main sanctuary at Isin, the Egalmah, has also been at least partially excavated. The original structure seems to date back to at

Figure 6.2. *Neo-Assyrian cylinder seal. Gula seated on a throne with a dog at her feet (left). BM 129538.*

least the Middle Babylonian period, as evidenced by inscribed bricks bearing the name of king Kurigalzu I (died *c.* 1373 BC), but is possibly based on an Old Babylonian predecessor. A platform or ramp with a length of 32 m, renovated during the reign of Adad-apla-iddina of the second dynasty of Isin (1067–1046 BC), was excavated in area N1, with the temple of Ninisina located at its southern end. The ramp itself is thought to have formed part of the temple precinct, based on the find of a number of dog figurines. In addition to these terracotta figurines, including a female dog suckling a puppy, the excavators also recovered several small bronze plaques with images of dogs, and pierced with holes with which they could have been attached to the walls of the temple or to cultic objects or temple furnishings (Hrouda 1977b). The dogs that are depicted conform to the type that is common in Mesopotamian art from the Kassite period onwards, with pointed ears and snouts and curled tails, similar to the examples given in Figures 6.2–6.3.

Figure 6.3. *Impression of a Late Babylonian stamp seal, Gula seated on her throne with a dog at her feet. BM 89880.*

Most importantly, the excavators also uncovered the skeletons of at least 33 dogs who were buried in the general area of the ramp. The excavators date the cemetery on stratigraphic grounds to the period between 1050 and 900 BC (Hrouda 1977a, 18–19). These dog burials are interesting and pertinent to the present discussion for a number of reasons, most importantly because they constitute tangible evidence that flocks of dogs were indeed housed at Gula's temple. A building inscription by Enlil-bani (RIME 4.1.10.4), mentioning his construction of the é-ur-gi$_7$-ra, the 'Dog House', likely located in Isin, also supports the interpretation of this building as a sacred dog kennel, associated with the main sanctuary. However, we cannot determine to what degree this building fulfilled a religious or more secular function or whether – if at all – this was the location of dogs involved in healing rituals.

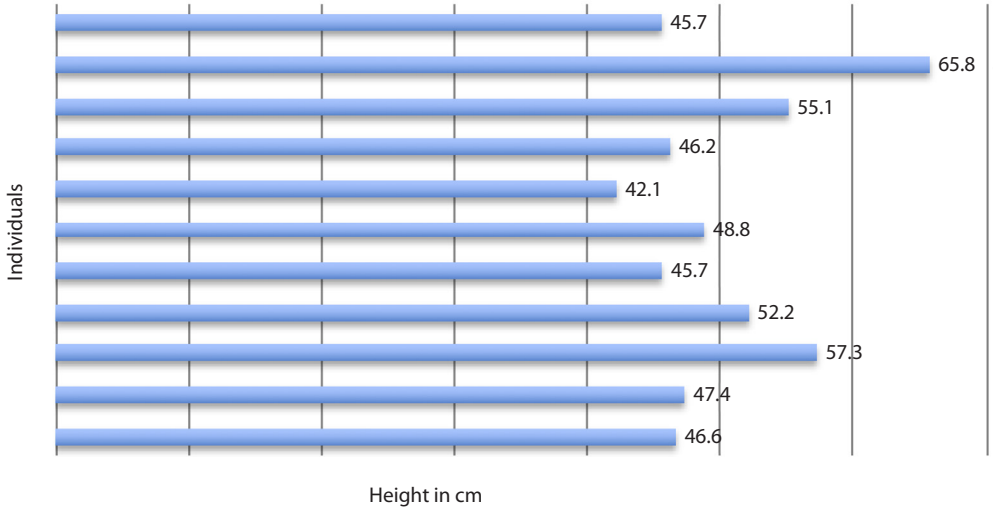

Figure 6.4. *The overall height distribution of the dog skeletons from the Isin dog cemetery. Graphic by the author based on data from Boessneck 1977, 108.*

The 33 dog skeletons have been subjected to a zooarchaeological study (Boessneck 1977). It is worth noting that the majority of the skeletons comprises puppies and younger individuals (15 individuals in total) and only nine of the skeletons are those of fully grown adults. The height at the withers of the adult dogs shows a large degree of variability, ranging from 45–65 cm, thus indicating mid-size to large dogs. The degree of variation in height in the dogs from the cemetery is illustrated in Figure 6.4 and while we can observe general variation in height, one outlier is noticeable, a large dog, individual No. 25, roughly the size of a German Shepherd, albeit with a sturdier build (Boessneck 1977, 101 compares this individual to the mastiffs known from Ashurbanipal's lion hunt reliefs, cf. also the illustration in Fig. 6.5).

In general, the zooarchaeologist records the size of the Isin dog skeletons as similar or slightly larger than the so-called turf or marshland dog (*canis familiaris palustris*), with a slightly sturdier build (Boessneck 1977, 101).

If we compare the dogs that were buried in the Isin dog cemetery with the depiction of dogs in Mesopotamian art during the same period and particularly to the dogs associated with Gula in Mesopotamian art, usually represented with pointy ears and snout, and a curly tail (see Figs. 6.2–6.3), the dogs from the cemetery seem to be rather stockier and more sturdily built. To what extent this difference indicates an actual difference in dog breed or just a case of artistic preference or stylization, remains to be seen.

Boessneck has also pointed out that many of the dog skeletons presented severe fractures, especially of their limbs, some of which show evidence of having healed before death. He was unable to identify a cause of death for the dogs in question, but could discover no direct evidence that they were killed or maimed in the context of ritual and sacrifice (Boessneck 1977, 102). The prevalence of fractures has led Avalos to propose that the sacred kennel of Gula may have functioned as some kind of sanctuary for sick, injured and abused dogs (Avalos 1995, 211–12).

It is worth noting that the Isin dog cemetery remains the only animal cemetery of its kind from Mesopotamia proper. However, dog burials, possibly in a cultic context, are reasonably well-attested in other parts of the ancient Near East (for a general overview, see Wygnanska 2017). The prime example, the Ashkelon dog cemetery, much larger than the cemetery found at Isin, consists of about 1400 dogs buried there over a period of an estimated 80 years, dating to the late fifth to the early fourth century BC, about half a millennium later than the Isin dog cemetery. Again, as with the Isin cemetery, the majority of the dog skeletons are those of puppies and young dogs and no evidence for the cause of death or potential injury in the context of ritual or sacrifice has been observed. Edrey (2008) provides an overview of the explanations that have been put forward for the existence of the dog cemetery: The excavator interpreted these dogs as temple dogs, involved in healing rituals (Stager 1991). This interpretation has been accepted by other scholars such as Halpern who even postulated that the Mesopotamian Gula cult, along with the practice of dog burials, had spread to the Levant from Mesopotamia itself (Halpern 2000). However, Wapnish & Hesse (1993) maintain that there is no direct evidence for any kind of cultic function associated with the dog burials, that the age distribution aligns well with death by natural causes, and that the practice of burying the dogs had developed independently in the Levant.

Figure 6.5. *The mastiffs of Ashurbanipal. Relief from the North Palace in Nineveh. BM 124893. © The Trustees of the British Museum. Licensed under CC BY-NC-SA 4.0.*

In this context, it is also worth mentioning that at Tell Mozan, ancient Urkesh, a 'cultic pit' dating to the second half of the third millennium was discovered that contained bones from at least 20 puppies and a number of other animals, mostly pigs, bovines, caprids and equids. No butchering marks could be identified on the puppy skeletons, but they were present on some of the bones from other species (Di Martino 2005, 76). Kelly-Buccellati has interpreted this pit as a Hurrian necromantic structure, the *abi*, known from the textual record, and surmises that this was the location of ritual slaughter in order to communicate with the gods of the Underworld or with deceased ancestors, known from later Hurrian texts (Kelly-Buccellati 2016, 99–102). However, the exact function of this pit remains unclear, and it is important to stress that it differs significantly in its layout and content from the individual graves of the Isin and Ashkelon dog cemeteries, and little evidence for a connection with healing or healing goddesses can be found in the context of the Urkesh finds (see Recht 2014 for the use of perfumes in the Urkesh *abi* and beyond and a possible link to healing practices), and that the Urkesh pit is therefore very likely unconnected to the Mesopotamian dog cemeteries or the cult of Gula.

The dogs of Gula in Ur III documentary sources

Let us now turn to the earliest clear evidence for the association of Gula with dogs, namely, a number of Ur III period documentary texts dealing with the delivery of sheep and goats for the regular offerings (sa_2-du_{11}) of Gula as well as for her dogs (see Tsouparopoulou 2020 for an in-depth analysis of this group of texts).[2]

A small group of Ur III documentary texts from the Drehem archives exhibit an almost identical

structure:[3] A number of sheep (usually 30) is listed as a regular offering for Gula, followed by usually the same number of sheep, ewes and goats with the note ba-ug$_7$ (killed) mu-ur-gi-šè (for the dogs). This delivery was received by an official with the title sipa ur-(gi$_7$)-ra, 'dog handler', the same title used by some of the dog handlers of the Ur III military 'K-9 Corps' discussed by Tsouparopoulou (2012). The combination of the receipt of dead animals together with the regular offerings as the sustenance of the goddess Gula only allows for one possible explanation: next to the live sheep as sustenance for the goddess, we see the receipt of dead sheep as sustenance for her dogs. If this interpretation is indeed correct, this is the earliest evidence for the association of Gula with dogs, as well as evidence supporting the idea that packs of dogs were indeed kept in or around the temple of Gula. It is worth noting, in this context, that at least some of the documents at hand provide the total number of sheep disbursed (e.g. BIN 3, 68; BPOA 6, 82; PDT 1, 438), making it clear that the dead sheep and goats delivered for the dogs have to be considered separate from the 30 sheep that constitute the offering to Gula herself.

This group of texts in this easily recognizable form spans a period of about 15 years, stretching from the years Šulgi 44 to Ibbi-Sîn 2. Most of the documents in question are receipts in this given formulaic structure, but we also find similar transactions that probably form part of this corpus in abbreviated form listed in summary account tablets. Apart from the uniformity of these documents, what is equally striking is the fact that in most of the texts, the transactions are listed as having taken place in Ur. As outlined above, the most important location for the cult of Gula during the reign of the Ur III dynasty was Umma, but we do have evidence for other temples of Gula, including in Ur itself where Ur-Nammu claims to have built her temple, possibly the same temple that was later rebuilt by Warad-Sin (RIME 4.2.13.2).

However, it is worth pointing out that no comparable texts have been identified in the corpus for the association with dogs or evidence for dogs being provided with rations together with Ninisina or the other healing goddesses that still should be considered distinct from Gula in the third millennium. The only available evidence, for the time being, relates to Gula.

Conclusion

Summing up, we can certainly conclude that there seems to be a very close connection between the various healing goddesses (that in the second millennium merge into the deity Gula / Ninsina) and her dogs. Already during the reign of the third dynasty of Ur, we find evidence for packs of dogs associated with the temple of Gula, in this particular case probably the temple of Gula in Ur. Our only evidence for the following millennium stems from the increasing association of Gula with dogs in art from the Old Babylonian period onwards, until we find further evidence for dogs in connection with a religious precinct, this time in the form of the dog burials associated with the temple of Gula-Ninisina at Isin, dating about a thousand years later than the Ur III evidence. No further first-hand evidence for these packs of dogs has of yet been unearthed at the other sites where the healing goddess was venerated, such as the temple of Gula in Nippur, but considering the apparent longevity of this tradition, this would not be entirely unexpected. Whether the association with dogs was an inherent feature of the cult of all healing goddesses or whether this feature originally only belonged to one of her incarnations (in this case, based on the Ur III evidence, very likely Gula) that was taken over by the other healing goddesses that were syncretized with her in the early second millennium, cannot be answered with any certainty based on the limited evidence available. However, in the light of the Ur III evidence, we are led to wonder just how unusual the Isin dog cemetery really was or whether there would have been similar dog packs and corresponding cemeteries at other sites that were dedicated to the healing goddess.

If we attempt to discuss the function of these packs of dogs in the context of the temples we are on much less solid ground. It is impossible to answer in this context and based on the limited evidence available, to what degree these dogs formed part of the ritual aspects of Gula's temple or to what degree they may even have been connected to the healing rituals as such, for example by licking wounds of injured supplicants.

Gula's association with dogs has been discussed extensively within the realm of healing itself. Several scholars, among them Fuhr (1977, 137–9) have adduced evidence for dogs licking wounds for healing purposes. This, as Böck has pointed out, is indeed backed by some clinical evidence, but whether the ancient medical practitioners were indeed aware of this remains unknown (Böck 2014, 38). If dogs were really involved in the treatment of wounds and injuries, it still remains unclear whether their effect was considered more of a physical or spiritual nature or whether we are here dealing with substitution rituals, transferring the human ailment onto the animal, a possible explanation for the fractures observed on the bones from the Isin dog cemetery. A Neo-Assyrian cylinder seal (Teissier 1984, no. 231) depicts a dog over a hut or tent structure in which a healing ritual is performed, but it remains unclear whether the dog in this instance is a symbolic

representation of Gula herself or if this indicates the presence of dogs during healing rituals. Direct evidence of dogs being used in the process of healing, at any rate, remains rare, apart from a Neo-Assyrian Omen report discussed by Avalos which involves purification by touching the dog of Gula (Avalos 1995, 208) and which, for the time being, remains unique.

It remains equally elusive where the dogs in the temple pack originated and whether they were selected according to certain criteria: were they specifically bred to be temple dogs or could they have been selected according to certain physical characteristics? Avalos' suggestion, explaining the injuries that the dogs from the Isin cemetery sustained before their death with the function of the Gula temple as an early animal shelter maybe seems too modern a concept, but whether the dogs were purposefully harmed in the course of a potential substitution ritual cannot be decided with the evidence at hand.

The Ur III documentary texts remain the only conclusive evidence for the association of the healing goddess with dogs dating to the third millennium BC. Considering the lack of evidence for an association between the other healing goddesses and dogs and the fact that the only available evidence relates to Gula, one is led to wonder whether the association with dogs was originally limited to Gula and was then – after the increasing amalgamation of the different healing goddesses at the beginning of the second millennium – transposed onto the other healing goddesses, including Ninisina.

Notes

1 Some often-cited examples are YOS 8, 76: 2 and VS 16, 181: 17.

2 I am very grateful to Christina Tsouparopoulou for discussing the evidence with me and for sharing a preliminary version of her recent article on the topic (Tsouparopoulou 2020).

3 The uniform group of texts listing deliveries of sheep for Gula and the dogs are: Boson 1939, 235.2; AUCT 1, 376; BCT 1, 74; BIN 3, 68; BPOA 6, 82 & 578; BPOA 7, 2656; MVN 8, 102; MVN 8, 132; MVN 11, 184; OIP 115, 295, 301 & 313; PDT 1, 439; TRU 330; WMAH 160. Further documents mentioning the dogs and the same officials involved in the transaction also belong to the same dossier, see Tsouparopoulou 2020, Table 1 for a complete list.

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Chapter 7

Between sacred and profane: human–animal relationships at Abu Tbeirah (southern Iraq) in the third millennium BC

Francesca Alhaique, Licia Romano & Franco D'Agostino

The medium sized city of Abu Tbeirah, Iraq (30° 98′ 43.93″ E, 46° 26′ 97.35″ N) flourished during the third millennium BC in southern Mesopotamia. At this time, the region was a marshy area near the ancient Gulf shoreline (Milli & Forti 2019; Romano 2019). Since 2012, the archaeological investigations have aimed at understanding the last occupational phases of the city as well as reconstructing human-environment relations using an interdisciplinary approach.

The bilobed settlement (Fig. 7.1) was characterized by an interesting hydraulic system: a main canal was running northwest-southeast, dividing the town in two halves. It fed an artificial basin (a harbour in Area 5, D'Agostino & Romano 2018) from which a secondary canal ran parallel to the main one toward the southeast. In the southeastern part of the site (Area 1), two phases of occupation of a huge household (Building A) have come to light. The discoveries in Building A Phase 1 and Phase 2 provide evidence of the everyday life of a Sumerian household, with its installations (e.g. *tannur* and firing structures), production activities, and burial practices (e.g. sub-pavement graves). The structures of the household were then cut by several graves and garbage pits in the latest phase of occupation of the area (Romano 2019).

In the northeastern part of the site (Area 2), a similar situation occurred. The domestic structures belonging to the end of the third millennium BC were cut by graves (one of them particularly rich) that were in turn severely disturbed by later activities, possibly belonging to a now eroded upper phase (D'Agostino & Romano 2015).

Materials and methods

A relatively large faunal assemblage was recovered during the excavations in the different areas of the settlement; the materials presented in this chapter were handpicked, but such collection was very accurate since also small elements (e.g. fish bones) were recovered. The zooarchaeological and taphonomic analysis of the animal remains is still in progress, but has been completed for the material from the latest phases of Area 1. The remains mainly come from a burial ground and from the most recent phase (Phase 1) of use of the very large Building A (Alhaique 2019). Evidence from the earlier phase (Phase 2) in Area 1 as well as some interesting contexts from Area 2 will also be discussed here.

The preservation of the assemblage is relatively poor, with a high degree of fragmentation. This is the result of not only common pre- and post-depositional events (e.g. butchery, carnivore activity, trampling, sediment pressure), but also of the presence of salt crystals that, growing within the microfractures already present on bones and teeth, further splintered the specimens. Such fragmentation has resulted in a high number of unidentifiable remains, in addition to specimens only attributable to more general size categories (i.e. medium mammal, large mammal). Moreover, salt and calcium carbonate incrustations that covered the bones often limited the possibility of observing any modifications produced by humans, animals or other natural agents. A further problem in the analysis was the identification of traces of burning; indirect chemical analyses have shown that many of the bones that were black and apparently burnt were instead accidentally stained by manganese (E. Peverati, pers. comm.). The age at death of domestic taxa was calculated according to existing archaeozoological literature (e.g. Silver 1969; Payne 1973; Barone 1981; Bull & Payne 1982; Grigson 1982; Barone 1995).

Faunal assemblage from Area 1

In Area 1, samples associated with the graves of the cemetery, from a large pit under Graves 15 and 16,

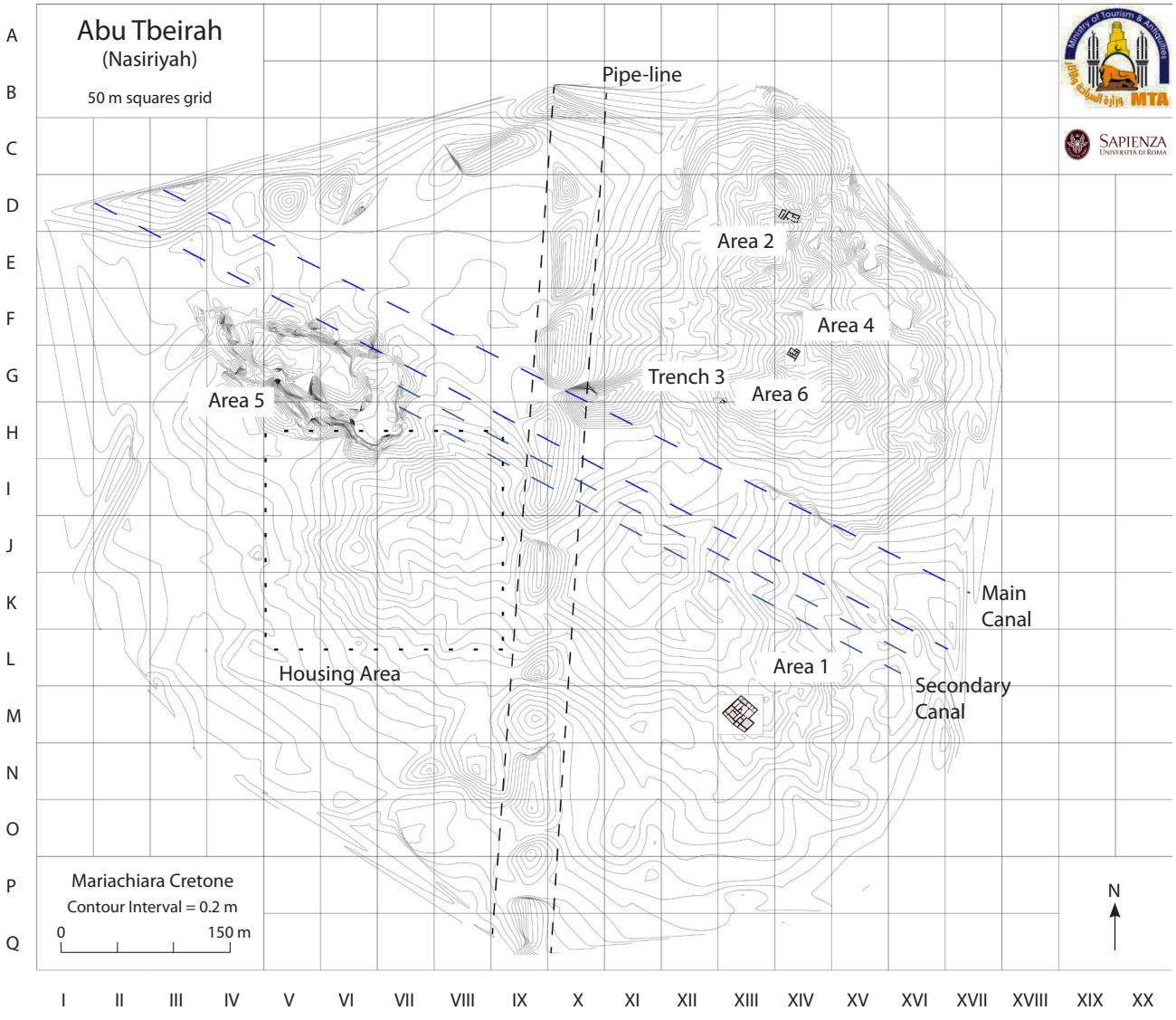

Figure 7.1. *Plan of the site with excavation areas and canals.*

and from other activities of the latest phase (Fig. 7.2) share a very similar faunal spectrum. Ovicaprines, followed by pigs, are the main species and fish and mollusks are also relatively abundant (Table 7.1). *Bos taurus* remains are instead much less frequent, being found only in the pit under Graves 15 and 16 and in the sample representing other activities of the latest phase. Equidae and *Sus scrofa* were only present in the cemetery and in the pit. Along with the occurrence of scattered human bones, the latter may support the hypothesis that this pit may in fact be, at least in part, a disturbed grave. Furthermore, the cemetery data suggest that specific skeletal elements may have had special significance in the funerary rituals. This is in particular the case with the radius, which occurs in the instance of the very young equid in Grave 15, where it represents the only specimen for that taxon, and is 'over-represented' for the ovicaprines in Graves 16 and 21: in Grave 16 three out of seven elements of sheep/goat are radii, while in Grave 21 all the eight bones identified are ovicaprines and two them are radii, one perhaps originally still articulated with humerus and carpals. Furthermore, in the latter grave, one side (the right) may also have been important. Although it is not common and the meaning is difficult to assess, a selection of body portions in funerary and ritual contexts has been documented in different time periods and regions (e.g. Alhaique 2002; Davis 2008).

The assemblage from the first phase of use in Building A (Fig. 7.3) includes both faunal remains

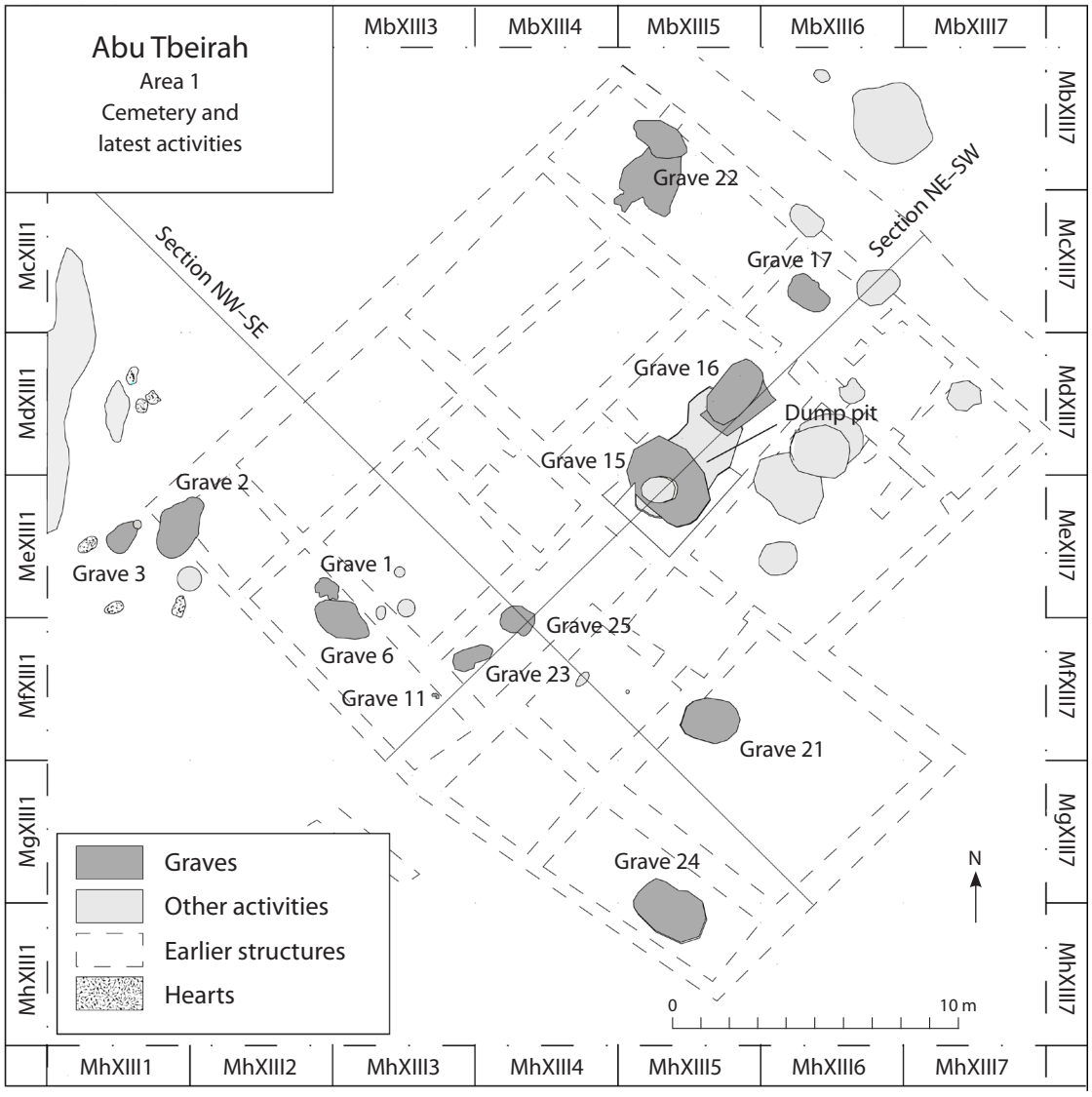

Figure 7.2. *Plan of Area 1 Cemetery and latest activities.*

associated with graves located under the floors inside and outside the building, and those from living contexts (Table 7.1). Most of the remains from the graves of Phase 1 came from outside the northeastern part of Building A and most likely represent a funerary banquet (or banquets) for the individuals buried in Graves 4, 5 and 13. This is indicated not only by the faunal assemblage (e.g. abundance of specimens in contrast to other burials, many individuals represented for each species, presence of rare species), but also by other archaeological evidence (Romano & al Hosseini 2019). Fewer faunal remains were associated with Graves 20 and 12, inside the building. In general, *Ovis vel Capra* and *Sus domesticus* are the most frequent mammals, and mollusks (both freshwater and marine) are also abundant, especially in Grave 12, where some Cardiidae have been used as 'cosmetic shells'. The other species recovered, all from the graves outside the building, are fish and, more rarely, *Equus* sp. and cattle. As far as the remains related to activities inside the rooms are concerned (Table 7.1), there are some apparent anomalies because of the presence in Room 1 of a large dish, found upside-down, still full of fish bones, probably belonging to a single individual of Cyprinidae, and of a dog burial found in Room 22. Other than that, the building contexts appear relatively similar to the funerary ones except for the presence of a few equid specimens only in the graves and some gazelle bones in Rooms 14 and 15 of the building. The only other gazelle (cf. *Gazella dorcas*) element recovered

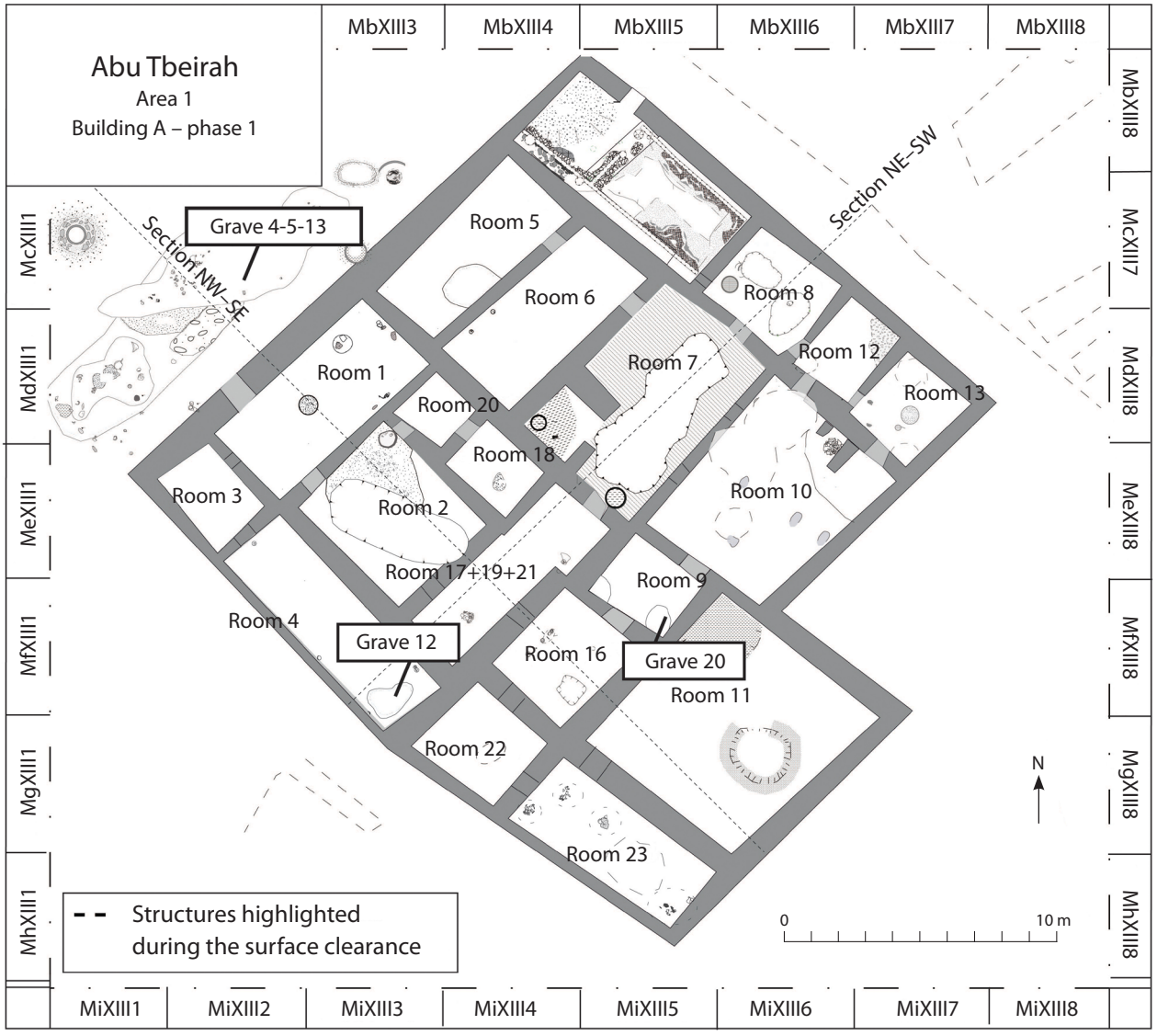

Figure 7.3. *Plan of Area 1 Building A with location of sub-pavement graves.*

so far at the site is a horn fragment from this same building, but from the earlier Phase 2.

The faunal assemblage from Grave 100 Area 2

A large faunal assemblage (Table 7.1) was recovered from Grave 100 in Area 2 (Fig. 7.4). This grave was a very rich burial, but unfortunately heavily disturbed. The human body itself was missing, but important equipment, consisting of several pottery and copper alloy vessels, a toilet-set, and three long carnelian beads, was found eroding out of the surface and in part scattered and displaced inside a rainfall gully that cut and damaged the stratigraphy of the context (D'Agostino *et al.* 2011). In this grave, *Ovis vel Capra* is the most abundant taxon, with sheep being more frequent than goat. Of the five individual ovicaprines identified at least one is a goat and two are sheep. One of the latter is represented by the skeleton of a young lamb, which appears to have been deposited with the legs tightly flexed, probably tied up, as indicated by the position of the lower limb bones, 'frozen' in position by concretions.

At least three of the ovicaprines had been killed when they were between four and six years old, while the last one was younger, two-three years old. Unexpectedly, equids are the second most common taxon in terms of number of specimens; although not all the skeletal elements were present (possibly due to later disturbances in that part of the site), there were at least two individuals of different size, based on dimensional

Table 7.1. *Faunal remains from relevant contexts in Abu Tbeirah (N= Number of remains; medium mammal = sheep, goat, pig, dog, and animals of similar size; large mammal = equids, cattle and other large ungulates).*

	AREA 1										AREA 2	
	Latest Activities						Phase 1					
	Cemetery		Pit under Graves 15 &16		Other Late Activities		Building A		Sub-pavement Graves		Grave 100	
Species	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Marine Mollusk	11	4.9	2	**0.8**	3	2.2	16	2.3	24	4.6	2	0.2
Freshwater Mollusk	16	7.1	6	**2.4**	4	3.0	40	5.7	63	12.0	3	0.2
Pisces	14	6.2	30	**12.1**	6	4.5	93	13.3	18	3.4	14	1.1
Testudinae											1	0.1
Micromammal									1	0.2		
Canis familiaris							199	28.4			23	1.9
Vulpes vulpes											3	0.2
Equus sp.	2	0.9	13	**5.2**					2	0.4	65	5.3
Sus scrofa	3	1.3	2	**0.8**							1	0.1
Sus domesticus	19	8.5	13	**5.2**	10	7.5	54	7.7	70	13.3	62	5.0
Gazella dorcas cf							6	0.9				
Ovis vel Capra	27	12.1	42	**16.9**	21	15.7	57	8.1	70	13.3	121	9.9
Bos taurus			4	**1.6**	4	3.0	2	0.3	2	0.4		
Medium mammal	13	5.8	25	**10.1**	15	11.2	40	5.7	46	8.7	47	3.8
Large mammal	12	5.4	1	**0.4**	1	0.7	2	0.3	2	0.4	52	4.2
Unidentifiable	107	47.8	110	**44.4**	70	52.2	191	27.3	228	43.3	834	67.9
Total	**224**	**100**	**248**	**100**	**134**	**100**	**700**	**100**	**526**	**100**	**1228**	**100**

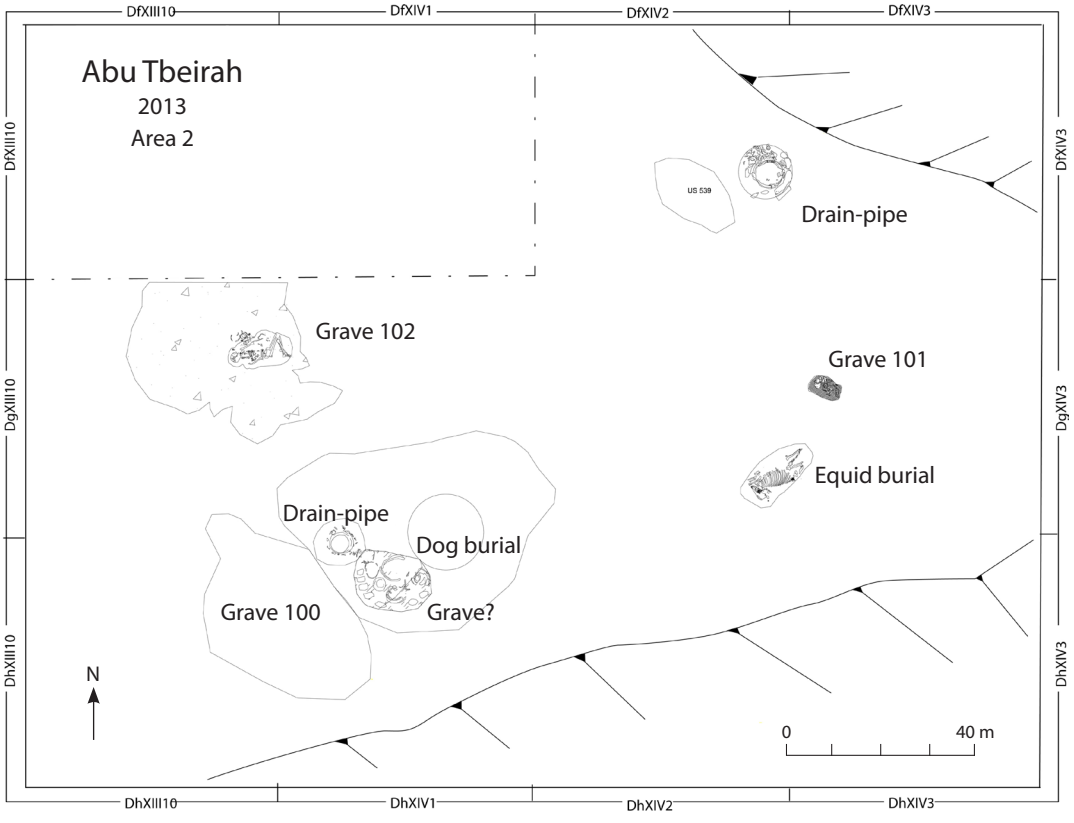

Figure 7.4. *Plan of Area 2 with location of Grave 100, the equid burial, the dog burial, and other graves.*

differences between two proximal femurs, and age: one was 4–5 years old, while the other 11–12 years old. Genetic analyses on the mtDNA of a lower second premolar belonging to the younger animal has shown that it was either a pure *Equus hemionus* or a cross-breed between a female hemione and a male donkey (Gabbianelli *et al.* 2015). It was possible to estimate (May 1985) a shoulder height of about 120 cm for only one of the two individuals on the basis of a complete metatarsal although it is not possible to assign this specimen to the younger or the older animal.

The third taxon for number of specimens, but second in terms of number of individuals is *Sus domesticus*. In this case, the remains represent at least four animals, none of them older than 30 months. Some dog elements were also present, belonging to a single adult individual. Rare taxa are represented by wild boar, fox, and tortoise; so far, this is the only context with fox and tortoise from the site. Marine and freshwater mollusks were also present, as were fish. The contextual archaeological data indicate a very rich and peculiar inhumation, but the grave has been heavily disturbed by later activities. The faunal information further suggests an affluence of the deceased, but may also possibly suggest a funerary banquet, as in the cases of Graves 4, 5 and 13, as discussed above.

Discussion on dog findings

Dog remains are in general rare in the faunal assemblage from Abu Tbeirah, although gnawing, probably produced by dogs, is attested, suggesting the presence of these animals in everyday life. All the bones of this species recovered so far were either associated with human graves or their largely complete bodies were intentionally buried as isolated depositions, as for example in the case of the burial (Fig. 7.5) in Room 22 of Building A mentioned above. The animal in this interment was still in anatomical position, lying on its left side facing northeast and with the limbs slightly flexed. Notwithstanding the general completeness of the skeleton, the head (cranium and mandible) and cervical vertebrae were completely missing. The zooarchaeological analysis revealed that the individual was about two years old and had a withers height between 52 and 55 cm. It was not possible to assess the sex of the animal:

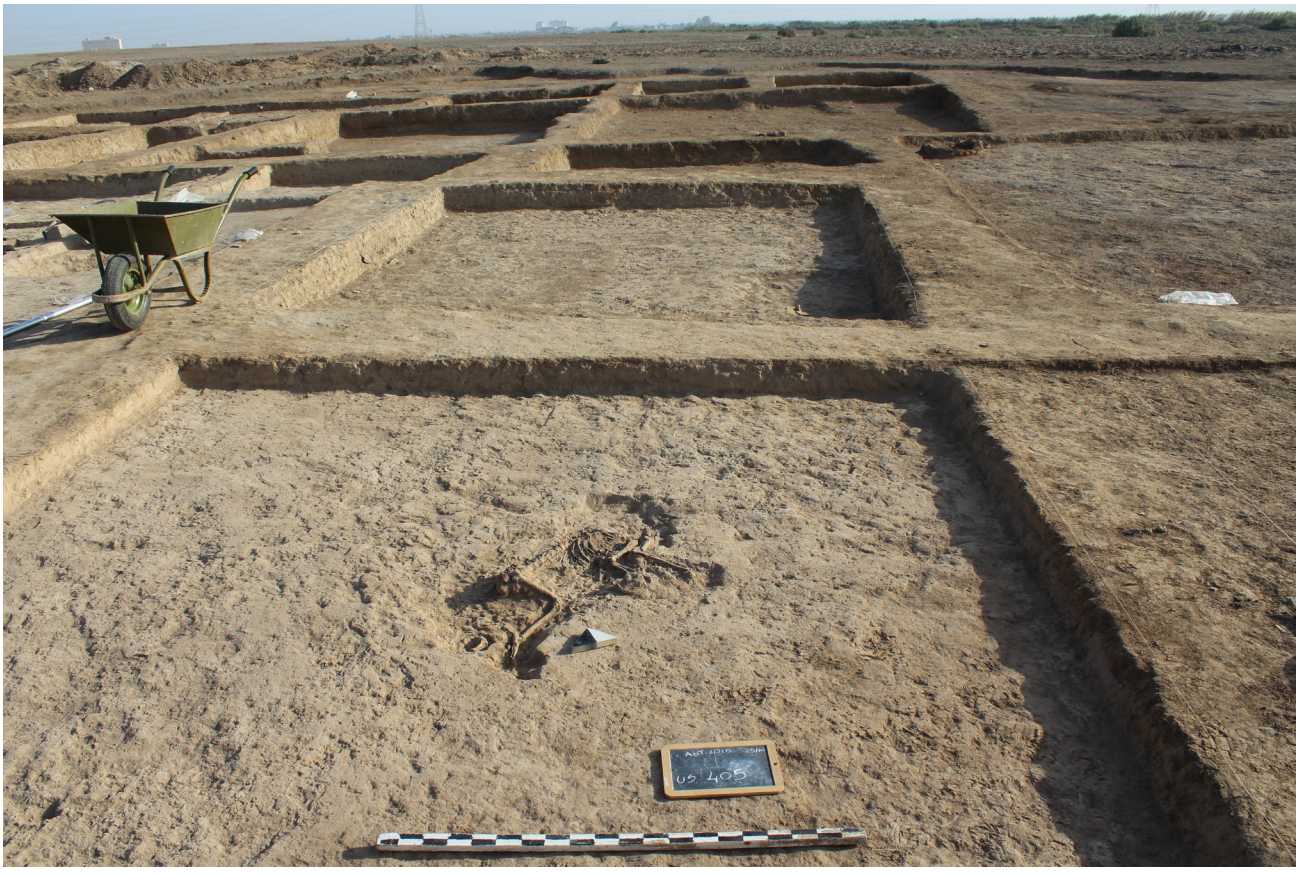

Figure 7.5. *Dog burial in Room 22 – Building A (Area 1).*

although the baculum was missing, it could have been lost during excavations. No bone modifications were detected on the dog skeleton and the black colour of many of the elements was not related to burning, but to accidental manganese staining, as is the case of many other animal and human bones from the site.

This dog skeleton, notwithstanding the absence of a well-defined pit, but given the absence of head and neck, very likely represents a ritual interment, possibly suggesting the sacrifice of the animal; the orientation of the animal is different from that of the human graves (Romano 2020). This practice is widely attested in the ancient Near East (Ramos-Soldado 2016) and over all the Mediterranean region, and might be interpreted both as offering and/or as protection for the building. The only other dog remains recovered so far at the site come from Area 2. At least one adult animal, represented by relatively few skeletal elements and with a shoulder height of about 50 cm, was associated with Grave 100, mentioned above. A second dog was a 5–6 months old puppy and was found in the fill of a pit (Fig. 7.4); it may represent an animal burial, or have been associated with a disturbed human grave.

Textual sources attest to a wide range of attitudes towards dogs, based on their role in domestic contexts as well as on their healing properties connected to the cult of Gula (Ramos-Soldado 2016; Tsouparopoulou 2020; Nett, this volume). Dogs are also present in Mesopotamian literature and frequently mentioned in proverbs and fables, emphasizing both their positive aspects (guarding, shepherding, hunting, etc.) and negative ones (Gordon 1958; Wu 2001; Tsouparopoulou 2012; Tsouparopoulou & Recht, this volume). Although the seated dog only clearly became a divine symbol in the Old Babylonian period, third millennium iconography also depicts dogs in a range of contexts. An Early Dynastic votive plaque from Nippur shows a dog in a typical domestic scene under the chair of a banqueting character (Hansen 1963, Plate V); in contrast, the Sargon Stele Sb1 shows domestic dogs and vultures devouring and dismembering the bodies of the enemies (Tsouparopoulou & Recht, this volume). In any case, beside the religious and cultural role of this species for the Sumerians, the data from Abu Tbeirah suggest a special care for this animal connected with the nature of the close relationship between humans and dogs.

Discussion on equid findings

Another taxon that appears to be important in Sumerian culture, not only for utilitarian purposes, is Equidae. In the Near East, during most of the third millennium, at least two species of equids were present: *Equus asinus* and *E. hemionus*, while the horse probably appeared only at the end of this period. Furthermore, cross-breeds between these animals are known from cuneiform texts and suggested by zooarchaeological investigations (e.g. Weber 2008; Clutton-Brock 1986; Zarins 1986).

At Abu Tbeirah, in Area 2, besides the already mentioned *Equus* remains from Grave 100, an equid burial was also found (Fig. 7.6), possibly dated to the Akkadian period. The pit was dug in the southwest corner of Room 1 of Building B, when the building was no longer in use. In the same area and archaeological level, several human graves, including Grave 100, and the dog puppy burial mentioned above were also identified (Fig. 7.4). The animal had been placed in a pit (Fig. 7.6), resting on its left side with tightly flexed limbs and the head placed on the right shoulder in an 'unnatural' backwards position, as if the neck had been forcedly bent or broken. The skeleton was found only a few centimetres below the salt crust that covers the surface of the excavation over the whole site. This heavily affected the preservation of the skeleton, which was in fact very fragile and fragmented.

The few measurable bones were not useful for species identification, but the teeth showed an asinine morphology rather than a hemione one (Eisenmann 1986). However, recent research has shown that species identification in the case of equids may be difficult, even for experienced researchers, when based only on morphological and dimensional data (Geigl & Grange 2012), therefore an upper second premolar was sampled for aDNA analysis. The results of the mtDNA show that the individual was a domestic donkey, at least on the mother side. Future analyses will possibly be able to show whether the father was another donkey or a hemione (Gabbianelli *et al.* 2015). Based on tooth wear and fusion of the bones (Barone 1981; 1995), the animal was probably 5.5 years old when it died, while the canine suggests that it was a male. The presence of the upper first premolar, the so called 'wolf tooth', is a relatively uncommon feature displayed in most equid species only by less than 31 per cent of the individuals (Eisenmann 1986).

Equid burials were relatively common during the third and second millennium BC over a wide region from around the Mediterranean to Mesopotamia (Recht 2018; see also Way 2010 and references therein for an overview), and our finding is therefore not completely unexpected. The intentional burials may be associated with human graves or architectural features (e.g. walls, temples), but they may also stand alone. For this latter case, in the absence of other archaeological or taphonomic evidence, some authors (e.g. Milevski & Horwitz 2019), prefer to interpret them as deliberate interment of animals not used as food, but with no special ritual meaning.

Figure 7.6. *Equid burial in Area 2.*

Although equids may bend their relatively long necks and turn their head backwards, the position of the head of our individual does not seem completely natural and may recall the tradition of donkey sacrifices mentioned in the Mari texts and in the Bible (Scurlock 2002; Way 2010). In the latter case the animal was killed just by breaking its neck (see Exodus 34:20). In archaeological contexts similarities in the position of the head may be found for example with a donkey from Tel es Safi/Gath (Greenfield *et al.* 2012), or with an onager/cross-breed from Abu Salabikh (Clutton-Brock 1986). This latter example has not been considered a deliberate burial, but rather an accidental or natural occurrence (i.e. an animal trapped in a burning building), but the position of the head may indicate that this interpretation needs a reevaluation. However, the possibility that in our case the position of the legs and the head was only related to the fact that the animal should fit into a small pit, for ritual or disposal practices, cannot be ruled out completely.

In Area 1 equid remains are rare. In the cemetery, a fragment of the radius of a foal was associated with Grave 15, while a carpal bone was collected from Grave 24. A few skeletal elements of a single individual, some still articulated, but with cut marks on the proximal end of the metatarsal, were recovered in the pit under Graves 15 and 16. This pit was probably, at least in part, a disturbed human burial. The equid was 119.4 cm at the withers, very close to the height of the equid from Grave 100. Another radius, this time belonging to an adult, was among the remains of the funerary banquet(s) outside Building A. At any rate, as in the case of dogs, there was a special relationship between humans and equids in this region, as also the possible exclusive presence of equids in burial contexts at Abu Tbeirah seems to support.

Discussion on aquatic taxa

The analysis of the faunal assemblage from all the different contexts described so far indicates that aquatic species (mollusks and fish) played an important role both in daily life and in funerary rituals. This is of course related to the environment that surrounded the site in the third millennium BC, when Abu Tbeirah was crossed by a canal and had a relatively large

harbour. The area was richer in water, similar to the present-day Iraqi marshes and much closer to the sea (D'Agostino & Romano 2018; Jotheri 2019; Milli & Forti 2019).

The preliminary data on fish identification suggest that most of them were freshwater Cyprinidae (including the specimens from Room 1), mainly belonging to the genus *Luciobarbus* and *Barbus.* Among the latter, the presence of *Barbus grypus* can be attested (Fig. 7.7a). The remains of this family mainly fall within a size range between 40–50 and 60–70 cm, although in a few cases they are smaller, about 20–30 cm. Among the freshwater species, there is also the *Silurus triostegus*; some individuals are about 40–50 cm, but in one case a size of 80–90 cm was reached (Fig. 7.7b). Marine taxa are rarer, and include Carangidae of the genus *Scomberoides* (Fig. 7.7c), in one case reaching 80–90 cm. One of the most curious fish finds occurred during the 2013 excavation campaign: in the fill of a *tannur* located just outside Building A in Phase 2, three chevron 'comb-like' burned elements were found (Fig. 7.7d). The analysis of the specimens indicated that they were three lower dental plates of an eagle ray belonging to the genus *Aetobatus*. Based on current biogeographical data, the species that now live in the Persian Gulf area are *Aetobatus flagellum* and *Aetobatus* cf. *ocellatus*, with the former being more frequent. These Chondrichtyes are marine species, but are able to go upstream and enter rivers and estuaries, especially *A. flagellum* (White *et al.* 2010; White & Moore 2013; White pers. com.). The same is also true for the *Scomberoides* mentioned earlier. This fits well with the coastline being much closer to the site in the third millennium, and the sea nearly reaching Ur.

Compared to modern specimens, the dimensions of the *Aetobatus* plates indicate that the individual recovered was about 42–45 cm wide (White, pers. com.). The presence of these remains inside the oven suggests that they had probably been used as a source of food and later, as indicated by the complete burned state of the specimens, the leftovers ended up in the *tannur*, either intentionally discarded or accidentally.

The identification of the eagle ray remains at Abu Tbeirah provides a clue for a more precise identification of the ray mentioned in a Sumerian literary composition known as 'The home of fish' (Civil 1961; Vanstiphout 1982). Leaving aside the discussions about the general interpretation of this text (e.g. Civil 1961; Thomsen 1975), we can here underline the fact that in this composition, there are 11 lines (84–94) dedicated

Figure 7.7. *Fish specimens: a)* Barbus grypus *pharyngeal bone fragment (estimated animal length 60–70 cm); b)* Silurus triostegus *quadrate bone portion (estimated animal length 80–90 cm); c)* Scomberoides *sp. premaxilla (estimated animal length 80–90 cm); d)* Aetobatus *sp. lower dental plates (estimated animal width 42–45 cm).*

to the ray, defined as *mur*-fish, compared to the 2–3 lines used for all the other fish species mentioned in the text. This may suggest a use of this taxon in Sumerian culture not only for utilitarian purposes.

The first line of the text quotes 'The head, a hoe, the teeth, a comb' (Civil, 1961); already on the basis of this first mention, Civil (1961) tentatively attributes the ray to the genus *Dasyatis* for the similarity in shape with the tool mentioned in the Sumerian text, also compared to the findings of such an artifact from Ur (see for example Woolley 1934, pl. 230). However, this genus does not have the comb-like teeth, which are instead a characteristic only of *Aetobatus*. Furthermore, the long and detailed description of the animal reported in the text shows the deep and probably direct knowledge that the Sumerians had of the anatomical features of this fish. For example, to observe the comb part of the dental plates, it is necessary to take apart the different plates. Moreover, since no spots on the skin of the animal are mentioned in the long description, the ray cited in 'The home of fish' is more likely *Aetobatus flagellum* rather than *Aetobatus* cf. *ocellatus.*

Although only occasionally attested so far, fish bones found at Abu Tbeirah had also been used to produce tools, usually, only slightly modified, expediency ones.

The mollusks found belong to both freshwater species (*Unio tigridis)*, as well as marine and brackish-water taxa such as Cardiidae, Conidae, and Spondylidae. Some of the larger taxa may have been imported for craft purposes. On some occasions, the shells had been used as containers, as in the case of 'cosmetic shells' found associated with Grave 12, mentioned above, and Grave 24, or as raw materials for producing objects such as rings or seals.

General conclusions

In general, the faunal composition does not show particular differences in the use of the main species in daily life, as evidenced by the remains found in Area 1 in Building A, and in funerary rituals both in the sub-pavement burials of Phase 1 of the building and in the cemetery in Area 1 as well as in Grave 100 in Area 2.

Sheep/goat and pigs are most common in all contexts, but some subtle differences between 'sacred' and 'profane' settings may be suggested by looking at the age at death. The funerary contexts display a wide age range from young or very young to senile, with younger animals probably representing offerings for the deceased since they were mainly found inside ceramic vessels or in close association with the body of the deceased or were represented by complete skeletons or limbs (i.e. not consumed), while older ones (often recovered on top of or around the burial), may be more related to ritual banquets. In the domestic contexts, sheep/goat are represented only by adult animals, and pigs by young and adult individuals, but for both species senile specimens are absent.

The comparable abundance of ovicaprines and pigs in all contexts may seem an anomaly considering the relatively low frequency, especially in some periods, of textual and iconographic evidence of domestic pigs compared to that of sheep and goat (e.g. Breniquet 2002; Scurlock 2002; Dahl 2006; Grigson 2007; Redding 2015). At least for the textual sources, such an anomaly could be explained by the fact that swine herds were possibly managed more at a local, family level, not needing registration in official documents; although other explanations are also possible (D'Agostino & Spada, in press; Dahl 2006). Moreover, pigs were probably kept within the city boundaries, avoiding crossbreeding with the very large local wild boar (*Sus scrofa attila*; an individual from Grave 15 has an estimated shoulder height of *c*. 90 cm), as suggested by the very small size of Sumerian pigs documented not only at Abu Tbeirah (*c*. 64 cm at the shoulder), but also at other sites (e.g. Clutton Brock & Burleigh 1978; Grigson 2007).

There is a general scarcity of cattle, both in ritual and domestic contexts. This could be explained by the environmental characteristics of the land around the site, which was probably not suitable for the kind of large-scale agriculture for which such animals would have been useful. Another possibility is that cattle, if employed mainly for traction and transport, was not used as a source of meat and therefore was not discarded with the other food debris. However, the lack of burials or other ritual associations of cattle (in comparison with equids, which may have had a similar use), suggests that the environmental hypothesis may be more appropriate.

The presence of aquatic taxa (marine and freshwater) in all contexts indicates a strong influence of the surrounding environment on everyday life and ritual practices in southern Mesopotamia during the third millennium BC. Shells, and in a few cases also fish bones, were used not only as food, but also as raw material for making tools and objects or, in the case of mollusks, as containers. It is likely that 'cosmetic shells' found in burials are related to the social identify of the deceased. They are associated with both females, as in Grave 12 and at other sites (e.g. Abu Salabikh, Martin *et al.* 1985, 42 – Grave 3, 49–50, Grave 10; Ur, Woolley 1934, PG/777, PG 779), and with males, as in Grave 24 (Tafuri 2019).

Wild mammals are extremely rare. Wild boar was almost exclusively found in graves and its presence is

possibly related to the activity (or some of the activities) of the deceased in life, for example the robustness of the adult man in Grave 15 associated to the presence of this wild taxon may hint to the hunting abilities of the inhumated. Remains of gazelle were only found in Building A of Area 1, but in both Phase 1 and Phase 2, representing another piece of evidence for occasional hunting activities. Given the location, this was probably only for meat acquisition and not for rituals purposes. The presence of fox and tortoise in Grave 100 may indicate some particular meaning for these species, although the remains are too scanty to be confident of this interpretation.

Although carnivore gnawing is documented, indicating the probable presence of dogs in the daily lives of the inhabitants of Abu Tbeirah, actual canid remains are very rare from domestic contexts. They are instead found in ritual settings, suggesting an important symbolic role in Mesopotamian culture, as also indicated by iconographic and literary sources. Both domestic donkeys and *Equus hemionus* or *Equus hemionus*-donkey hybrids have been discovered. With the possible exception of the remains collected from the pit below Graves 15 and 16, they are so far all associated with human burials or were interred in their own grave.

One taxon that is apparently missing in the Abu Tbeirah faunal assemblage are birds, whose bones are not present in the samples described in this chapter, and are extremely rare at the site overall. However, micro-debris analyses (Cereda & Romano 2018; Cereda 2019) carried out on the floors of some rooms of Building A in Area 1 revealed in all instances the presence of eggshell fragments. This suggests that, although the meat of birds was not or rarely used, this was not the case for the eggs, which were probably collected from nests in the surrounding environment.

In general, as far as the burials are concerned, there seems to be no relationship between the amount of faunal remains recovered, the burial method, the sex and age of the deceased and the number of inhumed individuals (Tafuri 2019).

Funerary banquets have been suggested by both more strictly archaeological data (e.g. rich and abundant grave goods compared to other graves) and faunal remains (e.g. high number of specimens and individuals in contrast to other burials, presence of rare species) in the case of Graves 4, 5 and 13 in Area 1, and Grave 100 in Area 2. The ritual probably involved the consumption of not only meat, but also of liquids, as indicated by the high number of drinking vessels recovered in association with the sub-pavement graves outside Building A (Romano & al-Hosseini 2019). It is also possible that some of the faunal remains from other burials at Abu Tbeirah represent smaller funerary banquets or that the funerary ritual involved only the use of liquids, which would not leave clear traces except for the containers employed for drinking. These were sometimes found piled up (therefore presumably empty) as part of the burial goods (e.g. in Graves 6, 15 and 16, see Romano & Ghanim 2019). Some kind of banquet shared with the deceased may also be suggested in other burials, explaining the presence of containers for eating or drinking made of organic materials (Grave 6) or ceramic (Grave 16) found in or near the hands of the skeletons (Romano & al-Hosseini 2019). Similar findings, this time not only made of pottery, but also stone or metal, have been documented for example at Abu Salabikh and Ur (Woolley 1934; McMahon 2006).

The information collected so far at Abu Tbeirah seems to indicate that there were no marked differences between the animals in the 'sacred' and the 'profane' contexts, but only subtle variations, for example in the selection of the age of the animals. However, some taxa, such as dogs and equids, likely played a more significant role in the cultural sphere. Other animals, like wild boar and mollusks, although still related to the funerary ritual, were probably more connected to the identity of the deceased. Along with archaeological, geological and botanical information from Abu Tbeirah (D'Agostino & Romano 2018; Celant & Magri 2019; Jotheri 2019; Milli & Forti 2019; Romano 2019), the faunal data are increasingly documenting how the lives of the people of southern Mesopotamia during the third millennium BC were strongly related to water, exploiting in different ways marine and freshwater resources, and how the subsequent climatic and environmental variations deeply influenced the economic, cultural and social conditions in this region.

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Part III
Blurred lines: humans as animals, animals as humans

Chapter 8

Dog-men, bear-men, and the others: men acting as animals in Hittite festival texts

Alice Mouton

Hittite cuneiform tablets (of the seventeenth–twelfth centuries BC) are an important source of information about rituals and cultic festivals. In this chapter, I deal with special characters who intervene in a cultic context, namely the dog-, wolf-, bear-, leopard- and lion-men.[1] In 1966, Jakob-Rost (Jakob-Rost 1966) published the only study specifically devoted to these hybrids. Although she addressed several crucial questions, such as 'what did these hybrids do during cultic festivals and with whom did they interact?', her overview unfortunately does not quote the relevant Hittite texts.

What did the animal-men look like?

The Hittite cuneiform texts only very seldom describe the animal-men. The allusive character of the texts engenders doubts, especially concerning the dog-men (Pecchioli Daddi 1982, 376–8). In Hittitological literature, there is indeed a debate on the meaning or meanings of this logogram. In some ritual and non-religious texts, ^{LÚ}UR.GI$_7$ designates a hunter. For this reason, some authors, such as Güterbock (Güterbock 1989, 118) and McMahon (1991, 269) after him, argued that all occurrences of this logogram designated hunters in charge of hunting dogs, thus rejecting the concept of 'dog-men'. However, Melchert showed that, in the context of cultic festivals, these characters behaved like dogs, being stripped naked and barking (Melchert 1983, 143; Melchert 1989, 98).

A first illustration of this phenomenon is the text of a festival of Hattian background celebrating the renewal of the hunting bag of two tutelary deities, namely Zithariya and the tutelary deity of the city of Hatenzuwa. A passage from this composition states (Extract 1):

> Afterwards, he (i.e. the king?) drinks (in honour) of the tutelary deity of the city of Hattuša while standing. [The singers sing]; the dog-men bark. He bre[aks] one loaf of *takarmu*-bread. Then they place it for <the deity> upon the lined-up ones. They sweep (it) off. They drink (in honour of) Zithariya while sta[nding]. The singers sing; the dog-men bark. He breaks one loaf of *takarmu*-bread. Then they place it for the deity upon the lined-up ones.[2]

The sequence is repeated for other deities. In this first extract, we can see that the barking of the dog-men goes together with the singer's song each time it occurs. We will see analogous examples below. The theatrical character of the scene is striking, but other texts give further detail. This is the case of a sequence of the *witaššiya*-festival, a cultic event relating to the cult of the great goddess of the Luwian Lower Land, Huwaššanna. This other extract states (Extract 2):

> He/she breaks one loaf of *takarmu*-bread and p[uts] it on the altar. [The dog-men] (are) [b]arking. They let (them go) naked.[3]

The following can be read in a sequence of a festival from the Hattian cultural sphere (Extract 3):

> She (i.e. the NIN.DINGIR-priestess) drinks while seated (in honour of) the [deity Z]ithariya. The [assem]bly is standing; they (i.e., the members of the assembly) bark. [...] comes. The *hapiya*-men discard (their) [*š*]*eknu*-garments. § They give (them) in the hand. A palace official holds a cup towards the NIN.DINGIR-priestess; the NIN.DINGIR-priestess puts (her) hand (on it). The palace official gives (it) to the assembly, and, (away) from the assembly, he bows

> to the NIN.DINGIR-priestess. The NIN.DINGIR-priestess extends the hand towards (it; i.e. the cup). § They give (her) [wi]ne (to drink) from a golde[n] rhyton while seated (in honour) of the deity Zaiu. The assembly is standing. They (i.e., the members of the assembly) discard (their) *šeknu*-garments (and) bark.[4]

This sequence should be compared with the previous one: as already suggested by Melchert (1983, 143), it seems very plausible that people were naked under their *šeknu*-garment. Thus, in both extracts, people bark and go naked. Note that, in this last extract, the dog-men are not explicitly mentioned. However, it is most likely that they form the assembly at that stage of the ceremony, since the action of barking is always attributed to the dog-men in the festival texts. Although the last sentence of this extract shows that the members of the assembly discard their *šeknu*-garments and bark, it should be noted that someone else is also naked in the sequence, namely the *hapiya*-men. We do not know much about these men, only that they take part in many cultic ceremonies.[5] Thus, in the context of the cultic festivals, only dog-men are described, no hunters. Another argument in favour of this interpretation is the fact that one festival text attests also the existence of a 'puppy-man'.[6]

If my interpretation is correct, the dog-men wear a *šeknu*-garment. A fragment of a festival text relating to the Hattian sphere states (Extract 4):

> The *ittalwant-* dog-man holds his spear of bronze and he holds the staff of the *hatwaya*-man.[7]

The meaning of the adjective *ittalwant-* is unknown, since it occurs only in this composition. In this extract, only one dog-man is mentioned, contrary to the other extracts we have examined so far. This man holds both his own spear and the staff of another cultic actor, the *hatwaya*-man.[8] The fact that the text specifies '*his* spear of bronze' might indicate that such spears are part of the usual equipment of the dog-men. Note, however, that this is the only clear mention of it in the festival texts.

As in the case of dog-men, wolf-men are never described in the Hittite festival texts. However, a detail concerning their appearance occurs in the following passage relating to the Hatto-hittite KI.LAM festival (Extract 5):

> Ten [...], bronze belt(s) of the wolf-men (of) [the city of ...].[9]

A bronze belt is definitely a prestigious item, thus illustrating the fact that the wolf-men are not very low on the social scale. The other noteworthy piece of information in this short extract is the association of the wolf-men with a city name. This shows that these men actually represent a city during a cultic ceremony.

Still concerning the wolf-men, the bronze belt is not the only item associated with them. Another element of unknown nature is designated by the Hittite noun *warašhuwar*. This is the case in the following passage of a text also describing a phase of the Hatto-hittite KI.LAM festival (Extract 6):

> They put the *wara*[*šhūwa*]*r*. § When the king takes the [cu]p back, the wolf-men let the *warašhūwar* go and they [s]quat. § When they carry the cups, <they *give*> *bread allotments* to the wolf-men.[10]

This extract shows that the *warašhūwar* is something the wolf-men carry. However, at least two other fragments of festival texts also associate this item with the ALAM.ZU$_9$-men, i.e. the entertainers or acrobats.[11]

As already noted by Itamar Singer, the editor of the KI.LAM festival (Singer 1983, 84 fn. 70), the noun *warašhūwar* is also to be compared with the verb *warašh-* which occurs in the passage of another festival text of Hattian background (Extract 7):

> The [...] calls 'hatwaya-!'. [...] The dog-man [...] back. The [...] (pl.) *warašh-* with the door-bolt the feet of the *hatwaya*-man (and) of the dog-man, the dog-man.[12] § The *hatwaya*-man takes his place, he stands and calls 'awaya awaya!'.[13]

A second attestation of a shape of *warašh-* most probably occurs in a tablet fragment that I edited for the first time in 2012 (Mouton 2012, 14). In this fragment, this root is also associated with the wolf-men. It is possible that this fragment belongs to the same composition as the first one.

In all these extracts, the meaning of the root *warašh-* cannot be determined from the context. What is noteworthy is its connection not only with wolf- and dog-men, but also with entertainers/acrobats and *hatwaya*-men. Like Kloekhorst (2008, 960), I do not think that this root should be considered a variant of *warš-* 'to wipe', because the contexts shown here do not justify such a translation.

Just like the root *warašh-* is linked to the wolf- and dog-men, another term is, in its turn, specifically connected to the outfit of the bear-man. This term occurs several times in fragmentary contexts, the

best-preserved passage being a sequence of the Hattian festival of the city of Zippalanda and Mount Daha. It states (Extract 8):

> On the fourth day, when it is the morn[ing], they open [the *halentu*-building. They] lift the curtain ... Sheep] are tied up and they are placed [over] the po[nd]. Two AMA.DINGIR-priestesses sit [over the po]nd. Wherever the king [*sits*], the cups of the deity l[ie] with him. § When the men in charge of the table [*bring*] loaves of thick bread, the two AMA.DINGIR-priestesses are done. They stand before [*the table*] and the bear-man is [also] standing. [*He wears*] a tunic (decorated with[?]) *šapra-*. [...] an *ištepa-* (decorated with[?]) *šapra-*. These (are) se[t] over the pond.[14]

The same enigmatic *šapra*-ornament(?) also occurs once with a leopard-man.[15] Difficult to say anything about this object, except that it seems exclusive to these animal-men and could, therefore, belong to their outfit.

Since the very beginning of Hittitology, several scholars have suggested that the animal-men were men wearing animal masks (Bossert 1959, 15–16; Jakob-Rost 1966, 420–1). Following the same line of thought, the *Chicago Hittite Dictionary* has suggested interpreting the adverb *paršanili* as 'in the manner of a leopard (i.e. dressed in leopard skins or representing leopards)' (*CHD* P, 186). This adverb occurs very seldom. The best-preserved passage in which it occurs belongs to the KI.LAM festival corpus. It reads (Extract 9):

> They (i.e. the entertainers) whirl on the spot and they dance *paršanili*. They hold their hands up and shout.[16]

The *Chicago Hittite Dictionary* actually hesitates about the meaning of the adverb *paršanili*, mentioning two possibilities (*CHD* P, 186): it could either come from the noun *paršana-* 'leopard' or from the verb *paršnai-* 'to squat, to crouch', thus following Güterbock's suggestion (*apud* Singer 1983, 59 fn. 21). However, the first interpretation is probably preferable and *paršanili* should be translated as 'in the manner of a leopard', since there seems to be no attestation of an adverb in *-ili* built from a verb. All the examples known to me clearly come from adjectives or nouns. We should note, however, that 'dancing in the manner of a leopard' is not particularly clear either. The *Chicago Hittite Dictionary* (*CHD* P, 186), summarizing Goetze's idea (1962, 29), indicates that 'leopards do not dance'. However, what is a dance is a question of interpretation. Natural movements of an animal can easily be interpreted as a dance. Furthermore, several 'dances of the leopard men' are attested in traditional societies of Africa, such as among the Senufo people of the Ivory Coast (Sheehan & Ong 2000, 66), for instance.[17] The other possibility favoured by the *Chicago Hittite Dictionary*, namely the entertainers wearing leopard skins or masks, presents a problem, in my view. If the Hittite texts meant to allude to this, they would have used a verb meaning 'to wear', as they do in many other cases. Therefore, I am inclined to think that 'to dance in the manner of a leopard' means precisely that, and nothing more. This adverb cannot be used as a piece of evidence for men wearing animal skins or masks. Here, for the sake of completeness, I shall mention, as did Haas (1981, 104–11; 1994, 63–4) and the *Chicago Hittite Dictionary* (*CHD* P, 186), the wall painting found at Çatal Höyük, in which men wearing leopard skins are dancing among gigantic deer with their hands raised upwards (Mellaart 1967, pl. 61–2, pl. XIII). Some of them carry a bow. This has been compared by Haas and the *CHD* with the leopard-men of our texts, especially because of the mention of the 'dancing in the manner of a leopard' we have just seen. I would like to point out, however, that the chronological gap between this painting and our Hittite texts is huge: the painting has been dated to the seventh millennium BC (Braun 1997, 73), whereas our cuneiform texts date to the middle of the second millennium BC at the earliest. So, one should be particularly cautious while comparing the two types of evidence.

The social status of the animal-men

As we have seen, the Hittite festival texts are not descriptive in nature, hence the paucity of information concerning the animal-men's appearance. If we now try to determine their social status, some hints provided by the texts could be observed.

Hierarchy amongst the animal-men

First, some texts do mention the existence of leaders amongst the animal-men. Several fragmentary texts explicitly mention the 'chief of the dog-men' (GAL or UGULA $^{LÚ(.MEŠ)}$UR.GI$_7$). This is the case of KBo 53.214 Obv.? 22′ (GAL ^{LÚ}UR.GI$_7$) and probably KBo 56.76:11′ ([GA]L $^{LÚ.MEŠ}$UR.GI$_7$), Bo 4919 iii 6 and KBo 8.124+ Rev.? 9′ (UGULA $^{LÚ.MEŠ}$UR.GI$_7$). The only well-preserved passage in which a leader of the dog-men occurs is a tablet fragment of the KI.LAM festival (Extract 10):

> Afterwards, the hunting bags (made of) copper go to the mountain. The [an]imals of the gods come, (namely) a silver leopard, a golden lion, a silver [wi]ld boar, a wild boar of lapis-lazuli (and) a silver bear. They take

> their place with the stags. § They give an *adupli*-garment to the important dog-men; they offer (it) to the king and they make (them) sit. § Afterwards, the musician(s) (of) the tutelary deity play the lyre. The men of the city of Anunuwa walk with them. They strike the *māri*-spears and [si]ng. § Afterwards, the entertainers come. They [...] and dance. § Afterwards, [...] comes. He goes before the chief of the dog-men.[18]

This extract emphasizes several important aspects of the ceremony. First, we see that the chief of the dog-men walks behind someone else in procession (other examples of processions are discussed below). Secondly, the visual correspondence should be noted between the objects which are being brought, namely the 'animals of the gods', rhyta in the shape of animals, and some of the animal-men attested by the Hittite festival texts, namely leopards, lions and bears. Third, the expression 'important dog-men' ($^{LÚ.MEŠ}$UR.GI$_7$ DUGUD) should be highlighted, which only occurs in the KI.LAM festival texts, as far as I am aware. This expression seems to refer to a hierarchy among the dog-men. The dog-men are the only animal-men for which such a hierarchy is mentioned.

Protagonists associated with the animal-men

Besides the mention of actual leaders, another way to try to determine the social rank of the animal-men is to examine with whom they interact. When we compile a list of characters interacting with the animal-men, we realize that the list is quite large, with a broad social spectrum. One of the possibly lowest-ranked persons interacting with animal-men is the barber (Jasink 1978–1979), whose mention occurs in a sequence of a Hattian festival in honour of tutelary deities. The text states (Extract 11):

> They give the ... which the barbers bring from the temple of the tutelary deity in a [silver/gold] *tapišana*-vessel to the dog-men to drink three times. They give that [...] which they hold out before the deity to the barbers to drink [*three times*] and then the barbers turn around. They give one loaf of thick bread of the temple of the tutelary deity to the crier and then, that one also turns around. § He sets out. The entertainers *follow* him. He arrives at Tauriša and drinks (in honour of) the tutelary deity of Tauriša and Kalimma. Then he sets out. The grove of Tauriša comes first.[19] The man of the grove holds loaves of *wīta*-bread and *ūnganant*-bread and he shout[s]. The *šankunni*-priest takes it (i.e. the bread) from him and he breaks it. He drinks (in honour of) the Stormgod of the grove and the dog-men eat it [i.e. the bread that has been broken by the *šankunni*-priest] on the return trip.[20]

In this extract, the dog-men first drink three times, most probably in honour of the tutelary deity, just like the barbers. These two groups are associated by the similarity of the act they perform. However, at the end of this extract, the dog-men acquire a higher status due to their eating the bread that is broken by the *šankunni*-priest.

An even closer association between animal-men and a *šankunni*-priest, i.e. the highest member of the temple personnel, can be observed in other texts. For instance, in a passage describing the KI.LAM festival, the chief of the dog-men is associated with a *šankunni*-priest of the deity Zithariya,[21] whereas in a sequence of a festival of Arinna, wolf-men are mentioned together with three female and three male *šankunni*-.[22]

Animal-men also appear together with cooks,[23] *hatwaya*-men,[24] *hapiya*-men,[25] *hamina*-men,[26] *kalaha*-men,[27] *zinhuri*-men,[28] male singers,[29] and male entertainers.[30] Animal-men also interact with women, such as *iwant*-women,[31] a female archer,[32] a young girl,[33] *zintuhi*-women,[34] *hazqara*-women,[35] and KAR. KID-women.[36]

From Table 8.1, we observe that the *happiya*-men are the only protagonists who occur with more than two types of animal-men, namely dog-, bear- and wolf-men and as is the case for the other members of the temple personnel, their exact function is unknown (Pecchioli Daddi 1982, 227–33). During the festivals, they behave like many other characters: giving and receiving gifts, dancing, shouting in Hattic, and so on.

Returning to the social status of the animal-men, it should be noted that, at least for the time being, only the dog-men and the wolf-men are associated with high ranking characters, namely *šankunni*-priests and priestesses. This seems to suggest a higher status for these two types of animal-man. Besides, several characters seem associated with only one type of animal-men: male entertainers and wolf-men, male singers and dog-men, *hazqara*-women and lion-men, for example. However, these data might evolve according to new epigraphic discoveries.

The animal-men's proximity to the king or/and the deity

A third criterion might help us better circumscribe the animal-men's social status, namely their possible proximity to the king and/or the deity in ceremonial contexts. Sifting through the texts, I found very little

Table 8.1. *Chart summarizing the textual data about these characters interacting with animal-men.*

with	dog-men	wolf-men	bear-men	lion-men	leopard-men
šankunni-priest/priestess	✓	✓			
male entertainers		✓			
male singers	✓				
zinhuri-men		✓			
kalaha-men		✓			
hamina-men		✓			
hapiya-men	✓	✓	✓		
hatwaya-men	✓				
cooks	✓	✓			
barbers	✓				
iwant-women		✓			
female archer		✓	✓		
young girl		✓			
zintuhi-women			✓		✓
hazqara-women				✓	
KAR.KID-women		✓			

evidence of such proximity. We have already seen, in Extract 10, a sequence of the KI.LAM festival during which the 'important dog-men' offer a garment to the king. This is one of the rare sequences in which animal-men approach the king. However, two texts describe wolf-men getting close to the divine. The first extract describes a sequence of a festival in honour of the Hattian deity Titiwatti (Extract 12):

> As a wolf-man [*brings*] the *hulhuli*-body part of a pig, he gives it to the *šankunni*-priest of the deity Titiwatti, so that the *šankunni*-priest of Titiwatti puts it on the altar, before the deity. § [Th]en, two wolf-men dance before the deity [and] KAR.K[ID]-women dance before (the deity). The chief of the KAR.KID-women goes before the *šankunni*-priestess of T[itiwatti] and they dance. As they finish dancing, § a consecrated girl of Titiwatti carries a red garment with [...] and [...] is put on top of the red garment. She (i.e. the consecrated girl) goes before them, [whereas] the *šankunni*-priestess of Titiwatti, the chief of the KAR.KID-women and the KAR.KID-women walk behind. The two wolf-men g[o] before them. They (i.e. the KAR.KID-women) chase them (i.e. the wolf-men) before them. They arrive at the gatehouse.[37]

The wolf-men dance in front of the deity at the same time as the KAR.KID-women. This proximity with the divine image illustrates that they are fit to be in the presence of the divine. Note also the procession described at the end of this extract. We will see other examples of this below. A second extract states (Extract 13):

> The [ki]ng goes [and] arrives before the temple of the sacred hunting bag. The wolf-men enter the temple of the sacred hunting bag.[38]

Here, the wolf-men are both physically close to the king – they go to the same place at the same time – and to the divine – they enter a temple. These two extracts are sufficient to deduce that at least the wolf-men can acquire a consecrated status and approach the most sacred spheres.

The animal-men's actions

Let us now examine the main actions of the animal-men during the festivals.

Processions
The textual evidence provides many examples of wolf-men taking part in processions together with other characters. Sometimes, they walk towards a hearth, as is the case in the following sequence of a Hattian festival (Extract 14):

> The entertainers [c]all out 'ahā'; they *br*[*ing*] the lyres. They [...] and go. The wolf-men

> go before the hearth; they take their place (and) [*the*]*n* they crouch.[39]

The hearth is also mentioned as the destination of a procession in the passage of a text describing a winter festival for the Sun goddess of Arinna (Extract 15):

> The chief of the cooks goes before the wolf-men. They go once to the hearth and then they leave. They take their place in the right gate of the gatehouse.[40]

Sometimes the procession is described in more detail, as is the case in a Hattian festival text passage, which states (Extract 16):

> The cooks (and) the sheep go down. Fifteen wolf-men (and) fifteen KAR.KID-women. One wolf-man, one KAR.KID-woman, then one wolf-man, [one KA]R.KID-woman. All (of them) are lined up in this way. § [The chief] of the cooks go in front. [*a*]*rkami-* and *galgalturi-*musical instruments.[41]

In a sequence of the KI.LAM festival, the wolf-men are in a royal procession (Extract 17):

> When the king (and) [quee]n arrive at the gate of the spear, § [the king] is in (his) wagon. [*ha*]*piya-*men, wolf-men, [*zi*]*nhuri-*men take [their place] on the left of the wagon of [*nanankalta-*], in the passageway (of the gate).[42]

Another procession occurs during a Hattian winter festival in honour of the Sun goddess of Arinna, a composition already discussed above (Extract 15). This other passage in the text states (Extract 18):

> The sheep of the goddess Mezzulla go; the entertainer calls out 'ahā'. The sheep of the deity Hulla go; the entertainer calls out 'ahā'. § When the sheep are gathered, afterwards the chief of the cooks libates *kattakurant-*vessels of wine. § The chief of the cooks goes before the wolf-men; the chief of the scribes on wooden writing-boards and the chief of the smiths hold a sun-disk. The palace officials hold stands. (All of them) walk.[43]

This association between the wolf-men and scribes or smiths is quite unique within the corpus of festival texts.

A passage in the KI.LAM festival, which was briefly referred (KBo 56.76:11'–17'), also describes dog-men in procession. Lion-men also appear in similar contexts, as in a cult inventory, which states (Extract 19):

> When they celebrate the festival of the sickle for the goddess of the night, the men of the mountain give x-measure of emmer wheat. The *šankunni-*priest gives five loaves of thick bread (and) one bowl [of *beer*] from his house. The men of the city have given [*fif*]*ty* loaves of bread (and) five jugs of beer. They place the raw (and) the cooked consecrated meat. The female crier (gives) a *šuruhha-*object, one body part (of a sacrificial animal), three loaves of thick bread (and) one bowl of beer. The men of the ceremony walk in front. The lion-men [*carry*] the deities of the city. The *hazqara-*women walk behind. They move the goddess to the *agitated pond*. They place the goddess before the *huwaši-*stone. The men of the city have given three loaves of thick bread (and) one bowl of beer. The female crier shouts three times. They place the *šuruhha-*object before the *huwaši-*stone. The female crier places three loaves of thick bread, one body part (of a sacrificial animal) and a *spear.* She goes ... She breaks one loaf of thick bread. They break it into the beer. She lets them go. As soon as the female crier comes back, the lion-men (and) the *hazqara-*women go to (pick up) fruit(s). The female crier comes back and steps before the *huwaši-*stone. She shouts three times. The lion-men (and) the *hazqara-*women bring the fruit(s) and [pl]ace them before the goddess. They eat (and) drink. The young men lift the stone, (but) the goddess, the female crier takes (her) up. The fruit(s), the women take (them).[44]

Singing or barking

Almost all types of animal-men take part, at least once, in a procession. Singing, however, seems to be attested only in association to the dog-men.[45] A passage of the Hattian festival of the AN.TAH.ŠUM is as follows (Extract 20):

> [The king (and) que]en drink (in honour of) the tutelary deity while seated outside. The [d]og-[men] sing behind the window. He (i.e. the king?) breaks one loaf of thick bread.[46]

We can compare with another fragment belonging to the same composition (Extract 21):

> While seated outside, the king (and) queen drink (in honour) of the tutelary deity from a deer-rhyton. § The *halliyari*-singers [pl]ay great lyres. The cupbearer gives one loaf of sweet bread outside. The dog-men <sing> behind the window.[47]

In Extracts 1–3, discussed above, we have already seen that the dog-men bark on certain occasions. The fact that this barking may be interpreted as a kind of music is illustrated by its association with more conventional music, as is the case in the following extract of the AN.TAH.ŠUM festival (Extract 22):

> While standing, the king (and) queen drink (in honour of) 'the deity Zithariya of the NIN.DINGIR-priestess' indoor. The king drinks *(while smelling) the fragrance*. The great lyre(s) play; the dog-men bark. He breaks one loaf of thick bread.[48]

Extract 1 illustrates also an example of a combination of the barking of the dog-men and the singing of musicians.

Dealing with gifts and offerings

Similar to the singing, only dog-men seem to receive and give gifts in the ceremonial context. Extract 10 contains a relevant passage of the KI.LAM festival, where the so-called 'important dog-men' appeared receiving and offering a garment from or to the king.[49] Another such example, also coming from the KI.LAM festival, is the below (Extract 23):

> The king and queen drink (in honour of) two (deities) while seated, (namely) Inar (and) [Hapant]ali. The *halliyari*-singers play great lyres. The *attachments* (for the rhytons) come [from the temple] of Inar. The (images of) [an]imals pass by. The *pēri-* comes. On the second day, there are no *pēri-* and no animals. The chief of the entertainers is on the *marāu-*. The deities come from the house of the hunting bag; they ask the king about the present for the important dog-men. On the second day, there is no present. The men in charge of the table place a fruit.[50]

During the AN.TAH.ŠUM festival, the following sequence also occurs (Extract 24):

> The chief of the royal bodyguards goes in and announces to the king the gift of the dog-men, (namely something) to wear, a loaf of bread to bite, silver (and) gold to give.[51]

A section of a text describing a Hatto-hittite month festival states in its turn (Extract 25):

> If the gift of the dog-men is made ready, (i.e.) [*i*]*f* the bread of the thunder is made ready, they offer it. However, if it is not made ready, they do not offer it.[52]

From time to time, animal-men deal out offerings, as is the case in the following sequence of the Hattian festival of the city of Zippalanda and Mount Daha (Extract 26):

> When the *hapiya*-men (and) the wolf-men slau[ghter] pigs, the *hapiya*-men (and) the wolf-men of the city of Šalampa give one pig to the *hamina*-man; the *hapiya*-men (and) the wolf-men of the city of Katapa give one pig to the *hamina*-man; the *hapiya*-men (and) the wolf-men of the city of Kartapaha one pig to the *hamina*-man. § The *hapiya*-men (and) the wolf-men give to the *hamina*-man one body part of (each) of the oxen which they slaughter above the pond.[53]

The following extract from an oracular report describing a Hattian festival is also relevant (Extract 27):

> Afterwards, the deity Zithariy[a] goes [with] My Sun (i.e. the Great King). As soon as My Sun comes up to Hattuša, on whatever day My Sun goes to the city, (there is) a festival in the temple of the hunting bag. The dog-men drive four [fattened oxen (and) *four* she]ep. (It is) a tribute (from) the whol[e] land. From the temple of the hunting bag, they also [dr]ive one fattened ox (and) three sh[eep]. (They are) the offering materials of the temple of the hunting bag itself. They celebrate (this festival) for three days.[54]

This extract shows that the dog-men are in charge of the 'tribute of the whole land'. A similar link between other animal-men, namely wolf-men and a city, can also be observed in Extract 26, discussed above.

In a sequence of the Hattian festival for the renewal of the hunting bag, the dog-men are in charge of the killing of the sacrificial animal (Extract 28):

> They drive in one billy goat, then they wash it. They sweep (the floor) and then they

> sprinkle the buildings of the palace in which they drive it. § The dog-men kill the billy goat in the same way. Th[ey do] not [give] the [*hid*]*e* [*of the billy goat*] to anybody. [They give] the hide to the leatherworkers, so that [the leatherworkers mak]e [new] hunting bags (out of it).[55]

Ritual hunts

Several festival texts seem to connect the animal-men with ritual hunt. Some passages are mere allusions, whereas at least one other extract explicitly describes a ritual hunt.

In a Hattian festival in honour of the deity Tetešhapi, we observe the following scene (Extract 29):

> The NIN.DINGIR-priestess [goes] to the *arzana*-building. (There is) a call: 'To the inner chamber!' The NIN.DINGIR-priestess comes out [of the *arzana*-building] and she [...] the deity Ān-[... *Thirteen hapiya*-men of Hattuša] are lined up behind her. When she [...] them, they cha[se] the leopard-man up into the mountain. [*While*] he did not arrive yet [...], the leopard-man [...].[56]

The verb *parh-*, whose restoration is almost certain, means 'to chase, to hunt', and this meaning fits well this sequence, during which the leopard-man is sent away from the city into the mountain. The same verb *parh-* was used in Extract 12 regarding wolf-men.

The following sequence of a Hattian festival can also be understood in a similar way (Extract 30):

> The bear-man wipes the feet of the entertainers with a *šērha*-cloth. Then he dances. Then again he does the same. He reaches into the pot.[57] He takes out a body part (i.e. a bit of the sacrificial meat) and drops it back into the pot. Then he runs off. One *hapiya*-man and (another) bear-man go after him.[58]

Note the verb *pittai* 'he runs off', which is different from the verb 'to go' in the other extracts. This, in my view, connects this scene to a hunt.

A more explicit scene occurs during a Hattian festival, where several animal-men intervene in several ways. Here is a translation of the whole series of sequences (Extract 31):

> [The wolf-me]n and the *hamina*-man [bre]ak loaves of thick brea[d. A *šankunni*-pries]t breaks a loaf of *tunik*-bread before them, (i.e.) he breaks [six loaves of *tun*]*ik*-bread. He ... them and in addition he breaks six loaves of *tunik*-bread. He gives them back to the wolf-men. § While they (i.e. the wolf-men and the *hamina*-man) break loaves of thick bread, the cooks slaughter sheep and they throw them into the pond. They slaughter oxen and they (i.e. the oxen) lie above the pond. § The bear-man goes to the pond. He carries two sheep and stands in the pond. The cupbearer [gives] a *iškaruh*-vessel of 'beer-wine' [... to the *hamina*-man] and the *hamina*-man [holds] (it) forth to the king. [The king] places (his) hand (towards it) from afar [and the *hamina*-man] l[ibates] three times. He libates once [...] in the pond. [...] § The [*ha*]*mina*-man [gives] the *iškaruh*-vessel b[ack]. The wolf-men [*drive*] (extra) sh[eep *to the pond*] and [*they give*] the s[heep] to the bear-man. The [be]ar-man drives [*the sheep*] to the water [*of the pond*] and he strikes their eyes. They take the sheep away from the bear-man [and] all the wolf-men [g]o to the pond. They drag the sheep up from the pond. A female archer shoots once at the bear-man with an arrow [and] misses him, (and then) she shoots also a second time [and] hits him. He shouts: '[aw]āiya awāiya!' The *hamina*-man takes the *zāu*-container away from the *šankunni*-priest. [*Wh*]*en* he (i.e. the *šankunni*-priest) goes to the pond, the bear-man [go]es [back] and the *hamina*-man [gives] the *zāu*-container bac[k] (to him), so that he (i.e. the bear-man) gives it to the *šankunni*-priest. The [wolf]-men drag [the sheep] up from the pond.[59]

This is the second time we find the Hattian utterance 'awaya awaya' in our texts (see Extract 7). This time, it clearly expresses the pain of the bear-man who has just been struck by an arrow (Klinger 1996, 228 fn. 401). This extract is very valuable for the purposes of this chapter, since it illustrates the hybrid character of both the wolf-men and the bear-men. They are humans: the wolf-men break bread, the bear-man carries the sheep inside the pond; but they are also animals: the wolf-men drive sheep like a shepherd dog would do, whereas the bear-man is literally shot at by the female archer.

Other actions

Other less frequent actions are attributed to the animal-men. For example, we have already seen that dog-men might hold a spear (Extract 4). In another cultic context, they hold a torch.[60] In Extracts 20–21, the singing of the dog-men was mentioned, as well as the dance of

the wolf-men together with the KAR.KID-women in Extract 12. Sometimes the animal-men simply drink and eat.[61] They might, in this case, take part in the assembly (*aššeššar*), as we have seen in one of the earlier extracts: the assembly was barking (Extract 3). The fact that animal-men can participate in the communal meals, in other words, in the '(great) assembly', is illustrated by the following passage of the Hattian festival for the deity Tetešhapi (Extract 32):

> (There is) a call: 'To the inner chamber!' <They seat> the palace officials, [the chief] of the *hapiya*-men, the *hapiya*-man of second rank, [the he]rald, the leopard-man, the *šankunni*-priest of Tetešha[pi, the *m*]*iniya*-man (and) the knife-man.[62]

Men impersonating animals in rituals

Besides the case of the animal-men in cultic contexts, at least two ritual texts describe human beings impersonating animals.

To howl like a wolf

The first example is the ritual of Zarpiya, a physician of Kizzuwatna. The ritual is supposed to be performed 'if the year (is) bad or if many people die in the land'. At one point of the text, we read the following (Extract 33):

> They bring eight boys who are not yet to go to a woman and they dress one boy with the hide of the billy-goat (they had sacrificed earlier). That one walks in front and calls out (i.e. howls) like a wolf. They turn the tables and they eat up the shoulder (and) chest [of the sacrificed billy-goat].[63]

The continuation of the text does not help to determine the function of this wolf-boy; only his presence can be observed. We are no longer in the Hattian sphere, and the religious context is also quite different from the festival texts we have seen so far.

To bleat like a sheep

The second occurrence of a human being impersonating an animal can be found in a fragment of a ritual text. The text is unfortunately quite fragmentary (Extract 34):

> The *tabri*-man [...]. The *kudant*-men [...], they call out (i.e. bleat) like a sheep. [...] and they give cups of wine.[64]

Since the *tabri*-man is a ritual practitioner who appears in the context of Kizzuwatnian rituals (Trémouille 1991, 80–5), this ritual probably also comes from this region. Once more, we are in a different context compared with the Hattian or Hatto-hittite festivals.

Conclusions

Table 8.2 emphasizes the fact that the animal-men appear almost exclusively in Hattian or Hatto-hittite festivals, i.e. Hittite festivals with a strong Hattian background. We find only two clear exceptions: the *witaššiya*-festival from the Lower Land and the festival for the Kizzuwatnian goddess of the night. One can also observe that the animal-men are not to be reduced to 'simple' masked characters always pretending to be animals. Sometimes, they behave like humans: they give and receive gifts, they walk in procession, they eat among the 'assembly'. In other circumstances, though, they imitate animals: they bark and go naked, they dance, they are hunted.

This hybridity of their actions confirms my first impression: that they are probably not connected with a supposed totemism. The concept of totemism in connection with these animal-men has been put forward by Jakob-Rost (1966, 421). In order to be able to talk about totemism in Hittite or, more precisely, Hattian Anatolia, one would need to demonstrate the link between these animal-men and kinship. Indeed, according to anthropological discourse, a totemic community is based on the intimate relation a group of blood-related people entertains with one specific animal.[65] Since there is no evidence of this in our texts, the term totemism in connection with the animal-men should probably be avoided. Furthermore, a totem animal is, most of the time, taboo for the related human group and therefore, it can be neither killed nor eaten by that group. The scene we have examined of the female archer shooting arrows at the bear-man seems, therefore, incompatible with the notion of totemism.

As for a possible link between the animal-men and shamanism – a link that Haas made (1994, 64) – its existence depends on what we call shamanism. In a narrow sense, shamanism implies the existence of a shaman, i.e. a person who accesses knowledge and a certain 'magical' power partly through spiritual death and rebirth (Bouchard 2006, 2079). Furthermore, shamanic rites most often imply trance. Needless to say, neither elements are documented in our Hittite texts. Therefore, I would also avoid this term in connection with the animal-men.

As already argued by Jakob-Rost (1966, 421), the animal-men seem to be remnants of an older religious tradition belonging to the Hattian background. Ritual hunting is probably one of the *raison d'être* of these characters. This holds particularly true for the bear-men

Table 8.2. *Chart summarizing the textual data presented in the chapter.*

Texts	Which animal-man?	Interacts with whom?	Actions	Cultural background	Immediate link with ritual hunt/tutelary deities
Extract 1	dog-men	singers	bark	Hattian fest. of renewal of hunting bag	✓
Extract 2	dog-men		bark; naked	Luwian Lower Land *witaššiya*-fest.	
Extract 3	(dog-men implied)	*hapiya*-men	bark; naked	Hattian fest. w. NIN.DINGIR-priestess	✓
Extract 4	*ittalwant-* dog-man	*hatwaya*-man	holds spear and staff	Hattian fest. w. dog-men	
Extract 5	wolf-men of the city of [...]			Hattian KI.LAM	
Extract 6	wolf-men		squat; receive bread	Hattian KI.LAM	
Extract 7	dog-man	*hatwaya*-man	[...]	Hattian fest. w. dog-men	
Extract 8	bear-man	2 AMA.DINGIR-priestesses; female archer	standing near divine table – pond mentioned	Hattian fest. of Zippalanda and Mount Daha	
Extract 9	entertainers 'in the manner of the leopard'		dance; shout	Hattian KI.LAM	
Extract 10	important dog-men	[...]	receive garment and offer it to king	Hattian KI.LAM	✓ 'animals of the gods'
Extract 11	dog-men	barbers; *šankunni*-priest	drink; eat sacrificial bread	Hattian fest. for tutelary deities	✓
Extract 12	wolf-men	*šankunni*-priest; KAR.KID-women	give sacrificial meat to *š.*-priest; dance; procession	Hattian fest. for Titiwatti	✓
Extract 13	wolf-men	king	enter temple	Hattian fest. for tutelary deities	✓
Extract 14	wolf-men	[...]	procession to hearth; squat	Hattian fragment of fest. text w. Hattian	
Extract 15	wolf-men	chief of cooks	procession to hearth	Hattian winter fest. for Sungoddess of Arinna	
Extract 16	wolf-men	KAR.KID-women; chief of cooks	procession	Hattian fragment of fest. text	
Extract 17	wolf-men	*hapiya*-men; *zinhuri*-men; king	procession	Hattian KI.LAM	
Extract 18	wolf-men	chief of cooks	procession	Hattian winter fest. for Sungoddess of Arinna	
Extract 19	lion-men	*hazqara*-women	carry divine image; pick and place fruits before goddess; eat and drink	Kizzuwatnian fest. of sickle for goddess of the night	
Extract 20	dog-men		sing	Hattian AN.TAH.ŠUM	✓
Extract 21	dog-men		sing	Hattian AN.TAH.ŠUM	✓
Extract 22	dog-men	musicians	bark	Hattian AN.TAH.ŠUM	✓

Table 8.2 *(cont.)*.

Texts	Which animal-man?	Interacts with whom?	Actions	Cultural background	Immediate link with ritual hunt/tutelary deities
Extract 23	important dog-men	king	receive gifts	Hattian KI.LAM	✓ 'animals (of the gods)'
Extract 24	dog-men	king	receive gifts	Hattian AN.TAH.ŠUM	
Extract 25	dog-men		receive gifts	Hattian month fest.	
Extract 26	wolf-men of the city of ...	*hapiya*-men	slaughter animal – pond mentioned	Hattian fest. of Zippalanda and Mount Daha	
Extract 27	dog-men		bring animals	Hattian fest. of hunting bag	✓
Extract 28	dog-men		slaughter animal	Hattian fest. of renewal of hunting bag	✓
Extract 29	leopard-man	NIN. DINGIR-priestess	driven to the mountain	Hattian fest. for Teteshapi	✓
Extract 30	bear-man	*hapiya*-man	wiped feet of entertainers; dances; manipulates sacrificial meat		✓
Extract 31	wolf-men	*hamina*-man; *šankunni*-priest	break bread; receives bread from *š.*-priest; go to pond	Hattian	✓
	bear-man	female archer	goes to pond; carries sheep; strikes their eyes; is shot at; shouts pain		✓
Extract 32	leopard-man	*hapiya*-men; herald; *šankunni*-priest	sits	Hattian fest. for Teteshapi	

and the leopard-men, for whom we have seen textual evidence of ritual hunts. Another key element is probably the mention of 'the animals of the gods' in the KI.LAM festival. This concept, although exclusively used in the texts for designating rhyta in the shape of animals, could be considered an inanimate equivalent of the animal-men. This would explain why some of the same species are represented both in the shape of rhyta and animal-men, namely leopards, lions, and bears. In the KI.LAM festival, the concept of 'animals of the gods' is itself related to ritual hunts through its association with divinized hunting bags. Both the dog-men and the wolf-men are also associated with hunting bags and/or tutelary deities – the deities in charge of hunting – and therefore, to the concept of the hunt.

Returning to Table 8.2, we see that half of the 32 extracts associate the animal-men with hunt, be they dog-, wolf-, leopard- or bear-men. Only the lion-men – one of the least attested of the animal-men – are not clearly connected with hunts.[66] However, this might be due to the very short extracts in which the lion-men occur: they appear only in inventory texts. The lion-men are also the only animal-men appearing together with the *hazqara*-women, who sometimes sing in Hattian. So, contrary to what the chart shows, the lion-men probably also occur in Hattian ceremonies, like all the other animal-men.

Finally, Table 8.2 also highlights another important aspect: I suspect that many fragments of festival texts we have seen, actually belong to the same compositions. I would thus not be surprised to find out that the animal-men intervene in fewer cultic contexts than we first thought. Some of the fragments are already attributed to the same compositions: the renewal of the hunting bag, the winter festival of the Sun goddess of Arinna, the festival for Teteshapi and, of course, the KI.LAM and AN.TAH.ŠUM festivals. Further, one can observe recurrent features that might be attributed to a unique festival or to closely related festivals. For instance, the pond as a location for cultic activities is a feature that is shared between several Hattian festivals (Mouton 2018). However, the combination of the pond with both

a female archer and the bear-man might be exclusive to the festival of Zippalanda and Mount Daha (CTH 635). This leads me to suggest that our Extract 31 with the lively scene of the bear-man's hunt by the female archer should most probably also be attributed to the same festival, thus following Maciej Popko.[67] Only an extensive philological study of all these festival texts will enable us to refine the attribution of each scene, and full editions of all these festival texts are long due.

Notes

1 I greatly benefited from the files of the Akademie der Wissenschaften in Mainz, where I had the opportunity to check all the occurrences of these terms in November 2017. I would like to thank Prof. Daniel Schwemer and his whole team for welcoming me to their institute. In what follows, OS means Old Hittite Script, MS means Middle Hittite Script, NS means New Hittite Script and LNS means Late New Hittite Script.

2 KUB 55.43 ii 6–12 (CTH 683, MS: McMahon 1991, 146–7): EGIR-*anda=ma* ^{D}LAMMA ^{URU}*HATTI* GUB-*aš ekuzi* ^{L}[$^{Ú.MEŠ}$SÌR SÌR-*RU*] $^{LÚ.MEŠ}$UR.GI$_7$ *wappianzi* 1 ^{NINDA}*takarmun parš*[*iya*] *n=an=kan* EGIR-*pa ANA* <DINGIR-*LIM*> *išgarantaš šer tianz*[*i*] *n=ašta šanhanzi nu* ^{D}*Zithariyan* G[UB-*aš*] *akuwanzi* $^{LÚ.MEŠ}$SÌR SÌR-*RU* $^{LÚ.MEŠ}$UR.GI$_7$ *wappianzi* 1 ^{NINDA}*takarmun paršiya n=an=kan* EGIR-*pa ANA* DINGIR-*LI*[*M*] *iškarantaš šer tianzi.*

3 KUB 46.18(+) Ro ? 10′–11′ (CTH 692, NS: de Martino 1985, 259; *CHD* L–N, 434): [... ^{NINDA}*t*]*akarmun paršiya n=an=šan ištanani d*[*āi* $^{LÚ.MEŠ}$UR.GI$_7$ *wap*]*piyanda nu nikummanteš tarnanzi.*

4 KUB 20.90 iv 4′–16′ (CTH 649, NS: Groddek 2004a, 157; *CHD* Š, 362): [^{D}*Z*]*ithariyan* TUŠ-*aš ekuzi* [*ašeš*]*šar arta wappiyanzi* [...]-*uzzaš uizzi* $^{LÚ.MEŠ}$*hapiyaš* [^{TÚG}*š*]*iknuš peššiyanzi* § [*k*]*iššarī pianzi ta ANA* NIN.DINGIR [D]UMU É.GAL GAL *parā appiškezzi* NIN.DINGIR *QĀTAM zikkezzi ta* DUMU É.GAL *ašešni peškezzi ašešnaz=a ANA* NIN.DINGIR *UŠKĒN* NIN.DINGIR *menahhanda QĀTAM peške*[z]*zi* § ^{D}*Zaiūn* TUŠ-*aš IŠTU BIBRI* KÙ.G[I GEŠT]IN *pianzi ašeššar arta* ^{TÚG}*šiknuš peššiyanzi wappiyanzi.*

5 See, most recently, *HW*² H, 226–9.

6 KBo 21.68(+) i 2′ (CTH 627, OS?).

7 KUB 10.65 iv 4′–6′ (CTH 653, MS?): ^{LÚ}UR.GI$_7$-*aš ittalwanza* ŠUKUR.ZABAR=*ŠU harzi U* ^{GIŠ}GIDRU *ŠA* ^{LÚ}*hatwaya harzi.*

8 About the *hatwaya*-man, see most recently, *HW*² H, 537.

9 KBo 16.68+ iv 13–14 (CTH 627, MS: Singer 1984, 113): 10 x[...] E.ÍB ZABAR *ŠA* $^{LÚ.MEŠ}$UR.BAR.RA [^{URU}...]^{KI}.

10 KBo 10.33+ i 2′-7′ (CTH 627, NS: Singer 1984, 84): *wara*[*šhūwa*]*r tianzi* § *mān=za* LUGAL-*u*[*š* GA]L-*AM* EGIR-*pa dāi* $^{LÚ.MEŠ}$UR.BAR.RA *warašhūwar dalianzi n=e* [*p*]*arašnanzi* § *mān=ašta* GAL^{HÁ} *pēdanzi ANA* $^{LÚ.MEŠ}$UR.BAR.RA ^{NINDA}*š*[*ar*]*amma.*

11 IBoT 4.112:13′ (CTH 670, NS) and KBo 60.218 Obv. 3′ (CTH 744, NS).

12 The text first uses the logogram ^{LÚ}UR.GI$_7$ and then the syllabic writing ^{LÚ}*kuwan-*, most probably designating the same character.

13 KUB 10.66(+) vi 1–7 and dupl. KBo 7.48:9′–12′ (CTH 653, NS: Melchert 1989, 97): [...(x-*yaš* hatawāya *halzā*)*i* ... ^{L}(^{Ú}*kuwaš=(š)a āppa aššiy*)*a-*... ...]-*nallēš* [^{GIŠ}*h*]*attalut* ^{LÚ}*hatwayan* ^{LÚ}UR.GI$_7$ ^{LÚ}*kuwanan=(n)a* GÌR^{MEŠ}=*ŠUNU uarašhanzi* § ^{LÚ}*hatwayaš pēda=(š)šit ēpzi t=aš tīēzzi* awaya awaya *halzāi*.

14 KBo 17.100+ i 1–12 (CTH 635, MS: Popko 1994, 140): [*I*]*NA* U$_4$.4.KAM *mān luk*[*katta* ^{É}*halentūwa*] *haššanzi* ^{KUŠ}NÍG.BÀR-*an uš*[*šianzi* ... UDU^{HÁ}] *kalilianteš n=e lū*[*liyaš šer*] *kianda* 2 $^{MUNUS.MEŠ}$AMA.DINGIR-*LIM lū*[*liyaš šer*] *ašanzi* LUGAL-*uš kuwapi*[*t ešari*²] *katti=(š)ši=ma* GAL^{HÁ} DINGIR-*LIM k*[*ianda*] § *mān* LÚ^{MEŠ} ^{GIŠ}BANŠUR ^{NINDA}*haršau*[*š udanzi*²] 2 $^{MUNUS.MEŠ}$AMA.DINGIR-*LIM āppianzi* [^{GIŠ}BANŠUR²] *peran tienzi* ^{LÚ}*hartaga*[*š=(š)a=kan*] *arta šapparaš* ^{TÚG}GÚ.È.[A *uēšta*²] *šapparaš ištēpan ši-*[...] *kē lūliyaš šer hand*[*anteš*].

15 KBo 30.26+ Vo 2–3 (CTH 649, MS: Groddek 2002a, 32; *CHD* Š, 203): $^{L[Ú]}$PÌRIG.TUR *uizzi šapraš* [...-*p*]*in uē*[*š*]*ta* 'The leopard-man comes. He wears a [...-*p*]*i-* (decorated with?) *šapra-*'.

16 KBo 10.23 iii 1′–3′ (CTH 627, NS: Singer 1984, 12; *CHD* P, 186): *nu=kan pedi*[*=(š)š*]*i uehantari nu paršanili taruieškan*[*zi*] ŠU^{MEŠ}=*ŠUNU=ya šarā appiškanzi paluiškanzi=ya.*

17 By mentioning the existence of such dances, I do not mean to imply that they have anything in common with the dance of the Hittite leopard-men, only that the concept of dance associated with leopards is attested.

18 KBo 10.25+ vi 3′–21′ with duplicates KBo 30.14 v 6′–8′ and KUB 53.32+ Obv. 1′–3′ (CTH 627, NS: Singer 1984, 52–3; Miller 2006, 241): [(EGIR=*ŠU=ma* HUR.SA)]G ^{NA4}*kunnanaš* [(^{KUŠ}*kurš*)]*eš pānzi nu* DINGIR^{MEŠ}-*naš* [*hū*]*itar* PÌRIG.TUR KÙ.BABBAR UR.MAH KÙ.GI [ŠA]H.GIŠ.GI KÙ.BABBAR ŠAH.GIŠ.GI ^{NA4}ZA.GÌN AZ KÙ.BABBAR *uwanzi nu=za ITTI* DÀRA^{HÁ} *AŠAR=ŠUNU appanzi* § *ANA* $^{LÚ.MEŠ}$UR.GI$_7$ DUGUD ^{TÚG}*adupli pianzi* LUGAL-*i hinkanta n=e ašešanzi* § EGIR=*ŠU=ma* ^{LÚ}NAR ^{D}LAMMA $^{GIŠ.D}$INANNA *hazzikezzi* [(LÚ$^{MEŠ\ U}$)]^{RU}*Anunuwa katti=(e)šmi iyanta* [(^{GIŠ}*m*)]*āriuš anda walhanianda* [SÌ]R-*RU* § [(EGIR=*ŠU*)]=*m*]*a* $^{LÚ.MEŠ}$ALAM.ZU$_9$ *uwanzi* [...-*ka*]*nzi taruiškanzi=ya* § [(EGIR=*ŠU*) ...] *uizzi* [*per*]*an=(n)a* GAL $^{LÚ.ME}$[^{Š}U]R.GI$_7$ [*hu*]*iyanza.*

19 Cf. *CHD* P, 302: *peran wahnu-* 'to become preeminent'.

20 KUB 9.17 i 5′–18′ (CTH 685, NS: McMahon 1991, 220–1): x x^{HÁ} *kuit IŠTU* É ^{D}LAMMA *tapišānit* K[Ù.BABBAR/GI] $^{LÚ.MEŠ}$*tahīyališ udanzi nu ANA* $^{LÚ.MEŠ}$UR.G[I$_7$] *akuwanna* 3=*ŠU pianzi ANA PĀNI* DINGIR-*LIM=ma kuit* [...] *pē harkanzi nu ANA* $^{LÚ.MEŠ}$*tahiyalaš akuwan*[*na* 3=*ŠU*²] *apāt pianzi nu* $^{LÚ.MEŠ}$*tahīyališ* EGIR-*p*[*a*] *neyantari ANA* ^{LÚ}*palwatalliya ŠA* É ^{D}[LAMMA] 1 NINDA.GUR$_4$.RA *pianzi nu=za=kan apāš=(š)a* EGIR-*pa neya*[*ri*] § *n=aš iyannai n=an=kan* $^{LÚ.MEŠ}$ALAM.ZU$_9$ EGIR-*an a*[*ppanzi*²] *n=aš* ^{URU}*Tauriša tīēzzi nu* ^{D}LAMMA ^{URU}*Taur*[*iša*] ^{D}*Kalimman=(n)a ekuzi n=aš iyannai nu* ^{GIŠ}TIR ^{URU}*Tauriša peran wahnuzi nu* LÚ ^{GIŠ}T[IR] ^{NINDA}*uītaš* NINDA-*an ūnganantan harzi palui*[*škezzi=ya*] *n=an=ši=kan* ^{LÚ}SANGA *arha dāi n=an paršiya nu* ^{D}U ^{GIŠ}TIR *ekuzi n=an* $^{LÚ.MEŠ}$UR.GI$_7$ EGIR KASKAL=*pat ada*[*nzi*].

21 KBo 56.76:11′–13′ and dupl. of KBo 10.24 i 10–14 (CTH 627, NS: Singer 1984, 16): [*nu* GA]L $^{LÚ.MEŠ}$UR.GI$_7$=*m*[*a*²] ^{LÚ}SANGA ^{D}*Zithariyaš* [EGI]R-*pa uwanzi.*

22 KBo 38.13(+) Rev. 4–5 (CTH 666, MS?).

23 Dog-men: KBo 56.76:16′ (CTH 627, NS); wolf-men – in both cases with the chief of the cooks: KUB 10.28 ii 9–10 (CTH 598, NS) and KBo 45.55 Obv. 3′ (CTH 666, NS).

24 Dog-man: KUB 10.66(+) vi 1–4 (CTH 653, NS), KBo 38.41:4′–6′ (CTH 653, NS).

25 Dog-men: KUB 20.90 iv 5′–7′ (CTH 649, NS); bear-man: KBo 7.35+ i 24′–25′ (CTH 649, MS); wolf-men: KBo 16.71+ Obv. 5′–11′ (CTH 635, OS), KBo 16.78 iv 8–9 (CTH 635, MS), KUB 2.3+ v 34′ (CTH 627, NS) and KUB 7.32:4′–5′ (CTH 670, NS).

26 Wolf-men: KBo 7.37 Obv. 3′–4′ (CTH 650, MS). About these men, see most recently *HW*² H, 130–131.

27 Wolf-men: KBo 23.91+ iv 3 (CTH 666, MS) and KBo 23.92+ iii 2′ (CTH 666, MS). About these men, see most recently *HW*² K, 18.

28 Wolf-men: KUB 2.3+ v 34′–35′ (CTH 627, NS). About these men, see Arıkan 2002.

29 Dog-men: KUB 55.43 ii 6–7 (CTH 683, MS).

30 Wolf-men: KBo 60.218 Obv. 3′ (CTH 744, NS).

31 Wolf-men: KBo 16.78 iv 9–10 (CTH 635, MS) and KBo 40.170(+) Obv. right col. 5 (CTH 635, NS). About these women, see most recently *HW*² I, 310–311.

32 Wolf-men: KBo 16.78 iv 9 (CTH 635, MS) and KBo 40.170(+) Obv. right col. 5–6 (CTH 635, NS); bear-man: KBo 7.37 Obv. 24′ (CTH 650, MS).

33 Wolf-men: KBo 16.78 iv 9–10 (CTH 635, MS). About this term ^{MUNUS}*harwant-*, see most recently *HW*² H, 382–384.

34 Leopard-man: KBo 30.26+ Rev. 2–4 (CTH 649, MS) and Bo 6594 i 11′–13′ (CTH 738, OS); bear-man: Bo 6724 ii 4 (CTH 650, NS). About these women, see Arıkan 2002.

35 Lion-men: KUB 51.47 i 2′ (CTH 530, NS), KUB 44.42 Rev. 19′ (CTH 525, NS) and KBo 2.8 iii 11′–12′ (CTH 519, NS). About these women, see most recently *HW*² H, 548–549.

36 Wolf-men: KUB 57.77:2′–6′ (CTH 670, NS), KBo 23.97 i 8–9 (CTH 639, NS), KBo 12.102:1′ (CTH 670, NS) and Bo 6859 i 7′–8′ (CTH 670, NS). About these women not being prostitutes, see Mouton 2011, 27–9.

37 KBo 23.97 i 5–18 with dupl. KUB 54.73+:5′–15′ and KUB 7.19+ i 5–17 (CTH 639, NS: Pecchioli Daddi 1992, 103 and Taggar-Cohen 2006, 317–19): *mahhan=ma* ^{LÚ}UR.BAR.RA *ŠA* ŠAH ^{UZU}*hulhuli* [*udai*? *n*]*=at ANA* ^{LÚ}SANGA ^{D}*Titiwatti pāi n=at=ša*[*n* ^{LÚ}]SANGA ^{D}*Tetewatti PĀNI* DINGIR-*LIM* ZAG.GAR.RA *dā*[*i*] § [*na*]*mma* 2 $^{LÚ.MEŠ}$UR.BAR.RA *PĀNI* DINGIR-*LIM tarkuwanzi* $^{MUNUS.MEŠ}$KAR.K[ID=*ya*] *menahhanda tarkuwanzi* GAL $^{MUNUS.MEŠ}$KAR.KID ^{MUNUS}SANGA ^{D}*T*[*etewatti*] *peran=pat hūyanteš nu tarkuiškanzi mahha*[*n=ma*] *tarkuwanzi zinnan*[*zi*] § *nu* DUMU.MUNUS *šuppišaraš ŠA* ^{D}*Titiwatti* TÚG SA_5 *IŠT*[*U* ...] *karappan harzi ANA* TÚG SA_5*=ma=(š)šan šer wā*-[...] *kittari nu=šmaš peran hūyanza* EGIR-*a*[*n=ma*] ^{MUNUS}SANGA-*š=a ŠA* ^{D}*Tetewatti* GAL $^{MUNUS.MEŠ}$KAR.KID $^{MUNUS.MEŠ}$KAR.KI[D=*ya*] *iyandari peran=(n)a=šmaš* 2 $^{LÚ.MEŠ}$UR.BAR.RA *hūy*[*antes*] *nu=šmaš peran arha parahhiškanzi n=at*[*=kan*?] *INA* KI.LAM *katta aranzi.* I could not see the unpublished fragments Bo 6459 and Bo 6048.

38 Bo 5583:1′–6′ (CTH 685, CTH 685, NS; from transliteration only): [LUG]AL-*uš paizzi* [*t=aš=kan*?] É ^{D}*kurša*[*š p*]*eran ari t=ašta* $^{LÚ.MEŠ}$UR.BAR.RA *INA* É ^{D}*kuršaš andan pānzi*.

39 KUB 28.95 iii 2′–7′ (CTH 744, LNS): $^{LÚ.MEŠ}$ALAM.ZU_9 ahā [*hal*]*zianzi* $^{GIŠ.D}$INANNA^{HÁ} *ār*[*nuwanzi*? ...]-*rānzi ta pānzi* [$^{LÚ.M}$]^{EŠ}UR.BAR.RA GUNNI-*an peran* [*hū*]*yanzi AŠAR=ŠU appanz*[*i namm*]*a*? *parašnanzi*. Compare with KUB 10.28 i 1–9.

40 KUB 10.28 i 4–9 (CTH 598, NS): *ta* GAL $^{LÚ.MEŠ}$MUHALDIM *ANA* $^{LÚ.MEŠ}$UR.BAR.RA *peran hūwāi nu=kan haššan* 1=*ŠU hūyanzi n=at=kan parā pānzi n=at* ^{É}*hilamni* KÁ.GAL-*aš* ZAG-*za tianzi*.

41 KUB 57.77:1′–8′ and dupl. KUB 57.78:5′–9′ (CTH 670, NS: fest; Tischler 2016, 209): [($^{LÚ.MEŠ}$MUHALDIM UDU)]^{HÁ}-*an katt*[*a* (*i*)*ya*]*nta* 15 $^{LÚ.MEŠ}$UR.BAR.RA [15] $^{MUNUS.MEŠ}$KAR.KID 1 ^{LÚ}UR.BAR.RA [(1) ^{MUNUS}KA]R.KID *namma* 1 ^{LÚ}UR.BAR.RA [1 ^{MUNUS}KA]R.KID *hūmanteš* [*ki*]*šša*n *išgaranteš* § [UGULA $^{LÚ.M}$]^{EŠ}MUHALDIM *peran hūanza* [^{GIŠ}*a*]*rkami galgaltūri*.

42 KUB 2.3+ v 30′–38′ (CTH 627, NS: Groddek 2009, 33): GIM-*an=ma=kan* LUGAL [MUNUS.LUGA]L [^{GIŠ}*t*]*ūriyaš* ^{É}*hilamni* [*šar*]*ā aranzi* § [LUGAL-*uš*] ^{GIŠ}*hūlukanni ēšzi* [$^{LÚ.MEŠ}$*hā*]*pēš* $^{LÚ.MEŠ}$UR.BAR.RA [$^{LÚ.MEŠ}$*zi*]*nhūrēš* [*nanankalt*]*aš* ^{GIŠ}MAR.GÍD.DA-*aš* [^{É}*arki*]*ui* GÙB-*laza* [*AŠAR=ŠUNU a*]*ppanzi*.

43 KUB 10.28 ii 1–14 (CTH 598, NS): *ŠA* ^{D}*Mezzulla* UDU^{HÁ} *paizzi* ^{LÚ}ALAM.ZU_9 ahā *halzāi ŠA* ^{D}*Hulla* UDU^{HÁ} *paizzi* ^{LÚ}ALAM.ZU_9 ahā *halzāi* § *mān* UDU^{HÁ} *taruptari nu* UGULA $^{LÚ.MEŠ}$MUHALDIM *kattakuranduš* GEŠTIN EGIR-*anda šipan*[*ti*] § UGULA $^{LÚ.MEŠ}$MUHALDIM *ANA* $^{LÚ.MEŠ}$U[R.B]AR.RA *peran hūwāi* GAL $^{LÚ.MEŠ}$DUB.SAR^{MEŠ}. GIŠ GAL $^{LÚ.MEŠ}$SIMUG.A=*ya šittar harkanzi* DUMU^{MEŠ} LUGAL ^{GIŠ}DAG.SI^{HÁ} *harkanzi n=at iyantari*.

44 KBo 2.8 iii 4′–30′ (CTH 519, NS: Hazenbos 2003, 135): *mān ANA* DINGIR-*LUM* GE_6 $EZEN_4$ ^{URUDU}ŠU.KIN DÙ-*zi* x ZÍZ LÚ^{MEŠ} HUR.SAG *peškezzi* 5 NINDA.GUR_4.RA 1 ^{DUG}*hu*[*ppar* KAŠ?] ^{LÚ}SANGA TA É=*ŠU peškezzi* [5]0? NINDA 5 DUG KAŠ LÚ^{MEŠ} URU-*LIM peškir šuppa huešawaza zeyata tiyanzi* ^{MUNUS}*palwatallaš* ^{GIŠ}*šuruhhan* 1 ^{UZU}*hapešša*[*r*] 3 NINDA.GUR_4.RA 1 ^{DUG}*huppar* KAŠ LÚ^{MEŠ} *hazziwiyaš peran iyatari* DINGIR^{MEŠ} URU-*LIM* $^{LÚ.MEŠ}$UR.MAH [...] $^{MUNUS.MEŠ}$*hazqara=ya* EGIR *iyatari* DINGIR-*LUM zarimimma aldanniš arnuwanzi* DINGIR-*LUM PĀNI* ^{NA4}ZI.KIN *tiyanzi* 3 NINDA.GUR_4.RA 1 ^{DUG}*huppar* KAŠ LÚ^{MEŠ} URU-*LIM peškir* ^{MUNUS}*palwatallaš* 3=*ŠU palwaizzi* ^{GIŠ}*šuruhhaš PĀNI* ^{NA4}ZI.KIN *tiya*<*n*>*zi* ^{MUNUS}*palwatallaš* 3 NINDA.GUR_4.RA 1 ^{UZU}*hapeššar* ^{GIŠ}*marin=(n)a dāi n=aš* x x x x x x-*pa paizzi* 1 NINDA.GUR_4.RA *paršiyazi n=an=kan ANA* KAŠ *anda paršanzi n=at parā tarnuzi kuitma*<*n*> ^{MUNUS}*palwatallaš* EGIR *uizzi* $^{LÚ.MEŠ}$UR.MAH $^{MUNUS.MEŠ}$*hazqa*[*r*]*a ANA* GURUN *pānzi* ^{MUNUS}*palwatallaš* EGIR *uizzi n=aš PĀNI* ^{NA4}ZI.KIN *tiyazi nu* 3=*ŠU palwaizzi* $^{[L]Ú.MEŠ}$UR.MAH $^{MUNUS.MEŠ}$*hazqarai* GURUN *udanzi n=at PĀNI* DINGIR-*LIM* [*tiy*]*anzi* GU_7-*zi* NAG-*zi* NA_4 $^{LÚ.MEŠ}$GURUŠ *karappazi* DINGIR-*LUM* ^{MUNUS}*palwatalla šarā dāi* GURUN MUNUS^{MEŠ} *dānzi.* Note a comparable sequence in the cult inventory KUB 55.15 iii? 4–11 (Groddek 2002b, 27), where the term $^{LÚ.MEŠ}$*walwa*[*lla*] occurs. This term strongly reminds me of Luwian *walwa-* 'lion' and could, in my opinion, be the phonetic reading of $^{LÚ.MEŠ}$UR.MAH 'lion-men'.

45 Besides the two following extracts, see also KBo 46.90:4′ and 7′ (CTH 653, NS: Groddek 2015, 66).

46 KBo 4.13+ v 39–40 (CTH 625, LNS: McMahon 1991, 264): [LUGAL MUNUS.L]UGAL TUŠ-*aš* ^{D}LAMMA *āšgaza*

akuwanzi [LÚ.MEŠUR].GI$_7$ EGIR AB-*ya* SÌR-*RU* 1 NINDA.GUR$_4$.RA *paršiya*.

47 KBo 19.128 iv 47′–53′ (CTH 625, NS: Otten 1971a, 12): LUGAL MUNUS.LUGAL TUŠ-*aš* DLAMMA *aškaz IŠTU BIBRI* DÀRA.MAŠ *akuwanzi* § [GIŠ.D]INANNA.GAL LÚ.MEŠ*halliyareš* [SÌ]R-*RU* LÚSAGI.A-*aš* 1 NINDA.GUR$_4$.RA KU$_7$ [*ašg*]*az pāi* LÚ.MEŠUR.GI$_7$ E[GI]R GIŠAB^{HÁ} <SÌR-*RU*>.

48 KBo 4.13+ vi 5–8 (CTH 625, LNS: Güterbock 1989, 118): LUGAL MUNUS.LUGAL GUB-*aš* D*Zithariyan ŠA* NIN.DINGIR *andurza akuwanzi nu* LUGAL *waršuli ekuzi* GIŠINANNA.GAL SÌR-*RU* LÚ.MEŠUR.GI$_7$ *wappiyanzi* 1 NINDA.GUR$_4$.RA *paršiya*.

49 KBo 10.25+ vi 9′–10′ (CTH 627, NS).

50 ABoT 1.5+ ii 13′–20′ with duplicate KBo 22.195 ii$^{!}$ 13′–19′ (CTH 627, OS: Singer 1984, 34): [(LUGAL-*uš* MUNUS.LUGAL-*aš=(š)*)]*a* TUŠ-*aš* 2 *akuanzi* D*Inar* [D*Haband*]*ali* GIŠ.DINANNA.GAL LÚ.MEŠ*halireš* SÌR-*R*[*U IŠTU* É D]*Inar šuppištuwāreš* [(*uenzi*) *huit*]*ār šemenzi pēreš uizzi* [(*INA* U$_4$.2.KAM *p*)]*ēreš huitār=(r)a* NU.GÁL UGULA LÚ.MEŠALA[(M.ZU$_9$ GIŠ*marāu*)*i*] *ēšzi kuršaš* É-*erza* DINGIR^{MEŠ} *uenzi* [(*ŠA* LÚ.MEŠUR.GI$_7$ DUGUD)] NÍG.BA=*ŠU* LUGAL-*un pūnuššanzi* [(*INA* U$_4$.2.KAM NÍG.BA)] NU.GÁL LÚMEŠ GIŠBANŠUR *INBAM tianz*[(*i*)].

51 KUB 25.1 iii 43′′–47′′ (CTH 612, NS: Badalì & Zinko 1994, 74–9): *nu=kan* GAL *MEŠEDI anda paizzi nu* LUGAL-*i ŠA* LÚ.MEŠUR.G[(I$_7$ IG)]I.DU$_8$.A *tarkummiyaizzi waššuwanti* NINDA*wagatan* KÙ.BABBAR K[(Ù.G)]I *pianna*. See the parallel text KUB 2.5 ii 20′ (CTH 612, LNS: DBH 30, 43).

52 KBo 17.88+ ii 21–24 (CTH 591, MS: Klinger 1996, 306–9): [*m*]*ān ŠA* LÚ.MEŠUR.GI$_7$ IGI.DU$_8$.A *handaittari* [*mā*]*n tethešnaš* NINDA.GUR$_4$.RA-*iš handaittari* [*n=a*]*n hinkanzi mān UL=ma handaittari* [*n=a*]*n UL hinkanzi*.

53 KBo 16.71+ Obv. 5′–11′ with dupl. KBo 20.16 Rev.$^{?}$ 7′, KBo 17.14:3′, KBo 20.30+ ii 3 and KBo 2.12 (CTH 635, OS: Popko 1994, 100–3): [(*mān* LÚ.MEŠ*hāpeš* LÚ.M)]EŠUR.BAR.RA ŠAH^{HÁ} *ha*[*ttanzi* (LÚ.MEŠ*hāpeš* LÚ.MEŠUR.BAR.RA ^{U})]^{RU}*Šalampūmene*[*š* (1 ŠAH LÚ*hamini pianzi* LÚ.MEŠ*h*)]*āpeš* LÚ.MEŠUR.BAR.RA [(URU*Kādapūmeneš* 1 ŠAH *ANA* LÚ)*hamini pianzi* L]Ú.MEŠ*hāpeš* LÚ.MEŠU[R].B[AR.RA (URU*Kardaba*)*hūmeneš* 1 Š]AH *ANA* LÚ*hamini pianzi* § [(*lūliyaš šer kuiuš*)] GU$_4^{HÁ}$-*uš hukanzi* LÚ.MEŠ*hāpeš* [(LÚ.MEŠUR.BAR.RA 1$^{ÀM\ UZU}$Ú)]R GU$_4$ *ANA* LÚ*hamini pianzi*.

54 KUB 22.27 iv 14–20 (CTH 568, NS: Lebrun 1994, 56; McMahon 1991, 265): EGIR=*ŠU=ma* D*Zithariy*[*aš ITTI*] DUTU-*ŠI paizzi* DUTU-*ŠI=kan kuwapi* URU*Hat*[*tuši šar*]*ā uizzi kuedani=ma* U$_4$-*ti* DUTU-*ŠI I*[*NA* URU-*LI*]*M paizzi INA* É D*kuršaš=ma* EZEN$_4$ *nu* 4 [GU$_4$.ŠE^{HÁ} 4$^{?}$ UD]U^{HÁ} LÚ.MEŠUR.GI$_7$ *ūnniyanzi* KUR-*eaš hūma*[*ndaš a*]*rkammaš IŠTU* É D*kuršaš=(š)a* 1 GU$_4$.ŠE 3 U[DU^{HÁ} *ūnni*]*yanzi halkuešš*[*a*]*r ŠA* É D*kuršaš=pat nu* U$_4$.3.KAM *ēššanzi*.

55 KBo 13.179:6′–16′ (CTH 683, NS: McMahon 1991, 165): *n=ašta* 1 MÁŠ.GAL *anda ūnniyan*[(*zi*)] *namma=an warpanzi n=an=kan ŠA* É.GAL-*LIM* É^{MEŠ} *kuedaš anda pennanzi n=at=kan šanhanzi namma=at hurnuwanzi* § [*n=a*]*šta* MÁŠ.GAL LÚ.MEŠUR.GI$_7$ [(*apeni*)]*šš*[*a*]*n kuwaškanzi* [*ŠA* MÁŠ.GAL KU]Š$^{?}$*=kan UL kuedanikki* [*piyanz*]*i nu* KUŠ *ANA* LÚ.MEŠAŠGAB [*piyanzi n=ašt*]*a* KUŠ*kuršuš* [GIBIL-*TIM* LÚ.MEŠAŠGAB *iyanz*]*i*.

56 Bo 6594 i? 7′–12′ (CTH 738, OS: Neu 1980, 99; *CHD* P, 188): *n=ašta* NIN.DINGIR-*aš arzana*[*š paizzi*] *tunnakkišna halzi*[*ya* NIN.DINGIR-*aš*] *parā uizzi n=aš* D*Ān*-[... 13$^{?}$ LÚ.MEŠ*hapeš* URU*HATTI*] EGIR=*ŠU išgaranteš mān=u*[*š* ...] LÚPÍRIG.TUR-*an šarā* HUR.SAG-*a par*[*hanzi*$^{?}$ *nu kuitman*$^{?}$ ...] *nawi ari* LÚ*parašnaš=(š)t*[*a* ...].

57 In which sacrificial meat lies.

58 KBo 7.35+ i 21′–25′ and duplicates KBo 17.43 i 14′–16′, KBo 17.42+ vi 3′–12′ and Bo 4869 ii 1′–7′ (CTH 649, MS: Neu 1980, 102–5; partially in Hoffner 1997, 105): LÚ*hartagaš* L[(Ú.MEŠALAM.ZU$_9$*–an* GÌR^{HÁ}=*ŠUNU šērhit šartai*)] *ta namma taru*[(*kzi namma=pat QĀTAMMA iēzzi*)] *t=aš* DUGÚTUL-*ša šā*[(*liga* UZUÚR=*ašta dāi t=at*)] *āppa* DUGÚTUL-*ša pe*[(*šš*)]*i*[(*ēz*)]*zi* [(*t=aš pittai* 1 LÚ*hāpiyaš*)] LÚ*hartakaš=(š)a* [(*āpp*)]*a=(š)šit pānz*[(*i* LÚ*tarašiyaš*)] UDUN-*niya paizz*[(*i t=aš*)]*ta* NINDA*tunik* NINDA[(*kūittan=(n)a parā udai*)].

59 KBo 7.37 Obv. 3′–14′ with duplicate KUB 58.14 v$^{?}$ 2′–33′ (CTH 650, MS: de Martino 2001, 75): [LÚ.MEŠUR.BAR.R]A LÚ*haminaš=(š)a* NINDA*haršau*[*š paršiann*]*ianzi menahhanda=ma=šmaš* [LÚSANGA-*i*]*š* NINDA*tunik paršiyannai* [6 NINDA*tun*]*ik paršiya t=uš=zan atkaš=(š)*[*a nu na*]*mma=ma* 6 NINDA*tunik paršiya* [(*t=uš=za*)]*=šta āppa* (dupl. EGIR-*pa*) *ANA* LÚ.MEŠUR.BAR.RA [(*pešk*)]*ezzi* § (no paragraph line in dupl.) [(*kuitm*)]*an* NINDA*haršauš paršiyannia*[(*nzi* LÚ.MEŠMUHALDIM-*uš=(š)*)]*a* UDU^{HÁ}-*uš hattant*[(*a t=uš=an lūl*)]*iya peššianz*[(*i* GU$_4^{HÁ}$-*š=a hatt*]*anda* (dupl. *hattanta*) *n=e l*[(*uliyaš šer kianta*)] § (no paragraph line in dupl.) [(LÚ*harta*)*g*]*aš* (dupl. LÚ*hartakaš*) *lū*[(*liya paizzi*)]. The text breaks off in KBo 7.37 but continues in KUB 58.14 v$^{?}$ 8′–34′: 2 UDU *karapzi t=aš luliya arta* LÚSAGI.A-*aš* x[...] KAŠ.GEŠTIN-*aš išqaruh ANA* LÚ[*hamini pāi*] LÚ*haminaš=(š)a* LUGAL-*i parā* [*ēpzi* LUGAL-*u*]*š tūaz QĀTAM dāi* [*ta* LÚ*haminaš katt*]*an peran* 3=*ŠU š*[*ipanti ... l*]*ūliya* 1=*ŠU šipant*[*i* ...] § [LÚ*ha*]*minaš išqaruh ā*[*ppa pāi ta lūliy*]*a*$^{?}$ LÚ.MEŠUR.BAR.RA UD[U^{HÁ}-*uš unnanzi*$^{?}$ *n=ašt*]*a*$^{?}$ LÚ*hartakki* U[DU^{HÁ}-*uš pianzi*$^{?}$ LÚ*hart*]*akaš=(š)a* U[DU$^{HÁ?}$ *lūliyaš*$^{?}$] *uiteni unniškezzi* [*t=aš*$^{?}$ *š*]*ākuaš=(š)mit zahhišk*[*ezzi ta*$^{?}$ LÚ*hart*]*aki* UDU^{HÁ}-*uš danzi* [*ta* LÚ.MEŠU]R.BAR.RA *hūmanteš luliya* [*p*]*ānzi n=ašta* UDU^{HÁ}-*uš luliyaz* [*š*]*arā šalīanzi* MUNUS GIŠPAN [L]Ú*hartaggan* gi-*it* 1=*šu šiēzzi* [*t*]*=an waštai tān=a šiēzzi* [*t*]*=an hazziazzi ta halzāi* [aw]āiya awāiya LÚ*haminaš=(š)ta* [*AN*]*A* LÚSANGA *zāu dāi* [*m*]*ān*$^{?}$ *luliya paizzi nu* LÚ*hartaga*[*š* EGIR-*pa paiz*]*zi* LÚ*haminaš zāu* EGIR-*p*[*a pāi t*]*=at* LÚSANGA-*i pāi* LÚ.MEŠ[UR.BAR.RA UDU^{HÁ}-*uš l*]*uliaz šarā šal*[*īanzi*].

60 KBo 43.182 i 11′–12′ (CTH 670, NS: Otten 1971b, 40).

61 KUB 9.17 i 6′–7′ and 18′ (CTH 685, NS).

62 KBo 19.163 i 19–22 (CTH 738, NS: *CHD* P, 188): [*tu*]*nnakišna halziya* [DU]MU^{MEŠ} É.GAL-*TIM* [GAL LÚ]^{MEŠ}*hapiya* LÚ*hapiyan t*[*ān*] *pēd*[*aš* LÚ GIŠ]GIDRU-*an* LÚ*parašnan* LÚSANGA D*Tetešha*[*pi* LÚ*m*]*iniyan* LÚ.GÍR <*ašešanzi*>.

63 KUB 9.31 ii 9–14 (CTH 757, NS: Görke 2015, § 14): *nu* 8 DUMU^{MEŠ}.NITA *uwadanzi* MUNUS-*ni=(š)šan kuiēš nāui pānzi nu ANA* 1 DUMU.NITA KUŠ MÁŠ.GAL *waššianzi nu peran apāš īatta nu* UR.BAR.RA-*ili halziššai nu* GIŠB[ANŠUR^{H}]Á-*uš wahnuanzi nu* UZUZAG.LU UZUGABA *arha ad*[*an*]*zi*.

64 KUB 59.60 iii 12–15 (CTH 500, LNS: Groddek 2004b, 103): *nu=kan* LÚ*tabri* [...]*-ezzi nu=kan* LÚ.MEŠ*kudanteš* [...*-w*]*anzi nu iwar* UDU *halziškanzi* [... GEŠ]TIN=*ya=aš* GAL^{HÁ} SUM-*anzi*.

65 See, for instance, Prufer 2006.

66 Besides Extract 19, the lion-men are associated with the otherwise unknown deity ^{D}Kurhazuššara whose cultural origin is unknown (KUB 44.42 Obv. 19': CTH 525, NS), with the city of Lakimišša whose location is unknown (KBo 12.65 ii 3 – CTH 237, NS: del Monte & Tischler 1978, 239), but no clear mention of hunt or tutelary deity occurs in these texts.

67 See *Konkordanz sub* KBo 7.37 Anmerkung (Popko made this suggestion in 2009).

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Chapter 9

The fox in ancient Mesopotamia: from physical characteristics to anthropomorphized literary figure

Szilvia Sövegjártó

The fox was an object of observation in ancient Mesopotamia, confirmed by several everyday as well as scholarly texts, written over two millennia in both Sumerian and Akkadian. The fox was considered a liminal creature who resided outside human settlements, but also occasionally entering them. Consequently, the fox triggered both positive and negative connotations, as reflected particularly in popular literature as well as in omens. As I will show, the behaviour and the qualities associated with the fox contributed significantly to the development of an anthropomorphized literary figure found in literary compositions. This figure is particularly well attested in popular literature, and qualified the fox to play a supporting role as the messenger of the gods in Sumerian myths.

Descriptions of physical and behavioural characteristics of the fox

Sources related to the fox fall into two broad categories: either physical characteristics of the fox are described, or it is represented in an anthropomorphized form, behaving and interacting with others in a manner similar to humans. First, sources describing physical characteristic of the fox will be discussed to show that the animal was perceived as an ambiguous creature in ancient Mesopotamia.

Descriptive accounts of the fox have been preserved in both Sumerian and Akkadian. The Sumerian sources are mainly proverbs gathered in proverb collections. The earliest manuscripts discussed here come from the mid-third millennium and the latest from the mid-first millennium BC. Concerning the physical features and behaviour of the fox, two aspects are emphasized:

SP 2.61 ka_5^a-a ĝeštug-be_2 al-gig ĝiri$_3$-be_2 al-gaz-za
A fox gets distracted: its feet will be broken.

SP 2.61A ka_5^a-a kun-be_2 al-dugud / ^{ĝeš}gana$_2$-ur$_3$ la_2-am$_3$-me-e-[še]
The tail of a fox is heavy: it is carrying a harrow, they say.

Both proverbs imply negative connotations of certain physical and behavioural aspects of the fox. The first proverb indicates that the fox should stay alert to avoid getting caught and hurt by humans. This saying thus implies that the animal was not welcome in human settlements. A similar negative connotation of the metaphor in the second proverb is perhaps not obvious at first sight. However, similar phrasing frequently occurs in more obvious contexts. The fox dragging its tail became a symbol of destruction and decay in Sumerian literature, particularly in lamentations (the Sumerian line quoted here is attested multiple times in Emesal lamentations – see Löhnert 2009, 344–5):

Utugin eta, kirugu n+1 l. 28:
ka_5^a kun-be_2 mi-ni-ib$_2$-ur$_4$-ur$_4$-re
še-li-bu zib-bat-su im-ta-na-aš-šar
The fox drags its tail here.

The cursing of Agade [ETCSL 2.1.5][1] l. 256–7:
ki uz-ga šu-luh-ha ĝar-ra-zu , ka_5 du_6 gul-gul-la-ke_4 kun he_2-ni-ib-ur$_3$-ur$_3$-re
May the fox of the ruin mounds
drag its tail in your uzga precinct,
established for purification ceremonies!

A unique attestation of the animal is preserved in a hymnic composition. The negative connotations related to the animal are also implied in this case by the literary theme, well-known from lamentations and thus should be mentioned here:

Hendursaĝa A [ETCSL 4.06.1] l. 78:
7-ba 1 ka_5-a-am_3 kun im-ur_3-ur_3-re
The first of the seven [heralds of Hendursaĝa] is the fox who drags its tail.

In this last passage, the fox is one of seven demonic animals of the goddess Hendursaĝa, causing trouble for the people. The fox was likely incorporated into this list because it was associated with negative effects.

Beyond literary compositions, several other – mainly Akkadian – scholarly genres point to both positive and negative connotations of the fox, particularly in relation to the head or tail of the animal. These connotations are best illustrated in the omen series *Šumma ālu* and *Šumma izbu*. On tablet XLIV of the series *Šumma ālu*, at least 19 omens describing encounters with foxes have been preserved (Freedman 2017, 36–7; the transliteration and translation also follow this). The series *Šumma izbu* contains 10 further omens related to foxes, distributed on five tablets.[2] In the latter compendium, reference is made to either the appearance or the physical features of the animal, especially the head and the tail. An *izbu* (= anomaly: on this translation, see Leichty 1970, 3 n.2), mostly a sheep, with the head or tail of the fox or with the body of the fox might turn out to be either good or bad. According to the series *Šumma ālu*, the occurrence of a fox in the city was generally associated with negative consequences:

Tablet XLIV 43′ DIŠ KA_5.A *ina* KA_2.GAL *iq-te-nir-ru-ba* URU.BI KUR_2 DIB-*ma* ŠUB-*di*
If a fox is repeatedly approaching the city gate, the enemy will take that city and it will be abandoned.

Tablet XLIV 44′ DIŠ KA_5.A *ina* SILA.DAGAL.LA *il-su-um* URU.BI *uš-tah-ra-ar*$_2$
If a fox runs in the city square, that city will be desolate.

The letter ABL 142 reports on a fox that entered the city of Assur and fell into a well in the garden of Assur (see also Maul 1994, 21). The fox was retrieved from the well and was slayed. This incident was important enough to be reported to the king, demonstrating that the appearance of the animal was interpreted as a bad omen.

The series *Šumma izbu* also reports on negative consequences in relation to an *izbu* wholly or partially resembling a fox:

Tablet XVIII 75′ BE UZ_3 KA_5.A U_3.TU ˹KUR BIR²˺-*ah*
If a goat gives birth to a fox: the country will disperse (?).

Tablet XX 31′ [BE ^{mi2}ANŠE.KUR.RA] ŠAH : KA_5.A U_3.TU NUN $UŠ_2$
If a mare gives birth to a fox: the prince will die.

Tablet VII 11 BE *iz-bu* SAG.DU KA_5.A GAR NUN $ERIN_2$-*šu*$_2$ KUR-*su* *u*$_2$-[x x (x) NUN UGU KUR-*šu*$_2$] ˹GIG˺-*aş* , *ša*$_2$-*niš* *ša*$_2$-*ne*$_2$-*e* [$UŠ_4$?...]
If an *izbu* has the head of a fox: the prince ... his army in his land [and he will not be] appreciated [by his land]. Second interpretation: [sagacity ...]

Tablet V 26 BE [U_8] UR.MAH U_3.TU-*ma* KUN KA_5.A GAR-*in* *e-riš-ti* ˹*li*˺-*ṭi-im*
If a sheep gives birth to a lion and it has the tail of a fox: request of a hostage.

These omens are not the only sources that show how the occurrence of the fox might have been considered ominous in a negative sense. Indeed, even a prophylactic ritual (nam-bur$_2$-bi) existed against ominous signs related to foxes.[3]

According to the series *Šumma izbu*, the fox itself, or its tail, could also be positive:

Tablet V 114 BE U_8 KA_5.A ˹U_3˺.TU BAL ^{d}EN˺.LIL_2 MU.MEŠ LUGAL.GI.NA *ina* KUR *u*$_2$-*šab-ša*$_2$ TUR_3.BI DAGAL KI.MIN LUGAL *ina* *šal-ma-at* BAL-*šu*$_2$ *u*$_2$-˹*šam*˺-[*qat*]
If a sheep gives birth to a fox: kingdom of Enlil, he creates the year of Sargon for the country, the sheepfold will grow. Same (protasis): he lets the king fall in the abundance of his regnal years (= i.e. after a long reign).

Tablet VII 3 BE *iz-bu* SAG.DU UR.MAH *u* KUN KA_5.A GAR NUN *ina* URU-*šu*$_2$ *meṭ-lu-ta*$_5$ DU
If an *izbu* has the head of a lion and the tail of a fox: the prince will live up to the age of maturity in his city.

Personal encounters with foxes might have positive or negative consequences, depending on the direction the fox approached from, as reported in the series *Šumma ālu*:

Tablet XLIV 55′ DIŠ KA_5.A *ana* ZAG LU_2 DIB NU.KUR-*ad*$_2$ A_2.$AŠ_2$
If a fox crosses toward a man's right – no attainment of a wish.

Tablet XLIV 56′ DIŠ KA_5.A *ana* GUB_3 LU_2 DIB KUR-*ad*$_2$ A_2.$AŠ_2$
If a fox crosses toward a man's left – attainment of a wish.

In other genres, references to the fox or its tail turn out to be positive. The following example comes from the Assyrian dream-book (Oppenheim 1956, 281, 326), which apparently bears a close relation to the passage of *Šumma ālu* quoted above, since it also refers to the ambiguity of the fox's appearance:

DIŠ KA_5.A *iṣ-bat* ^{d}LAMMA DAB-*bat*
DIŠ KA_5.A *iṣ-bat-ma ina* ŠU-*šu*$_2$ E_3 ^{d}LAMMA TUK *u ina* ŠU-*šu*$_2$ E_3
If he seizes a fox, he will seize a Lamassu (= protective deity), but if he seizes a fox in his hand, and it escapes, he will have seized a Lamassu, but it also will escape from his hand.

As was suggested by Noegel (1995), this interpretation was not based on semantic, but rather on semiotic principles: Lamassu is rendered in the cuneiform script as ^{AN}KAL-*u*, while a possible, though not attested, writing to render the Akkadian lexeme 'fox' phonetically is A.AN.KAL-*u* or *še*$_7$-*lib*$_2$-*u*. Thus, the present case is an example of a pun based on semiotic associations practised by educated scribes.

In the Assyrian letter ABL 555 (Alster 1989, 188–9), the tail of the fox appears to have a positive connotation:

ABL 555 r. 3–6: (…) *ša*$_2$ *si-bat, ne*$_2$*-ši iṣ-bat-u-ni ina* ID_2, *iṭ-ṭu*$^{!}$*-bu ša*$_2$ *si-bat še-li-bi iṣ-bat-u-ni u*$_2$*-se-zib*$_2$
The one who seized the tail of the lion sank in the river. The one who seized the tail of a fox was saved.

Another example of the positive effect of the fox comes from a medical text related to childbirth. Here several items which facilitate childbirth are listed, including the 'flesh of a female fox'.[4] Further, 'Fox' is attested as a personal name in Mesopotamia, from the Early Dynastic to the Neo-Babylonian period, both in Sumerian and Akkadian.[5] This likely means that the animal either had positive connotations, or the physical attributes of these people, e.g. facial proportions or red hair, could have an influence on name-giving practices. It is unlikely though that an animal with an overall negative perception would have been considered a suitable personal name.

Concluding on the perception of the fox in ancient Mesopotamia, the animal was considered a liminal creature based on his physical characteristics and behaviour. This liminality likely derives from the perception of the fox who comes across humans while roaming around the outskirts, frequenting ruin mounds and rivers, or occasionally, even entering human settlements. The observations made of the behaviour of the animal, as I will show, served as the basis for creating an anthropomorphized literary figure from the fox. The liminality of this literary figure is, however, more symbolic, and as such, does not always mirror the animal's physical characteristics or behaviour.

The fox as anthropomorphized literary figure

Based on the observations of the physical characteristics of the fox, an anthropomorphized form emerged. The fox featured in Mesopotamian literature as a cunning and clever animal. However, the liminality related to the animal is also noticeable in several literary compositions. In the following, I will discuss some examples from popular literature to illustrate the complex status of the fox. Here I refer to compositions preserved in so-called 'proverb collections', mostly proverbs, fables and tales, as popular literature in an Old Babylonian context. These compositions likely drew their inspiration from the folklore transmitted orally. However, this material is only accessible to us through written sources produced by a literate elite.

The fox in the animal world

Several Sumerian proverbs and fables contrast two specific animals. However, two different pairings typically occur with the fox: fox-wolf and fox-dog. The proverbial character of these oppositions is also apparent from the later composition known under the title *Series of the Fox*, featuring all three animals at once: the fox, the wolf and the dog. Indeed, the most comprehensive literary source on the place of the fox in the animal world is the *Series of the Fox*, but the reconstruction of the narrative is problematic due to the condition of the extant manuscripts (Jiménez 2017, 377). The animal relations recorded in the *Series of the Fox*, within the framework of a longer narrative, however, are preserved in the form of scattered proverbs and fables in Sumerian proverb collections.

In contrast to the fox, the wolf is usually depicted in proverbs and fables as wild and not particularly clever. According to a short fable, the fox attempted

and probably succeeded in taking most of the spoils of a hunt from a wolf pack by outwitting them. Thus, in this case the dull wolf – as it is indeed depicted in a number of proverbs[6] – is contrasted with the cunning and persuasive fox:

SP 5 Vers. A 71 ur-bar-ra 9-bi 10-am$_3$ udu-hi-a
an-[…]
= 5 Vers. B 74 diš-am$_3$ ab-si-am$_3$ ha-‹la›-ne
nu-˹ha˺-[la-a]
ka$_5$˹a˺ [ugu]-˹bi-še$_3$˺ u$_3$-bi$_2$-˹in˺-[DU]
˹ĝa$_2$˺-[e ga]-˹mu˺-e-ne-ha-[la]
9 za-e-me-en-ze$_2$-en diš-˹am$_3$˺ […]
ĝa$_2$-e dili-ĝu$_{10}$ 9 šu ga-˹ba˺-ab-[ti]
ne-en ha-la ˹šag$_4$˺-ĝu$_{10}$-e-[še]
Nine wolves […] ten sheep. It was one too many, so they could not divide their lots. The fox came to them. 'Let me divide them for you! You are nine, one …. I am alone, let me take nine. This is my preferred sharing', he said.

The other typical contrast attested in Sumerian proverb collections is between the fox and the dog. The two animals are usually depicted as ultimate enemies:

SP 5.80 ur sar-ra ˹ka$_5$^{a}˺ hul a-ab-gig
The chasing dog hates the fox.[7]

SP 8 Sec. B 32 ka$_5$^{a} a-na-am$_3$ al-ak-a
ur-gir$_{15}$-re a-na-am$_3$
mu-un-ši-ib-ak-de$_3$
What did the fox and what will the dog do with him?

Apparently, the opposition of the fox and the dog is based on a tension between urban and extra-urban environments:

SP 1.65 = 2.118 iri^{ki} nu ur-gir$_{15}$-ra ka$_5$^{a}
nu-banda$_3$-am$_3$
In the city of no dogs the fox is the overseer.

A short story featuring the fox and his wife makes it even more explicit that the dog is regarded as the guardian of human civilization:

SP 2.69 ka$_5$^{a}-a dam-a-ni an-na-ab-be$_2$
ĝa$_2$-nu unug^{ki} ga-raš^{sar}-gen$_7$ zu$_2$
ga-am$_3$-gaz-e-en-de$_3$-en
kul-aba^{ki} ^{kuš}e-sir$_2$-gen$_7$ ĝiri$_3$-me-a
ga-am$_3$-ma-ab-si-ge$_4$-en-de$_3$-en
uru-še$_3$ 600 nindan-uš nu-te-a-ba
uru-da ur-re sig$_{14}$ am$_3$-da-gi$_4$-gi$_4$
geme$_2$ tum-ma-al^{ki} geme$_2$
tum-ma-al^{ki}
dur$_2$-zu-še$_3$ ga$_2$-nam-ma-da
uru^{ki}-da niĝ$_2$-hul-e sig$_{14}$
am$_3$-da-gi$_4$-gi$_4$
The fox said to his wife: 'Come, let us chew Unug like a leek! Let us put Kulaba on our feet like shoes.' Having approached the city not even by 600 nindan, when the dogs started to bark from the city. 'Slave girl of Tummal, slave girl of Tummal, come with me to your place. Evil is barking from the city.'

A further fable reports not only on the conflict between the fox and the dog, but confirms the supremacy of the dog. Moreover, the animal who outfoxes the fox is in this case, quite surprisingly, a goat. In this opposition, it is likely that the goat, like the dog, represents another domesticated animal:

SP 8 Sec. B 28 ka$_5$^{a} uz$_3$-de$_3$-še$_3$, an-na-ab-be$_2$
^{kuš}e-sir$_2$$^{!}$-ĝu$_{10}$ e$_2$-zu-a ,
ga-mu-ni-ib$_2$-ĝar
du-u$_3$-da ur-gi$_7$-ra-ka , ^{ĝiš}kak-ta ,
ga-mu-ni-ib$_2$-la$_2$
tukum-bi , ur-gi$_7$-re , e$_2$-zu-a
ur$_5$-ra-še$_3$ an-til$_3$
^{kuš}e-sir$_2$-ĝu$_{10}$ tum$_2$-u$_3$, ĝi$_6$
na-an-sa$_2$-e-en-e-še
A fox spoke to a goat: 'Let me put my shoes into your house!' 'When the dog comes, let me hang them on a nail!' 'If the dog stays like that in your house, bring me my shoes. I should not spend the night here.'

However, there are also fables where the supremacy of the dog is questionable. Although he indeed traps the fox, the fox proves to be smarter and thus succeeds in saving its own life:

SP 8 Sec.B 29 ka$_5$^{a} ur$_2$ ^{giš}kiša$_2$-še$_3$, in-ku$_4$-ma ,
ur-gi$_7$-re ka$_2$-na ba-an-tuš ,
e$_3$-ma-ab ,
e$_3$-de$_3$ nu-ub-zu-am$_3$, gu$_2$-e-ta
a-na-gin$_7$-nam , in-ku$_4$, en-na
nu-{al}-sar-sar / al-tuš-en-e-še
The fox went into the base of a thorny bush. The dog sat down at the opening: 'Hey, come out to me!'

But he would not come out. 'I can enter as easily as anything from the other side.' 'As long as you don't chase me away, I will remain seated here.'[8]

To sum up, the fox in Sumerian popular literature is in most cases contrasted with two animals: the wolf and the dog. The opposition between the fox and the wolf aimed at pointing out the cunning character of the fox and his cleverness in contrast with the dullness of the wolf. The wolf in this opposition also represented the intellectual poverty of the 'wilderness' in contrast to the city. On the other hand, the fox was contrasted with the dog, the domesticated animal who acted as guardian of the city. The fox, in light of these proverbs, was therefore positioned between urban and extra-urban areas, not strictly belonging to either. This characterization of the fox as a liminal creature is surely based on the observations of how foxes behave, setting up their habitat outside the core of human settlements, but also frequenting those settlements.

The fox and the divine sphere

According to a Sumerian proverb, the fox lies, even to the god Enlil.[9] Indeed, the fox in ancient Mesopotamia had a close relationship with Enlil, as is apparent from two Sumerian myths.[10] In both cases, the fox acted as the messenger of the god. In popular literature, however, the relationship between the fox and Enlil was turned upside down. As far as can be understood, despite the manuscripts' fragmentary state of preservation, two tales include the fox, who attempts to outsmart Enlil, but the god turns out to be smarter. The most complete account is the following:

SP 8 Sec. B 20 ka$_5^a$ ^{d}en-lil$_2$-le si-am-e, al u$_3$-bi$_2$-in-dug$_4$
si-am-e ba-ni-in-la$_2$
im im-šeĝ$_3$ mu-na-an-zi-zi, habrud-da-ne$_2$
nu-mu-da-an-ku$_4$-ku$_4$
ĝi$_6$-ba$_7$-be$_2$-še$_3$ im-mir-mir, muru$_9$ im-šeĝ$_3$-ĝa$_2$-[a(?)]
ugu-na i-im-til-la-ta, he$_2$-em-ta-lah gar[za$_2$ lugal-a-ni-ir],
ba-ni-ib-g[ur-e-še]
Once the fox demanded from Enlil the horns of a bull. He (Enlil) made him (the fox) carry the horns of a bull. It was raining, but he made them high for him, thus he could not enter his den. The wind kept raging and there was a heavy rain until midnight. After it ended over his head and he became dry, he said: 'The ordinances shall be returned to his lordship.'[11]

In this tale, the fox requests horns from Enlil, thus asking for the symbol which traditionally marks divine status. Even if he gets outsmarted by Enlil, he refrains from this status voluntarily after the god takes him to task for his unbounded ambition.

Another Sumerian story, only preserved in fragments, featuring *The Fox and Enlil as Merchant*, implies a similar relationship between the protagonists. The merchant was a common epithet for Enlil, known by the audience of this story (cf. *An–Anum* I 175). Civil (1976) discussed this topos, which is also attested in Old Babylonian balaĝ compositions. Enlil is described in the liturgical corpus as 'the merchant of the wide earth'. His role as a merchant is resumed in an eršemma as follows (BM 13963 r. 7–9): 'Father Enlil, you bring the lofty *lidga*-measure, you pour people into the baskets, / Lord of the country, you bring the *bariga*-measure, you carry the baskets for trade. / Father Enlil, the loyal ones are taken in trade for the traitors'. Thus, Enlil's role as a merchant is merely metaphorical in liturgical compositions. However, in the story about Enlil and the fox, this metaphor was reinterpreted and taken literally:

CBS 438 o. 1′ ^{d}en-lil$_2$-le ˹x x˺ [...] , igi ma$_2$ ^{gi}kid-ma$_2$-šu$_2$-a ba-ni-in-šu$_2$
2′ dam-gar$_3$-ra-gen$_7$ nibru^{ki}-ta nam-mi-dirig
3′ kar larsam^{ki}-še$_3$ li-bi$_2$-˹ib$_2$-us$_2$˺ ma$_2$-be$_2$ ba-ni-˹x-x˺
4′ ka$_5^a$ dam-gar$_3$-ra gu$_3$ mu-un-˹na-de$_2$˺-a-ta$^?$
5′ dam-gar$_3$ ma$_2$ me-še$_3^?$ i$_3$-dib$_2$-be$_2$ ma$_2$-zu ˹gub$^?$-ba-ab˺
6′ ka$_5^a$-˹ra ^{d}en-lil$_2$ x x bi$_2$-ĝal$_2$˺ / ˹x x x x x˺
7′ [...]-ke$_4$ ma$_2$-zu gub-ba-ab
8′–11′ (only traces preserved on the rest of the obverse)
12′ […] ˹x˺-ni-ib$_2$-[…] , […] x x […]
r. 1′ ka$_5^a$ ˹x x x x x˺ , ur-gi$_7$ igi bi$_2$-in-˹du$_8$˺
2′ dumu iri-ĝa$_2$ ma$_2$-zu dirig-ga-ab , ˹ki x˺ bar-zu he$_2$-ri-ib$_2$-gi-gi
3′ si sa$_2$-be$_2$ hul^l-le ‹igi› bi$_2$-in-du$_8$ ^{gi}kid-ma$_2$,
niĝ$_2$ mu-ra-gen$_7$ niĝ$_2$-gi-na ˹ĝal$_2^?$˺-a ,
ĝiškim til$_3$ mu-ne

4′ dam-gar$_3$-ra x ^{gi}kid-ma$_2$-šu$_2$-a ba-il$_2$$^{?}$-a-gen$_7$
5′ ka$_5$^{a} bar-rim$_4$-e sim^{mušen}-«ta»-˹gen$_7$˺ ab-kar-re
6′ ur-gi$_7$-re eĝir-bi-a in-us$_2$-us$_2$-a
7′ i$_3$-tar-tar-re-eš zi-ne$_2$ habrud-da kir$_4$-a , ba-ni-in-tum$_3$$^{?!}$
8′ kir$_4$ ka$_5$^{a} ‹igi› u$_3$-bi$_2$-in-du$_8$ en$_3$ ab-˹tar-tar-tar˺-re
9′ ka$_5$^{a} ugu-ĝu$_{10}$-še$_3$ nam-ĝu$_{10}$ ĝen-na-zu
10′ ˹ka$_5$^{a} igi šub te˺ la$_2$ ˹kir$_4$-a en$_3$ tar$^{?}$-tar$^{?}$-tar$^{?}$˺-[…]
(...)

Enlil ... ..., covered the prow with a boat-cover and floated away from Nippur (disguised) as a merchant. He did not approach the quay of Larsa (but) ... the boat. Thereafter the fox spoke to the merchant: 'Merchant, where is the boat heading to? Stop your boat!' Enlil ... ... to the fox, ...: '... ... stop your boat!' (...)
The fox .... The dog saw him/that (?): 'Son of my city, direct your boat and return to the place ... .' He (= the dog) saw good and bad, like under the cover which is a reed mat,[12] thus he only trusts the established truth. As soon as the merchant lifted up the boat-cover, the fox fled to the dry land like a swallow.
The dog followed him. They lost each other. (The fox) took refuge (?) in the hyena's den. After the hyena saw the fox, he asked: 'Fox, (is it) my fate that you came to me?' The fox … … asking the hyena: (...)

The beginning of this story probably recounts another trick of the god Enlil. Although an important part of the narrative is not preserved, it is likely that the fox, after realizing that the merchant is not heading towards Larsa, asks him to stop over in the city. After that, the fox probably hides under the boat cover – even if the text is fragmentary, the significance of the boat cover is apparent through its multiple mentions. The dog, guarding the city, witnesses or suspects the trickery and tries to prevent the fox from entering the city. Another short story preserved in the proverb SP 2.69 (also cited below) confirms that the dog kept the fox out of the city. Thus, it is likely that the fox intended to enter Larsa with the help of Enlil, trying to outwit the dog. Apparently, Enlil – quite unexpectedly – did not support the fox but revealed his intentions to the city's guardian. Thus, when Enlil reveals the fox under the boat cover, it immediately has to flee from the dog. These stories build on the intellectual superiority of Enlil, but they also verify the cunning characteristic of the fox: it would not matter that Enlil managed to outsmart the animal if it was not the intrinsic trickster.

Myths and popular literature clearly paint a very different picture of the relationship between Enlil and the fox. Apparently, the short stories presented here parody the close relationship of the god and the animal as depicted in Sumerian myths: Enlil is willing to fulfil the wishes of the fox, but at the end he outsmarts the animal. These stories were probably received as comic by their contemporary audience: in contrast to the myths that present a close relationship between the god and the animal, these stories portray conflicts or frictions between them. In this case as well, the fox is therefore depicted as a liminal creature who is clever enough to belong to Enlil's circle, but not able to outwit the god or to gain divine status.

This twofold perception of Enlil's relationship with the fox might stem from folklore, since it seems to be restricted to a few compositions belonging to genres of popular literature. The language and style, as well as the usage of Sumerian, point to the fact that these stories were phrased and put into writing by literate people of high social ranking, since Sumerian as a language was no longer used in everyday communication in the Old Babylonian period. The material these stories are based on, however, might come from the folklore, Sumerian or Akkadian.[13] Even if the ambiguity related to the fox was preserved in compositions of two different literary registers[14] – namely the formal register of myths and the informal register of proverbs and fables –, the tales presented above and preserved in popular literature only make sense in light of the fox's role in Sumerian myths.[15]

The character of the fox as a reflection of human nature

The human-fox relationship was not a frequent topic in Sumerian popular literature (see Richardson 2019, 22). Only scattered proverbs demonstrate that the animal was not welcome in the urban sphere.[16] However, proverbs and fables centred on the fox frequently drew on the social structures of human society. Foxes are represented in the literature as forming family units of husband, wife and children, thus mirroring human social concepts such as marriage and family.[17]

However, through a heavily anthropomorphized character, the fox reflects humans and human behaviour more than it does its own behaviour and characteristics.

Several proverbs refer to the physical attributes and behaviour of the fox based on observations of the animal. Other sources convey preconceptions of humans towards the animal. However, the most fascinating are the literary sources where the fox appears as an anthropomorphized literary figure, mostly a trickster or a boaster who wins or loses. This duality is truly close to the variegated manifestation of human nature: the character of the fox is positive and negative, sympathetic and comic at the same time.

As is apparent from the Sumerian and Akkadian sources discussed in this chapter, the fox was regarded as a liminal creature in ancient Mesopotamia, placed between animals and gods, cleverer than its peers, but still unable to reach the divine sphere. In the animal world, he is placed between the wolf and the dog, that is, between the cruelty of the natural world and the rigour of civilization. The fox acts as the messenger of the gods, transgressing boundaries and mediating between the world of animals, humans and gods. The status of the fox was, therefore, particularly suitable for reflecting the ambivalence of human nature. Perhaps this potential made this guileful animal especially popular in ancient Near Eastern as well as in world literature.

Notes

1 Sumerian literary compositions are referred to with their ETCSL number (Black *et al.* 1998–); line numbers follow the composite texts of the ETCSL edition, if not otherwise indicated.

2 V: 26 (=109), 64, 114; VII: 3, 11, 28, 121′; XVIII: 75′, XX: 31′ and XXII: 73. The transliteration and translation follow De Zorzi 2014.

3 Maul 1994, 21 with reference to the tablet A 190, likely bearing museum nr. Ist A 190.

4 VAT 8869 r. ii 27: uzu munus ka_5^a.

5 Sumerian: ka_5^a, see Mittermayer 2005, 71. Akkadian: *še-li-bu-um* as well as *ši-i-li-bi*, see Tallqvist 1905, 201–2 and Tallqvist 1914, 220.

6 See for example the proverbs SP 8 Sec. B 8: ud_5-de_3 ur-bar-ra-be_2-ne bi_2-in-us_2-us_2 , i_3-bal ĝiri$_3$-bi ĝiri$_3$ bi_2-in-ra ‘Some wolves were chasing a goat. They turned around and their feet clattered into each other’ or UET 6/2 243: ur-bar-ra gu_2 a-ba-da-ak-e , ur-mah-e mi-ni-ib_2-il_2-e ‘The wolf circles around it, the lion picks it up’.

7 I owe the reading of this proverb to T. Mitto.

8 The transliteration and translation is based on the manuscript UET 6/2 220 as this is the only manuscript referring explicitly to the dog.

9 SP 2.58: ka_5^a-a ^{d}en-lil_2 lul ba-e-[...].

10 The two compositions are: the Old Babylonian myth *Enki and Ninhursaĝ* [ETCSL 1.1.1], especially ll. 220–227, and an Early Dynastic Iškur myth preserved on the manuscript Ni 12501, especially iv′ 4′–13′ and v′ 3′–4′ (Schwemer 2001, 179–80).

11 The transliteration and translation follow the manuscript CBS 13989; the completions are based on the manuscript YBC 7163.

12 The Sumerian expression niĝ$_2$-mu-ru(=ak=gen) likely contains a phonetic writing of ^{gi}kid.mah = $muru_x$ designating a ‘reed mat used as a cover’. This reading is based on a Sumerian pronunciation gloss as well as on the Akkadian equivalent of the lexem *burû* (Goetze 1948, 176–7). The construction is probably a paraphrase like pu_2 niĝ$_2$ giri$_3$-a-ka ‘in a trap’ (SP 5.58).

13 Each of the two manuscripts quoted here has a duplicate, suggesting that these compositions were put into writing more freely than other Sumerian literary compositions. The manuscript W20248,4 contains a slightly different text compared to CBS 438, although the idea seems to be the same (see Alster 2005, 347 Ms. W). The differences are of lexical and grammatical nature, but additional elements are also present in the manuscript which only duplicates six lines of CBS 438.

14 For the idea that Sumerian and Akkadian literature approached the animal world differently, see Richardson 2019, 11–12. In his view, while animals were frequently equipped with human capacities in Sumerian literature, Akkadian literature did not create anthropomorphized literary figures from animals. His main thesis is that ‘Sumerian was a mythological literature concerned with explaining the nature of the universe from a divine, top-down perspective, while Akkadian often tackled the problem of evil in the world from the perspective of individual human protagonists, heroes, and sufferers. The different position of animals and the natural world in the literature of these two languages was a product of these very different concerns.’ (Richardson 2019, 14). In my opinion, not only individual heroes are already present in Sumerian literature in the form of human protagonists as Lugalbanda, Enmerkar or Gilgameš, but also anthropomorphized animals are present in Akkadian literature. The intertwining of the Sumerian and Akkadian tradition is acknowledged by frequently postulated Sumerian forerunners for Akkadian literary compositions. Even if the *Series of the Fox* and other compositions might stand in the tradition of Sumerian fables (Richardson 2019, 34–5), so does the *Epic of Gilgameš*, preceded by several Sumerian narratives on the Urukean ruler. Beyond the *Series of the Fox* there are further compositions with anthropomorphized animals who speak with each other, and sometimes, even with the gods: the *Series of Ox and Horse*, the *Donkey Disputation*, the *Series of the Spider* and the *Series of the Poor, Forlorn Wren*. Richardson 2019, 34 with fn. 118 also mentions these compositions, but he does not discern their importance: These Akkadian compositions were much longer and more elaborate than Sumerian animal proverbs and fables (even the indigenous generic description ‘*series*’ suggests that each composition was written on multiple tablets) and popular enough to enter the library of Ashurbanipal. It holds true that in Akkadian literature, animals do not appear as anthropomorphized

protagonists in the higher literary register of myths and epics, except the owl of the *Etana Epic* (Richardson 2019, 34 with fn. 117). However, such appearances are also rare in Sumerian myths. Besides, also Sumerian literature mainly featured animals as animals equipping them with negative qualities. In my opinion, the discrepancy is not apparent between genres, rather between literary registers. Especially popular literature left behind a smaller number of written sources and likely a great amount of material that never was written down. In case parts of this material attained a written form, this form might reflect the erudition and educational background of the writer rather than those of the originators of the source.

15 Genres counted as popular literature – especially short narratives, fables and proverbs – are not known before the Old Babylonian period. The Akkadian composition *Series of the Fox* is thematically somewhat related to the end of the story narrated in *The Fox and Enlil as Merchant*. On the one hand, Gordon (1960, 147a) and Cavigneaux (1982, 22) suggested that the Sumerian story might be a forerunner to the Akkadian composition. On the other hand, Jiménez (2017, 56) argued against the relatedness of the two narratives, as both were copied in the Middle Babylonian period in Ugarit. It should therefore be noted that it was not necessarily the Sumerian story that served as a source for the Akkadian composition, but both narratives might go back to oral sources popular during the Old Babylonian period.

16 For example, SP 2.61 quoted above or SP 8 Sec. B 35: ka_5^a lu_2-igi-ze_2-ze_2 u_3-bi_2-in-dab_5 , ne-$eš_2$ er_2 mu-e-$še_8$-$še_8$ šu ba-mu-u_8-e-še 'After the fox got caught by a blear-eyed man, he said: "And now you are crying? (Just) set me free!"'.

17 For example, SP 2.69 quoted above, featuring the fox and his wife or SP 2.60: [k]a_5-a-a ama-a-bi ka_5-a ab-dirig 'Each fox is even more of a fox than its mother'. Indeed, foxes live in packs or in small family groups, thus they are verily fit for this comparison.

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Chapter 10

Animal names in Semitic toponyms

Hekmat Dirbas

In terms of semantic features, toponyms, like anthroponyms, tend to cluster into specific categories. Although toponymic research has increased considerably in recent years and various typological models have been introduced (Tent 2015), no typology has been suggested for Semitic toponyms so far, apparently due to a lack of comparative research on the topic and poor dialogue with other disciplines. Nevertheless, the typology proposed for biblical toponyms by Gray (1902) and Rainey (1978, 6) might serve as a good starting point, as it seems to be applicable to the other Semitic languages in view of the common aspects of naming practices among the speakers of these languages (Dirbas 2019a, 19–65). According to this typology, toponyms fall into six categories: (1) divine names; (2) patronymics or ethnicons; (3) topographic descriptions; (4) works of man (agricultural installation, types of settlements, fortifications, etc.); (5) animal names; and (6) plant names.

The objective of this chapter is to present a survey of Semitic toponyms derived from animal names, a topic that intersects with my previous work on the use of animal names in Semitic name-giving (Dirbas 2019a,b). It is important to document and classify toponyms, but what is more important is to try to reconstruct the stories behind them, for such stories can reveal information about memories of certain societies and their experiences. The significance of this chapter stems from the fact that it seeks to decode one aspect of these stories. It offers material that can enhance our understanding of the emergence of toponyms in relation to animals and their symbolism in certain traditions, the Semitic ones. It also motivates future interdisciplinary approaches to toponymy in general. Four samples are dealt with here: (1) Cuneiform sources, that is, Akkadian and West Semitic names from the second and first millennia BC; (2) Ugaritic; (3) biblical Hebrew; and (4) Arabic (classical sources). In addition to this repertoire of toponyms, I discuss possible reasons for giving them animal names from the perspective of semantics and word formation.

This chapter consists of four main sections that correspond to the languages in question. These sections are arranged chronologically beginning with the oldest attestations in cuneiform sources and ending with the newest ones in Arabic. A variety of sources is called upon here. For cuneiform sources, I use the geographic series known as RGTC (*Répertoire géographique des textes cunéiformes*) in addition to material from the Mari Archives and other texts. For Ugaritic, I use *The Dictionary of the Ugaritic Language* (DUL) and two secondary studies on proper names (van Soldt 2005; Watson 2007). Canaanite-Hebrew toponyms are confined to the Bible, thus epigraphic material is not included. In relation to Arabic, two well-known comprehensive geographical works are investigated: *Ṣifat Ǧazīrat al-ʿArab* 'Description of the Arabian Peninsula' by al-Hamdānī (d. 945) and *Muʿǧam al-Buldān* 'Dictionary of Countries' by Yāqūt al-Ḥamawī (d. 1299). Whereas the former mainly focuses on Arabia, the latter nearly covers the entire medieval Muslim world.

Cuneiform sources

This section deals with Semitic toponyms in cuneiform sources, that is, names of Akkadian and West Semitic origin. While West Semitic toponyms from the second millennium BC are mostly Amorite, the majority of the ones from the first millennium seem to reflect an Aramaic background. Based on their semantics and formation, the toponyms discussed in this section can be classified into three categories: (1) associative toponyms (see below); (2) occupation-related toponyms; and (3) patronymic toponyms. It is important to mention that the studies regarding these

toponyms do not always provide a comprehensive linguistic analysis of them, and thus most of the linguistic remarks given below are mine.

Associative toponyms

Sources rarely mention the reasons for naming places, except for a few cases, that is, when the name is based on a personal name (like a city, settlement, wall, or canal established by a ruler, ancestor, etc.; see *Patronymic toponyms* sub-section below). What is meant with 'associative' here is that the place in this category probably took its name from a special association with animals. For example, the place might have been known for having a certain animal species.

– *Agammu ša Imērē* (Akk., NB): 'Marsh of Donkeys' (CAD I/J, 112b, sub 12').
– *Arnabānu* (NB): this toponym, which could be both Akkadian and West Semitic, consists of the element *aranab-* 'hare' and the suffix *-ān*. The place can be identified with Tell Hasaka, west of the confluence of the Khabur and Jaghjagh rivers (Zadok 1983, 58).
– *Arrabi* (Akk., OB): 'Dormouse', a semi-nomadic place (ARM 15, 15).
– *Ašar-Labā* (Akk., OB): this compound toponym (Groneberg 1980, 23) contains the West Semitic form *la(b)bā*, from Proto-Semitic **labV'-* 'lion' (Militarev & Kogan 2005, No. 144), and it can be explained as either 'Place of the Lioness', meaning 'Den', or, more likely 'Place/Temple of Lab(b)a', after the Amorite deity Labba (Golinets 2016, 70; Streck 2000, §3.43, n. 1).
– *Baqqa* (WS., NB): based on *baqq-* 'gnat'. Given the suffix *-a*, which is frequently used in Aramaic names, this toponym likely reflects an Aramaic form. It was located in the region of Ur (Zadok 1983, 65).
– *Būrānu* (Akk., MB): consists of *būru* 'calf' and the suffix *-ān(u)*. It was located in the region of Nippur (Nashef 1983, 51). This toponym could be based on a personal name (see *Patronymic toponyms* sub-section below), for the mentioned diminutive suffix is quite common in male names (Dirbas 2019a, 75).
– *Ḫanzat* (WS, OB): reflects *ʿAnzat* 'She-goat' (from the element *'anz-*), a place in Upper Mesopotamia (ARM 15, 14).
– *Ḫazilu/Ḫazīlu* (WS, MB): denotes 'Gazelle' (the Akk. form is *ḫuzālu*), in the area of Mukiš/Alalaḫ (Belmonte Marin 2001, 126).
– *Ḫimārā* (WS, OB): reflects *Ḥimārā* '(Country of) Donkeys', plural of *ḥimār-*, the West Semitic counterpart of Akkadian *imēru*. It was located in Upper Mesopotamia (Durand 1998, 125).
– *Ḫimmarān* (OB): reflects either *'immar-* 'lamb', i.e., the Amorite parallel of Akkadian *immeru*, or, less likely, *ḥimār-* 'ass' (Kogan 2003, 253; Golinets 2016, 65) plus the suffix *-ān*. Given that this suffix is common in personal names, it is possible that this toponym is used as a patronymic (see *Patronymic toponyms* sub-section below). It was located in the District of Terqa (Durand 1997, 634; Durand 2000, 255).
– *Ḫuzālu* (Akk., MB): 'Gazelle', in the region of Nippur (Nashef 1983, 134).
– *Imār* (Akk., OB): '(The Town of the) Donkey', modern Tell Meskene, Syria (Durand 1998, 125).
– *Imērē* (Akk., NB): 'Donkeys', plural of *imēru*, was not far from Uruk (Zadok 1983, 180).
– *Immertu* (Akk., NB): 'Ewe', in the region of Nippur (Zadok 1983, 180).
– *Kalbu* (NB): denotes 'Dog', and it could be both Akkadian and West Semitic. The specific location is unidentified (Zadok 1983, 191).
– *Našer* (WS, OB): probably reflects *qatil* form of Proto-Semitic **nVšr-/nVsr-* 'vulture, eagle' (Militarev & Kogan 2005, No. 166). It was located in Upper Mesopotamia (ARM 15, p. 24).
– *Nūnu* (Akk., NB): 'Fish', near Uruk (Zadok 1983, 244).
– *Ša Imērē* (Akk.): '(Land) of Donkeys' (CAD I/J, 115a, sub b).
– *Šaḫû* (Akk., MB) 'Pig', in the area of Ekalte, northern Syria (Belmonte Marin 2001, 259).

Occupation-related toponyms

The only available example of this type is:

– *Māt ša Imērišu* 'Land of the Donkey Driver', meaning Damascus (CAD I/J, 115, sub B).

Patronymic toponyms

Naming cities, settlements, or the like after the founder (being a ruler, an official, or an eponym) was a well-known custom in the ancient Near East from the third millennium BC onward. In case of cities named after rulers, the name, however, could be changed if another ruler took over. A good example is Dūr-Yaḫdun-Lîm, which was named after the king who built it, Yaḫdun-Lîm of Mari (1810–1794 BC). When Mari fell in the hands of Šamšī-Adad, the name of the city was changed to Dūr-Yasmaḫ-Adad, after the son of Šamšī-Adad who was appointed as governor of Mari and the district of the Middle Euphrates. But its original name was given back to it when Zimrī-Lîm, the descendant of Yaḫdun-Lîm took over (Safren 1989). Toponyms containing patronymic/eponymous names derived from animal names are mostly of the nominal compound formation, and they can be distinguished through the

terms they are formed with, like *mātum* 'land, country', *bītum* 'house, settlement', *ālum* 'city, town', *ša* '(the place) of so-and-so', and *dimtum* 'tower', terms which frequently occur in all types of toponyms. It is also possible, especially in West Semitic traditions, that the place was named after the tribe which inhabited it.

The list below provides some instances of patronymic names derived from animal terms.

– *Āl Šēlibi* (Akk., MB): 'Town of Šēlibi (Fox)', in the region of Nippur (Nashef 1983, 18). Interestingly, there is also *Ālu Ša Mār Šlēbi* 'Town of Šlēbi's son' in the same area (Nashef 1983, 24), which obviously was founded by the son of the previously mentioned person.
– *Bīt Ḫaḫḫūru* (Akk., NB): 'House of Ḫaḫḫūru (Raven)', near Babylon (Zadok 1983, 89).
– *Bīt Ḫigla* (WS, NB): 'House of Ḫigla' (Calf), seems to reflect the Aramaic form of Proto-Semitic *ʿ*igl-* 'calf'. It was located in the region of Nippur (Zadok 1983, 91).
– *Bīt Mūrānu* (Akk., NB): 'House of Mūrānu (Puppy)', in the region of Nippur (Zadok 1983, 96).
– *Bīt Šēlibu* (Akk., OB): 'House of Šēlibu (Fox)', around Ishkhali (Groneberg 1980, 44).
– *Bīt Murašû* (Akk., NB): 'House of Murašû (Wildcat)', in the region of Nippur (Zadok 1983, 96).
– *Bīt Uqūpi* (Akk., NB): 'House of Uqūpi (Ape)', in the region of Babylon (Zadok 1983, 109).
– *Nippur-Kalbiya* (Akk., MB): 'Nippur of Kalbiya (Dog)', based on *kalbu* and the suffix *-iya* (Nashef 1983, 210).
– *Yaʿil* (NWS, OB): meaning 'Ibex', an Amorite toponym which is also attested in the form *Yaʿilāyī*, in the area of the Sinjar Mountains (Gelb 1980, No. 3858). Mari texts mention a tribe known as *Yaʿilānu* (Gelb 1980, No. 3861, 3863). It seems likely the place was named after the tribe which inhabited it, and that the latter took its name from an eponym.

Ugaritic

Compared to the other Semitic languages discussed in this chapter, Ugaritic exhibits a few number of toponyms formed with animal names, namely five in particular, four of which are also found in personal names (except for *ṣbʿ*; Dirbas 2019a, 120–30). The reasons for using these terms are difficult to determine; their word formation suggests they are either associative or patronymic. The fact that the five names below denote wild animals can be explained through the impact of the natural environment, meaning the mountainous vicinity of the city of Ugarit.

– *Ayl*: based on the element *ayl-* 'deer, hind' (van Soldt 2005, 170).
– *Ayly*: based on the same element above plus the suffix *-ā(yu)/-yu* (Del Olmo Lete & Sanmartin 2003, 134; Watson 2007, 108).
– *Ḫldy*: reflects *Ḫuldā* and consists of *ḫuld-* 'mole; rate' and the suffix *-ā(yu)* (van Soldt 2005, 174).
– *Irbn*: could consist of the element *irby-* 'locust' and the suffix *-ān* (Watson 2007, 108); the etymology is unexplained in the Ugaritic dictionary (Del Olmo Lete & Sanmartin 2003, 99).
– *Ḫrṣbʿ*: might consist of *ḫr* 'cave, lair' and *ṣbʿ-* 'hyena' (Watson 2007, 96). If this explanation is correct, the name must be associative, in that the place was known for hyenas, which seems reasonable in view of the mountainous surrounding of the city of Ugarit and the fact that hyenas existed there until recently (Masseti 2009, 241).
– *Ṯpn*: vocalized as *Ṯapunu* and written syllabically as *Ša-pu-nu* (Del Olmo Lete & Sanmartin 2003, 925). It probably reflects *ṯapan-* 'hyrax, rock badger' (Watson 2007, 105).

Biblical Hebrew

Toponyms in the Hebrew Bible have received quite a lot of attention in modern scholarship (e.g., Gray 1902; Borée 1930; Aharoni 1979; Rainey 1978; Gass 2005). The ones derived from animal names were explained through the theory of totemism by Gray (1902, 3316); as I have argued elsewhere (Dirbas 2019b), there is no strong evidence for a totemistic origin of personal names, and this appears to hold true for toponyms as well. Given the semantics and word formation of these toponyms, I propose classifying them into the same categorization suggested for their counterparts in cuneiform sources and Arabic: associative, religious, and occupation-related. Some could be used as a patronymic, but it is quite difficult to establish a criterion for distinguishing them. Most of the toponyms listed in the following sub-sections are mainly extracted from Gray (1902) and Rainey (1978, 6). Both works, however, discuss them only briefly without providing a sufficient linguistic analysis.

According to the list below, names of wild animals (deer, wild ass, lizard, leopard, lion, fox, etc.) are more attested in toponyms than names of domestic animals (calf, lamb, horse), probably due to the impact of the natural environment of Palestine (mountains, hills, and desert) and lifestyle (rural population in general).

Associative toponyms

The places in this category possibly received their names due to a special association with animals. For

example, a certain species of animals might have existed in the place.

– *ʾAyyālōn*: 'Little Deer', with the diminutive suffix *-ōn*, a name of two towns (Josh 10:12; Judges 12:2). It is also attested as *Ayyaluna* in the Amarna letters (EA 273; Na'man 2011, 291).
– *ʾEben-hazzōḥelet*: could mean 'The Serpent's Stone' (1 Kgs 1:9), possibly related to the 'Dragon's Well' (*ʿĒn-hattannīn*) in Neh 2: 13 (van der Toorn *et al*. 1999, 805).
– *ʿĂrād*: 'Wild ass', a town in the Negev (Num 21:1; Judg 1:16).
– *ʿEglōn*: 'Little Calf', with the diminutive suffix *-ōn*, described as a Canaanite city (Josh 10:23, 34).
– *ʿĒn-ʿeglayīm*: 'Spring of Calves', a place mentioned only in Ezek (47:10), somewhere near the Dead Sea.
– *ʿĒn-haqqōrēʾ*: could be explained as 'Spring of the Partridge'; it was located in Lehi but the site is unknown (Judg 15:19). Alternatively, it could mean 'Spring of the one who calls' (Botterweck *et al*. 2001, 46).
– *ʿEprōn*: 'Young Deer; Fawn', a name of two places, a town east of the Jordan (1 Macc 5:45) and a mount (Josh 15:9).
– *ʿĪr-nāḥāš*: 'City of the Serpent' or 'City of Bronze' (both are synonyms), a minor town in Judah (1 Chr 4:12).
– *ʿĒn-gedī*: 'Spring of the Kid', on west shore of the Dead Sea (e.g., Josh 15:62; 2 Chr 20:2). It might be so named because its water 'leaps' like a kid (Botterweck *et al*. 2001, 46).
– *ʿĒṭām*: possibly indicating 'Bird of Prey', a town between Bethlehem and Tekoa (2 Chr 11:6; Josh 15:59).
– *ʿOprāʰ*: 'Young Deer; Fawn' (compare *ʿEprōn* above), a name of two towns, one in the territory allotted to Benjamin (Josh 18:23) and one in the tribal lot of Manasseh (Judg 6:11).
– *Bēt-ḥoglāʰ*: 'House/Place of the Partridge', a town of Benjamin, lying between Jericho and the Jordan (Josh 15:6; 18:21).
– *Bēt-nimrāʰ*: 'House of the Leopardess' (Num 32:36; Josh 13:27), which also appears in the plural form *Nimrīm* 'Leopards' (Isa 15:6). It can be identified with modern Nimrin, north of the Dead Sea.
– *Gē-haṣṣāboʿīm*: 'Valley of Hyenas', near Gibeah in Benjamin (1 Sam 13:18).
– *Ḥăṣar-šūʿāl*: 'Village of the Fox', in southern Judah (Josh 15:28; 1 Chr 4:28; Neh 11:27).
– *ʾEreṣ-šūʿāl*: 'Land of the Fox', a place closed to Ophra (1 Sam 13:17).
– *Ḥumṭāʰ*: 'Lizard', a town close to Hebron (Josh 15:54).
– *Kəpīrāʰ*: 'Lioness', one of the four cities of the Gibeonites, (Josh 9:17), and it could be identified with modern Kufeirit, near the city of Jenin.
– *Layiš* 'Lion', a place named in Isa (10:30), apparently located north of Jerusalem.
– *Maʿălē-ʿaqrabbīm*: 'Ascent of Scorpions', a narrow grade in the Negev (Num 34:4; Josh 15:3).
– *Migdal-ʿēder*: 'Flock Tower', a place close to Bethlehem (Gen 35:21).
– *Pārāʰ*: 'Heifer', a town in the territory of the tribe of Benjamin (Josh 18:23).
– *Šaʿalbīm*: 'Foxes', a town in Dan (Judg 1:35). Whereas the common term for 'fox' in Hebrew is *šūʿāl*, this toponym is the only example in the Bible which reflects the proto-form **ṯaʿlab-* (Militarev & Kogan 2005, 303).
– *Šaʿalīm*: 'Foxes' (1 Sam 9:4). If explained correctly, this toponym reflects a unique *qata/āl* form (*šaʿa/āl*) versus the common *qūtāl* form (*šūʿāl*) mentioned above.
– *Ṣāboʿīm*: 'Hyenas', a place which was inhabited by the Benjamites (Neh 11:34).
– *Ṣəbōʿīm*: 'Stages, Deer', near Sodom (Gen 14:2).
– *Ṣūr-ʿōrēb*: 'Rock of the Raven', a place at which ʿŌrēb, the Midianite captain who was captured by Gedon's band, was killed (Judg 7:25). It is possible that the personal name is a derivation of the toponym (Botterweck *et al*. 2001, 342).
– *Ṭəlāʾīm*: 'Lambs', a place where Saul mustered his forces (1 Sam 15:4).

Occupation-related toponyms

– *Ḥăṣar-sūsīm*: 'Village of Horses', in Simeon (Chr 4:31). The name reveals that the place was used for horse breeding.
– *Bēt-kar*: 'House of the Ram', a place west of Mizpah (1 Sam 7:11).

Divine?

– *Bēt-ləbāʾōt*: understood as 'House of the Lionesses' (Josh 19:6); this could be a secondary late Hebrew pluralization in the Bible against the accurate and original Canaanite orthography and spelling *byt lbʾwt*, a name which reflects the cult of the Canaanite lioness goddess (van der Toorn *et al*. 1999, 523).

Arabic[1]

Thanks to the works of classical Muslim geographers and travelers, information is richly available on geographic places, not only in Arabia, but also in the

territories that were conquered by Muslims in the advent of Islam. In addition to these works, one also finds valuable toponymic data in Old Arabian inscriptions as well as Greco-Arabic documents, such as the Petra papyri from the sixth century AD (Al-Jallad *et al*. 2013). Linguistically, Arabian toponyms fall into three main classes: (1) pseudo-verbal name forms (e.g., *Yaṯrib*, *Yanbuʿ*, *Tamnaʿ*), which are ones of the oldest; (2) nominal form types, masculine (some ending with *-ān*) and feminine (ending with *-at* and *-ā'*); and (3) nominal compound formation containing elements like *ḏū-X*/*ḏāt-X* '(place) of so-and-so', *ʿayn-X* 'spring', and *bi'r-X* 'well' (Isserlin 1986).

In relation to animal names, they are widely used in Arabic naming tradition. In personal names, for example, around 257 elements are found (Dirbas 2019a, 144ff). A smaller number (*c*. 43 elements) occurs in toponyms as we will see below. In terms of reasons for using these names, Arabic toponyms yield more categories than the ones attested in the above-discussed languages. In addition to associative, religious, and patronymic toponyms, there are examples that appear to indicate a pejorative sense or point to a topographical resemblance with the place in question.

Like the case in Hebrew and Ugaritic, the majority of Arabic toponyms below signifies wild animals (hyena, wolf, lion, gazelle, etc.), a phenomenon that can be attributed to lifestyle and the influence of the natural environment of Arabia. Due to their nomadic-pastoralist lifestyle, Arabs in the pre- and early Islamic times encountered all types of wild animals in their daily life and thus gave their names to places.

Associative toponyms

The meaning and etymology of the following toponyms, most of which are compound or in the plural form, suggest that they were called so due to a specific association with animals. For example, a certain type of animal lived in the place.

– *Arānib*: 'Hares' (plural of *arnab-*), an unspecified place (Yāqūt 1995 1, 60).
– *al-Ansur*: 'Vultures' (plural of *nasr-*), a spring in the area of the Ṭayyi' tribe (Yāqūt 1995 1, 265).
– *Awrāl*: 'Monitor Lizards' (plural of *waral-*), in Najd (al-Hamdānī 1990, 294).
– *ʿAqārib*: 'Scorpions' (plural of *ʿaqrab-*), in Yemen (al-Hamdānī 1990, 182).
– *ʿAyn al-Nāqah*: 'Spring of the She-camel', in the Bahrain region. The place is reported to have been called so because a woman crossed it on her she-camel (al-Hamdānī 1990, 273); this explanation sounds etiological.
– *ʿAyn Ẓabī*: 'Spring of the Antelope', a place close to the city of Samawah, Iraq (Yāqūt 1995 4, 179). Alternatively, it could be based on a personal name (see *Toponyms denoting topographical resemblance* sub-section below).
– *ʿUrfat Aʿyār*: 'Highland of Donkeys' (plural of *ʿayr-*), in the land of the Asad tribe (Yāqūt 1995 4, 106).
– *Burqat Arwā*: 'Rugged Ground of Female Ibexes'[2] (plural *urwiyya-*), a mount in the land of the Tamīm tribe (Yāqūt 1995 1, 391).
– *Burqat al-Ṯawr*: 'Rugged Ground of the Bull', in the Bahrain region (Yāqūt 1995 1, 392).
– *Burqat Anqad*: 'Rugged Ground of the Hedgehog', a mount in the Yamama region (Yāqūt 1995 1, 391).
– *Burqat Afʿā*: 'Rugged Ground of the Snake', an unidentified place (Yāqūt 1995 1, 391).
– *Dārat al-Arā'im*: 'Round Sandy Tract of White Deer'[3] (plural of *ri'm-*), an unidentified place (Yāqūt 1995 2, 425).
– *Dārat al-Ḏi'b*: 'Round Sandy Tract of the Wolf', in Najd (Yāqūt 1995 2, 427).
– *Dārat al-Ǧa'ab*: 'Round Sandy Tract of the Onager', in the land of the Tamīm tribe (Yāqūt 1995 2, 425).
– *Dārat al-Ḫinzīr*: 'Round Sandy Tract of the Boar', an unidentified place (Yāqūt 1995 2, 427).
– *Ḏāt al-Ri'āl*: 'That of/Area of Young Ostriches' (plural of *ra'l-*), apparently in southwestern Iraq (al-Hamdānī 1990, 236).
– *Ḏū Ġazāl*: 'Place of the Gazelle', around 80 km northwest of Mecca (al-Hamdānī 1990, 384).
– *Marǧ al-Ẓibā'*: 'Grassland/Meadow of Gazelles' (plural of *ẓaby-*), an unspecified place (Yāqūt 1995 4, 58).
– *Muṯaʿlab*: 'Rich with Foxes', based on *ṯaʿlab-* 'fox'. The specific location of this mount is unidentified (Yāqūt 1995 5, 53).
– *Naǧd al-ʿUqāb*: 'Highland of the Eagle' (Yāqūt 1995 4, 133).
– *Qalʿat al-Ḍibāb*: 'Citadel of Monitor Lizards' (plural of *ḍabb-*), in the city of Kufah, Iraq (Yāqūt 1995 3, 451).
– *Rawḍat al-ʿAnz*: 'Meadow of Goats' (plural of *ʿanzah-*), in the Hejaz region (Yāqūt 1995 3, 39).
– *Rawḍat al-Siḫāl*: 'Meadow of Kids/Lambs' (plural of *saḫl-*), in the Yamama region (249; Yāqūt 1995 3, 90).
– *Riyāḍ al-Qaṭā*: 'Meadows of Sandgrouse' (plural of *qaṭāt-*), in the land of the Rabīʿa tribe (Yāqūt 1995 3, 93).
– *al-Ri'āl*: 'Young Ostriches' (plural of *ra'l-*), an unidentified place (Yāqūt 1995 3, 109).
– *Siḫāl*: 'Kids/Lambs' (plural of *saḫl-*), in the Yamama region (Yāqūt 1995 3, 196).
– *Šaṭṭ al-Ḥaǧal*: 'The Bank of Partridges' (plural of *ḥaǧalah-*), in Yemen (al-Hamdānī 1990, 209).

– *Umm awʿāl*: 'Area (literary, Mother) of Ibexes' (plural of *waʿl-*), a highland in the Yamama region (Yāqūt 1995 1, 239). The place is also known as *Ḏāt Awʿāl* 'Area of Ibexes' (al-Hamdānī 1990, 294).
– *Wādī al-Sibāʿ*: 'Valley of Beasts of Prey/Lions' (plural *sabuʿ-*), in the area of Kufah, Iraq (al-Hamdānī 1990, 209). According to Yāqūt (1995 5, 343), it was so called by the Arab eponym Wā'il b. Qāsiṭ, for there he met a women called *Umm al-Asbuʿ*, and all of her male children had names of beasts of prey. However, one cannot take this report seriously, as it reflects folk etymology. It seems more likely that the valley was known through this name due to a large number of wild beasts which lived in it.
- *al-Ẓibā'*: 'Antelopes' (pl. of *ẓaby-*), an unidentified place (Yāqūt 1995 4, 58).

Toponyms associated with religious beliefs
Unlike ancient Semitic languages, namely, Akkadian and Hebrew, Arabic exhibits no toponyms indicating a divine background, that is, referring to a deity with an animal name/epithet; yet there are two examples which are related to traditional religious beliefs.

– *Wādī al-Naml*: 'Valley of the Ants', close to ʿAsqalān/Ashkelon. People believed that in this valley the ants spoke to Solomon (Yāqūt 1995 5, 346).
– *ʿAyn al-Baqar*: 'Spring of Cows', near Acre, was so called because people believed that the cows which Adam used for cultivation appeared in it (Yāqūt 1995 4, 176).

Pejorative toponyms?

– *Dayr al-Fa'r*: 'Monastery of the Mouse', in Egypt. The place is reported to have been called so because of the large number of mice which existed in it (Yāqūt 1995 2, 525).
– *Dayr al-Ḫanāfis*: 'Monastery of Black Beetles' (pl. of *ḫunfusā'*), in the mount of Šāmiḫ/Mattā between the Tigris River and the city of Mousil, Iraq. The reason for giving it this name is that its walls were once covered by a huge number of black beetles (Yāqūt 1995 2, 508).

The fact that these two insect-based names (connoting bad symbolism) are associated with monasteries reveals that they were given by non-Christians or by an opponent Christian sect in an attempt to derogate them.

Toponyms denoting topographical resemblance
The topography of the place apparently has the shape of an animal or part of it.

– *Ḍabuʿ*: 'Hyena', there are several places with this name, one of which is a mount in the area of the Ġaṭafān tribe. This place is said to have been called so because its rocks are distributed like a hyena's mane (Yāqūt 1995 3, 451).
– *Ḫaṭm al-Ġurāb*: 'The Raven's Beak' (literally, muzzle), a mountainous village in Yemen, currently known as *Daqm al-Ġurāb*, i.e., the same meaning (al-Hamdānī 1990, 157). Given the available photos of the mountain on which the village is located, the name was perhaps used due to a topographical resemblance with a raven's beak.

Patronymic toponyms
Like the examples attested in cuneiform sources (see above), some Arabic toponyms could be based on personal names derived from animal names (not necessarily eponyms). This likely holds true for names in the construct state, where the *nomen rectum* is indefinite (without the article *al-*) because in the standard form of the construct state in Arabic, the *nomen rectum* is usually definite. As is known, the majority of Arabic personal names are indefinite.

– *ʿAyn Ğamal*: there are two reports regarding this place, the first of which mentions that it was so called after a camel which died at it; the second attributes the name to the person who dug the well, Ğamal 'Camel' (Yāqūt 1995 4, 177). The latter report sounds more probable in view of the absence of the definite article (see the next example).
– *Bi'r Ğamal*: 'Well of Ğamel', in Medina (Yāqūt 1995 1, 229).
– *Bi'r ʿIkrimah*: 'Well of ʿIkrima (Dove)', in Mecca (Yāqūt 1995 1, 300).
– *Ḫazn Kalb*: 'Rugged Ground of Kalb' (Dog), an unidentified place (Yāqūt 1995 2, 254).
– *al-Ṯaʿlabiyyah*: a place close to Kufah (Yāqūt 1995 2, 78), so named after a person called *Ṯaʿlab* 'Fox' (al-Hamdānī 1990). This explanation seems reliable in view of the *nisba* ending.

Unknown reasons
Given the formation of the toponyms below, it is quite difficult to determine the reasons for naming them so. They might fall under the associative toponyms, toponyms denoting topographical resemblance or patronymic toponyms categories above.

– *Aklub*: 'Dogs' (plural of *kalb-*), a mountain in Yemen (Yāqūt 1995 1, 240).
– *Atān*: 'She-donkey', a place in Yemen (al-Hamdānī 1990, 281).

– *ʿAqrabā'*: 'Scorpion', there are two places with this name, one in the Yamama region and one in southern Syria (Yāqūt 1995 4, 135).
– *ʿIğlah*: 'Heifer', an unspecified place (Yāqūt 1995 4, 87).
– *al-Ḍubayb*: 'Little Monitor Lizard' (diminutive of *ḍabb-*), a salt marsh in the area of Hail, central Arabia (al-Hamdānī 1990, 260).
– *Ḍabb*: 'Monitor Lizard', a mount in Mecca (Yāqūt 1995 3, 451).
– *Labuʾah*: 'Lioness', a mountain in Yemen (al-Hamdānī 1990, 206).
– *Naʿāmah*: '(female) Ostrich', a place in Najd (Yāqūt 1995 5, 293).
– *al-Nusayr*: 'Little Vulture' (diminutive of *nasr-*), a castle close to the city of Nahavand, Iran (Yāqūt 1995 5, 285).
– *Šiblān*: based on *šibl-* 'lion cub', a river in the city of Basra (Yāqūt 1995 3, 322). This noun could be either the dual form or the singular form with the suffix *-ān*. In case of the latter option, it is probably based on a personal name, for this suffix is commonly attested in classical and modern Arabic names (Dirbas 2019a, 155).
– *Tays*: 'Ram', a place in Yemen (al-Hamdānī 1990, 124).
– *Ṯuʿāl*: 'Fox', a place between Mecca and Medina (Yāqūt 1995 2, 78).
– *Ṯuʿālah*: reflects the previous form with the suffix *-ah*, located in the Bahrain region (Yāqūt 1995 2, 78).
– *al-Ṯuʿbān*: 'Serpent', a place in Najran (al-Hamdānī 1990, 370).
– *Wādī al-Subayʿ*: 'Valley of the Little Lion' (diminutive of *sabuʿ-*), an unidentified place (Yāqūt 1995 5, 344).
– *al-Yamāmah*: 'Pigeon', a historical region in central Arabia lying to the east of Najd (Yāqūt 1995 5, 441).
– *al-Ẓubayyah*: 'Little Hind' (diminutive of *ẓabyah-*), a place in Yemen (Yāqūt 1995 4, 58).

Concluding remarks

This chapter has surveyed Semitic toponyms derived from animal names in a variety of languages, namely cuneiform sources (Akkadian and West Semitic), biblical Hebrew, Ugaritic, and Arabic. The discussed toponyms denote all kinds of animals known to the ancient Near East, like equids, wild animals, birds, rodents, insects, but not aquatic creatures, probably because the majority of the mentioned places is on the land. The number of animal names attested in these toponyms varies from one language to another, depending on documentation and the richness of sources: Arabic (43 elements), Hebrew (28), Akkadian (14), West Semitic in cuneiform tablets (nine), and Ugaritic (six). These findings agree with the research into Semitic personal names, where Arabic exhibits the highest number of names derived from animal terms compared to the other Semitic languages (Dirbas 2019a). Cultural and social factors seem to have affected naming places strongly, especially lifestyle. For example, the fact that Arabs in the pre- and early Islamic times encountered animals in their daily life, namely the wild ones (gazelle, lion, wolf, etc.), due to their nomadic-pastoralist lifestyle can help us understand why the names of these animals are more attested in toponyms than the names of domestic animals. The same also holds for Hebrew and Ugaritic, where we find more names of wild animals, apparently due to the natural environment and the rural aspect of life in ancient Palestine and the mountainous vicinity of the city of Ugarit.

In terms of word formation, the toponyms in question demonstrate two types: one-word names (singular and plural) and compound names. Most of the toponyms from the latter category are of the two-word type, with the exception of a few three-word instances in Akkadian (the ones with the element *ša* 'of'). The two-word names are formed with: (1) general terms for places, such as *bayt-* 'house, place' or 'temple' in the religious context (Akkadian, West Semitic, and Hebrew), *māt* 'land' (Akkadian), *ʾereṣ* 'land' (Hebrew); (2) terms derived from the built environment, such as *ālum* 'city' (Akkadian), *ḥăṣar* 'village', *ʿīr* 'city' (Hebrew), *dayr* 'monastery', *qalʿah* 'citadel' (Arabic); and, the majority, (3) terms derived from the natural environment/landscape, such as *agammu* 'marsh' (Akkadian), *ḫr* 'lair' (Ugaritic), *ʾeben* 'stone', *maʿălē* 'ascent', *ṣūr* 'rock' (Hebrew), *ʿayn* 'spring' (Hebrew and Arabic), *ʿurfah* 'highland', *burqah* 'a rugged ground with sand, stones, and earth', *dārah* 'round sandy tract of land', *naǧd* 'highland', *rawḍah* 'meadow', *marǧ* 'grassland, meadow', *šaṭṭ* 'river bank', and *wādī* 'valley' (Arabic). The built and natural environment seem to have played an important role in naming. Arabic, for example, exhibits twenty-two toponyms formed with terms denoting the natural environment and only three denoting the built environment, something which can be explained through lifestyle as mentioned in the previous paragraph.

The chapter also reflected on possible reasons for using animal names for Semitic toponyms. Given their semantics and word formation, the discussed examples seem to fall into six categories: (1) associative toponyms, where the place took its name from a special association with animals (e.g., it might have been known for having a certain animal species); (2) occupation-related toponyms; (3) toponyms associated with religion, where the name signifies a cult

of a deity with an animal name (originally epithet, in Akkadian and Canaanite-Hebrew) or reflects a traditional religious belief (Arabic); (4) patronymic toponyms, where the place was named after a person with an animal name; (5) toponyms indicating a topographic resemblance; and (6) pejorative toponyms, where the name was given to the place as an expression of derogation. The latter two categories are restricted to Arabic.

Notes

1 Formal issues regarding the transliteration of Arabic names: (1) the initial *hamza* /ʾ/ is not transcribed (e.g., *Atān* instead of *ʾAtān*); (2) assimilation of the definite article (*al-*) is disregarded (e.g., *al-Nāqah* instead of *an-Nāqah*); (3) diphthongs are written with *ay* (e.g., *ʿayn*) and *aw* (e.g., *Awrāl*).

2 *Burqah*: this term, which was frequently used for Arabian toponyms in the construct state *burqat* so-and-so (Yāqūt 1995 1, 390–9), denotes 'a rugged ground in which stones and sand and earth are mixed together' (Lane 1863, 190c).

3 The term *dārah*, which is commonly found in Arabic toponyms (Yāqūt 1995 2, 424–31), means 'a round tract of sands with a vacancy in the middle, or any wide space of land among the mountains' (Lane 1863, 931b).

Abbreviations

The abbreviations used in this chapter are: (1) for languages: Akk. (Akkadian); Amor. (Amorite); Ar. (Arabic); Aram. (Aramaic); NWS (Northwest Semitic); PS (Proto-Semitic); WS (West Semitic); Ug. (Ugaritic); (2) for periods: OB (Old Babylonian); MB (Middle Babylonian); and NB (Neo-Babylonian).

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Chapter 11

The king as a fierce lion and a lion hunter: the ambivalent relationship between the king and the lion in Mesopotamia

Chikako E. Watanabe

The association between the king and the lion is a common phenomenon observed in various cultures. The Mesopotamian kings were often described in terms of the lion in metaphors and similes creating a literal perception of the king being identified with the animal. The king, however, also led hunts to kill lions, the very animal with which he was closely associated. The dual aspects of the king having been viewed as the lion himself and also as the one who slays the animal appear contradictory. Why did the king kill the lion with which he was identified? This chapter examines literary expressions as well as visual representations of the lion in the Mesopotamian royal context in order to understand the mechanism of this paradoxical relationship.

The association between the king and the lion

In previous studies which dealt with the association between the king and the lion in Mesopotamia, Elena Cassin (1981, 353–401) was the first who carried out a systematic study of the textual evidence and successfully established a close relationship between them. In her discussion, however, she argued that the lion was chosen for the king because the animal represents the highest rank in the wild (*erṣetu*): the king of the wild domain (Cassin 1981, 400–1). Her interpretation suggests that the animal's status as the apex predator was reflected in the supreme position of the king in human society. The lion being seen as 'the king of the wild' may be a common perception in the modern world, but in Mesopotamian sources there is no single reference which supports an ancient perception of the lion being viewed as 'the king'. There are, however, numerous examples of textual evidence in which the king is described in terms of 'the lion'. There seems to be no evidence to suggest that the realm of wild animals was regarded as being organized like that of urbanized humans, with a hierarchical system, in the mind of the ancient Mesopotamians. This fact is often overlooked, but it is important to consider it in order to understand what was originally intended.

Typical expressions which associate the king with the lion appear in royal metaphors; the notion is also expressed in personal names. Names such as 'Lugal-pirig' (Deimel 1924, 40a) and '*Šarru-laba*' (Thureau-Dangin 1903, 112) juxtapose the 'king' and the 'lion', and are considered to mean 'the king [is] a lion'. Both names come from Shuruppak (modern Tell Fara) during the Early Dynastic period, *c*. 2550 BC. The name Lugal-pirìg-bànda meaning 'the king [is] a fierce lion' comes from Nippur and Lagash during the Third Dynasty of Ur (Limet 1968, 329, 472), and Šulgi-pirig, meaning 'the king Shulgi [is] a lion', is also found during the same period (Pettinato 1967, 188, no. 764). In the expression of royal metaphors, the Old Babylonian king Hammurapi (1792–1750 BC) is described as 'Fierce lion' (pirìg bànda; see Frayne 1990 (RIME 4), 345, Ḫammu-rāpi E4.3.6.11, line 3); the Neo-Assyrian king Esarhaddon (680–669 BC) uses the same metaphor in Akkadian (*labbu nadru*).[1] The straightforward statement: 'I am a lion' occurs with Adad-nirari II (911–891 BC) and Ashurnasirpal II (883–859 BC) in their royal inscriptions:

> I am king, I am lord, I am powerful, I am important, I am praiseworthy, I am magnificent, I am strong, I am mighty, I am fierce, I am enormously radiant, I am a hero, I am a warrior, I am a virile lion (*lab-ba-ku*), I am foremost, I am exalted, I am raging.
>
> (Grayson 1991, 147, Adad-nārārī II A.0.99.2. lines 14–15)

> At that time my sovereignty, my dominion, (and) my power came forth at the command

> of the great gods; I am king, I am lord, I am praiseworthy, I am exalted, I am important, I am magnificent, I am foremost, I am a hero, I am a warrior, I am a lion (*lab-ba-ku*), and I am virile.
>
> (Grayson 1991, 195–6, Ashurnasirpal II A.0.101.1. lines 31–3)

The most descriptive expressions appear with the Ur III king Shulgi (2094–2047 BC), where, in his royal hymns, the king is described as 'lion, never failing in his vigour, standing firm in his strength' (pirig nam.šul.bi.ta nu.kúš.ù nè.ba gub.ba.me.en),[2] 'lion with wide-open mouth' (pirìg ka.duḫ.ḫa),[3] 'vigour of a raging lion (á pirìg.ug)',[4] 'lion with awe-inspiring eyes (pirig igi.ḫuš)',[5] and 'lion with the raised paw' (pirig šu.zi.ga).[6] The author (Watanabe 2000, 400–2) examined these metaphoric statements by applying a theory by Max Black (1962, 25–47), who analysed metaphor from the point of view of semantic interaction. Mesopotamian lion metaphors used in the royal context can be interpreted as elucidating the nature and aspects of the king in terms of specific animal features, such as the lion's awe-inspiring eyes, wide-open mouth and its posture with a raised paw. These concrete images and descriptions in Shulgi's hymns are mentioned to evoke particular notions which are projected upon the king in order to construct our views of king Shulgi on his nature being worthy of Mesopotamian kingship.

The interpretation above is based on Black's analysis of metaphoric statements in which metaphor is explained from the point of view of the 'primary' subject and the 'secondary' subject (Watanabe 2002, 42–56). In a statement 'the king is a lion', for example, the primary subject is the 'king' and the secondary subject the 'lion'. The primary subject is the central theme of the expression, whereas the secondary subject signals a system of relationships to evoke notions (Fig. 11.1). The 'lion', as the secondary subject, selects and emphasizes specific features which are to be projected onto the primary subject, the king. The system of relationships is based on our commonplace associations with the word 'lion', from which appropriate notions and images associated with the word 'lion' are evoked and emphasized to fit the context of the Mesopotamian kingship, e.g., fierce, strong, merciless, magnificent, and so on. It also works to suppress other features which are not appropriate in the given context.

In Shulgi's metaphor, these references to specific features and postures of the animal evoke more concrete images and ideas in our mind. For example, the lion's 'awe-inspiring eyes' can be interpreted as the lion's glaring eyes seen at night (Fig. 11.2), because the Sumerian word ḫuš denotes a reddish colour

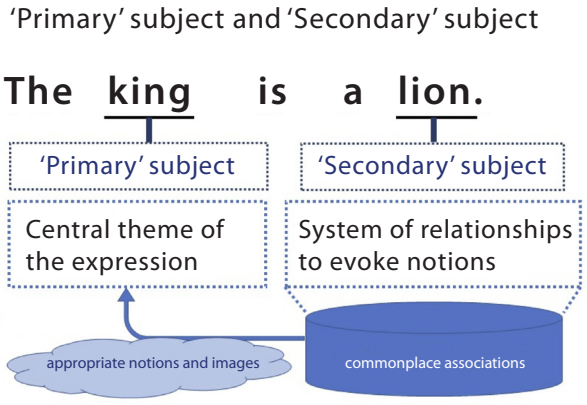

Figure 11.1. *Metaphor explained by the 'primary' and 'secondary' subjects (Max Black's theory of metaphor).*

which indicates a luminous phenomenon (Heimpel 1968, 309–10).

When the king is described as 'the lion with the awe-inspiring eyes', it thus refers to the sight of a lion encountered at night, which induces instant fear in the human mind, because the lion is probably hunting. Whoever sees those flashing eyes is vulnerable due to his inability to see his enemy in the dark, while his attacker possesses night vision, which exacerbates the feeling of fear. The two subjects in a metaphoric statement thus interact, such that 'the metaphor selects, emphasizes, suppresses and organizes features of the

Figure 11.2. *Lion with flashing eyes, after Iwago, M., 1995. Raion kazoku (Lion family), Tokyo; © 1995 Mitsuaki Iwago.*

Figure 11.3. *Lion-hunt stele from Uruk, Eanna III; reproduced courtesy of the Iraq Museum (Orthmann 1985, fig. 68).*

primary subject by implying statements about it that normally apply to the secondary subject' (Black 1962, 44–5). What determines the emphasized notion is the 'context' which provides a frame for the metaphoric statement to interact successfully.

Royal lion hunt

The king's hunting deeds were recorded in both texts and art. The oldest evidence of the royal lion hunt in Mesopotamia comes from the so-called Lion-Hunt Stele from Uruk (Fig. 11.3), which is dated to the late fourth millennium. Numerous accounts and representations are found in Assyrian records in which the king slew lions. In royal inscriptions from the late twelfth to the ninth centuries, extraordinary numbers of kills were recorded (Watanabe 2002, 77). Tiglath-pileser I (1114–1076 BC) claims to have killed 120 lions on foot and 800 from his light chariot,[7] Ashur-bēl-kala (1073–1056 BC) killed 300,[8] Ashur-dan II (934–912 BC) killed 120,[9] Adad-nirari II (911–891 BC) killed 360,[10] Tukulti-Ninurta II (891–884 BC) killed 60 strong lions;[11] Ashurnasirpal II captured 15 lions and 50 lion cubs alive to form a 'herd',[12] killed five lions in Hittite land,[13] and killed a further 370[14] or 450 strong lions.[15] Shalmaneser III (859–824 BC) killed 399[16] or 640[17] lions, and Shamshi-Adad V (824–811 BC) killed three *startled* lions in the gorge between the cities Zaddi and Zaban (near the Diyala region).[18]

The visual representation of the royal lion hunt is best known from the bas-reliefs of Ashurnasirpal II (see Budge 1914, pl. XLII-1; Orthmann 1985, 205), which decorated the walls of the Northwest Palace in Nimrud (Fig. 11.4), as well as those of Ashurbanipal

Figure 11.4. *Lion-hunt relief of Ashurnasirpal II, BM ME 124534, from Room B, Northwest Palace, Nimrud,* c. *865* BC*; reproduced courtesy of the Trustees of the British Museum.*

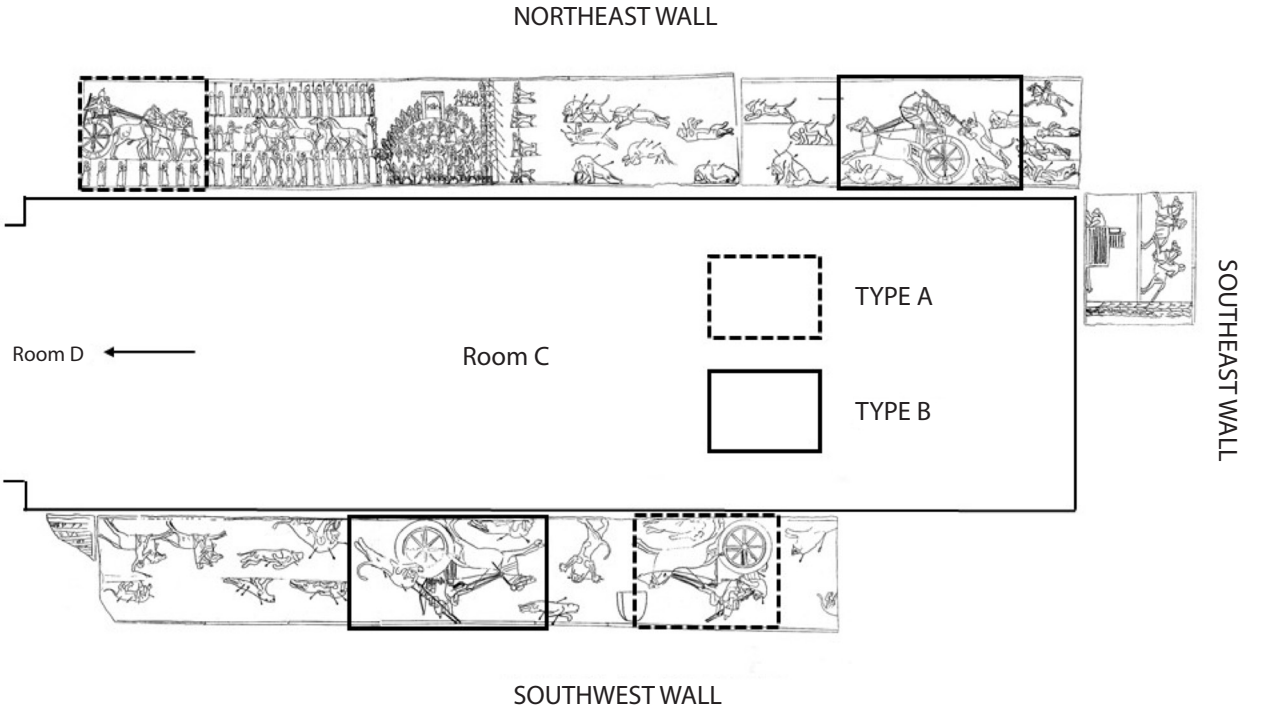

Figure 11.5. *An illustration showing the narrative scheme of the lion-hunt reliefs of Ashurbanipal in Room C of the North Palace at Nineveh (drawing by the author).*

(see Barnett 1976) in the North Palace at Nineveh (Fig. 11.5). The latter displayed the motif extensively from the preparatory stage to the post-hunting ritual (cf. Reade 2018, 52–79; Watanabe 2014, 352–9; Watanabe 2018, 220–33).

Interpretation of the royal lion hunt

Regarding the purpose of the hunt, no direct explanations are given in extant Mesopotamian texts, but various interpretations have been proposed. Albenda (1972, 167–78) regarded the royal lion hunt as an assertion of the divine power behind the king, which was prominent in the representation of the libation ritual performed after the hunt, and the ritual was interpreted as glorifying the divine role in the successful hunt. Cassin (1981, 353–401) viewed the hunt as both a princely activity and a religious obligation of the king as recorded in texts, in which the king states that the hunt was carried out at the command of deities such as Ninurta and Nergal.[19] She regarded the king's victory over the lion as signifying the extension of the king's power beyond the realm of the civilized (*mātu*) into the wild (*erṣetu*). Reade (2018, 55–64) considers a close association between hunting and military activities, in which lion hunts were regularly integrated into triumphal processions and New Year celebrations. Nadali (2018, 216–17) interprets the action of king Ashurbanipal killing lions in Room C of the North Palace as the representation of the present, and the dead lions displayed in the arena as that of the past as the outcome of the successful hunt, thus merging two moments of the hunt to display the progress of time. Wagner-Durand (2019, 262–3) examined the way in which texts and images were used in Assyrian royal lion hunts and concluded that they should be understood as nominative narratives of reality to construct the world as it should be.

Weissert (1997, 339–58) examined Ashurbanipal's textual records and suggested that the king hunted lions to present himself as a 'faithful shepherd', fulfilling the traditional role of the Mesopotamian king in protecting his people and domestic animals from harmful beasts. He also identified 18 lions inside an enclosed arena depicted on the northeast wall of Room C in the North Palace as representing a particular royal hunt recorded in the text K6085 which states:

> […] … […, the th]ird (lion), I smashed the …s and not […] … […], the fourth, I smashed the skull and … […], the fifth, I cut through its tendon and … […]. With my single, lordly team harnessed to the *v*[*ehicle* of my royal majesty], forty minutes after dawn, I [pacified] the fury of eighteen raging lions […]

> I threw their corpses opposite one another [into] heaps […]. I made their blood flow and […] the vegetation of the steppe like […] (K6085, lines 1'–8'b; to appear in Novotny & Jeffers, RINAP 5/2, forthcoming)

Weissert's identification of these 18 lions in both the representation of the arena scene depicted on the walls of Room C and the textual description in K6085 enabled us to better understand what was actually represented on the reliefs in this room. He further speculated that these 18 lions were symbolizing 18 city gates of Nineveh (Weissert 1997, 355).

Watanabe (1998, 439–50) focused on the occurrence of peculiar terminology used in the description of the lion hunt in the late Middle Assyrian period and suggested a possible association with the Ninurta myths (cf. Watanabe 2002, 76–82). An unusual weapon called ^{giš}*nar'amtu* is mentioned in the text engraved on the Broken Obelisk (Grayson 1991, 103, A.0.89.7. vi 12).[20] The word *nar'amtu* derives from a rarely used verb *ru'umu*, which appears in the description of the god Ninurta cutting off the wings of the monster Anzû (Vogelzang 1988, 56–60, lines 107–29). Other evidence comes from a description of the king's assault on the lion using his 'swift foot' (*ina šēpī lassamāte*)[21] which may indicate an association with Ninurta's cultic drama performed as a 'footrace' called *lismu* (Livingstone 1989, 85, no. 34: 57–8), which was re-enacted in all cult centres in the month of Kislimu in Assyria. A relief carved on a wall of the entrance to the Ninurta Temple in Nimrud shows Ninurta pursuing Anzû in a running posture (Fig. 11.6); the same scene often appears in the motif of Neo-Assyrian cylinder seals.[22] They are both associated with the divine hero's victory over his enemy to establish order and kingship. The reference to the deity's name in a stock phrase of hunting accounts: 'through the command of the gods Ninurta (and) Nergal',[23] may also explain this mythological association.

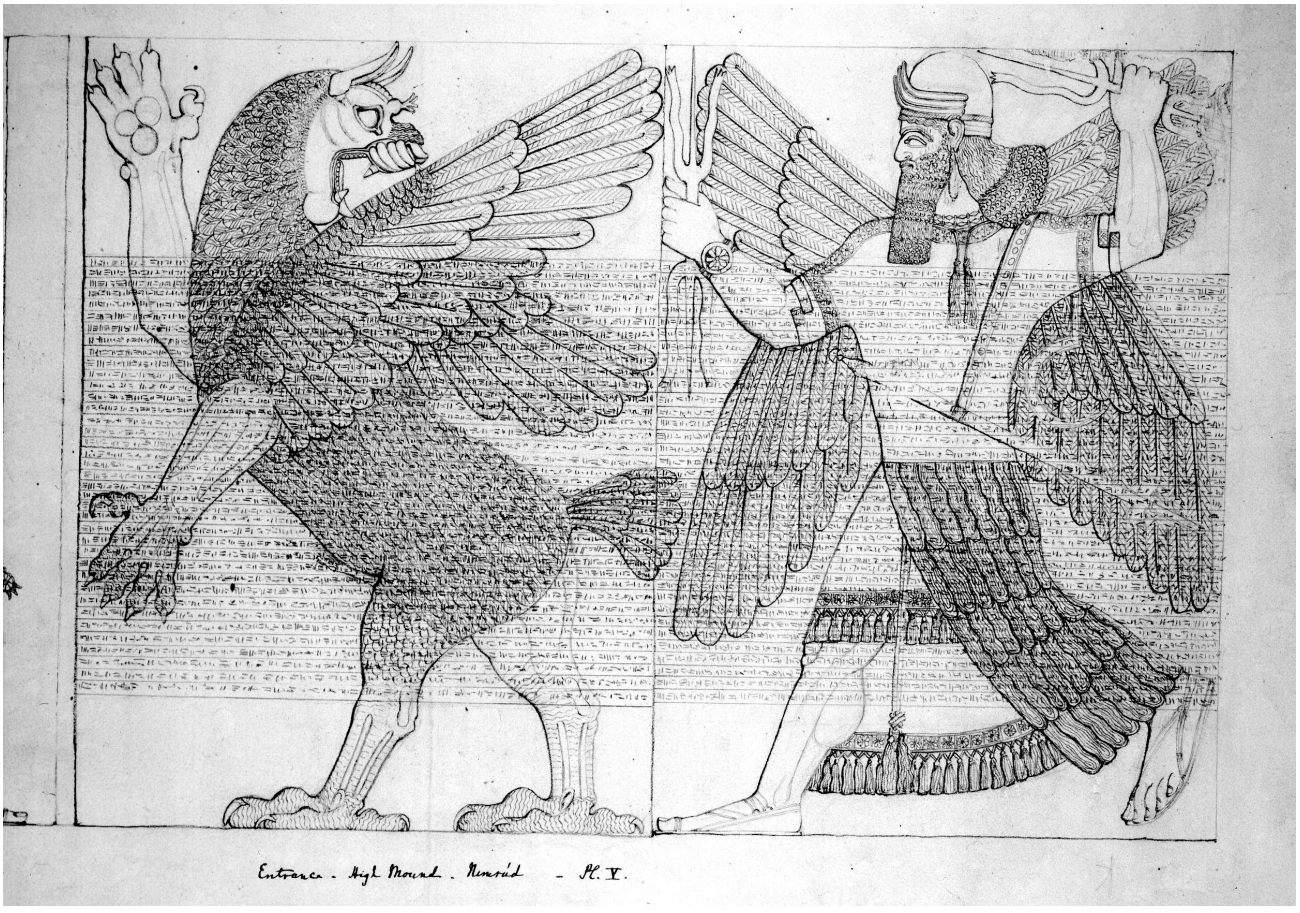

Figure 11.6. *Drawing of relief representing the god Ninurta pursuing Anzû, relief excavated at the entrance to the Ninurta Temple, Nimrud, Original drawing of BM ME 124571; reproduced courtesy of the Trustees of the British Museum.*

Ashurbanipal's lion hunt in Room C of the North Palace

Weissert's identification of the 18 lions depicted inside the arena with those in the textual evidence sheds new light on our understanding of Ashurbanipal's lion hunt. There are additional features to be 'read' from the reliefs, which are not explained in texts but only in visual representations. Watanabe (2014, 352–9) examined the chariot crew and the king's accessories represented on the walls of Room C and elucidated that two sets of units are incorporated in the scheme of composition (Fig. 11.5). The king appears four times in Room C: 1) the Preparation Scene, 2) the Bow and Arrow Scene, 3) the Sword Scene, and 4) the Lance Scene.[24] The crew of the royal chariot always consists of a charioteer and two attendants, who are divided into two groups according to whether or not a eunuch is present. A subtle difference in the depiction of the king's bracelet(s) and armbands is observed, again divided into two groups: types A and B. The combination of the types of accessories and the crew-members is consistent as units, and they occur alternately in the scene. This unique depiction suggests that the hunting scenes in this room were not based on a single occasion, but were taken from at least two separate lion hunts. The way in which multiple incidents are amalgamated under the same theme into a unified framework was a typical practice at the time of Ashurbanipal, which occurred not only with his pictorial representations but also with his textual descriptions of events. Another interesting feature revealed by the author's latest study concerns the two different types of lions portrayed in Ashurbanipal's reliefs, suggesting that both a staged lion hunt in the urban arena *and* a hunt carried out in the wild steppe were rendered in the scheme of reliefs in Room C, which also supports the hypothesis that hunts carried out on at least two separate occasions were incorporated in the scene as if they were a single unified event.[25]

Symbolic mechanism

In conclusion, the king was identified with the lion, and his royal image was constructed using the features and characteristics of that animal. The king also fought and killed lions in an arena or out on the steppe. The act of hunting the animal with which the king is closely associated appears contradictory, as it indicates that the king is killing himself. What particular symbolic notions are emphasized in each case, however, depends on the context. The ferocious features of the lion are best observed in the context of the fight, which was also regarded essential to the king's quality as a warrior. Lions are pursued and killed in the hunt, which may have evoked notions associated with harmful beasts, or the evil enemies at 18 city gates, or a mythological monster to be vanquished, but the lions still possess properties which are elsewhere attributed to and identified with the king. The latter feature has been suppressed when the lion's role as prey animal is emphasized, but was never erased or entirely extinguished; it was simply pushed into the background in a standby mode, but was ready to be evoked when the context changed and this feature was required.

This dual symbolic nature is clearly illustrated in the Assyrian royal seal (Fig. 11.7). It presents a scene in

Figure 11.7. *Clay sealing bearing the stamp of the Assyrian royal seal, Nineveh, 715 BC, SM.2276; reproduced courtesy of the Trustees of the British Museum.*

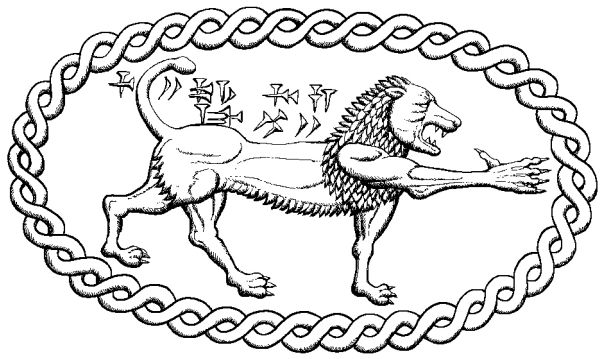

Figure 11.8. *Assyrian royal seal, ND.7104; drawing by Megumi Morishita (after Parker 1962: 39, fig. 9).*

which the king faces a rampant lion and stabs it with a dagger. The lion is shown with its right paw raised (pirig šu.zi.ga) ready to strike and with a wide-open mouth (pirìg ka.duḫ.ḫa) ready to bite, presenting its maximum danger and aggression.

In another type of Assyrian royal seal, only the lion is depicted (Fig. 11.8). The animal is no longer rampant but stands with three paws on the ground and its right forepaw stretched forward, which is the horizontal version of the raised paw, and the wide-open mouth should also be noted. There is no representation of the king in this scene, but the seal was recognized as the mark of royal authority. The depiction of the lion here with a raised paw and wide-open mouth was, therefore, possibly seen as representing the king himself, as described in Shulgi's hymn as 'lion with the raised paw' (pirig šu.zi.ga) and 'lion with wide-open mouth' (pirìg ka.duḫ.ḫa), by exhibiting his fierce features to evoke and emphasize notions that were attributed to the king, thus 'the king is a lion': Lugal-pirig, 'I (i.e. the king) am a lion (*labbaku*)' and the king is 'a fierce lion (*labbu nadru*)'. Due to the interchangeable nature of the symbolism attributed to the lion, artists avoided representing the animal in a manner which reflects a sense of humiliation or contempt such as that directed at human enemies, even though the lions were hunted and killed ruthlessly by the king.

The fact that the lion represents the king himself explains why lion hunting was strictly the preserve of royalty. King Shulgi claimed that 'to finish the lion with the weapon was my own privilege' (Šulgi B 76; see Castellino 1972, 38). An Old Babylonian man called Yaqqim-Addu wrote two letters, each asking the king for his instruction concerning a captured lion. The first letter regarded a lion which refused to eat, which made him anxious, so he sent the animal to the king by boat without waiting for his reply (ARM 2, no. 106; Watanabe 2002, 84–5). The second concerned a lioness captured in a barn at Bīt-Akkaka; he stayed there all day to make sure that nobody killed her, but the lioness died due to illness and old age. Then Yaqqim-Addu states that 'My lord may say 'Someone must have killed that lion'. If anyone has touched this lion, (I should be treated) as if (I had broken) the taboo of my lord' (ARM 14, no.1: lines 20–4; Watanabe 2002, 85-6). This statement serves as important evidence that the act of killing lions was strictly controlled as 'the taboo of my lord' (*asakku bēlīya*). This is because the lion, as a symbolic agent, conveyed multiple facets of notions, including that of kingship, and each facet is ready to be evoked as soon as an appropriate context is provided.

Acknowledgements

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Notes

1 VS 1, 78, recto 24; cf. Seux 1967, 147–8. Cf. Leichty 2010, 13, Esarhaddon Text 1, line 57: I raged like a lion (*lab-biš an-na-dir-ma*).
2 Šulgi A 42 (Klein 1981, 192).
3 Šulgi C 1–2 (Castellino 1972, 248).
4 Šulgi C 10 (Castellino 1972, 248).
5 Šulgi A 3 (Klein 1981, 192).
6 Šulgi C 11 (Castellino 1972, 248).
7 Grayson 1991, 26, Tiglath-pileser I A.0.87.1. iv 76–81: 'By the command of the god Ninurta, who loves me, I killed on foot 120 lions with my wildly outstanding assault. In addition, 800 lions I felled from my light chariot'.
8 Grayson 1991, 93, Aššur-bēl-kala A.0.89.2. iii 29–35: 'The gods Ninurta and [Nergal, who love my priesthood, gave to me the wild beasts and commanded me to hunt]. 300 lions [... with my fierce] valour [...] *six* strong [wild] virile [bulls] with horns [... from my ... chariot] and on [my swift] feet, [in my] second regnal year, [... with my] *sharp* [arrows] I [... The remainder of the numerous animals] and the winged birds of the sky, [wild game which I acquired, their names are not written with these] animals, [their numbers are not written with these numbers], Lacuna.'
9 Grayson 1991, 135, Aššur-dan II A.0.98.1. 69–71: 'I killed from my ... chariot (and) on my swift feet [with the spear] 120 lions within [...]'.
10 Grayson 1991, 154, Adad-nirari II A.0.99.2. 122–4: 'The gods Ninurta (and) Nergal, who love my priesthood, gave to me the wild beasts and commanded me to hunt.

I killed 360 lions from my ... chariot, with my valorous assault, (and) on my swift feet with the spear. The king claimed to have formed herds of captured animals' (Adad-nirari II A.0.99.2, 126–7): 'In Inner City (Aššur) I formed herds of lions, wild bulls, elephants, *aialu*-deer, ibex, wild asses, deer, (and) ostriches.'

11 Grayson 1991, 168, Tukultu-Ninurta II A.0.100.3. rev. 5-6 and Grayson 1991, 168, Tukultu-Ninurta II A.0.100.5, 134–135: '[The gods Ninurta and Nergal, who love my priesthood, gave to me the wild beasts and] commanded [me] to hunt. [I killed *sixty* strong *lions* from my ... chariot with] my [wildly] vigorous assault [with the spear].'

12 Grayson 1991, 226, Ashurnasirpal A.0.101.2. 32–35: 'With my outstretched hand and my fierce heart I captured 15 strong lions from the mountains and forests. I took away 50 lion cubs. I herded them into Calah and the palaces of my land into cages. (35) I bred their cubs in great numbers.'

13 Grayson 1991, 258, Ashurnasirpal II A.0.101.19, 33–4: 'I killed with my fierce bow five lions before the city Malhina in the land Hatti.'

14 Grayson 1991, 226, Ashurnasirpal II A.0.101.2: 42–3: 'I killed 370 strong lions like caged birds with the spear.'

15 Grayson 1991, 291, Ashurnasirpal II A.0.101.30, 84–6: 'The gods Ninurta (and) Nergal, who love my priesthood, gave to me the wild beasts and commanded me to hunt. I killed 450 strong lions.'

16 Grayson 1996, 41, Shalmaneser III A.0.102.6, iv 40–4: 'The gods Ninurta and Nergal, who love my priesthood, gave to me the wild beasts and commanded me to hunt. I killed from my open chariot 373 wild bulls (and) 399 lions with my valorous assault. I drove twenty-nine elephants into ambush.'

17 Grayson 1996, 41, Shalmaneser III A.0.102.16, 341–4: 'The gods [Ninurta and] Nergal, who love my priesthood, [gave to me the wild] beasts and commanded me to hunt. I killed from my open chariot [N *wild bulls*], 640 lions, 40(?) elephants, (and) [N] ... with my lordly assault.'

18 Grayson 1996, 187, Šamšī-Adad V A.0.103.1, iv 2–3: 'While traversing the gorge between the cities Zaddi and Zaban I killed three *startled* (*ṭárdūte*/*ṭardūte*) lions.'

19 The two gods mentioned by Shalmaneser III and Ashurbanipal. The latter has a text with the reference to the god Palil (Novotny & Jeffers 2018, 347–8, no.57: line 3). For the god Palil, cf. Beaulieu 1992, 404.

20 Grayson 1991, 103, iv 11–12 (UR.MAḪ.MEŠ *ina* GIŠ *nàr-ʾa-am-te u-šam-qit*: 'He felled ... lions with the *mace*)'. Grayson has tentatively translated '^{giš}*nar'amtu*' as '*mace*'. The text of the Broken Obelisk is regarded being dated to the time of Aššur-bēl-kala (1074–1056 BC).

21 Reference appears in the inscriptions of Aššur-dan II (935–912 BC) and Adad-nirari II (912–891 BC). Weidner 1926, 160: 24–6 (Aššur-dan II) and KAH 2, 84: 123–4 (Adad-nirari II).

22 See Porada 1948, fig. 689; Muscarella 1981, fig. 88; Moortgat 1940, Nr. 595; Collon 1986, 240, 207 and 345–7; Orthmann 1985 (PKG 18), 356 and Nr. 273i.

23 In Ashurbanipal's inscriptions, there are variant forms in which the god Aššur and the goddess Ištar are mentioned: Novotny & Jeffers 2018, 344–5, no. 54: line 4; 346–7, no. 56: line 2; 347–8, no. 57: line 3. Another variant with the god Palil appears in: Novotny & Jeffers 2018, 345–6, no. 55: line 2.

24 There are a wide range of interpretations concerning the repeated image of the king in the scene. For example, Schmidt-Colinet (2001) considered the king as Esarhaddon, accompanied by either his sons Assurbanipal and Shamash-shumu-ukin on the chariot moving to the right (slabs 20–21) and his sons Assurbanipal and Sinnadinapli (the non-bearded figure) on the chariot moving to the left (slabs 23–24). Nadali (2018) regards the Room C lion hunt scheme as the temporalization of space in which present and past are represented by ongoing act of hunting and the bodies of the dead lions respectively.

25 Watanabe & Novotny 2018; Watanabe 2019.

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Part IV
Managing animals

Chapter 12

An abstract Agent-Based Model (ABM) for herd movement in the Khabur Basin, the Jazira

Tuna Kalaycı & John Wainwright

Herd animals are significant agents of landscape transformation. Their repetitive movement may result in track formation while also reducing or completely eliminating vegetation growth along those tracks (Apollo *et al.* 2018). Herds can also drastically alter the geomorphology of a region so that new hydro-landscapes are born out of their movement (Butler 2006). In great numbers, animal droppings can introduce pathogens to the soil and adversely affect productivity and watersheds (Tate *et al.* 2003). Conversely, specific grazing patterns may result in better soil fertility (e.g. Cao *et al.* 2018). Also, the level of compaction may vary with different grazing intensities and soil types (e.g. Hiernaux *et al.* 1999). Furthermore, amounts of nutrition return to the soil in animal faeces and urine (Haynes & Williams 1993).

To balance the negative and positive impacts, the management of herding practices is a concern across the globe. In order to mitigate the adverse effects of animal movement, scholars have investigated the relationship between herding and soil-treatment practices (e.g. Franzluebbers & Stuedemann 2008), pests (e.g. Goosey *et al.* 2005), soil chemical properties (e.g. Li *et al.* 2008), and plant diversity (e.g. Ludvikova *et al.* 2014). Although seemingly a modern phenomenon, similar issues must also have been observed in the past, especially around large urban centres where humans and animals co-existed in considerable numbers (Archi 1990, 19; Sallaberger 2014, 101).

The Jazira Region of Upper Mesopotamia, and in particular its Khabur Basin, offers an ideal case study for investigating the impact of herd movement on the landscape using a quantitative approach. The evidence of movement remains visible today in the form of linear features, known as hollow ways (Wilkinson 1993), which are especially evident on aerial and satellite imagery (Ur 2003). The hollow ways have already been documented in great detail (Ur 2017) . Despite the available scholarship on the topic (Casana 2013; Wilkinson *et al.* 2010), the ways in which past societies managed herd movement and the impact of herd movement on landscape formation remains an intriguing question.

In this chapter, we investigate the herd movement around Tell Brak (ancient Nagar) and the impact of treading on the landscape using an agent-based model. Wainwright & Millington (2010) suggest that Agent Based Models (ABMs) with their bottom-up structures can be invaluable for integrating human activity into landscape studies. This is especially significant since an agent-based approach also provides the means for an empirical analysis. Therefore, an ABM can be used to explore the emergence of hollow ways and shed light on the landscape evolution of Upper Mesopotamia. The methodology to be used in this chapter includes exploring various scenarios with different levels of rainfall and moisture loss, as well as varying numbers of animal agents on a realistic landscape. The proposed methodology is expandable to other sites in the Jazira region and to other regions exhibiting similar background characteristics as the Jazira.

The Jazira

The Jazira is the vast area between the banks of the Upper Tigris and the Euphrates Rivers. It falls within the modern-day borders of Syria, Iraq, and Turkey. To the north, the region is bounded by the high-altitude Taurus-Zagros Mountains. To the south, desert conditions gradually form an arid landscape. The region is composed of low-angled slopes. Other than two major sedimentary ridges (the Jebel Abd al-Aziz and Jebel Sinjar) and numerous mounded settlements of various sizes, there are no obtrusive features in the gently undulating landscape (Wilkinson 1990) (Fig. 12.1).

The drainage system of the Jazira includes ephemeral wadis and perennial streams, the most prominent of which are the Balikh and Khabur Rivers (tributaries

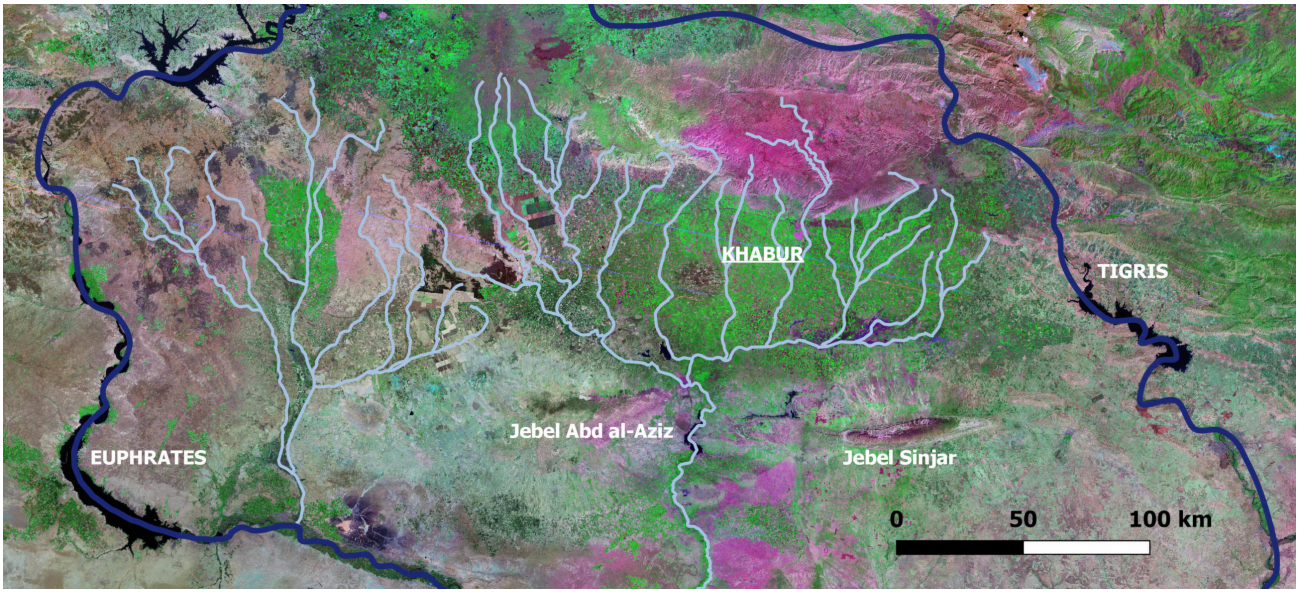

Figure 12.1. *Upper Mesopotamia lies between Tigris and Euphrates Rivers. The Khabur Basin is part of the Euphrates River. The intensification of agricultural production is visible on Landsat TM Mosaic.*

of the Euphrates) (Wilkinson 1990). Springs in the area provide water for perennial flow. The Khabur River is mainly fed by the karstic springs of Ras al-Ain (average discharge of 40 m^3 s^1) while the Balikh River gets most of its water from the spring at Ain al-Arus (average discharge of 6 m^3 s^1) (Llamas & Custodio 2003, 361). The flow increases after the winter rains (Wirth 1971, 110), but is without high floods.

Soil types vary. Matar (1980, 72) suggested two major categories in the wider region: soils which originate from hard limestones are red to reddish brown and have clayey to clayey-loam textures, while soils derived from softer limestones are lighter in colour and usually have a higher lime content. Matar's other classification is related to the climatic pattern: soils in the wetter region are dark brown with a clayey texture, while those in drier areas are yellowish brown with a silty texture.

The region has a dry climate. Today, the majority of the precipitation falls between September and May, and summers are hot with little to no rainfall. Due to this aridity, streams and wadis must have played significant roles in human occupation (Deckers & Riehl 2007). The aridity increases north to south; the 300 mm isohyet sets the critical threshold for rainfed agriculture (Wilkinson 1994). This threshold roughly matches with the alignment of the Jebel Abd al-Aziz and Jebel Sinjar.

There has been a significant amount of recent land-use transformation in the Khabur. Hole & Smith (2004) state that only a century ago the Khabur was home to migratory herders and that the basin only recently became one of the most intensively cultivated regions in the area. Nevertheless, starting in 2006 and continuing for more than half a decade, Syria experienced multi-season, multi-year droughts. In 2008, rainfall in eastern Syria dropped to 30 per cent of the annual average. Wheat production based on water sources other than irrigation dropped by 82 per cent. Overgrazing, coupled with extreme dry conditions, depleted animal food stocks and the herding economy was drastically damaged (ASCAD 2011). Since then, the civil war which began in Syria in March 2011 has been further devastating the people and the land.

Herding practices: Some historical corollaries

During the 1980s, Gallacher (1980, 52) observed that herds were brought from the Syrian steppes after the cereal harvest and that animals were kept in the area until the stubbles were ploughed. In the same time period, but describing the wider Near East, Huss (1980, 269) stated that herding was practised by nomads or transhumant herders. In 1947, Rowlands extensively wrote about the nomadic lifestyle in the Khabur. In 1853, Austen Henry Layard noted the Khabur for 'its rich pastures [that] are the resort of wandering tribes of Arabs' (p. 195). In Ottoman Syria (sixteenth to twentieth centuries), herders had a dynamic socio-political character, and the division between sheep tenders and villagers was not that clear. In fact, individuals and small groups opportunistically shifted between sedentism and migratory

herding, which in return created the conditions of reciprocity between the sedentary and nomadic groups (Douwes 2000, 22–3). In the eighteenth century BC, large parts of the Khabur were controlled by the nomadic population (Sallaberger 2007, 418). The Khabur was also occupied by sheep herders in the first millennium BC (Hole & Smith 2004, 212).

In this condensed and considerably naive linear historical narrative, the availability of grazing land is the common denominator for a herding system to survive and flourish. According to Smith (1980, 143), grazing land is the land that is not suitable or not required for agricultural production. Following this definition, one can further claim – albeit with a simplistic assumption – that suitability for grazing provides clues about environmental conditions and that production requirements point to socio-economic and political considerations.

As for the environmental conditions, Smith (1980) drew a somewhat sharp line by suggesting that fodder production is possible in areas where precipitation is more than 350 to 400 mm per annum. Therefore, large herds can be maintained only when there is enough crop surplus. Herd maintenance is also possible when there are crop by-products which are suitable for livestock feeding and/or when ley farming is required to ensure soil fertility. Finally, herd animals also can be kept in order to mitigate climatic variations, especially when precipitation levels drop below a critical threshold.

The socio-economic and political preconditions of herd movement and control also are worth noting. The *hema* (pl. *ahmia*) was one of the earliest forms of land grazing systems. The Near Eastern *hema* imposed grazing prohibitions during the wet season in order to establish a reserve for the exclusive use of certain groups during the dry season. Draz (1980, 295–6) classified the *ahmia* into three types: full prohibition, seasonal prohibition, and restricted grazing (in which the number and types of animals are specified). The *hema* was also imposed for beekeeping, and the grazing restrictions were removed when the flowering season was over. Finally, the *hema* was used to protect forest trees. In Syria, Draz reported a large number of *hema*-like reservations with the local name *mahmia*. *Koze*, the Kurdish word for *Hema*, has been also traced along the Syrian-Turkish-Iraqi borders (1980, 296).

Herding practices during the Bronze Age

The Jazira witnessed significant cultural developments during the Bronze Age. Especially during the second half of the third millennium BC (mid-to-late Early Bronze Age), rapid urbanization and the intensification of agricultural production shaped a completely new landscape. A distinct hierarchical settlement pattern was born in this period which suggests a dichotomy between the urban and the rural. The new urban economy needed large quantities of surplus staples (Kalaycı 2013). The change must also have necessitated the disciplining of the settlement hinterlands. The delicate balance between the large number of herd animals – in particular the sheep, which were kept primarily for their wool – and the calorific needs of humans and animals (which were mainly satisfied through rain-fed agricultural production) created a unique movement landscape in Upper Mesopotamia (Fig. 12.2).

In this archaeological setting, two groups of hollow ways were formed: (i) those radiating from the settlements and abruptly terminating after running for two to three kilometres, and (ii) longer hollow ways connecting various Early Bronze Age settlements together. Wilkinson (1993) suggested that the first group of hollow ways were used for controlled transportation of flocks from settlements to open pasture land. While moving, livestock was kept together to minimize crop damage, and when the production boundary was passed, flocks were allowed to disperse in open pastureland. As a result of their continuous use by herd animals – but also by farmers and carts – linear depressions were formed around the settlements. The second group of hollow ways must have been used for the transportation of agricultural surplus, other commodities, and gift animals from one settlement to another.

Hollow ways around Tell Brak

Tell Brak is one of the most prominent settlements in the Khabur Basin. Occupation at the site began as early as the Halaf Period (mid-seventh millennium BC), and with some ebb and flow it continued until the Late Islamic/Ottoman Period. The total occupation area is around 300 hectares, but it appears that the site was never settled in its entirety at a single point in time (Ur *et al*. 2011, 3). During the mid-to-late third millennium BC, the epoch of urbanization in Upper Mesopotamia also affected the settlement. The intensification of agriculture, alongside the controlled movement of flocks, formed the signature off-site features, the hollow ways. The lower town may have been abandoned at the end of the Akkadian period and the area of occupation reduced in size, based on the lack of diagnostic post-Akkadian ceramics in this area (Ur *et al*. 2011, 12). The site (especially its lower town) attracted residents once again in the Late Bronze Age.

Based on the assessment of historical CORONA imagery, Ur (2003, 110) identified 48 hollow-way

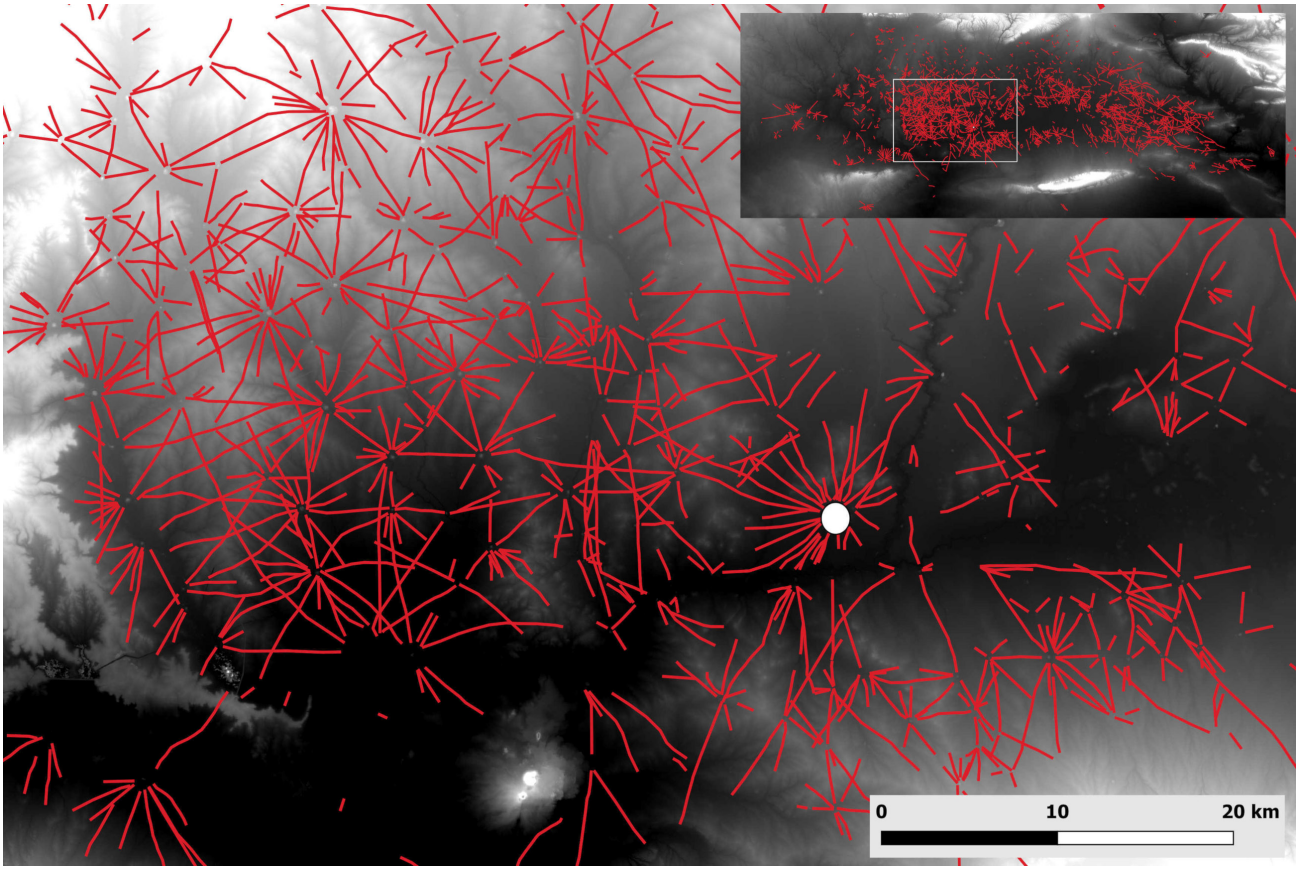

Figure 12.2. *The Khabur Basin was criss-crossed by a dense network of hollow ways. The white dot marks the location of Tell Brak.*

segments with a total length of 67.1 km and an average length of *c*. 1.4 km. The radial pattern is evenly distributed except in the site's southeastern catchment (Fig. 12.3). The absence in this area is attributed to the impact of irrigation during the Abbasid Period (*c*. AD 600–1000) (Ur *et al.* 2011, 16). The geoarchaeological study by Wilkinson *et al.* (2010) shows that the hollow ways started to form in the landscape in the Early Bronze Age (or slightly earlier) where their fills also indicate low-energy sediment movement accompanied by weak soil formation.

Herd animals as geo-agents of landscape transformation

Herd animals apply pressure on the ground and deform soils. The deformation process generally leads to a reduction in soil porosity and an increase in soil bulk density (Drewry & Paton 2005). In return, the infiltration capacity of the soil decreases a (Mulholland & Fullen 1991) and surface runoff shapes a new physical environment (Di *et al*. 2001). The process also results in increased wind erosion, especially after a new plasticity level is reached when the soil dries out.

The pressure exerted on soils depend on two variables: the weight of the animal, and the contact area between the hoof and the soil surface (Fig. 12.4). In mathematical terms, the pressure is defined as:

$$p = F / A;$$

where p is the pressure (Pa), F is the magnitude of the normal force (N), and A is the area of surface contact (sq. m). This relationship suggests that the pressure increases as the animal weight increases, or as the hoof area decreases. Therefore, it can be deduced that different species exert different pressure on the ground. Furthermore, the sex and age of an animal determine its weight as well as its hoof area, such that applied pressure can be variable even within the same species.

For instance, the Awassi sheep, which is the most common species in Iraq and Syria, weighs around 4 kg at birth and can reach up to 70 kg as an adult.

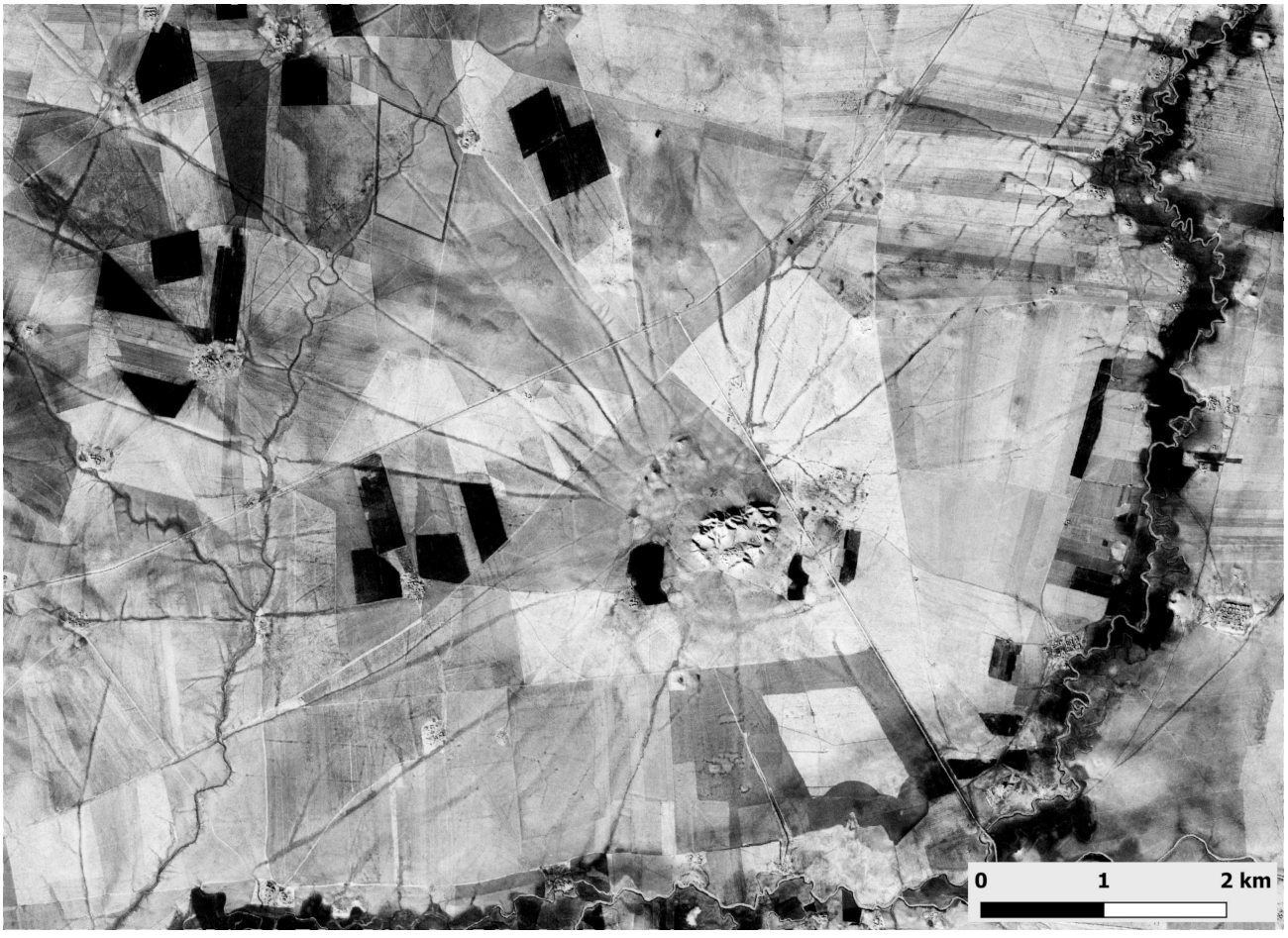

Figure 12.3 *(above). A scene from a CORONA historical satellite image (DS1102-1025DA013) preserves the details of the radial route system around Tell Brak. The layout of the system is clear. Notably, hollow ways appear to be missing southeast of the site.*

Figure 12.4 *(left). Variable herd movement strategies differentially alter landscapes. Animals walking in a straight line (below) tend to form paths relatively quickly. When scattered, the impact of treading is less visible (above).*

If one assumes a 2,000 sq. mm hoof area, then an Awassi would exert around 90 kPa of pressure per hoof. South Anatolian red cattle are around 25 kg at birth, and as adults, males can reach 600 kg and females up to 450 kg. If one assumes a 10,000 sq. mm hoof area for the South Anatolian, then the pressure exerted per hoof is around 150 kPa for males and 110 kPa for females.

When a healthy animal is standing, the weight is equally distributed among the four hoof areas. The total pressure increases when the animal begins walking and contact with the ground occurs between only two to three hooves at any given time. The pressure is further increased when the hoof is not in full contact with the soil surface due to microtopographic variations (Di *et al*. 2001). Therefore, the actual pressure metrics are much more variable than the abovementioned algebraic formula, which represents estimates of the minimum pressures involved.

The species and the age of the animal also determine its shoulder height and, in return, its stride length. The stride length, which is the distance between each step, dictates the number of steps an animal must take to travel a given unit of distance. Thus, the cumulative impact of movement on soils is not only determined by the number of animals, but also their stepping frequencies. At the same time, stepping frequency is a function of herd size above a threshold; for large herds the movement of one animal affects the trajectory and speed of another.

The mechanics of soil deformation

Soil deformation is determined not only by hoof pressure, but also by the texture of soil and its moisture content. The size and arrangement of soil particles determine the volume and configuration of pores in the soil. Essentially, the force under the hoof area changes the porosity and, thus, determines the water-holding capacity of the soil (Houlbrooke & Laurenson 2013).

Soil deformation is usually limited to the upper 50–150 mm layer of soils. Once the compaction takes place, it is only a slowly reversible process, for instance, due to the reduced activity of microfauna in the soil (Drewry 2006; Greenwood & McKenzie 2001) or the effect of wetting/drying or freezing/thawing. Deformation causes variations in the physical properties of soils which, in turn, affect vegetation growth and productivity (Bell *et al.* 2011). Based on the level of water content in a given area, soil deformation can follow three different paths: compaction, pugging, and poaching. Any of these processes can occur in the area depending on the season and timing of the herding event, relative to precipitation events.

a) Compaction

Compaction is the compression of unsaturated soils which results in the reduction of the unit volume. (Canillas & Salokhe 2001). When an animal exerts pressure, the soil particles under the hoof area are pushed closer to each other. Repetition of this event eventually results in increased soil bulk density (Di *et al.* 2001). For some disturbances, the soil shear strength decreases when the surface is disturbed by animals (see Table II in Parsons & Wainwright 2006)

b) Pugging

Pugging is the process by which the animal hoof leaves a deep print in wet soil (Drewry 2006). When the hoof leaves the soil, the imprint remains intact, resulting in rough and uneven soil surfaces. However, it is not only the water content but also the texture of the soils which determine the level of pugging. Soils with higher clay levels are more plastic than other types and, thus, more susceptible to pugging (Kellett 1978 in Bilotta *et al.* 2007)

c) Poaching

Poaching is the deformation which occurs when the hoof penetrates the (over-)saturated soil surface as well as the soil below (Drewry 2006). Since the soil is slurry, there is considerable structural recovery at the end. Nevertheless, poaching tends to reconfigure fine soil particles and may result in the formation of surface pans as the soil dries out.

Methodology

Agent-Based Modelling

Agent-Based Modelling (ABM) is a computational technique within which a group of decision-making entities (called 'agents') interact with each other and/or with other types of entities in a synthetic environment. The interaction is based on a set of explicitly defined rules, which may range from simple decisions to complex spatio-temporal phenomena. What is especially compelling with ABM is its potential for capturing emerging processes from the bottom up (Bonabeau 2002).

An ABM is also useful when there are little or no available empirical data. Simulated agents and their synthetic interactions with the landscape – and each other – may generate patterns which then can be cross-examined with other observed proxy variables. Therefore, an agent-based model can be used to build numerous scenarios and then investigate their viabilities. ABMs can be extremely beneficial tools in modelling dynamic feedbacks on landscape (Wainwright 2008; Wainwright & Millington 2010),

but in most current examples the agents operate in a static landscape and their feedbacks are thus limited.

As a spatio-temporal discipline, archaeology has greatly benefited from the scalar flexibility and modelling benefits of ABMs (e.g. Premo 2006; Kohler *et al.* 2008; Janssen 2009; Chliaoutakis & Chalkiadakis 2016). In particular, the integration of ABMs with Geographic Information Systems (GIS) (e.g. Brown *et al.* 2005; O'Sullivan 2008; Davies *et al.* 2019) appears to be a path forward, as these two computational environments complement each other in multiple respects.

An Agent-Based Model for Tell Brak

The ABM was built using NetLogo 6.0.4 with the Cf extension (Wilensky 1999). It is an abstract model with agents walking on actual terrain. Abstraction is due to the fact that physical laws which determine pressure, compaction, and erosion are not directly simulated in this first approximation. Rather, the model is built using a series of parameters. The model mainly aims to investigate:

- the role of herd animals as geomorphic agents,
- the impact of rainfall variation on the formation of hollow ways, and
- the impact of hollow ways on the geohydrological landscape of the Khabur Basin.

Terrain

The background terrain of the ABM was built using the TanDEM-X Digital Elevation Model (Figs. 12.5 and 12.6). The pixel spacing of the TanDEM-X DEM depends on the latitude of observation. For the Tell Brak area, the spatial resolution is *c*. 11.25 m.

In order to ensure a smoother terrain (and to compensate for the DEM generation defects) a Gaussian Filter was applied to the DEM using QGIS (Search Mode: Square, Search Radius: 3 pixels, Standard Deviation: 1 pixel) (Fig. 12.7a). For the second step of DEM processing, a sink fill algorithm was used using SAGA in order to approximate the terrain prior to landscape deformation due to herd movement and other hydrological processes (Qm of Esp, Fill Increment: 0.2 m) (Fig. 12.7b). The final DEM was fed to the ABM after converting the data type from floating point to integer.

(Modified) Hollow ways

The radial configuration of the hollow ways around Tell Brak is complex. In order to give herd animals an equal chance of picking a hollow way at random, a buffer was set around the site and the hollow ways were clipped out from this zone (Fig. 12.8). Therefore, animals starting their journey from the centre of the settlement have equal distances to travel until reaching any predesignated road. Once an animal starts walking on a hollow way (which is the action that is considered to be the prime driver of hollow way formation), the surface erosion starts.

Agents

In the abstract ABM, there are four types of agent: two related to herd animals and two for the background setting. Herd animals are represented as 'sheep' and 'cow' agents. Due to their differential weights and hoof areas, they exert different pressure levels on soils. The third agent is the 'raindrop'. As previously discussed, soil moisture is one of the main determinants of soil erosion resulting from herd movement. Therefore, in order to investigate various precipitation scenarios and to explore the potential impact of soil-moisture variations on surface erosion, raindrops populate the model. The fourth and last agent is the hollow way. These agents act only to guide the others' movement and help calculate erosion levels for given agent locations, but they do not have an impact on the calculations themselves.

Parameters and rulesets

For the sake of simplicity and in order to reach a solution faster, animal agents are considered to apply differential pressure based on multipliers rather than specific pressure estimates detailed above. Using pressure estimates would have resulted in longer model-run times since hollow ways were actually formed by daily movement of animals which lasted for centuries. Unrealistically increasing the pressure levels using multipliers shortened the development of hollow ways. In this way, it was also possible to use smaller numbers of animal agents (hundreds instead of thousands) which reduced the number of agents at a given step of a run. However, it is important to note that increased modelling efficiency comes at the expense of obtaining realistic surface erosion estimates. In other words, the final level of erosion after each model run is only evaluated qualitatively.

The intensity and duration of rainfall can be adjusted so that different climatic scenarios can be explored. When the 'raindrop' agent falls on the ground, it wets soil with a certain parameter value and it reflects the infiltration process and is based on soil formation. The 'raindrop' agent also wets patches around the initial location with a second user-defined parameter reflecting the runoff process. In order to represent soil-moisture loss due to evapotranspiration and drainage, the soil dries at a rate determined by a third parameter. The boundary patches of the model are set as the outlets where excess water drains. The

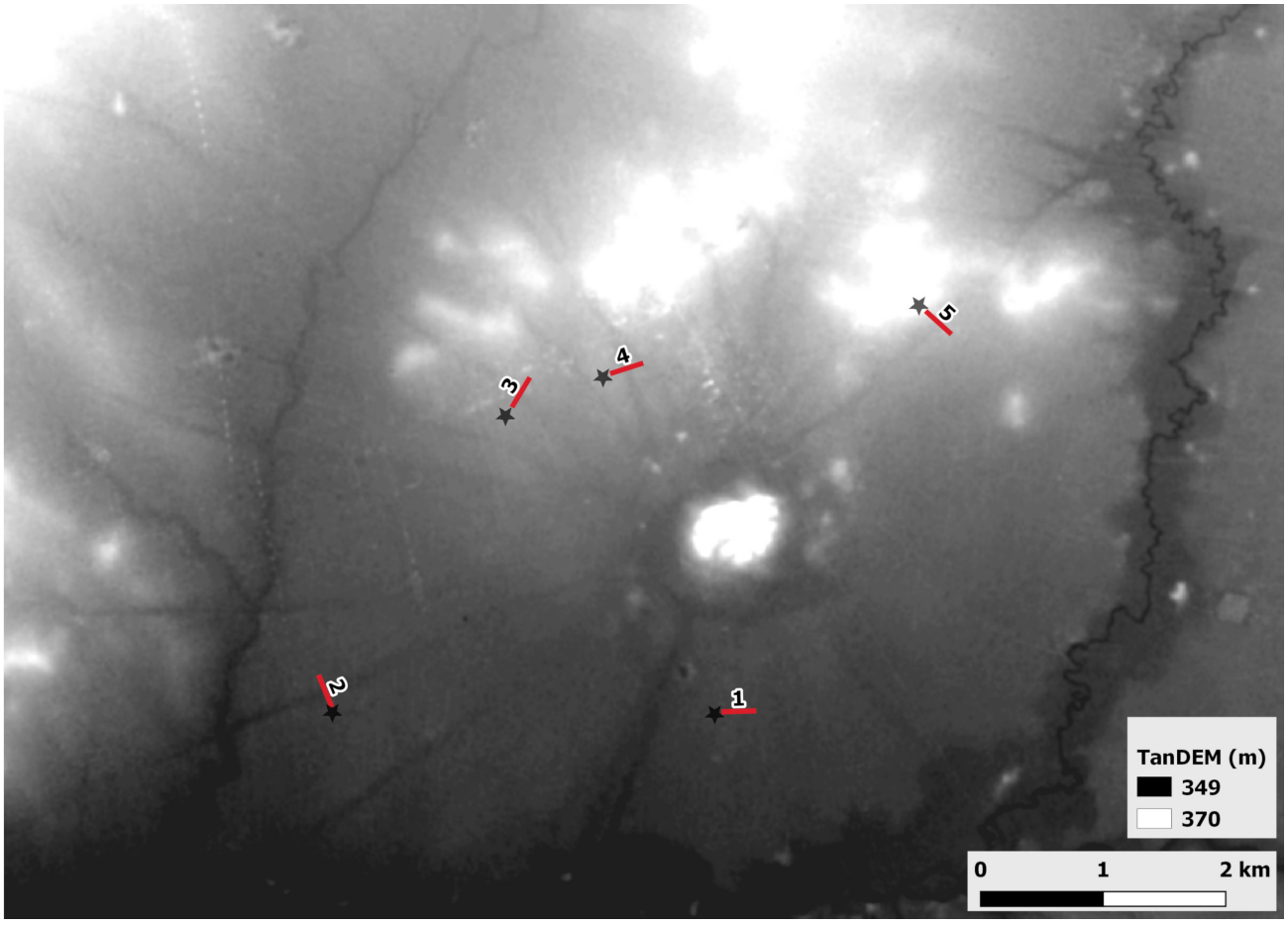

Figure 12.5 *(above). Hollow ways (as depressed linear features) are also visible on the TanDEM-X Digital Elevation Model (DEM).*

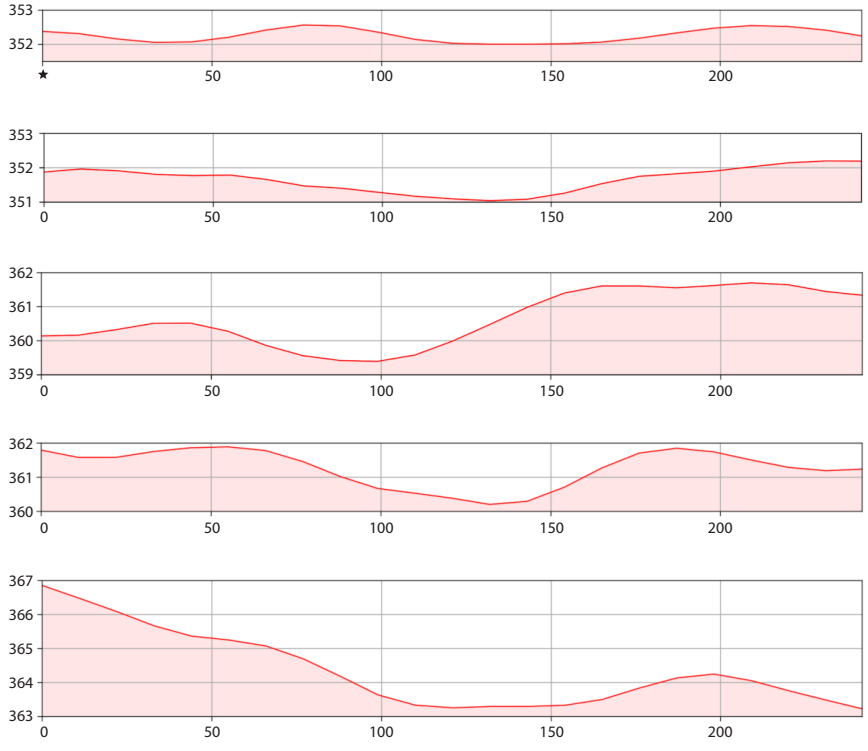

Figure 12.6 *(left). Variations in profiles may indicate differential traffic, hydrological systems, and/or preservation conditions.*

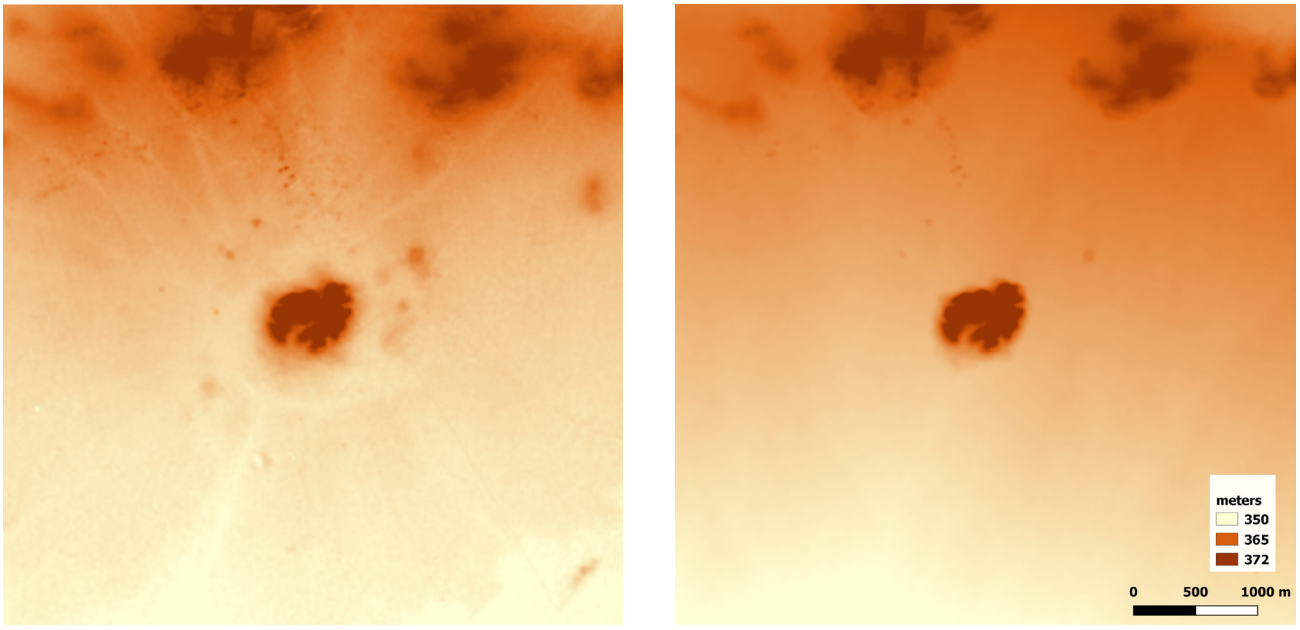

Figure 12.7. *(a) TanDEM-X DEM around Tell Brak; (b) the DEM after Gaussian Filtering and Sink Filling in order to 'approximate' the terrain prior to incision due to herd movement. After the sink filling operation, the hollow ways disappear while changing the original elevation values.*

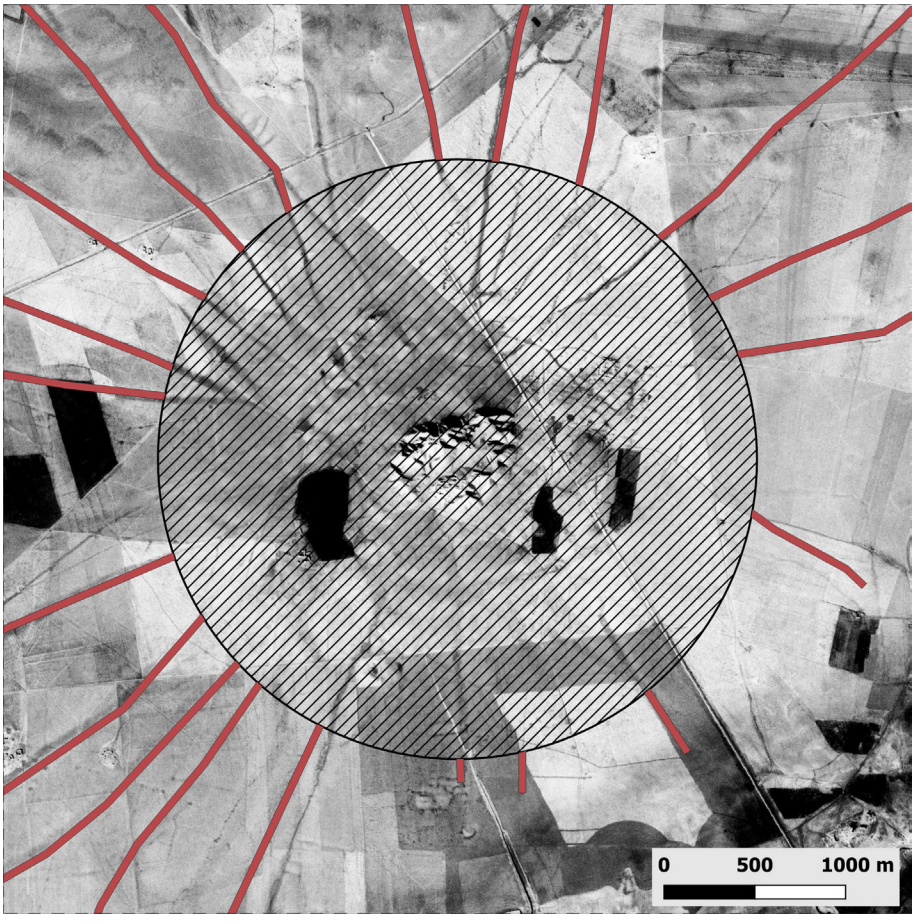

Figure 12.8. *Since there is little knowledge as to where the herd animals began branching out when outside of the city, the ABM gives herd animals an equal chance of picking any given hollow way. To accomplish this, a circular zone is set around Tell Brak and the hollow ways are removed to ensure equal distance between the initial location of an animal agent and the starting point of the hollow way.*

inclusion of surface runoff in the model is inspired by the erosion model of NetLogo (Dunham *et al.* 2004).

Three hierarchical soil-moisture classes are defined to determine if moving animal agents cause soil compaction, pugging or poaching. The levels of erosion are different for each of these classes. To reduce computational cost, and thus, to decrease the model run-time, erosion due to animal treading is set to zero around the site (Fig. 12.8, hatched area). The erosion initializes when an animal agent sets foot on a hollow way.

Initialization and model run

The herd animals' journeys start from the centre of Tell Brak rather than from the city gates since the exact locations of the city gates are not known (Ur *et al.* 2011). The animal agent randomly sets a heading and begins walking outwards. When the no-erosion zone is passed, it redirects itself towards the closest hollow way. Once on a hollow way, the agent variably erodes the patch (i.e. lowers its elevation) depending on the breed of the agent (sheep or cow). When an agent reaches the terminal point of a hollow way, it is removed from the model domain.

The water level of a patch at the time of treading also determines different levels of erosion. Surface runoff occurs when the water amount (plus the elevation of the patch) exceeds the elevation of neighbouring patches; that is the water spills out towards the lowest elevation around it. Therefore, the combination of animal movement and surface runoff governs the development of the hollow ways.

Results

The abstracted ABM for the herd movement around Tell Brak reveals clues about the emergence of hollow ways and their intrinsic relationship with rainfall, soil moisture, and hydrogeomorphology. Thanks to the flexibility of ABMs, it is possible to explore how the landscape around Tell Brak might have co-evolved due to cultural and natural processes. As anticipated, the ABM unearths more questions than answers due to its heuristic and dialogic properties (Millington & Wainwright 2017).

Under conditions of no precipitation, the animal agents remain the sole landscape modifiers. While this is an unrealistic scenario, it is used to evaluate the behaviour of the model. Their constant movement within the predefined bounds of the hollow ways erode the soil and the model converges to the expected radial pattern (Fig. 12.9a). Despite the fact that the hollow ways were initially assigned equal probabilities of being selected, some were 'chosen' more frequently than others even after many model-runs. However, the abstracted ABM uses a modified (i.e. clipped) version of hollow way topology and ignores intentionality in route selection. Therefore, this preferential routing is most probably due to modelling bias, for instance due to a specific sequence of random numbers being used by the ABM.

To give a specific example, one of the hollow ways (see the dashed box in Figure 12.9a) was rarely picked by the animal agents for each ABM run. It is likely that the initial heading of an animal had a narrow window walking towards this hollow way and a slight change in the angle resulted in picking the neighbouring routes. This outcome should be considered as an artefact of the model rather than an actual condition for Tell Brak. This is especially true since the hollow ways were clipped and they lost their original spatial configurations. Nevertheless, it throws some questions on the topological relations of radial hollow ways around settlements, and the issue on intentionality on route selection.

In the second scenario (Fig. 12.9b), rainfall takes place with a duration predefined by a parameter. This scenario does not include moving animal agents. As in the case of the previous scenario, the simplistic agent set is used to evaluate model behaviour and to converge to a solution faster. The ruleset causes erosion only due to surface runoff. In this setup, when it stops raining the moisture levels remain the same since there is also no parameter representing evapotranspiration or drainage event. Even though this is an unrealistic scenario, it also rapidly approximates how the landscape around Tell Brak could have evolved under solely natural causes. The locations of documented hollow ways (in transparent red) do not align with emerging water channels, This observation fits well with Wilkinson's argument on the lack of relationship between local topography and the locations of hollow ways (Wilkinson 1993, 548).

In the third scenario (Fig. 12.9c), it again rains with a predefined duration, but animal agents are introduced. As anticipated, treading causes most of the erosion within the bounds of the hollow ways. Furthermore, the hollow ways also facilitate surface runoff, contributing to deeper hollowing. The emerging channel system bifurcates to the greatest degree at cardinal directions. Moreover, water channels usually meet up with hollow ways not at terminal points but rather at their mid-sections. Further modelling is required in order to understand this behaviour.

In the fourth scenario (Fig. 12.9d), water loss is introduced to make the ABM much more realistic. When it stops raining, the water content is also reduced due to evapotranspiration and drainage. This last

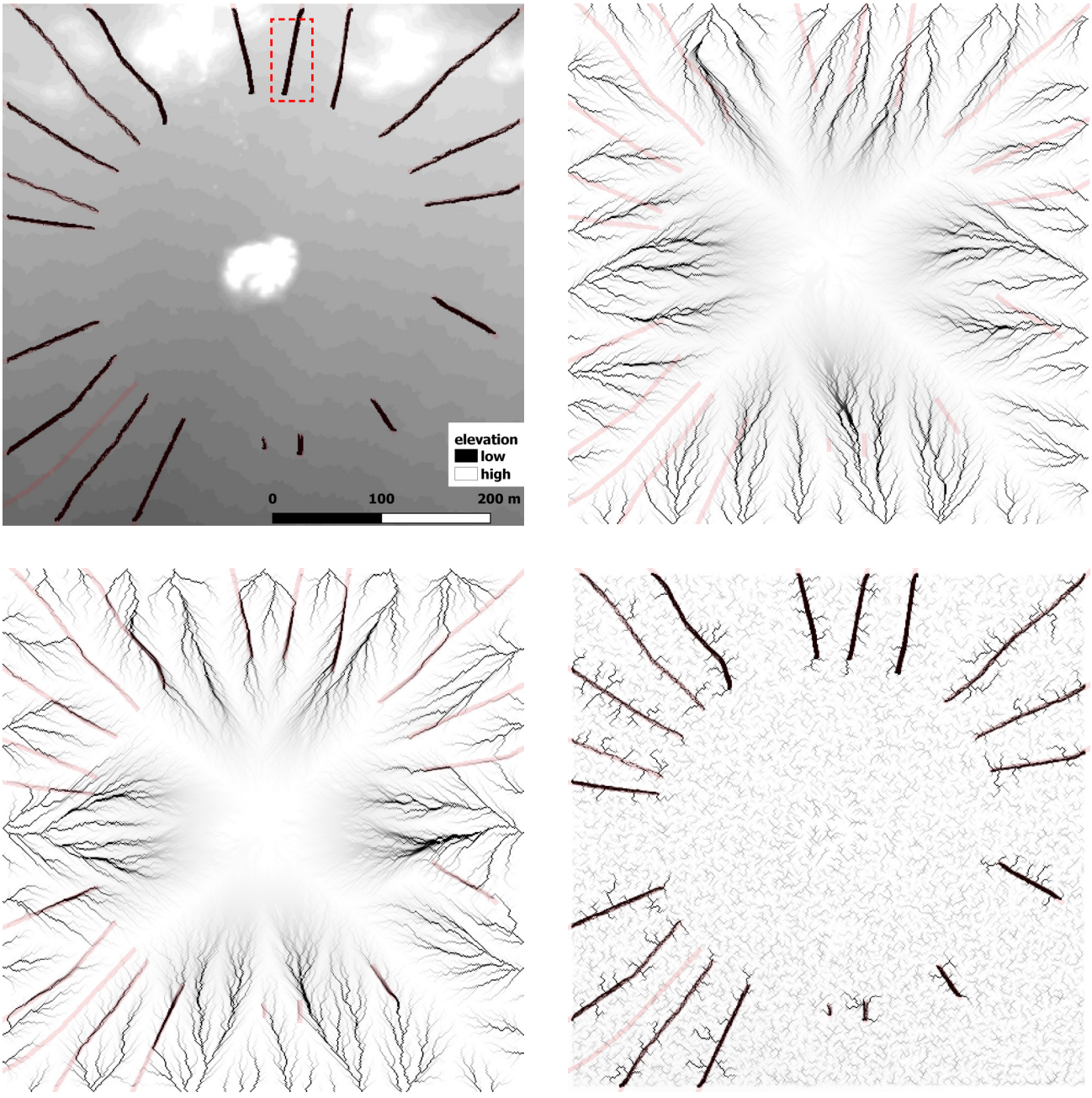

Figure 12.9. *The results of the ABM from four main scenarios. The hollow way in the red rectangle appears separately in Fig. 12.10. The transparent red features indicate the original locations of hollow ways. (a) Hollow way formation with no rain. (b) Landscape incision due to surface runoff and without animal movement. (c) Hollow way formation with rainfall event. (d) Hollow way formation due to animal movement with even rainfall, but also with high evapotranspiration.*

variable drastically alters the model landscape and we observe the hollow ways acting as local water collectors, which further contributed to pugging and poaching processes. A closer look (Fig. 12.10) at one of the hollow ways (rectangle in Fig. 12.9) clearly shows the spatial details of three rainfall scenarios.

Conclusions

This study aimed 'to determine quantitatively how hollow ways contributed to the extension of regional hydraulic systems' (Wilkinson *et al.* 2010, 768). We followed an agent-based modelling approach due

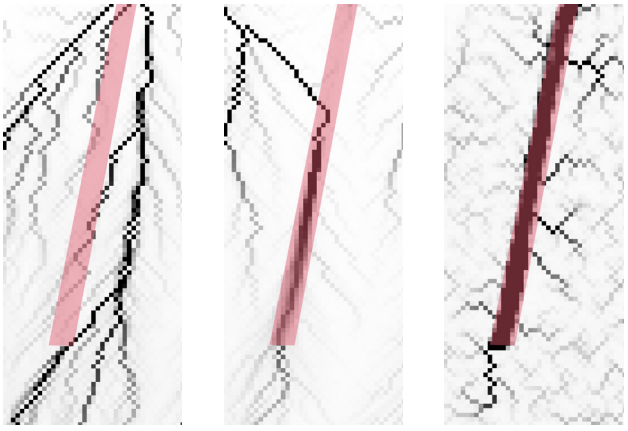

Figure 12.10. *A close-up view of one of the hollow ways (rectangle in Fig 9.) around Tell Brak. (a) Surface runoff creates a hydrological landscape in the absence of animal movement. (b) Hollow ways further facilitate surface runoff when it rains. (c) Integrating water loss into the ABM reveals a more realistic model for the hydrogeomorphology around Tell Brak.*

to the lack of empirical data concerning the hollow ways. While doing so we also hoped to highlight the significance of herd animals in the formation of landscapes. Humans not only shape their environment with structures, such as irrigation canals, reservoirs, and qanats, but also indirectly change it through disciplining nature (e.g. the *hema*).

Despite the level of abstraction in the model, it is capable of capturing details of geomorphological evolution. The model shows the herding power of animals and how they are capable of shifting the water channels and creating new ones. If the hollow way in Figure 12.9c is an indication of this process, managing agricultural fields around these radial route systems must have been a concern in the Khabur Basin. This is also to say that hollow ways may have been emergent phenomena, but they also required external management.

The mechanisms of formation of hollow ways are truly complex (Wilkinson 1993, 556–8). The abstracted ABM we propose here only catches a glimpse of the real-world problem. Still, it is a clear path forward. As the first step, we will carry our model into Python computational environment which will provide more coding flexibility. In doing so, it will be also possible to integrate realistic environmental simulations to our work so that we can transition from an abstract ABM towards more realistic scenarios. Replacing agent multipliers with the specific hoof pressure estimates will also contribute to this transition. Finally, we will cross-compare the results of ABM with our work focusing on satellite remote sensing (Kalaycı *et al.* 2019).

Acknowledgements

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Chapter 13

An ox by any other name: castration, control, and male cattle terminology in the Neo-Babylonian period

Michael Kozuh

The study of domesticated animals in Mesopotamian history is flooded with abundance but limited by scope.[1] We have an incredible number of texts that deal with the management of animals – all told, tens of thousands of them. But they provide information that is patchy at best. We know much about some things, and nothing about others. What we do not know is often foundational and important. One can, for example, read an entire book on the Ur III organization of sheep and cattle (Stępień 1996) and find very little about breeds or dairy. This is not the fault of the author. This is just something that the thousands of texts at his disposal largely fail to address.

As part of a larger project on Mesopotamian cattle, I am revisiting some basic issues, one of which is Mesopotamian animal terminology and classification. Here, I aim to show how influential anthropological work in ancient Near Eastern studies – seemingly mirrored by animal terminology in modern Western languages – influences our understanding of the classification of mature domesticated male bovines in Neo-Babylonian texts. Simply put, the anthropology links cattle terminology to economic usefulness, which, for male cattle, makes castration the terminological point of departure. I will then show how, contrary to expectations, Mesopotamian classification and terminology for male cattle do not center on castration; rather, they point to a much richer classificatory scheme. In the end, I speculate on ways that one might reconcile this evidence with the spirit of the anthropology.[2]

Anthropology and terminology

Given the patchy nature of the evidence, the initial questions we ask about the management of animals are particularly important, as we use answers to those questions to fill in the narrative when our texts fail to provide usable information.[3] With that in mind, cuneiform studies tends to draw much inspiration from anthropology, as many cuneiformists are cross-trained in archaeology as students. Anthropologists use a basic dichotomy in the way that they set up and understand issues around large-scale sheep management against large-scale cattle management (in general see Adams 1981, 149–51; Redding 1981; Zeder 1988; 1991; 1994; for more recent work that uses this literature, see Widell 2003; Rattenborg 2016). On one side is sheep herding, which involved mobility, distances, and peripheries, and was therefore not amenable to centralized control. People with control over sheep herds had an unusual degree of autonomy, and states and other authorities entered into what are in effect bilateral relationships with mobile pastoralists, not relationships of inflexible hierarchy and authority (Scott 1998; 2009).

This contrasts with the management of cattle. Zeder gives a particularly good explanation of the difference (Zeder 1994, 9):

> Water and pasture preferences of cattle require that they be kept within prime areas for agricultural production, resulting in a greater potential for conflict between agricultural and herding interests. Moreover, raising cattle for draft animals requires that a higher proportion of males live a good deal longer than is conducive to efficient management for edible resources. Large scale exploitation of cattle for both labour and food resources is, therefore, likely to have resulted in conflicts needing higher level arbitration. There is, in fact, documentation dating to the pre-Sargonid period that [shows how] both names for cattle and management practices employed varied depending upon whether cattle were used as meat producers, as dairy animals, as draft animals, or as 'war machines'.[4]

Since cattle do not roam, they live effectively with and in society. This dynamic then effects every other one. For example, given their value and proximity, cattle are often regarded with high degrees of affinity and familiarity (see, among many others, Lincoln 1980; Carlson 2001; McInerney 2010, 28–32). Moreover, cattle are highly resource intensive; not only do they need vast spaces for grazing, they also require extensive stores of fodder to make it through times of limited pasture. This puts cattle in direct competition with humans for access to proximate resources. One can grow for grain for consumption, or turn that grain over to cattle to try to obtain dairy, meat, hides, and more cattle. These are annual decisions that people make with their fields, and they are of immediate consequence. Cattle are not just food resources, but humans can also put cattle to work: to pull the plow or cart, thresh grain, and so on.

Zeder argues, then, that because training for traction allows some male cattle to live longer than male sheep (most of which are eaten young), issues around cattle should involve a sorting out and classifying process dictated by economic usefulness (i.e. 'as meat producers, as dairy animals, as draft animals, or as "war machines"'). And indeed, classifications of cattle by economic usefulness are common. For male bovines that are not calves, western languages have as common terms:

- Intact adult male, set for reproduction: English 'bull' and 'bull calf', German, 'Bulle' and 'Stier', French 'taureau' and 'taurillon'
- Castrated adult male, trained, used for traction: English 'ox', German 'Ochse', French 'boeuf'.
- Young castrated adult male, kept alive for beef or to be trained as an ox: English 'steer', German, 'junger Ochse', French 'bouvillion'.

Castration marks the classificatory point of departure in these; non-castrated animals fall into one category, castrated ones into others. Thus, we need not push too far into Borges' discussion of the *Celestial Emporium of Benevolent Knowledge* to make the point that classification is at least in part social construction.[5] There is nothing 'natural' about an ox or steer. The difference between a castrated and non-castrated animal, which is central to cattle classification schemes in western languages, is one of deliberate human manipulation.[6]

Cattle castration and Babylonian terminology

Was castration central to Babylonian classification? There can be little doubt that castrated bovines were around in ancient Babylonia. Typically, mature male bovines in working herds of cattle fall into one of three groups: first, a majority of male bovines over a year or two old would be oxen (that is, castrated males); second, a few uncastrated males would be kept around for breeding purposes (bulls, maybe one bull for 35 cows);[7] third, it is possible that some males were castrated at a young age, not with the intention of training them for traction, but for beef or as an emergency food resource (steer). Mature male bovines are famously unruly, territorial, and difficult to control, so it is highly unlikely that the many mature male cattle mentioned in cuneiform texts were left intact.[8]

With a few exceptions, the literature gives the impression of an orderly enough set of terminology for Mesopotamian cattle.[9] Reading just beyond the surface, though, one immediately finds issues.[10] To give one example, the sign GU4 (*alpu*), without further qualification, is used in first millennium texts for:

- Often: basic 'lexical' meaning (mature domesticated male bovine: e.g., TCL 13, 182; UCP 9/1, I, 70; BIN 1, 68)
- Often: male cattle, undifferentiated by age (e.g, BRM 1, 91; UCP 9/1, II, 28; YOS 7, 182)
- Less often: male calves (for sacrifice: e.g., YOS 17, 50; YBC 4160; BIN 1, 1)
- Less often: synonym for 'cattle' (sex/age undifferentiated: e.g., YOS 19, 121; YBC 11899, BM 114587)
- But most often the writing is simply ambiguous, and context gives no hints.

There are issues here that go beyond classification. Sign selection could mask words in a way that we are not aware.[11] Even then, in English words like 'cow' and 'bull' are used promiscuously; one might reference a herd of cows when in reality the herd (as is typical) contains cows, calves, steer, and a few bulls. We should grant Mesopotamians the same leeway. But the examples here do span all text types. It is not as though one finds these issues only at the colloquial level (in, say, letters), and then technical people used more precise terminology. This ambiguity is endemic to institutional accounting texts, where labeling and precision presumably mattered most.

The point here is that, for administrators, cattle management really did not employ a distinct set of terminology that classifies animals by economic usefulness, and certainly not by a usefulness centered on castration. For whatever reason (see below), written administration tolerated levels of fluidity and ambiguity in terminology that mask what many classification schemes deem foundational. Modern lexicographers, searching through the huge mass of tablets, might find

apt classificatory terms used from time to time, but Mesopotamian bureaucrats did not employ them in a way that had immediate accounting and administrative resonance. To put it another way, we might find a word that broadly parallels our understanding of 'steer' as an aside in a tablet or two, but that word did not necessarily have day-to-day administrative currency.

An ox by any other name

Taking this a step further, with one rare exception, I am not convinced that the Babylonians used a classificatory term for an 'ox' – a castrated bovine trained for traction. They could attach qualifiers to various uses of GU4; for example, we have the GU4 GIŠ.APIN, the 'cattle of the plow' (cf. Heimpel 1995), or some GU4s appear in texts that also mention plows or plowmen (e.g, NBC 4840; NBC 4649; Moore, Mich. Coll. 35; PTS 2800).[12] In these cases the texts are likely referencing oxen, but these are rare, and even then it is not always certain. The differences here are academic, but Babylonians did use cows for the plow (Janković 2013),[13] and there are examples in cattle cultures worldwide where they train actual bulls to the plow (Halstead 2014). It does not then necessarily follow that any mention of a GU4 in association with a plow was an actual ox, however likely that may be.

The question of which word may or may not mean 'ox' runs deep in cuneiformist lexicography. To my knowledge, Landsberger (1960) first attempted to sift through the first millennium evidence in MSL VIII/I, and he was clearly irked by the lack of an obvious term for castrated animal.[14] He runs through a process of deduction, some steps based in etymology, some in odd folk-logic,[15] to produce a complex chart of 'euphemistic' and 'non-euphemistic' words for castration, subdivided into men and animals. Although little in that chart remains valid, three terms made their way into subsequent literature.

Landsberger translates *šuklulu* as 'uncastrated', which, as Van Driel (1995) and Tarasewicz & Zawadzki (2018, 21–2) have pointed out, is problematic. Derived from the Š-stem verb *šuklulu* 'to finish, bring to completion', this word is a fairly common descriptor of male cattle in Ebabbar texts; it is less common in Eanna texts, which use other writings (such as KÙ, *tamīmu*) almost certainly for the same phenomenon. Other than applying it only to male cattle, administrative texts shed almost no light on the meaning of the word. Tarasewicz & Zawadzki (2018, 28–9) recently make the case that, at Sippar, the vast majority of animals with this label trend very young (they are less than a year old), and were reserved for the highest-level gods. I see no reason to doubt that the spirit of this observation holds true for the Eanna as well, but I do not have the same metrics.

The most colourful context for the word is *The Kettledrum Ritual* (TU 44 [AO 6479]), lines 1–6

> When y[ou] want [to cover] the kettledrum (proceed as follows). A knowledgeable expert will carefully inspect a *šuklulu* black bull, whose horns and hooves are intact, from its head to the tip of its tail; if its body is black as pitch, it will be taken for the rites and rituals. If it is spotted with seven white tufts (which look) like stars, (or if) it has been struck with a stick (or) touched with a whip, it will not be taken for the rites and rituals. [Translation from Linssen (2004)][16]

As Tarasewicz & Zawadzki (2018, 33) and others note, the translation 'most precious, perfect one' or 'without defect' seems to be the best meaning of *šuklulu* in this context. Non-castrated is likely assumed in this understanding, but it was only part of what was a much richer concept of identification based on ritual purity.

By focusing entirely on intactness to define *šuklulu,* Landsberger then took any word that seemed to exist in opposition to *šuklulu* to mean 'castrated'. The two most common of these words are GU4.NINDÁ and *tapṭīru*, about which Tarasewicz & Zawadzki (2018, 29–35) draw two relevant conclusions in their recent study. First is that the writings GU4.NINDÁ and *tapṭīru* were more or less interchangeable; the fact that one can replace the other suggests that, whatever the differences between them, they were insignificant. Second, interestingly, they argue that what distinguished a GU4.NINDÁ/*tapṭīru* from a *šuklulu* was not the age of the animal (as all had assumed up to that point), but just the fact that a GU4.NINDÁ/*tapṭīru* was simply less ritually valuable than a *šuklulu*.[17] This had been noted in passing by others, but often in a way that just created more confusion around classification and age issues (in fact, as Tarasewicz & Zawadzki note, GU4.NINDÁ/*tapṭīru*s trend a bit older than *šuklulu*s, which is the opposite of earlier assumptions).

Tarasewicz & Zawadzki (2018, 35–6) take the meaning of *tapṭīru* as 'gelded', adding that these animals were 'freshly gelded' because they could move into the broader group of GU4.NINDÁ (the presumably long-gelded) if they were not sacrificed. I think the sequence they propose makes sense, but I take issue with the assumption about castration. I assume they follow Landsberger, who gives an etymological translation for *tapṭīru* as '(who was subjected to) a removal', which is *exceedingly* (almost comically) generous to the idea that castration drives classification. Perhaps

aspects of the root would allow for this definition (a 'detached one' or some such), but it needs to be stressed that no other cognates of the word carry that nuance,[18] nor do words for castrated animals usually reference the act itself (as Landsberger himself notes elsewhere).[19] The cognates of *tapṭīru* seem rather to carry a meaning mostly of 'released' or 'segregated', often applied to cattle in the sense of 'unyoked' or 'unhitched'.

Without more information, I think *tapṭīru*-males are simply non-*šuklulu* males; they are not ritually perfect (but still ritually permitted), so they are administratively set aside for other purposes. Some may be sacrificed to lesser gods, some put to the plow, and some raised for beef. Again, castration may have played a role in this, but it was not central to the classification.

Finally, the descriptor *ummânu* certainly refers to bovines trained to the plow (See Jursa 1995; van Driel 1995; Janković 2013). It is uncommon in institutional texts, although standard in Murashu and other late-Babylonian private contracts (Stolper 1985; 1994). The CAD U/W lists *ummânu* as its own entry, as an 'adult, mature ox', without a cognate referent. AhW and CDA take the word as related to *ummaniātu*, 'specialist, scholar, trainee'. The word was productive, as it could refer to females (CAD **ummānatu* 'adult cow, heifer'). None of these understandings have to do with castration.

Terminology and ritual purity

The key here is that in Mesopotamian classifications the animal does not move from one classification to another by virtue of being castrated, as it does in modern Western classifications. Rather, the classifications are mostly bound to a tapestry of ritual purity; if nothing else, they relate the animal back to abstract human judgements (ritually pure/less-than-pure; trained/untrained) rather than physical alterations or easily discernible characteristics. Perhaps terms like *šuklulu*, *tapṭīru,* and *puhālu* work by a process of elimination; any older male not explicitly given one of these labels in a context where specificity matters is assumed to be an ox, and may occasionally be called an *ummânu*.

Viewed one way, these issues over terminology seem to be specific to the Babylonian temple. One assumes a typical Babylonian family, or even a state cowherd, would not have to worry about ritual purity when deciding whether to slaughter a calf for beef, use it to stud, or train it as an ox.[20] Even if so, the major temples dealt with cattle at something like an industrial level for the ancient world. The Eanna, for example, wrote contracts involving hundreds of heads of cattle, and administered a cattle population of probably a few thousand at any given time (on the contracts, see Janković 2013). The Ebabbar of Sippar seems to have operated at a smaller, if still significant, level (Da Riva 2002; Jursa 2010; Tarasewicz & Zawadzki 2018). Unlike with sheep, though, the temples did not sacrifice all that many cattle; we lack numerical precision, but it is certain that cattle sacrifice had nowhere near the sacrificial visibility, cultural impact, and bureaucratic underpinning that sheep did.[21] What the temples did need in bulk was oxen to work their vast holdings of arable land.[22] So even for the temple, ritual purity adds a level of non-economic complexity in an area where one might expect streamlining and efficiency.[23]

There are other issues at play here as well. Quoted at length, van Driel says the following about cattle terminology:

> The administrative texts from both Sippar and Uruk use in the main a standardized, in some respects local, terminology written in logograms, the Akkadian reading of which is often problematic. Even if the Akkadian word is known its exact meaning is not always obvious. It is more than likely that the written administrative terminology is only a bleak reflection of the vocabulary in common use. The terminology is not the same in the various departments of the same administration and in Sippar the differences seem to be more marked than in Uruk. The relation between written administrative terminology and the spoken word is lamentably weak … spoken language will have been far richer.

He is certainly correct, and this hints at the larger issue that began this chapter: why do anthropological expectations and textual realities in Mesopotamia match up poorly here? We find neither the terminological intimacy that one expects from pastoral societies, nor do we find a strict sorting by economic usefulness that one expects from a literate, bureaucratic, hierarchical society like ancient Mesopotamia.

The anthropology of course uses airtight logic in assuming that proximity and a kind of competition over local resources should be the things that dictated the relationships between Mesopotamians and their cattle. The issue, then, is whether the anthropology is ultimately correct, and the problem is in the way that accounting documentation works in Mesopotamia; or ultimately that it is misguided, and that anonymity and generalness gave shape to the relationships between southern Mesopotamians and their cattle.

I think there are two potential ways to address this, and it does not have to be either/or: one could

argue that, living among the animals, it is actually surprising that Mesopotamians do not employ a very rich set of terminology to describe them. This would indicate that maybe we need to rethink the conceptual framework altogether, or that some of the anthropological assumptions about early Mesopotamia will not hold for later Mesopotamia, and we have to start thinking about administrative historical change.[24] On the other hand, Van Driel hints at a counterintuitive way to think about this in the quote above: that most things actually ran on interpersonal relationships and local knowledge, and that hence the accounting, many steps removed from that process and largely unconcerned with the particulars of it, only needed a limited set terminology to function at a satisfactory level. That is, the day-to-day terminology might reflect more the demands of the accounting system than it reflects praxis. Accounting could afford to be general because individuals negotiated the particulars extratextually and face-to-face.

The latter, while disappointing for lexicography, does allow us to take new approaches. For example, I think we can speculate with some confidence on *why* institutional accounting, understood in this way, would focus on details like ritual purity yet fail to mark standard differentiations between bulls and oxen. Deciding what young male calf would become an ox is something that requires very local, very intimate, very culturally specific knowledge and abilities. It is a process that seeks characteristics in young male calves that are deemed predictive of a docile yet strong older animal, and early judgements might prove to be incorrect. It is a trial-and-error process that takes time to show results – a promising young ox might turn into a steer (and then beef) after a bad week behind the plow. This process, playing out over years, certainly involved castration at some point, but is not something that an upper-level administrator could actually manage to any useful degree of effectiveness. It is local and intimate, whereas his interests are distant and calculating. So, the accounting terminology is general and ambiguous here because it reflects the actual level of authoritative control over this aspect of cattle raising.

On the other hand, the decisions about whether or not an animal could be consumed in ritual sacrifice were based on particular external physical characteristics. As shown in the quote above for the Kettledrum ritual, the requirements were numerous and pedantic, yet also explicit. As such, they lent themselves to authority – both in dictating the terms, and then in assessing and confirming whether animals met those terms. So, the accounting terminology here is precise and useful because it also reflects a sphere of real control over this aspect of cattle raising, where top-down authority had a direct role in the sorting and evaluation process. Decided by masters and policed by authorities, the assessment of ritual requirements was explicitly in the assessor's purview.

In other words, I would argue that the anthropological approach is correct, but misdirected. We really do not see the heavy hand of the state (or higher-level arbitration) here, dictating relationships, terminology, and usefulness. Instead, we see local authority manifesting itself in a complex set of ways, leaning into spheres where its interests and abilities can have influence, and stepping back from areas where it could not effectively exert control. This ultimately leaves its imprint on the terminology, which then clusters around the interests of that authority to the detriment of other – perhaps more familiar to us – ways of classifying the animals.

Notes

1 Of particular importance and interest are: San Nicolò 1948, 1949, 1951, 1954, 1956; Englund 1990; Gehlken 1990; Nissen, Damerow *et al.* 1993; Van Driel 1993; 1995; Steinkeller 1994; Englund 1995a,b; Heimpel 1995; Stol 1995; Stępień 1996; the essays in Collins 2002; Englund 2003; the essays in Lion 2006; Zawadzki 2006; Röllig 2008; Tsouparopoulou 2013a,b; the essays in Breniquet & Michel 2014; Kozuh 2014; Boivin 2016; Richardson 2018; Tarasewicz & Zawadzki 2018.

2 This chapter primarily draws from the records of the Eanna temple of the southern Mesopotamian city of Uruk and the Ebabbar temple of central-Babylonian Sippar. For both of these we have San Nicolò's and van Driel's initial forays into the evidence. For the Eanna, I use the published material as well as about 400 relevant unpublished texts at Yale, Princeton and the British Museum. For the Ebabbar, we have the recent work of Zawadzki 2006, and Tarasewicz & Zawadzki 2018.

3 This is especially true in lexicography, see Veldhuis (1997) for some critical remarks.

4 This later point references Kientz & Lambert (1963).

5 This famous text begins '[in] a certain Chinese encyclopedia entitled *The Celestial Emporium of Benevolent Knowledge* . . . it is written that animals are divided into (a) those that belong to the Emperor, (b) embalmed ones, (c) those that are trained, (d) suckling pigs, (e) mermaids, (f) fabulous ones, (g) stray dogs, (h) those that are included in this classification, (i) those that tremble as if they were mad, (j) innumerable ones, (k) those drawn with a very fine camel's hair brush, (l) others, (m) those that have just broken a flower vase, (n) those that resemble flies at a distance', referenced in DeMello (2012, 10–11).

6 Compare, by contrast, the classification schemes discussed in McInerney (2010, 31–2)

7 Bulls are clearly identified in inventory texts as *puhālu*s (Van Driel 1995), yet not all *puhālu*s were stud-bulls, as they also take on the descriptors discussed below (*šuklulu*, etc).

8 This is a general schema. There are no hard and fast rules for when a male animal would have been castrated or eaten – at some point in the first few years (Stol 1995). The decision to turn a male into an ox is not random or arbitrary; it has to do with markers of docility and other issues that are deeply cultural. The fact that we have to make the case that castrated animals certainly existed in Mesopotamia – see the Landsberger quote here in note 15 – strongly hints at the fact that their fundamental classifications will not mirror ours very well.

9 See the literature cited here in note 2, but note the admirable exception of Weszeli's entry in the RLA for *Rind* (*Rind* B: 388–406), which stresses the fluid nature of the terminology.

10 See Tarasewicz & Zawadzki (2018), as we will discuss here. I can only speak with confidence on first millennium evidence, but Stępień (1996) and Stol (1995) seem to have the same complications for earlier periods.

11 Cf. the debate of how to read GU4.NINDÁ, which may have changed over time, Tarasewicz & Zawadzki (2018, 29–35).

12 The two NBC texts are published in Janković (2013).

13 Note that the one certain reference we have to the training of a bovine to the plow specifically references a female animal, in Stolper (1990).

14 For example, to bolster his point that castration must have happened in Mesopotamia he cites: 'prehistory', Homer, the Old Testament, and the Talamud. He then concludes 'it should also be pointed out that a civilization so well acquainted with the castration of men would hardly have been totally ignorant of the advantages of this practice with regard to domestic animals'. (Landsberger 1960, 69). Maekawa (1979) finds the logic of the lattermost persuasive, using that along with a process of elimination to argue that AMAR-KUD must mean 'young castrated cattle' in Early Dynastic and some Ur III texts. My (admittedly incomplete) survey of the literature since this publication suggests that its conclusions are not widely accepted (see, for example, Bauer 1989–90, 82; Stol 1995, 201–2).

15 For example, in order to explain how the Babylonian word *ellu* ('pure') might mean 'castrated', Landsberger 1960 says (with parentheses in the original) 'the concept that sexual contact makes men unclean is widespread … even though "clean" (= chaste, celibate) could be a good word for the tabooed word "castrate," we have to admit that there is a lack of parallels and an incongruity between the meaning of *ellu* postulated by us and its well attested meaning as "cultically clean"' (Landsberger 1960, 74).

16 Also see the observations in Parpola (2007, 272–3).

17 I am unable to distinguish if this holds true at Uruk, but have no reason to challenge it.

18 Cognates of root **pṭr,* from the CAD: *napṭartu*: (part of a block); *napṭartu* B: desertion: *napṭaru*: (a person with certain privileges); *napṭaru* in *bīt napṭari*: quarters for soldiers, a type of residence for foreigners and other persons of *napṭaru* status; napṭīru: substitute, replacement; *paṭirtu*: unyoked team; paṭīru = (a table); *pāṭiru* = off-duty soldier; *paṭru* (adj): opened, unhitched, unfastened; *piṭru* = loose; *puṭāru* = (a qualification of bulls) ; *puṭṭuru* = loose weave, redeemed; *tapṭirtu* = release, pacification.

19 See note 16 above, where he finds direct reference to castration to be a 'tabooed' phenomenon.

20 It is a shame that we do not have those archives, as it would be interesting to know how one sphere affected the other. Decisions on whether to raise a male calf to stud, for beef, or for the plow are deeply cultural [see, for example, Ochsenschlager (2004) and Halstead (2014)] and will often involve factors that would surprise those who study cattle in modern, scientific ways. I would not be surprised to find temple or religious terminology about animals deeply permeated into colloquial Babylonian classification schemes.

21 There is little done on cattle sacrifice at the Eanna (the unpublished YBC 3927 will provide an anchor to further study). See for now Beaulieu 2003.

22 On this, see Jursa 2010; Janković 2013 – on the value of cattle in later texts, see Stolper 1985; 2005. Dairy, as always, remains largely undocumented, but Waerzeggers (2010) remains particularly valuable on this.

23 Indeed, temples did streamline in other ways. Very few texts describe cattle with the sort of intimacy one usually finds in pastoral societies. A few texts describe cattle with a brand in a particular place (AnOr 8 38, BM 114648), one describes a cow with a colour (NCBT 645:1), but even texts that mention stolen animals – individual animals in distinct situations – use generic descriptions. This is different from, say, archives from Minoan Crete, where cattle terminology betrays a real intimate knowledge of the animals: spots, personalities, and so on, which parallels the anthropology on pastoral societies (McInerney 2010, 28–32).

24 It is clear that over an extremely *longue durée,* language and relationships toward nature evolve and change, see, for example, Wiggerman (2011, 665) and Richardson (2018). One example: we do not have evidence for cattle naming (Farber 1982; Lion 1996) in first millennium sources.

Abbreviations

Cuneiform texts, journals, and publication series are cited with the system of abbreviations of the Assyrian Dictionary of the Oriental Institute of the University of Chicago (CAD), reproduced (with other abbreviations) at cdli.ox.ac.uk.

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Chapter 14

What was eating the harvest? Ancient Egyptian crop pests and their control

Malwina Brachmańska

In a fragment of a didactic letter describing the sad fate of professions other than that of a scribe, written in the XIX dynasty (*c*. 1295–1186 BC) *papyrus Anastasi* V and again in the XXI dynasty (*c*. 1069–945 BC) *papyrus Sallier* I,[1] one can read about the hardships experienced by a farmer. According to this fragment, pests, listed by species, were the main cause of nearly all damage to crops:

> Do you not recall the condition of the cultivator faced with the registration of the harvest-tax after the snake has carried off half of the corn and the hippopotamus has eaten up the rest? The mice abound in the field, the locust descends, the cattle devour. The sparrows bring want upon the cultivator (…) (*Sallier* I, 6,2–6,4 = *Anastasi* V, 15,7–16,3 = Gardiner 1937, 83; trans. Caminos 1954, 315–16).

It was this excerpt seen in *p. Sallier* I which initially piqued the author's interest. Further inquiry revealed that other sources verify its reliability and represent the danger particular species posed to the harvest, how they were seen by the Egyptians, and some of the methods used to exterminate them. This article reviews those sources in order to analyse how pests were perceived and controlled in ancient Egypt.

Ancient Egyptian crop pests

According to Caminos, the first animal mentioned in *p. Sallier* I was a snake. That creature, a snake, is also mentioned in another, XX dynasty (*c*. 1186–1069 BC), didactic letter from *p. Lansing*, where the farmer 'spends time cultivating corn, (while) the snake is after him (and) destroys the seed (when) it is cast to the ground' (*p. Lansing* 6, 7–8 = Gardiner 1937, 105).[2] However, the presence of the snake among pests seems peculiar. As was noticed by Egberts (1995a, 341–2), snakes are not harmful to crops; by killing rodents, they even play a beneficial role in the field.

ḥfȝw, the term used in both texts, usually means *snake* or *serpent* (e.g. Faulkner 1991, 168; Lesko 2002, 309), so it is often translated as such (e.g. Caminos 1954, 390; Simpson 2003, 438). However, ancient Egyptian terminology did not differentiate clearly between snakes and certain other creatures, including worms. Both were part of the class of crawling-creatures, in which snakes were the most prominent of species (Wassel 1991, 15–19). Since there is no general term for worms in Egyptian, some scholars claim that the word *ḥfȝw* in the texts from *p. Sallier* I and *p. Lansing* should be read as *worm* rather than *snake* (*Wb* III, 73.3; Erman & Lange 1925, 66; Keimer 1933, 101; Vinogradov 1992; Egberts 1995a, 342). This is also true for other texts where terms generally translated as snakes (not only *ḥfȝw*, but also others, like *ḏdf.t*, *ỉm.w.tȝ*) are used in the context of their negative influence on the harvest (Egberts 1989; 1995a, 341–4). In this article words used for snakes, when they refer to them in pests' context, are therefore translated as 'worms'. Following in the footsteps of the above-mentioned scholars, this term is used in a colloquial sense and refers to a wide variety of invertebrates (including their larvae forms) as well as some vertebrate creatures which are agricultural pests and which in former zoology were classified as *Vermes* (see Egberts 1995a, 341).[3]

There are also a few Graeco-Roman inscriptions from the Karnak temple which mention fields free from worms, or where worms were prevented from eating the crops (see Egberts 1995a, 341–2). Moreover, destroying worms is a part of the 'driving of the four calves' ritual (*ḫwt-bḥsw*), which, although older, is attested mainly from the New Kingdom to Graeco-Roman periods (Egberts 1995a, 205–48). The depiction

of the ritual on reliefs (see Egberts 1995b, pl. 74–121) shows the king standing in front of the gods and leading four calves before them in order to make the calves thresh the grain or hide the tomb of Osiris from his enemies (see below). In that act, the king assumes the role of Horus, the son of Osiris. At the same time, he presents himself as the successor of the deceased pharaoh, who protects his tomb from the evil forces of Seth (Ayad 2009, 106). The ritual was used to legitimize the succession of the king but also to ritually ensure a bountiful harvest.

As Egberts (1989) states, the calves were made to thresh the corn, enacting the 'agrarian' aspect of the ritual, which was connected with the production of grain. Several Ptolemaic texts from temples state that this process destroyed the worms (see Egberts 1995a, 285, 303, 319). One of them explains that the killing was carried out to prevent damage to the harvest (Egberts 1989, 37–9; 1995a, 341–4): 'I have cut up the worm, which destroys the grain, I split it in two' (trans. Egberts 1995a, 285). The destruction of worms in the ritual, as well as connecting the agrarian aspect with the other, 'Osirian' one, according to which the calves were treading on the tomb of Osiris to hide it from the enemies and during which those enemies were also led astray or destroyed, reflects how grave the problem of worms was for the Egyptians, and how important it was to eliminate them. According to Egberts, the worms and their mutilation were seen as the reflection of the enemies of Osiris. These enemies could also be seen as worms, although of the corpse-eating kind (Egberts 1989).

Akin to worms, insects were also a harvest plague. Granaries, warehouses and pantries were at risk of their attack. The crops, stored in dark and arid places, provide the herbivore insects with an abundance of food and optimal conditions to increase their population (Levinson & Levinson 1985, 328–36). Tombs, with food offerings laid in them, also fulfilled those conditions. That the problem with insects was serious can be inferred from sources recording the different ways in which Egyptians tried to get rid of them (see below) and from the archaeoentomological material.

Scholars have managed to identify many different insect species, mainly beetles, in a wide range of foodstuffs in houses, tombs, magazines and granaries. Among others, Levinson & Levinson have discussed the origin of insects in storage systems and the means of preventing pests from destroying stored food (1985; 1990; 1994; 1998), while Buckland (1981) and Panagiotakopulu (2001) gathered and reviewed evidence of insect fauna found in Egyptian contexts. The latter, alone and in collaboration with other scholars, has also analysed material from a few specific sites and artefacts from museum collections (Panagiotakopulu 1998, 2003; Panagiotakopulu & van der Veen 1997; Panagiotakopulu & Buckland 2010a; Panagiotakopulu *et al*. 2010) and has conducted research on the ancient Egyptian insecticides and insect repellents (Panagiotakopulu *et al*. 1995; Panagiotakopulu 2000). Archaeoentomological research is still scarce and little of it is detailed (Panagiotakopolu 2001, 1235; for other research regarding insects in tomb offerings and storage system context and for analysis of insects as a pest, see e.g. Alfieri 1931; Zacher 1937; Solomon 1965; Chaddick & Leek 1972; Burleigh & Southgate 1975; Panagiotakopolu 1999; Borojevic *et al*. 2010; Panagiotakopolu & Buckland 2010b).

Plant eating insect infestations can be identified through their fossils found in crops and wheat products (like flour or bread), as well as by the traces of pests left in the crops. An example can be seen in the loaves of bread from the food offering in the tomb of Kha in Deir el–Medina (XVIII dynasty, *c*. 1550–1295 BC), which were full of small holes and tunnels – the result of biscuit beetles eating (*Stegobium paniceum* L.) (Levinson & Levinson 1994, 52–3) or in the analogous loaves stored in Turin Museum (Panagiotakopolu 2003, 357–8). Traces of preying insects also come from emmer spikelets deposited in the rock-cut gallery (*Cave* 3) of Wadi Gawasis, a Middle Kingdom harbour on the Red Sea coast (Borojevic *et al*. 2010, 6–8). Unfortunately, in this instance, the species of the insects has not been identified.

The extent of damage done by insects to stored food can be seen best within the XVIII dynasty's Amarna house of Ranefer, built on the debris of an earlier household. This created a closed space beneath the house's final mudbrick floor, where plant waste, insect fossils and traces of pest infestation, among other things, were preserved. The insects include species like grain weevil (*Sitophilus granarius* L.), the lesser grain borer (*Rhizopertha dominica* L.), flour beetles (*Tribolium castaneum* Hbst.), the small-eyed flour beetle (*Palorus ratzeburgii* Wiss.), biscuit beetle and smooth spider beetle (*Gibbium psylloides* Czen.). The damage caused by insects, along with traces of rodent gnawing, were evident in many barley grains found beneath Room 1. Moreover, 1250 date stones were discovered under Rooms 5 and 5b. 73 per cent of them were infested by scolytid (*Coccotrypes dactyliperda* F.), while some had gnawing marks from insects and rodents (Panagiotakopulu *et al*. 2010).

In light of the above-mentioned sources, it seems clear why in the discussed lines from *p. Sallier* I, worms were not only mentioned first but were also seen as the creatures responsible for the destruction of half of the harvest. Worms and insects both posed serious

danger to the harvest and were seen as destructive. It is then all the more interesting that, despite the existence of so many insect species, the ancient Egyptians only have specific names for a few (Kenawy & Abdel-Hamid 2015, 28). One of them, the locust, was mentioned in the *p. Sallier* I.

The locust is a type of grasshopper whose life can be divided into 'solitary' and 'gregarious' phases. Both forms differ morphologically, physiologically and behaviourally. In solitary form, locusts, similarly to other grasshoppers, live as individuals. In the second phase, when their numbers increase rapidly due to favourable conditions, they create dense groups which disperse onto a vast area (Capinera 2008, 1666–7; Simpson & Sword 2008). It seems that ancient Egyptians did not differentiate between these two types. Not only did just one name exist for the locust (e.g. *snḥm*); among occasional depictions of single grasshoppers in the field, garden and marsh environments, as seen in tomb and temple scenes, part of those insects are also portrayed with the 'gregarious' appearance (grasshoppers are, for example, depicted in the tombs of Mereruka (Saqqara, VI dynasty (*c*. 2345–2182 BC); Sakkara Expedition 1938, pl. 10–13), Kagemni (Saqqara, VI dynasty; Houlihan 1996, fig. 131), Horemheb (TT 78, XVIII dynasty; Keimer 1933, 102; Cherpion 2012, fig. 5), Khonsu (TT 31, XIX dynasty, Cherpion 2012, fig. 9–10), Ramose (TT 166, XX dynasty; Keimer 1933, 102; Cherpion 2012, fig. 7–8), or in the representation of the botanical garden of Thutmose III (temple of Karnak, XVIII dynasty; Beaux 1990, 286–7; for another interpretation of grasshoppers with locust characteristics in those scenes, see Cherpion 2012, 193).

The 'gregarious' locusts are the most destructive. Their swarms are considered a serious danger in Africa and the Near East even today (Nevo 1996, 22–8; Taterka 2012, 56). They may consist of billions of individuals, travelling great distances per day, very quickly covering an area of several hundred square kilometres and leaving almost no crops to harvest (el Magd 2016, 333). It seems hardly surprising that the extensive damage caused by locusts left traces in ancient textual records; even the Bible mentions locusts as the eighth Egyptian plague (*Ex*. 10:12–15; Nevo 1996).

However, the symbolism of the locust, despite the insect being the cause of extensive devastation of the harvest, was mostly connected with the idea of multitude, and through that with wealth and abundance, not with destruction (concerning the significance of the locust, see Keimer 1933; Koek 2015; 2016). A multitude of locusts is already expressed in the Pyramid Texts. The Spell 467 states that the dead king 'has reached the sky as a locust which shades the sun' (PT § 891d, Sethe 1908, 498). This sentence may be the result of actual observation, since swarms of flying locusts really can darken the sun's view. Furthermore, depictions of locusts and figurative expressions related to them could also be used to symbolize, as stated by Cherpion (2012), the concept of fecundity or transformation and rebirth.

Apart from *p. Sallier I*, there are few sources which present the locust as a field pest. A detail from the Theban tomb of Ramose depicts a man with a bouquet of flowers and ears of cereal which two locusts devour (Keimer 1933, 102). In one of the maxims from *p. Insigner* (XXV.4), the locust is described as the pest of vine bushes: '…The small locust destroys the grapevine' (trans. Lichtheim 1980, 205). A fragment of the Mo'alla tomb inscription of Ankhtifi, a nomarch living during the First Intermediate Period, differs from those as it links locusts with the time of famine: 'The whole land has become like wandering locusts. One going downstream (and) the second upstream' (Pillar IV, 27–29, Vandier 1950, 221; see Assmann 2002, 93–105). Ankhtifi used the locust as a simile of the action of starving people in the time of hunger, referring to the destructive behaviour of swarms, which wander through the whole country looking for food.

The image of a locust also appears in some New Kingdom battle inscriptions as a metaphor for Egyptian foreign enemies (el Magd 2016, 333–4). For example, in the description of the Qadesh battle in the fifth year of his reign, Ramesses II claimed that the Hittites and their allies '…covered the mountains (and) valleys like locusts in their multitude' (KRI II, 19,3), while the inscription of Ramesses III in the temple of Medinet Habu, referring to the Libyan invasion in the eleventh regnal year, states that '…whose right arm [*Ramesses III*] plunging into the battle, slaying 100,000 in their places under (the hooves of) his horses. He sees (their) thick multitude as the locusts' (KRI V, 26,5–26,6). While the destructive nature of locusts is acknowledged, they are also small and easily trampled creatures; therefore, in the context of battle, some scholars see the use of the locust image as a figurative expression referring to the multitude and weakness of enemies (Keimer 1933, 103–5; Malek 1997, 207–19; Morenz 1999, 135–6; cf. e.g. el Magd 2016, 333–4). While the first symbolism is clear, the second brings some doubts, especially in light of the fact that in the Ptolemaic temple inscriptions referring to *ḥrw-ʿ* elixir offerings – a liquid which gave strength, courage and perseverance in combat – the image of locusts was used to describe an infinitude of Egyptian soldiers, followers and so on (Cauville 2011, 48–9; Sayed 2018). The New Kingdom battle texts seem to portray foreign

enemies rather as a large, charging, destructive horde covering a vast area, similar to locusts. This kind of figurative expression shows that locusts were seen as a great plague needing to be crushed.

Rodents are well known pests all over the world; ancient Egypt is no exception. A few species of rodents from the *Muridae* family (mouse-like rodents) were known in ancient times (Osborn & Osbornova 1998, 46–52; for the species of the *Muridae* family present in modern Egypt, see e.g. Hoath 2009; for systematics and terminology, see Cichocki *et al*. 2015). They were not differentiated and were known as *pnw* (WB I, 508,8; Faulkner 1991, 89).[4] Sources other than *p. Sallier* I reflect the damage which mice may have caused either in the field and in storage areas (see Bohms 2013, 237–9; Brachmańska 2017, 70–1).

The destructive activity of the mouse became its iconic feature and as such was used as a symbol in the dreambook written on *p. Chester Beatty* III (Gardiner 1933, 7–23; Bohms 2013, 239). There, one of the dream interpretations states: 'if the man sees himself bringing mice from the field, bad: the sore heart' (9,28, Gardiner 1933, pl. 7). The mouse here was a negative omen, a symbol of despair and destruction, appearing in the context of the field. The symbolism of the dream comes from analogy: the mouse which destroys the harvest, when brought from the field, destroys the heart of the bringer. As the great devourer of house supplies, the mouse appeared in a mathematical problem from *p. Rhind*. In this problem, several numbers raised in geometrical progression were written one below the other, each corresponding with one item (Chace 1929, pl. 101). The riddle's purpose was to calculate a sum of numbers. The problem could be understood as follows: 'there are seven houses, there are seven cats in each of them, each cat kills seven mice, each mouse could eat seven *hekat* measure of grain. How many items were mentioned?' (see Chace 1927, 30, 112; Robins & Shute 1987, 56). Archaeological studies have proven that the author of the riddle took inspiration from real life. During the excavation of the XII dynasty (*c*. 1985–1773 BC) city at el-Lahun, Petrie noticed that nearly every house had mouse holes in the walls, which were 'stuffed up with stones and rubbish to keep them [*mice*] back' (Petrie 1891, 8). Mice truly were that city's plague. El-Lahun (Borojevic *et al*. 2010, 4, 8) and a few other archaeological sites, like Ranefer House or Wadi Gawasis (see above) also provide evidence of grains and seeds with rodent gnaw marks. This confirms the pest's presence in human settlements. In literature, the mouse was still directly pointed out as one of the main field pests in the Ptolemaic *Instruction of Ankhsheshonq*, where it can be read that 'the frogs praise happy, the mice eat the emmer' (23,20, trans. Lichtheim 1980, 177).

The inscription on the Kawa V stela, recording the great inundation in the sixth year of XXV-dynasty Taharqa's reign (Gozzoli 2009; reign of Taharqa: 690–664 BC), reflects the impact which all pests described above had on the state of the crops. Worms, rodents and locusts were such a plague that getting rid of them was considered part of the four wonders performed by Amon for Taharqa. The king states: 'It made *[inundation]* the whole field good, killed the vermin (and) the worms that were in it, kept off the locusts which devour from it (…)' (Kawa V 11–12; Macadam 1949, pl. 10). The author of the text used two unusual terms for what is here translated as worms and vermin – *ỉm.w.tȝ* for the first and *ḥdkk.w(ỉ)*, written with the determinative of the small rodent similar to a mouse, for the latter. *ỉm.w.tȝ* literally means 'those who are in the earth', and *ḥdkk.w(ỉ)* denotes small creatures such as rodents, insects, and toads (Macadam 1949, 20; Vinogradov 1992, 32). The latter has been translated by different scholars as vermin, rats or insects (e.g. Macadam 1949, 27; Assmann 2002, 162; Kitchen 2004, 169; Gozzoli 2009, 238). It seems likely that the author used both of these unusual phrases to differentiate worms, which are associated with the soil, from creatures walking *on* the ground. In that way, the text would state that Amun got rid of all the pests which are *in* the ground, *on* the ground, and *above* the ground. Here, worms, insects/mice and locusts appear as representative figures for all the destructive pests.

According to *p. Sallier* I, hippopotamuses pose the second greatest threat for harvests. This is not surprising, since the animal is truly one of the most dangerous pests, eating up to 60 kg of grasses per day (Houlihan 1996, 121). This is confirmed by Diodor (I 35.9), who states that the greater fertility of Egyptian hippopotamuses could destroy the nation's agriculture. It could even be, as Diodor further suggests (I 35.10–11), the main reason for hippopotamus hunting, which was portrayed in Egyptian art from the Naqadian period (Hendrickx 2011). However, this activity, and scenes portraying it, also had a religious significance. Killing hippopotamuses was a symbol of victory over chaotic forces, which they, as Sethian creatures, embody (Säve-Söderberg 1953).

While the other animals mentioned in *p. Sallier* I are indeed pests, causing great damage to the crops, one wonders why its author also included cattle. Some scenes from tombs present cattle nibbling on grain or grass (e.g. Harpur 1987, fig. 132–3), but this is hardly a hindrance. Maybe the animal's 'grain devouring' refers to the fact that cattle and humans partly ate the same food: the former's diet was supplemented with fodder and special cattle bread dough, especially during the dry season when pastures were not available (Brewer

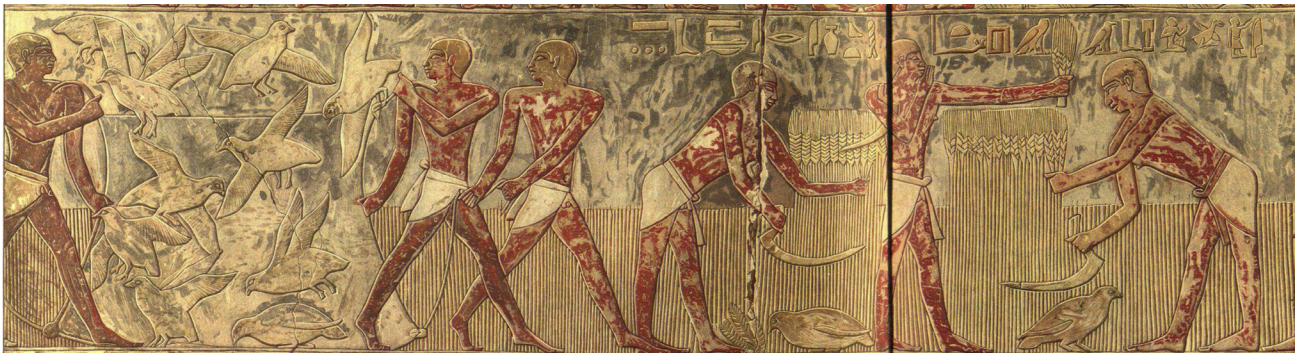

Figure 14.1. *Capturing common quails, Tomb of Mereruka, Saqqara, VI dynasty; taken from Sakkara Expedition 1938, pl. 168 (Courtesy of the Oriental Institute of the University of Chicago).*

et al. 1994, 86). If the farmer gave part of his crops to cattle, there would be less for himself.

Birds are crop thieves, and are described as such in *p. Sallier* I. The author mentions sparrows specifically, but reliefs from the private tombs and paintings from the New Kingdom ostraca indicate that other species also contributed to the farmers' misery (Harpur 1987, 111, 168; Houlihan 1996, 155–6; Bailleul-LeSuer 2012, 25). Common quails were shown eating grain from the field as early as in the tomb of Meruruka (Fig. 14.1; Sakkara Expedition 1938, pl. 138–9). Starting with the Old Kingdom onwards, a few bird species, like doves, golden orioles and rollers, were occasionally depicted in orchards and gardens, eating the fruit from the sycamore tree and grapevine; crows were painted on New Kingdom ostraca, preying mostly on nuts from the doum palm, while *p. Ebers* mentions black kite as a field pest (see below).

A Ramesside satirical papyrus stored in the Egyptian Museum in Turin (CGT 55001) includes multiple animal scenes. Among them, the hippopotamus and black crow are portrayed as typical orchard pests in a more convoluted way (Houlihan 2001, 67–72, fig. 68). Instead of eating figs from the sycamore tree, both animals are gathering them in a basket – they are harvesting the same way that humans do. This is typical Egyptian satirical sense of humour, presented mostly on Ramesside ostraca and a few papyri. The motifs picture the world 'upside-down', where animals, parodying humans, usually take roles atypical of or even contrary to their nature (Houlihan 2001, 61–120).

Ancient Egyptian pest control

From the tomb scenes depicting birds as pests, we get information not only about their species but also about the techniques employed to cope with the problem (Houlihan 1996, 155–6; Bailleul-LeSeur 2012, 25). Quails were caught using ground nets. This technique can be seen in the depictions in the tomb of Mereruka and the XVIII dynasty tomb of Nebamun (Fig. 14.1; Sakkara Expedition 1938, pl. 138; Parkinson 2008, fig. 123). To catch songbirds prying on trees, Egyptians used either a spring netting trap or a net hanging between the ground and the tree's crown. The way the latter worked is shown for example in the tomb of Akhethotep (Saqqara, Vth dynasty (*c*. 2494–2345 BC); Houlihan 1996, fig. 112). Shouting farmers scare away birds preying on a sycamore tree. Departing birds, scared by the noise, fly straight into the net. In the XI dynasty tomb of Baqet III (*c*. 2055–1985 BC) at Beni Hassan, a unique technique is illustrated, with strings with loops hanging from a tree. The legs of some birds invading the tree are caught in the loop. The trap would probably tighten when the bird would try to fly away (Kanawati & Evans 2018, 36, pl. 43).

Several representations also illustrate people scaring the birds away by making noises or by waving strips of cloth or rope fragments in the air. Houlihan (1996, 155) states that the scenes portraying such activity appear in the New Kingdom as the duty of women or children, but the method is already present in the Giza V dynasty mastabas of Imery and Hetepet as an occupation of the latter (LD II. 53b; Singer *et al*. 1954, fig. 352; for dating the tomb of Hetepet: Woods & Swinton 2013). A boy from the Hetepet tomb seems to be using a slingshot.

Prevention rather than treatment might also be a way of coping with pests. For example, animals (mainly cattle) trampling grain into the ground during ploughing could stop birds and other insects from stealing it (Murray 2000, 519). Egyptians also used magical means to fight birds. *Ebers papyrus*, written in XVIII dynasty (although the papyrus' content was presumably formed in the Middle Kingdom; Bardinet

1995, 16–17; Strouhal *et al*. 2010, 14), contains a spell preventing the black kite from plundering:

> (a branch of) acacia tree, set to stand up. The man should say: 'oh, Horus, it has stolen in town (and) in the field; it is thirst for the field of birds *[lit. flying beings]*; let it be cooked and eaten.' Words to say over (a branch of) acacia tree, (when) *fḳ*ʿ-cake is applied to it… (E 848, 98, 3–5; Wreszinski 1913, 203)

Although the formula includes a spell, the proposed method did not shy away from a practical dimension, since it actually refers to the construction of a scarecrow.

This spell is not the only remedy in *p. Ebers* used to get rid of various household pests. Actually, despite being the longest medical papyrus, *p. Ebers* included a whole chapter with advice on how to keep the house clean and free of unwelcome 'guests', using various substances as repellents or insecticides (see Ebbel 1937, 113–14). The formulae used also seem to connect practical and magical means, the dividing line between which is sometimes hard to define. Among creatures such as snakes, flies, and mosquitos, a *kkt*-animal appears. Presumably some kind of worm is hidden by this name. Panagiotakopulu *et al*. (1995, 706) see here a mealworm, since that is the most commonly occurring worm in magazines (concerning the meaning of the term *kkt*, see also Dawson 1934, 187). The formula states 'another (way) to make *keket*-animal not eat wheat from the storeroom: excrements of gazelle, placed over fire in the storeroom, (and) cover its walls and floor with their dirt (mixed with) water…' (E 849, 98,6–8; Wreszinski 1913, 203–4).

This is the only known text referring to the prevention of worms. However, protective measures taken against other house pests included in *p. Ebers* are mainly based on strong smelling substances, used also as fumigants, which have pest repelling and killing compounds, as well as on products with desiccating properties (Levinson & Levinson 1998, 140–2; Panagiotakopulu *et al*. 1995, 706). Additionally, sulphur was introduced in the New Kingdom as dust or fumigant (Levinson & Levinson 1985, 336). Among the substances mentioned, plants are a minority. However, despite the lack of sources, it is possible that the Egyptians used some plants with insect repelling properties. One of them might be coriander, whose insect repelling properties were mentioned by Dioskurides (III 71) and Palladius (*R. R*. I 19) (Panagiotakopulu *et al*. 1995, 706).

Attention should be paid to using ashes as desiccants. In one of *p. Ebers* formula, ash with *bbt*-plant was spread on the ground to deal with flies (E 841). Even today, plant ash is added to grain as an insecticide in East Africa because it absorbs water from insects' bodies and causes their fatal desiccation (Miller 1987). In Egypt, loose ashes spread on the ground, probably as insecticides, were found in several Old to New Kingdom settlements (Lehmann 2012–2013, 84). For example, an ash deposit surrounded silos built within Building E in Giza (Yeomans & Mahmoud 2011, 49). In Amarna, an existing layer of loose ash spread around querns was interpreted by Miller as insecticide used against pests feasting on the flour (1987). Four Ptolemaic tower houses from Tell ed-Dab'a are rather unique. To prevent the insects from entering, horizontal ash layers were placed alongside the walls (Lehmann 2012–2013; Lehmann 2013, 17). In summary, despite the fact that worms and insects were surely a plague and were treated as such, little is noted about the means of fighting them. More can be deduced rather than taken directly from the sources.

Even less is known about locust control. Nevo (1996, 28–9) states that hand collection of locusts was the most effective technique in antiquity. It is possible that the Egyptians also used this method. There are, however, no sources mentioning locust collection specifically. There is a theory that amulets and seals in the shape of locusts used in various periods might magically ward off those insects (Keimer 1937; Kenawy & Abdel-Hamid 2015, 21). However, as some scholars state, they were rather connected with the symbolism of fertility or richness, were used to protect the dead during their journey to afterlife or in general to protect anyone who wore them against illness, evil forces, disasters, daily misfortunes and so on, or were a symbol of regeneration (e.g. Desroche Noblecourt 1984, 889, 891; Cherpion 2012, 199; Koek 2016; Sayed 2018, 585). The latter interpretations find support in the fact that some of the amulets were found on mummies.

Ancient Egyptians were well-aware that the cat is the greatest enemy of the mouse and they used it as such. This is seen in the riddle from *p. Rhind* mentioned above, but also in two representations. The first comes from the XI dynasty tomb of Baqet III at Beni Hassan (Kanawati & Evans 2018, 37, pl. 45a). A detail from its chapel's southern wall represents a cat and a rodent, identified by Evans as the African grass rat (*Arvicanthis niloticus,* É. Geoffrey), facing each other (for this and older identifications, see Evans 2019). The second is a Ramesside ostracon from Deir el-Medina, with a painting of a cat holding a mouse in its mouth (Fig. 14.2; IFAO 3617, Vandier d'Abbadie 1937, fig. 2201). These kinds of pictures must have come from observations of daily life.

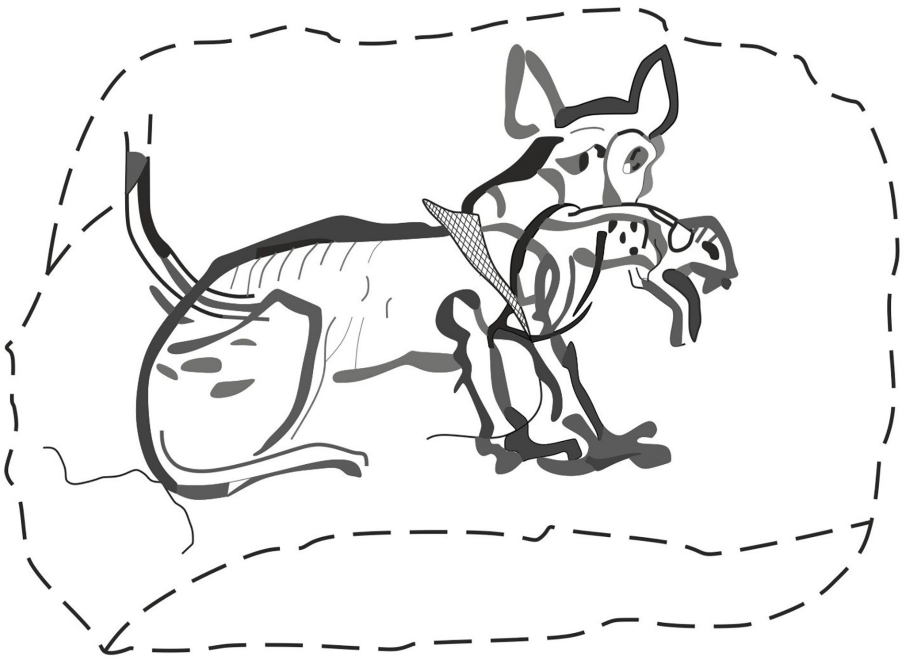

Figure 14.2. *Ostracon from Deir el-Medina, Ramesside period, IFAO 3617; drawing taken from Vandier d'Abbadie 1937, fig. 2201.*

Actually, it is highly probable that the multitude of mice in food storages and wastes made wild cats wander into human settlements (Malek 1993, 45). This method of coping with mice is also reflected in *p. Ebers*. One formula is based on the cat and mouse antagonism. It states: 'Another (way) to make mice not reach things: The fat of cat. Placed on all things' (E 847, 98, 1–2; Wreszinski 1913, 203). This formula obviously belongs to the area of magical practice but involves a very practical way of coping with rodents.

Acquiring a cat might not have been the only way of getting rid of mice. As Petrie has already mentioned, in the city of Lahun, inhabitants blocked mouse holes in their homes. A clay item interpreted by Petrie as a rat trap was found there (Fig. 14.3; UC 16773, Petrie 1891, pl. V.8). It is also worth mentioning the hypothesis of Evans regarding the representation from the tomb of Baqet III mentioned above. Evans noticed that the rat from the scene is facing left, with its back to an offering shrine and contrary to other animals from the same register. According to her, 'the arrangement of the figures thus suggests symbolic oversight of the potentially dangerous and destructive rodent' (Evans 2019, 158). Evans also claims that writing the name of the rodent next to its representation might be a magical method of trapping it, since the Egyptians believed that they could control a thing whose name was written or recited. The second hypothesis, however, is yet to be researched further, since also the term 'she-cat' was written in the same scene.

For the Egyptians, animals were an integral part of the world; they were present both in the earthly realm and in the culture, often gaining religious and symbolic significance (Barbash 2013, 20–9). As such, few creatures escaped the attention of the ancient Egyptians (for those, see e.g. Evans 2015). Pests were clearly not among that group. Despite quite a limited number of sources referring more or less directly to some animals as pests, those which do exist clearly indicate that creatures mentioned in the excerpts from *p. Anastasi* V and *p. Sallier* I (apart from cattle, whose presence is rather odd), plus some insect species, were a real threat to the harvest. Moreover, they were perceived as such by the Egyptians, who not only devised various methods of pest control, using either practical knowledge and/or magical thinking, but also included some of them in *p. Ebers*, which in general deals with medical problems.

The negative influence of pests on the harvest and the antagonistic relationship between them and humans in the economic sphere were reflected in the cultural world, and led to an association of pest species with destruction, chaotic forces and enemies. Still, it has to be highlighted that those form only a minor part of the symbolism related to these creatures, and that Egyptians had quite a profound relationship with the animal world. Not only did they not distance themselves from creatures perceived as dangerous, terrifying or creepy, but also the different or even the same characteristics of these particular species often also led them to assign various kinds of symbolism to each animal (see e.g. Säve-Söderbergh 1953; Störk 1984; Barbash 2013, 20–1; Bohms 2013; Evans & Weinstein 2019). Not infrequently did the same animal gain two

Figure 14.3. *Mouse trap, el-Lahun, XII dynasty, UC16773 (photo taken in Petrie Museum by the author).*

opposite aspects – one positive, and one more negative. For example, the locust could be perceived as destructive as well as be connected with a number of other ideas like multitude, abundance, fecundity, transformation and possibly even protection. Moreover, they were depicted in different forms: they were portrayed in scenes from tombs and temples, in the chapter 125 of the Book of the Death vignette on the coffin of the single of Amon, and on two daggers of King Ahmose; they were represented on Roman lamps, toiletries, scarabs; modelled into amulets, figurines, and so on (Keimer 1937, 143–60; Cherpion 2012). Through those, locusts-grasshoppers existed in many parts of Egyptian life, not only food related ones (for the relationships of the Egyptians with grasshoppers, and also with other invertebrates, see Evans & Weinstein 2019).

Still, due to the limited number of both sources and studies, our knowledge of the pests, pest control, their symbolism and place in the Egyptian culture is limited, and there are still questions to be answered. One of them is the mysterious sequence of pests listed in *Anastasi* V and *Sallier* I papyri. Is it incidental or is there some reason behind it?

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Notes

1 Chronology after Shaw (2003, 480–9). The dates are given for the dynasties, unless stated otherwise.
2 Texts in the article are translated by the author, unless otherwise stated ('trans.' before the author of translation).

3 The existence of only a small number of Egyptian words which may refer to crop-eating worms, their scarce presence in textual sources and the lack of a clear differentiation between at least some species belonging to crawling and creeping classes of creatures in the writing system, make all attempts of classification debatable at best (e.g. Wassel 1991, 15–19, 157–68; Egberts 1989, 34–40; Levinson & Levinson 1998, 138). Efflatoun (in Kevan 1985, 372) suggested the 'identification' with a cutworm, while Egberts mentioned wireworm and earthworm (as potential candidates, not a clear identification), as the worms attacking Egyptian fields (1989, 39). The agriculturally beneficial effect of the latter was not always known. In some periods of history, earthworms were treated as field pests (Egberts 1989, 39; Brown *et al.* 2003, 930–2). In ancient Egypt, the beneficial effect of the animal on the soil must have been known in Cleopatra times, as the queen's decree declared them animals to be revered and put under protection (Brown *et al.* 2003, 930). However, I do not know of any document from Pharaonic times confirming the same attitude to the earthworm.

4 For that reason, the Egyptian term has been translated generally as mouse or rat. To avoid confusion in the naming used in this chapter, the world *pnw* will be translated as 'mouse', as the genus *Rattus* probably did not appear in Egypt until Ptolemaic times (Osborn & Osbornova 1998, 47).

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Part V
Animals in society and as a resource

Chapter 15

Stews, ewes, and social cues: commoner diets at Neo-Assyrian Tušhan

Tina L. Greenfield & Timothy Matney

In this chapter, we examine the archaeological and zooarchaeological evidence for the economy and daily diet of commoner households at the Neo-Assyrian city of Tušhan, modern-day Ziyaret Tepe. Specifically, we focus on the concept of the 'status' of different food sources with an underlying assumption that different segments of the urban population at Tušhan would have had access to different kinds and different qualities of animal resources for daily consumption. We examine five excavated contexts at the site from which evidence for food production and consumption took place. The five different buildings range from a palace to a materially poor commoner residence.

Our analysis begins with two sets of assumptions. Based on the material culture recovered in each area, we assess the overall status of the household looking at the architecture, artifacts, features and non-faunal food resources. Likewise, we also predict the status value of different types of faunal sources, determining which animals would have carried elite status and which would have been considered commoners' fare. This assessment is based on the quality of meat as a protein and calorie source, the use of wild species utilized by the inhabitants, and our understanding of the role of the Assyrian imperial economy in controlling certain kinds of animal resources. We then test these two sets of assumptions by examining in detail the animal remains found in each location, correlating the expected status based on material culture against our assumptions of which food sources would have carried elite status, and which would have been considered commoners' fare.

Background

Over forty years ago, Nicholas Postgate acknowledged that '… no detailed work exists on the economy of the Assyrian Empire' (Postgate 1979: 195–6) and he suggested that we view the Assyrian economy as divided into three sectors: the palace, government and the private domains. Since then, a significant body of archaeological and epigraphic research on the former two sectors has filled this lacuna (e.g. Dalley & Postgate 1984; Gibson & Biggs 1987; Fales & Postgate 1992, 1995; Morandi Bonacossi 1996; Nemet-Nejat 1998; Zaccagnini 1999; Yamada 2000; Parker 2001; Renger 2001, 409; Kühne 2008; 2010a,b; Matney *et al*. 2009; Fales 2010; Masetti-Rouault 2010; Faust 2011; Matney *et al*. 2011; Greenfield *et al*. 2013; Marom forthcoming). In terms of the private sector, much less is known either from textual or archaeological sources about daily lives of commoners and management at level of the daily household although notable studies have addressed the topic (see Fales & Rigo 2014 for the feeding of citizens at army camps; also Gilboa & Sharon 2008; Matney *et al*. 2009; Kühne 2010b; Matney *et al*. 2011; Lipschits, Gadot & Oeming 2012; Schloen & Fink forthcoming). Specialist paleobotanical and zooarchaeological studies have, likewise, started to provide important new datasets for the assessment of commoners' diets from a number of Neo-Assyrian contexts (e.g. for zooarchaeological studies see Wilken 1999; Cavallo & Maliepaard 2002; Becker 2008; Lev-Tov 2010; Berthon 2011; Greenfield *et al*. 2013; Greenfield 2014; 2015; 2016; Greenfield & Rosenzweig 2016; Marom forthcoming; for palaeobotanical studies, see Rosenzweig in Matney *et al*. 2011).

This chapter will present a case-study from modern-day Ziyaret Tepe, the Neo-Assyrian provincial capital of Tušhan, excavated by an international team from 1997 to 2014. Ziyaret Tepe is located on the right bank of the Tigris River in the Diyarbakır province of southeastern Turkey. Following the course of the river through the Upper Tigris River valley, Ziyaret Tepe is 14 km downstream (east) of the modern city of Bismil and 30 km upstream of the confluence of the

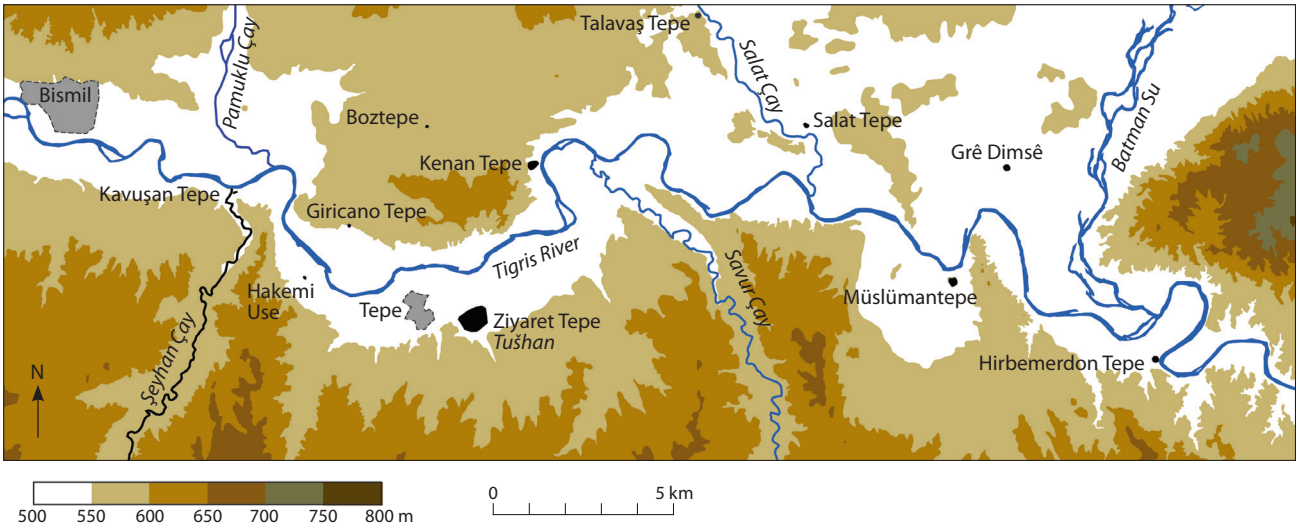

Figure 15.1. *Location of Ziyaret Tepe.*

Tigris with the Batman Su (Fig. 15.1). The ancient site is 32 ha in extent, with a 22 m high mound dominating its northern periphery. During the Neo-Assyrian period, the entire extent of the city appears to have been occupied. Over the course of eighteen field seasons, we excavated in twenty-two different operations across the high mound and lower city (Fig. 15.2). These included both elite locations (palace, temple archives, fortification walls and gates, and wealthy housing) as well as commoner houses.

In earlier publications, we examined the zooarchaeological and paleobotanical resources that

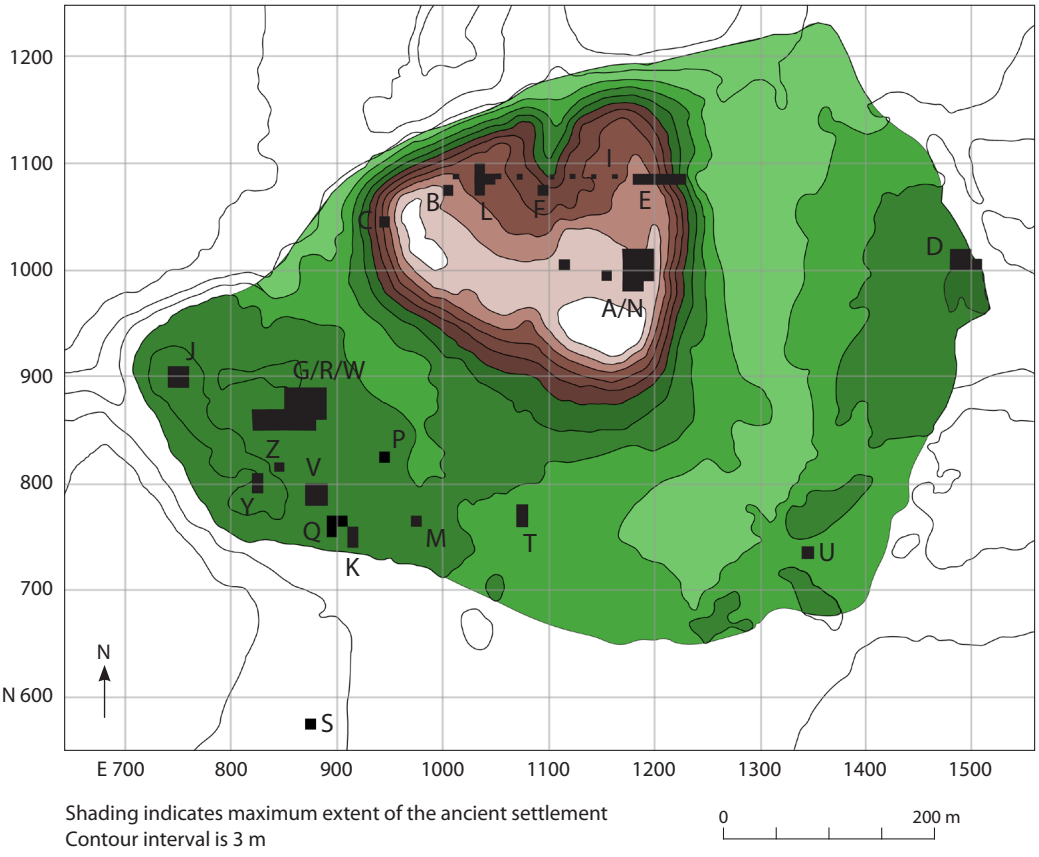

Figure 15.2. *Topographic plan of Ziyaret Tepe.*

were available to, and utilized by, inhabitants of Tušhan, focusing on the differences between the elite and commoner contexts at the site (Greenfield 2014; Greenfield & Rosenzweig 2016). Not surprisingly, the elite use-patterns for faunal and botanical resources conformed to a model characterizing an imperial economy: a standardized suite of cereal crops and herded domesticates which were centrally tended, collected, processed, and redistributed. The reliance of the imperial Assyrian economy on such staples is well-attested both archaeologically and in contemporary cuneiform texts. Likewise, the commoner households also relied heavily on this imperially driven economy, but as we shall discuss below, they also supplemented their household economies with animal resources which – while locally available – were apparently undesirable for elite consumption. This chapter explores more fully the evidence for this 'peasant household economy' and diet uncovered during our excavations at Neo-Assyrian Tušhan.

Textual sources of evidence for peasant household economy and diet

An exceptionally broad epigraphic literature on the general economy of the Neo-Assyrian empire now exists and it is well beyond the scope of this present study to attempt anything more than a few broad statements about the research that has been undertaken since Postgate's challenge. Unsurprisingly, the bias of the cuneiform textual sources towards elite Assyrian concerns greatly limits their value in determining the daily dietary fare of commoners and this subject is rarely, if ever, the principal focus of the texts (Grayson 1993; Radner 1997; Yamada 2000; Galil 2007; Fales 2009–2010; van Buylaere 2010), although some information can be gleaned from private archives, e.g. those of Dūr-Katlimmu (Radner 2002) and Nimrud (Kinnier Wilson 1972). There is also limited information on prebend provisioning, most of which is for earlier or later periods (Capitanio 2004; Milano 2004; Sasson 2004). These show established systems of meat provisioning in many Iron Age Near Eastern societies, but once again the information is mostly directed towards what the elites received.

A small archive of tablets from Tušhan itself will serve to illustrate the variety and limitations of cuneiform sources as they relate to commoner household economies and diets. During the course of excavations at Tušhan, we recovered thirty-three cuneiform texts or fragments (ZTT 1–33) dating to the Neo-Assyrian occupation of the site, *c*. 882–611 BC (Parpola 2008; MacGinnis & Matney 2009; MacGinnis 2012). The majority of these texts (n= 28) were found in a single archive in the lower town, located in a large public structure which Parpola believes may have been part of a treasury to the Temple of Ishtar of Nineveh (Parpola 2008, 21). Several other texts were found in the palace located on the eastern high mound. There were no cuneiform tablets found in commoner household contexts at Tušhan.

The Ziyaret Tepe texts deal with the administration of goods, legal records of loans, lists of workers and letters regarding military and trade matters (Fig. 15.3). Six tablets (ZTT 1, 2/3, 10, 11, 23 and 24) were receipts for grain, including those for large quantities of grain received by the royal granaries. Seven hundred and sixty homers of grain were recorded in a single text. Likewise, seven tablets deal with grain distribution for consumption (ZTT 12–18) and one with the loan of grain (ZTT 4/5). These movements of grain took place on an institutional level, with the recipients being institutions at Tušhan, such as the royal harem or the *akītu* house (ZTT 12, ZTT 13), or bakers possibly employed at the temple (ZTT 14). Likewise, texts recording the distribution of materials to religious specialists (ZTT 25) and the collection of woven textiles from the palace (ZTT 33) also focus on the elite administrative functions.

Figure 15.3. *Photograph of the obverse of cuneiform text ZTT 14, docket for receipt of grain by bakers, possibly employed by the temple.*

In short, the Tušhan tablets explicate the minutiae of a standardized, redistributive economy of the imperial city, particularly amongst its elites, including the collection and distribution of barley, metal and textiles, while the quotidian life of commoners is only referenced tangentially. An understanding of how peasant household economies worked in terms of the daily management of the land, water, plant and animal resources, and the production of daily meals requires us to turn to archaeology, material culture, and the physical remains that comprise the primary dataset for commoner activities. Lacking specific written expositions on the household economies of commoners within the cities, towns and villages across the empire, we cannot rely on cuneiform texts alone.

Zooarchaeological data on commoner households from Tušhan

Like most modern archaeological excavations, the Ziyaret Tepe archaeological project routinely conducted systematic sampling and collection of animal bones as a vital source of information on the imperial economy, agricultural, and management practices. The details of our zooarchaeological sample collection, processing, and analytical protocols was the subject of a doctoral dissertation (Greenfield 2014); the reader is directed to this work for a discussion of our methodology. Broadly, a sample of primary contexts – floors, streets, surfaces, pits, hearths and other features, as well as a layer of earth directly above the floors (our 'suprafloor') – were dry sieved. An extensive program of flotation using a Shiraf-style flotation tank was also undertaken for recovery of paleobotanical remains and smaller animal bone fragments. Animal bones were ubiquitous during the excavations and were present in nearly all Neo-Assyrian contexts excavated at the site.

The combined faunal assemblage from all the primary Assyrian contexts excavated at Ziyaret Tepe was 10,643 (NISP) specimens, a sample of which is analysed below. Each specimen was identified to the species, or a higher taxonomic category, and element (individual bone within the body) when possible. Mammalian size categories (i.e., small, medium and large) were used for generalized designations when a more specific identification was not possible. Categories of identification included taxon, state of domestication, element, part and face of element, age, sex, fracture patterns, butchering, cultural modification, etc., for each complete element when possible.

The technique chosen for the quantification of the data was Number of Identified Specimens (NISP; see Grayson 1984). This technique is the most appropriate measure of abundance for this large sample since it quantifies each unarticulated fragment as a separate individual. It is particularly useful in urban settings and assemblages (Maltby 1979; Grayson 1984; O'Connor 2000; Lyman 2008, 27–8, 214; Reitz & Wing 2008). All NISP counts for the combined and individual body portions are corrected in order to equalize skeletal representation of different species where the number of elements may differ. Wild taxa were separated from domestic on the basis of a combination of metrics (von den Driesch 1976; cf. Walker 1985) including thickness of bone and development of muscle insertion points (cf. Stampfli 1963; Greenfield 1986).

Archaeological contexts

In this section, we will present a brief overview of the archaeological results from five operations at Ziyaret Tepe (Fig. 15.2); the reader is directed to our extensive preliminary publication series for details of the finds from each area (from *Anatolica* see Matney *et al*. 2002; Matney *et al*. 2003; Matney & Rainville 2005; Matney *et al*. 2007; Matney *et al*. 2009; Matney *et al*. 2011; Matney *et al*. 2015; additional reports are found in *Kazi Sonuçları Toplantısı*). Of the five operations, only one (A/N) is located on the high mound; the other four are found within the broad lower city. Operation A/N was a major monumental structure on the eastern high mound that we have nicknamed 'the Bronze Palace'. Detailed discussion of the Bronze Palace has already been published and does not need to be repeated here (Matney *et al*. 2009, 38–51; Matney *et al*. 2011, 69–83; Matney *et al*. 2015, 127–32). The palace was a monumental mudbrick building with baked brick pavements, elaborate plaster wall paintings, a moveable hearth in the throne room, and five cremation burials filled with metalwork, especially bronze, precious and semi-precious stones, ivory and stone artifacts, and high-status ceramics. It is here that the Neo-Assyrian governor of Tušhan would have resided (see Roaf in Matney *et al*. 2002, 49–51). Operation G recovered a large private residence with thick mudbrick walls, elaborate pebbled mosaic floors and surrounding rooms enclosing a floorplan of roughly 960 sq. m. While the building had been abandoned and revealed few high-status goods during excavation, its location adjacent to the temple treasury argues for its elite status (Matney *et al*. 2002, 69–70; Matney *et al*. 2003, 187–91; Matney & Rainville 2005, 27–31; Matney *et al*. 2009, 57–61).

Operation K was excavated in the southernmost region of the site adjacent to the lower town city wall. Here our excavations recovered the partial remains of six domestic rooms and a large courtyard over an area

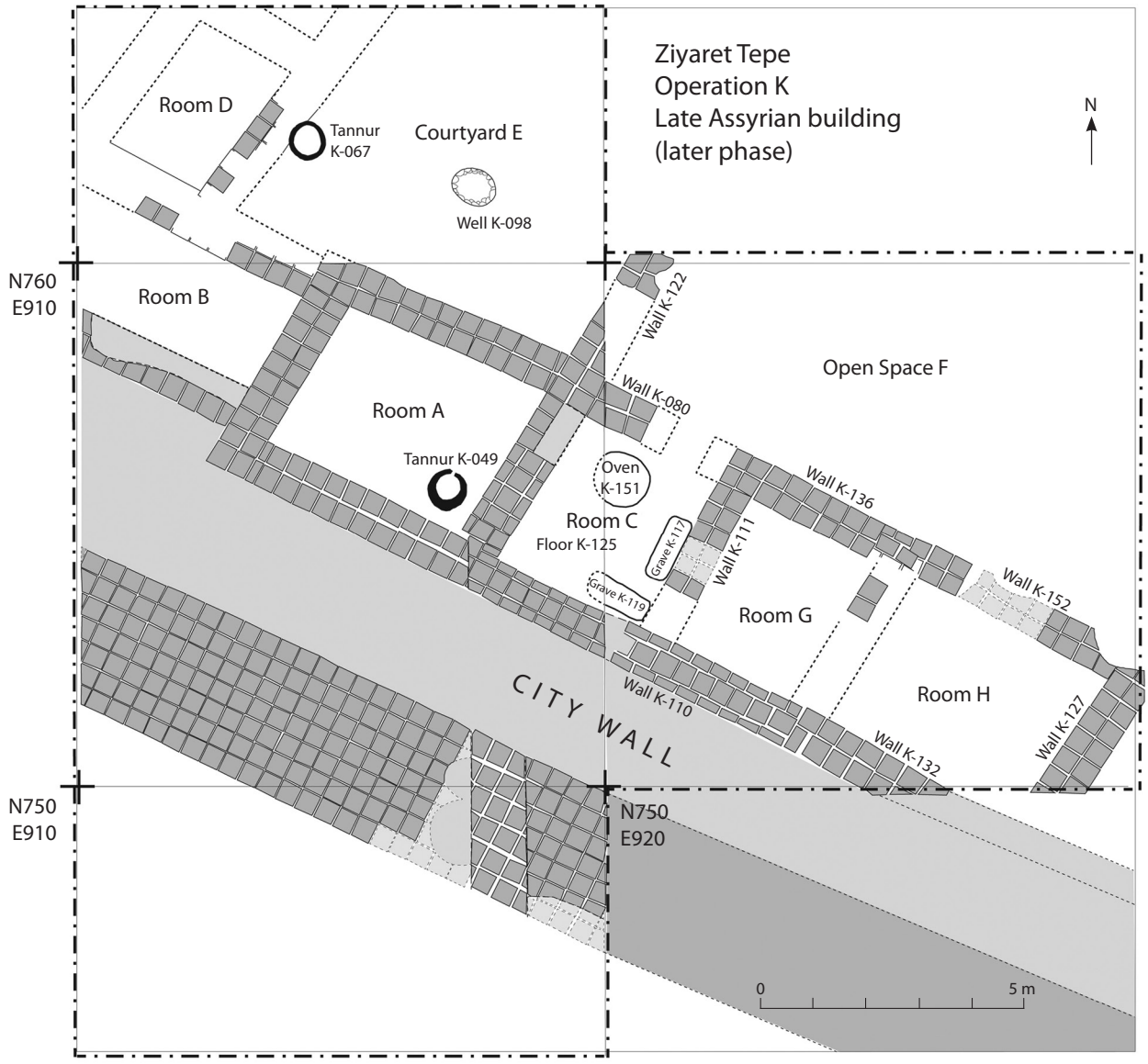

Figure 15.4. *Plan of the Late Assyrian architectural remains from Operation K in its later level of occupation.*

of roughly 200 sq. m that appears to be a commoner household based on the artefactual and architectural evidence (Fig. 15.4). We recovered domestic ovens, a well and domestic material, suggesting that food preparation and processing took place here (Matney & Rainville 2005, 31–5; Greenfield *et al*. 2013; Wicke & Greenfield 2013; Matney *et al*. 2015, 132–5).

Also in the lower town, Operation M was excavated over a more limited area of 50 sq. m representing parts of three rooms of a mudbrick structure and an exterior cobbled surface (Matney *et al*. 2015, 139–40, fig. 9). The floors of the building were made of compacted mud and were generally clean of finds. This area produced two intramural graves below the floor levels. One of those burials (M-134), an adult male, was well-apportioned with rich grave goods including two cylinder seals, stone and iron pendants, blades, earrings, rings, fibulae and nearly 50 beads, including some of carnelian and faience (Matney forthcoming). The grave stands in contrast to the material remains found elsewhere in the Operation M residence (Matney & Rainville 2005, 31–5; Greenfield *et al*. 2013; Wicke & Greenfield 2013; Matney *et al*. 2015, 132–5).

Finally, Operation U was excavated in 2011 over an area of 100 sq. m including parts of five rooms of a well-built mudbrick structure to the east of a cobbled street (Matney *et al*. 2015, 145–6, figs. 14–15). Interior floors were mostly made of compacted mud

while one of the rooms had a compressed grey clay floor containing masses of charcoal, ceramics, broken mudbricks and animal bones. Of particular interest here was a substantial corpus of zooarchaeological remains found on a street surface. The street was covered in animal bones that had themselves been overlain by a thick band of heavy brown clay as a foundation prior to the construction of a later street. The mass of animal bones on the street may be indicative of animal processing and/or public consumption outside of private dwellings. The architecture of the Operation U building appears more substantial than that of Operation K or M, and its location as a clearly free-standing structure (Matney *et al*. 2011, 94, figs. 18–19; Matney *et al*. 2015, 143–7) both suggest an elite residence. However, the lack of luxury items found within our excavation does not preclude viewing the Operation U building as representing a 'middle ground' status between the rich buildings of A/N and G and the poorer buildings of K and M. In sum, we posit a three-tiered social hierarchy at Neo-Assyrian Tušhan based on a combination of the building's location within the city plan, the size and quality of the architectural construction, and the presence and abundance of expensive materials or items of high craftsmanship. Buildings A/N and G are elite, building K is commoner, and buildings U and M are intermediate based solely on archaeological criteria. Below we evaluate this scheme through a detailed analysis of the zooarchaeological remains found at the site.

Note that below we refer to the buildings under evaluation simply by letter designations (A/N, G, K, M and U); the reader is reminded that these letters are, more accurately, understood as the designation for operations, always multi-phase, and often multi-period. Their use here is as shorthand for the primary Neo-Assyrian building found in each operation simply for clarity of exposition.

Model building: assumptions about the status of food sources

In this section, we present a model for examining 'status' based on the zooarchaeological evidence from Neo-Assyrian Tušhan. Differential access to food resources is considered to be a function of status in early states and empires. It is commonly assumed that individuals with elite status would have access to better quality meats than others within a community (Reitz 1987; Zeder 1991; Grant 2002; Lapham 2004; deFrance 2009; Greenfield 2014; 2015). Consequently, the faunal material recovered from elite and commoner buildings is expected to be different in kind and number. For the purpose of addressing the issue of status, a predictive model for the distribution of faunal remains in elite and commoner residences at Tušhan was developed in Table 15.1 (see also Greenfield 2014 and 2015). In this article, we apply the model to the excavated evidence from the five buildings at Tušhan described above.

Inherent within this model is a series of assumptions about what constitutes low and high-status food sources in the Neo-Assyrian city. We start from the premise that neither domestic nor wild foods are exclusive to a status group at the site. In a provincial capital of the empire such at Tušhan, it is highly likely that all inhabitants shared to some degree in the distribution of state-controlled foodstuffs, including grains such as those discussed in the cuneiform texts from Ziyaret Tepe above, and large animal herds controlled by the palace and temple. The large majority (>90 per cent) of zooarchaeological remains from the Neo-Assyrian period were from domesticated species, as discussed below. Thus, the presence of domesticated species in the diet alone is insufficient to determine status.

One indicator of status in ancient complex societies are the cuts of meat that were procured, prepared, and consumed (Grant 2002; Capitanio 2004; Parpola

Table 15.1. *Model of expectations for typical patterns of faunal distributions within elite and commoner residences.*

Elite residence	Commoner residence
High status species – large wild and domestic species, exotic wild species	High frequency of small, low status wild and domestic animals
High frequency of heavy meat-bearing elements from domestic and wild animals (good cuts)	High frequency of low meat bearing elements (poor cuts)
Younger aged animals of all species	Older aged individuals of domestic species and wild (if wild is distributed centrally), or younger wild species if hunted
Evidence of conspicuous consumption with significant numbers of exotic species and/or, feasting including display of exotics for show, not only for consumption	Utilitarian use of carcasses (all elements used and/or consumed); low frequency/no evidence of conspicuous consumption associated with status
High frequency of exotic animals	Low frequency/no evidence of exotic animals
Expensive domestic animals (cattle)	Cheap domestic animals (pig)
Expensive body parts of all animals	Expensive body parts of cheap domestic animals

Table 15.2. *Utility index of combined body portions and associated element categories for high, medium and low valued meat.*

Quality and value of body portion	Body portion	Elements included
High ('good cuts')	Anterior-Proximal (upper front limb)	scapula, humerus
	Posterior-Proximal (upper hind limb)	pelvis, femur, patella
Medium ('bad cuts')	Anterior-Distal (lower front limb)	radius, ulna
	Posterior-Distal (lower back limb)	tibia, fibula
	Thorax	vertebrae, sternum, clavicle, hyoid, ribs
Low ('ugly cuts')	Cranial	mandible, maxilla
	Distal	metapodials, phalanges, sesamoids, carpals, tarsals

2004; Curet & Pestle 2010; Frame & Waerzeggers 2011; Greenfield 2015). The analysis of body portions of animals thus provides information regarding species taboos, preferences, and wealth displays such as conspicuous consumption. The presence of significant quantities of meat-bearing elements or body portions in a household can often suggest a higher status, at least for some of the inhabitants of a building. The distribution of body portions across a site can inform us about both consumption behaviour and differential access to preferred body portions. Elite diets, in general, are based on a preference for highly desired high-fat meat. In most cultures, this includes the fat-bearing elements (i.e., the proximal end of limbs). It is assumed that the commoners in a society generally had access to the less meaty body portions (i.e., the distal ends of limbs, crania, and portions of the thorax). For ease of analysis in this study, portions of animals are grouped into highly desired, heavy meat-bearing portions (good cuts); less desired, less meat heavy portions (bad cuts) and low desired portions with little or no meat (ugly cuts) as seen in Table 15.2.

A second indicator of status is access to desired species of animal. Determining the 'status' ascribed to an animal species is difficult as food is as much an unwritten cultural preference as it is a cold economic or biological fact. The choice to consume – or to refuse to consume – any species is an exceedingly complex issue. Animals that fell under the jurisdiction of the palace and the temple, such as sheep and goats, were made available in part through complicated redistribution processes. In terms of the wild animals consumed at the site, part of the value of animals as food sources comes from their location in the surrounding landscape. Common wild animals that were in close or direct proximity to Tušhan like turtles, birds and waterfowl (seasonally), hares, fish and possibly dogs probably had low status value assigned to them. Species such as gazelles (*Gazella gazella*), red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), fallow deer (*Dama dama*), boar (*Sus scrofa* fer.), wild goat (*Capra* sp.) and wild cattle (*Bos primigenius*) would have been present in the landscape further afield, requiring greater resources to capture. Figure 15.5 and Table 15.3 provide the status rank and rationale used in this chapter for the wild animals found at Neo-Assyrian Tušhan.

Above we have established a clear set of guidelines for assessing the dietary status of the inhabitants of the five buildings under consideration at Ziyaret Tepe. By analysing the distribution and frequency of the cuts of domestic animals, as well as the distribution and frequency of the wild animals available to the inhabitants of Tušhan, we can determine whether the status of the animals consumed by the inhabitants of the five buildings fits with our reconstruction based on archaeological and other forms of material culture.

Datasets: faunal consumption and disposal patterns

In order to observe patterns of domesticate and wild consumption, specimens from primary contexts were analysed to elucidate the spatial distribution of animal remains in both elite and commoner contexts. The total assemblage had a NISP of 7,518 specimens from buildings A/N, G, K, M and U. Included in this number were all species from primary contexts even when a designation of wild or domestic could not be assigned to each taxon. Figure 15.6 and Table 15.4 show the distribution of those individuals that could be definitively assigned to the general categories of 'domestic' or 'wild'. All unidentified specimens were removed in order to provide a more accurate picture of disposal patterns. Basic disposal patterns are evident: there is a relatively similar pattern of disposal for domestic and wild animals within and between each of the buildings. Within each building, the frequency of taxa ranges from 82 per cent domestic/18 per cent wild in Operation U to 96 per cent domestic/4 per cent wild in Operation G. As noted above, the large majority of animal remains represent domestic species (>90 per cent).

At Neo-Assyrian Tušhan, the high percentage of domesticates being consumed is not surprising

Table 15.3. *Relative percentage frequencies of wild taxa within corrected wild populations in relation to implied status across Operations M, G, U, K and A/N (NISP 135). Only identified taxa are included.*

Status	Taxa	A/N	K	U	G	M
High	Aves	29.63%	0.00%	0.00%	14.29%	0.00%
	Cervus elaphus	9.88%	4.76%	28.57%	14.29%	0.00%
	Bos primigenius	1.23%	0.00%	0.00%	0.00%	0.00%
	Dama dama sp.	1.23%	9.52%	0.00%	0.00%	0.00%
	Pisces	2.47%	0.00%	0.00%	0.00%	0.00%
Medium	*Capreolus capreolus*	12.35%	14.29%	14.29%	0.00%	16.67%
	Gazella gazella	11.11%	19.05%	28.57%	42.86%	66.67%
	Sus scrofa fer.	4.94%	0.00%	21.43%	0.00%	0.00%
	Bos sp.	3.70%	9.52%	7.14%	0.00%	0.00%
	Sus scrofa sp.	2.47%	0.00%	0.00%	0.00%	0.00%
	Capra ibex	1.23%	0.00%	0.00%	14.29%	0.00%
Low	*Lepus* sp.	12.35%	33.33%	0.00%	14.29%	8.33%
	Rodentia	0.00%	4.76%	0.00%	0.00%	0.00%
non food (high) – conspicuous consumption	Reptilia (turtle shell)	2.47%	4.76%	0.00%	0.00%	0.00%
	Panthera leo	0.00%	0.00%	0.00%	0.00%	8.33%
non-food (low)	Amphibia (frog)	4.94%	0.00%	0.00%	0.00%	0.00%

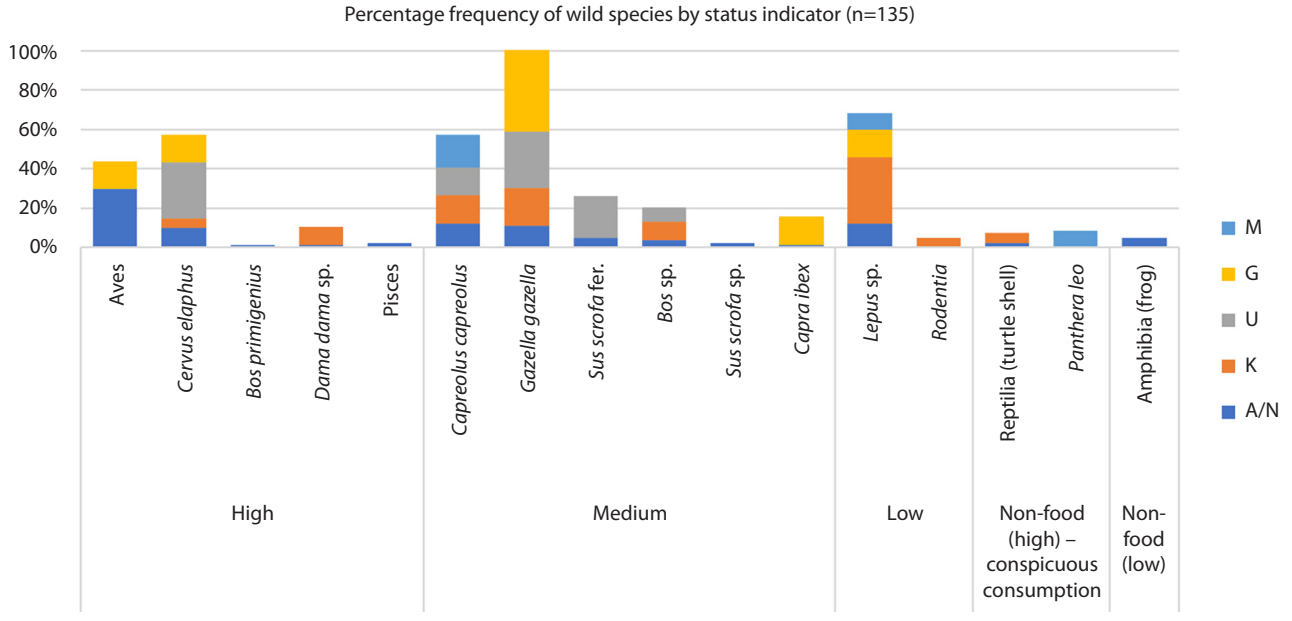

Figure 15.5. *Histograms of relative percentage frequencies of wild taxa within corrected wild populations in relation to implied status across Operations M, G U, K and A/N (NISP 135). Only identified taxa are included.*

considering the heavy dependence on cattle, sheep, goat, and domestic pig for subsistence in this region for millennia, and the lack of significant change in the husbandry and species exploitation strategies over this timeframe (Zeder 1988; 1991; 1998; 2003; Wapnish & Hesse 1991; Hesse 1995; Wattenmaker 1998; Wilken 1999; Gilbert 2002; Bar-Oz 2004; Berthon 2011; Greenfield-Jongsma & Greenfield 2014). It is clear that the domestic:wild ratio is not important in discriminating between high and low status dietary practices as variation between all contexts is low.

In Figure 15.7 and Table 15.5 we break down the distribution and frequency of domesticates by building. The overall pattern shows that the distribution

Table 15.4. *Relative percentage frequency of domestic versus wild taxa from within buildings A/N, G, K, M and U.*

State of domestication	A/N		G		K		M		U	
	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%
Domestic	884	93.05%	211	96.35%	252	90.97%	79	84.95%	83	82.18%
Wild	66	6.95%	8	3.65%	25	9.03%	14	15.05%	18	17.82%
Total	950	100.00%	219	100.00%	277	100.00%	93	100.00%	101	100.00%

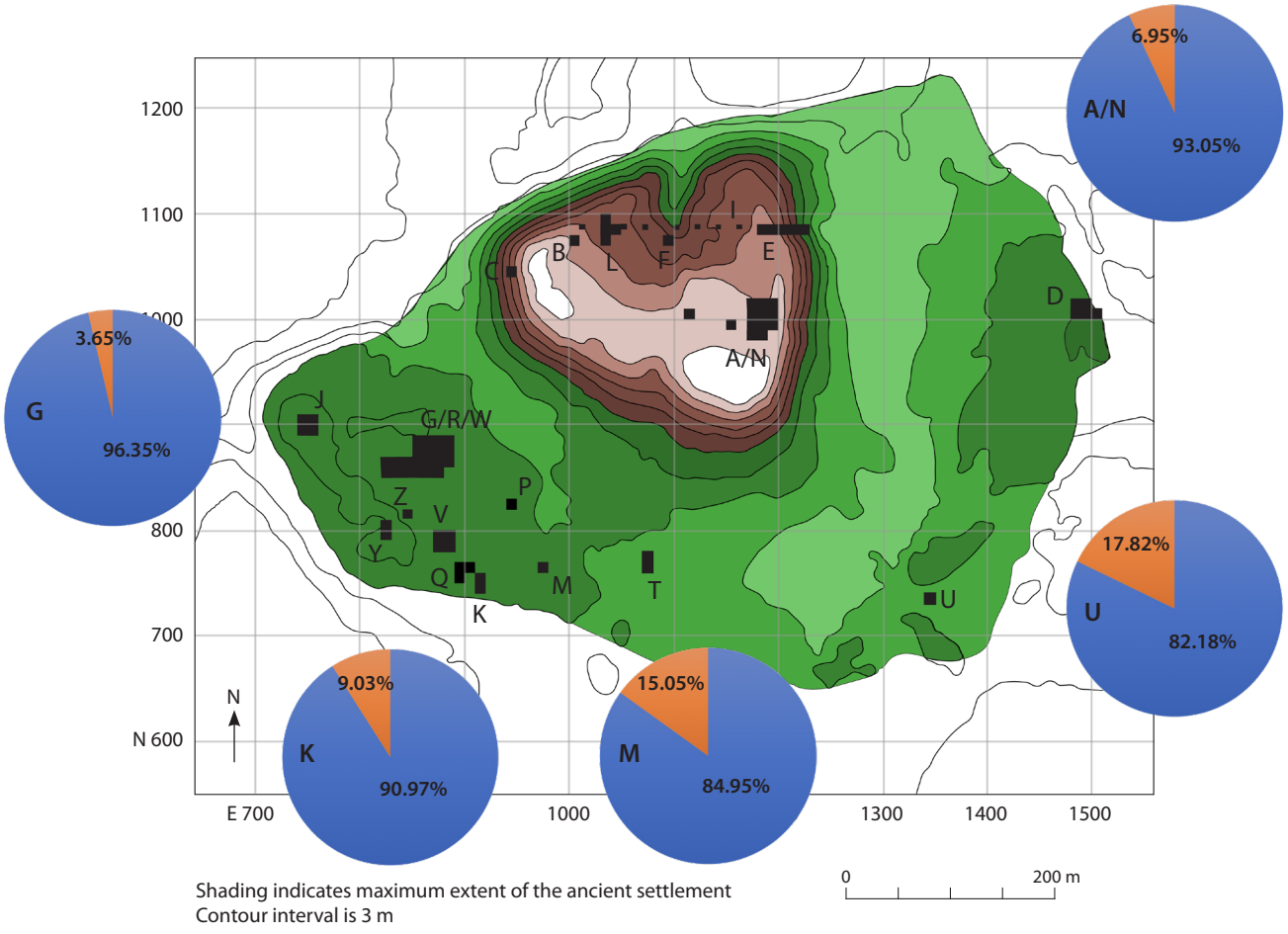

Figure 15.6. *Relative frequencies of domestic and wild taxa from individual buildings. This figure shows us that more wild animals were being consumed in contexts K, M and U, than in the contexts A/N and G.*

and frequency of domestic species is fairly uniform across the site. Percentages of the main dietary staples: sheep/goats, cattle, and pigs vary somewhat but are ubiquitous at all households. Only U shows a significant variant in a higher than expected frequency of pigs at the expense of sheep/goats. The distribution of domestic species appears to be a poor indicator of status when simple bone counts by species are analysed. When we turn to the elite buildings A/N and G there does not appear to be drastic changes from the other buildings; sheep/goats have the highest frequency in A/N but only by a small margin from K which is a commoner residence. In addition to the expected domesticated species, there is evidence of domesticated chicken (*Gallus gallus*) in A/N that is not present in any other building.

In the following sections, we will turn first to an analysis of distribution and frequencies of different cuts or portions of domesticated animals. As noted earlier, we assume that higher status residences would have access to better cuts of meat from domestic animals. Due to space constraints, we will limit our discussion of

domesticated body parts to sheep/goats (*Ovis*/*Capra*), as these are the most plentiful zooarchaeological remains at the site. Second, we will look at the distribution and frequencies of wild animals. In this case, we assume that within the category of wild animal sources, some would have been considered of high status based on the distance and difficulty in procuring them, as well as cultural preferences.

Table 15.5. *Relative frequency distributions for domestic taxa. Unidentified specimens, small and large ungulates were not calculated in these taxonomic distributions.*

	A/N	G	K	M	U
Domestic Taxa (NISP=1484)	**% within operation**	**% within operation**	**% within operation**	**% within operation**	**% within operation**
Gallus gallus sp.	0.23%	0.00%	0.00%	0.00%	0.00%
Bos taurus	15.17%	16.19%	14.29%	17.14%	13.41%
Canis familiaris	1.95%	1.43%	1.98%	7.14%	3.66%
Capra hircus	7.70%	14.29%	6.35%	11.43%	10.98%
Equus asinus	0.34%	0.48%	0.79%	4.29%	4.88%
Equus caballus	1.15%	0.00%	0.79%	0.00%	7.32%
Equus sp.	0.23%	0.48%	0.00%	0.00%	1.22%
Ovis aries	8.74%	7.14%	12.70%	14.29%	13.41%
Ovis aries/Capra hircus	51.15%	44.29%	48.41%	37.14%	20.73%
Sus scrofa dom.	13.10%	15.71%	14.68%	8.57%	24.39%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

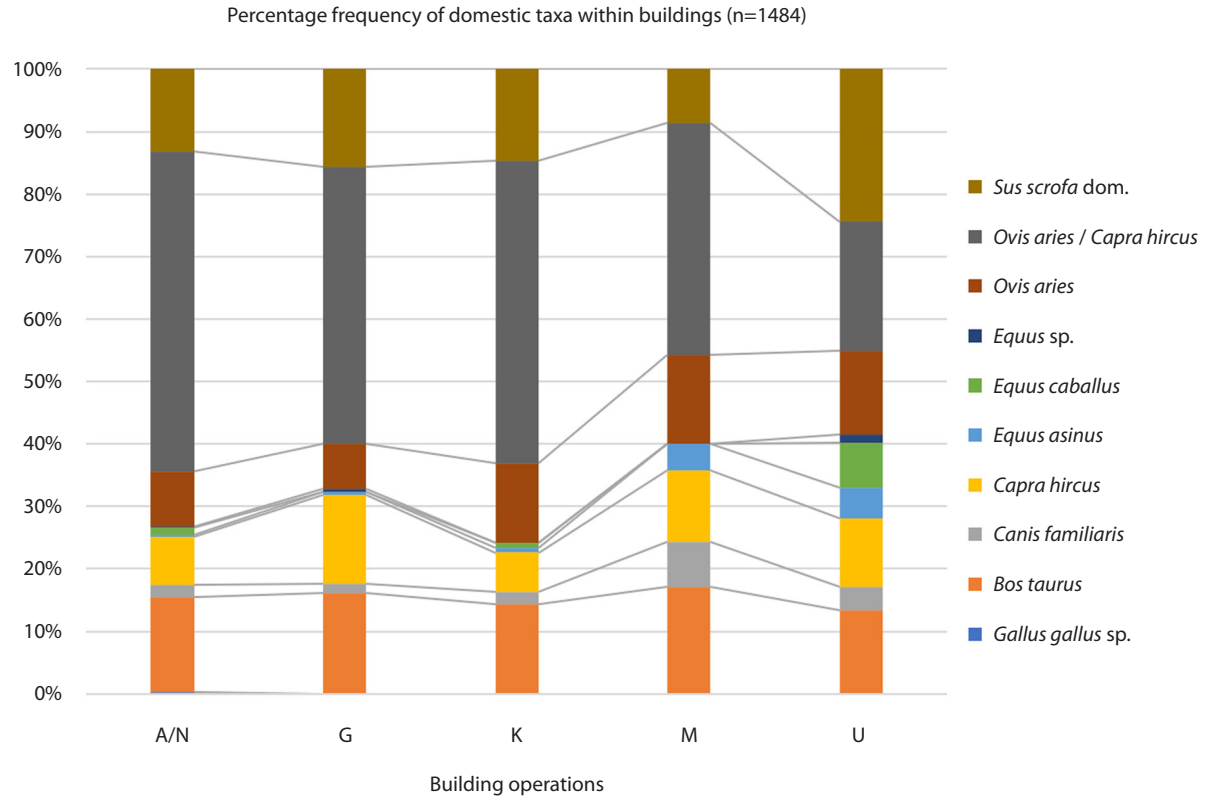

Figure 15.7. *Stacked histogram of the combined domestic taxonomic frequencies for each Operation. Data are based on frequencies from within each individual building. Note that domestic Aves (*Gallus gallus*) was less than 1 per cent (.23 per cent n=2) in Operation A/N and not visible in the stacked histogram.*

Body portions of domesticated sheep/goat (*Ovis/Capra*) and status

One key factor in determining the status of the consumer households at Neo-Assyrian Tušhan is the distribution and frequency of the body portions consumed within each of the buildings. Our data show that while the overall proportion of the domesticates was somewhat homogeneous across all buildings, each had a unique distribution and frequency of body portion consumption which is at variance with the others (Fig. 15.8 and Table 15.6). This suggests that after the animals were butchered, the distribution of portions was controlled and used to assert status, prestige and one's social standing within the community based on access to a costly or valued commodity (Costin & Earle 1989; Grant 2002; deFrance 2009; Greenfield 2014).

Each building has a somewhat unique pattern of consumption of sheep/goat body parts; these can be summarized as follows. **K** shows the *Ovis/Capra* body portion distribution heavily favors the bad meat portions with over half of its assemblage frequency coming from this category. The consumption profile for the combined *Ovis/Capra* taxon is different than in the other buildings in many ways. The inhabitants of K were consuming just over a quarter of its total from good, heavy meat-bearing body portions – (i.e. Anterior-Proximal elements) and bad/ugly meat weight portions (Cranial and Anterior-Distal) totaling roughly three-quarters of the assemblage which makes the consumption pattern representative of a

Table 15.6. *Percentage frequencies of body portion categories of good, bad and ugly for* Ovis/Capra.

Ovis/Capra		**A/N %**	**G%**	**U%**	**M%**	**K%**
Cuts	Good	50.91%	55.21%	65.95%	29.41%	27.53%
	Bad	36.06%	40.54%	25.97%	29.41%	62.58%
	Ugly	13.03%	4.26%	8.09%	41.18%	9.88%
Total		100.00%	100.00%	100.00%	100.00%	100.00%

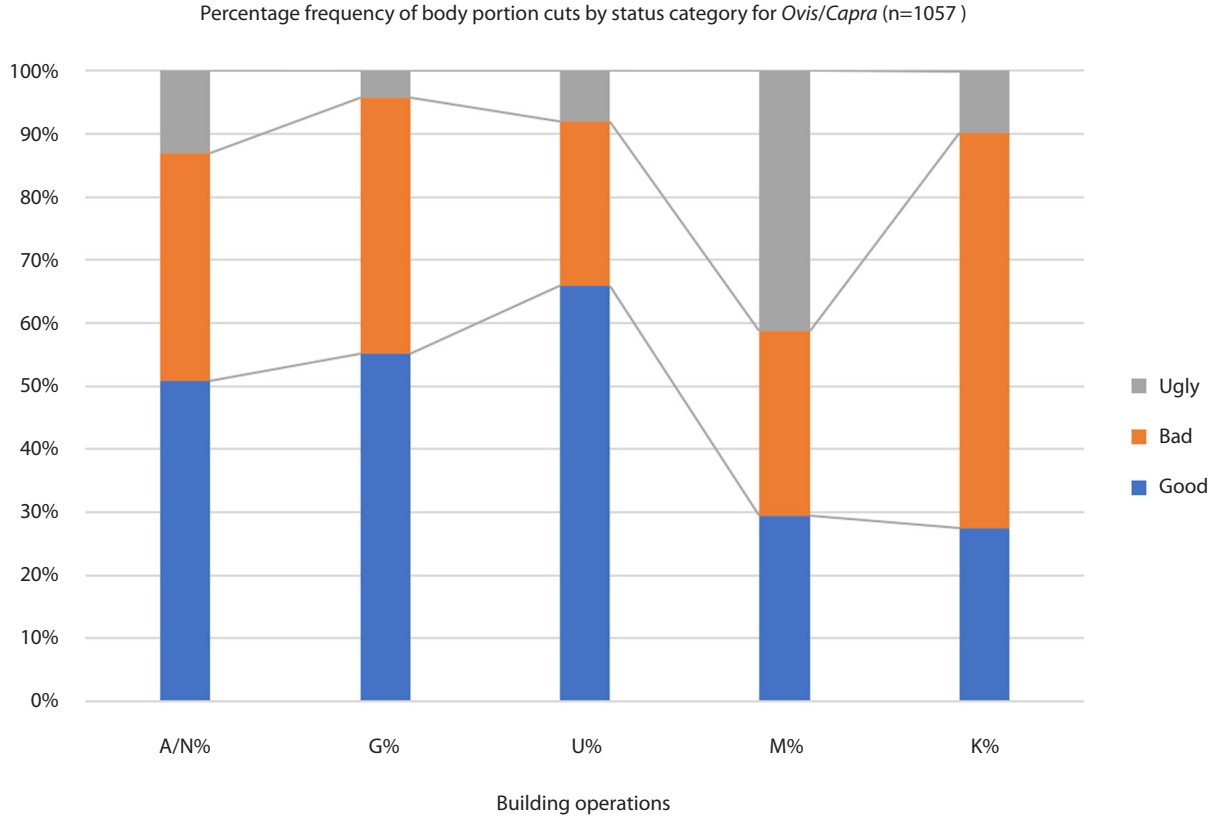

Figure 15.8. *Stacked bar graph of portions for* Ovis/Capra *by building operations (A/N, G, U, M and K).*

very low status commoner diet. **M** has a consumption profile for the combined *Ovis*/*Capra* taxon that indicates the equal presence of the good and bad body portions and an almost doubled frequency of ugly body portions. While all of the portions appear to be utilized to a large extent, there is a clear consumption pattern geared towards the worst (and cheapest) body parts of the animal. This consumption pattern is similar to K and different than A/N and U where high-status body portions of *Ovis*/*Capra* prevail. They are consuming a higher frequency of a low status body portions followed by less frequent but high-status body portions. **U** has an *Ovis*/*Capra* consumption profile that shows a clear preference (i.e. largest frequency) for good cuts associated with high status (heavy meat bearing body portions: anterior-proximal, posterior-proximal and anterior-distal) consumption patterns. Of the three domestic taxa from this building (cattle, sheep/goat and pig) it is the *Ovis*/*Capra* (sheep/goat) in particular which shows the strongest example of body portions as a status marker. When we look to the other clearly defined elite buildings, A/N and G, there are some surprises in their consumption patterns. **G** maintains the second highest frequency of good body portions within the building which is to be expected, however there is a significant presence of bad cuts and when combined with the very low percentage of ugly cuts (expected), the bad cuts nearly reach 50 per cent of the consumption pattern. **A/N**, like G and U maintains a high frequency of high status (good) body portions in the diet, followed by bad and ugly portions at somewhat higher percentages than expected.

The distribution of wild resources

A second key factor in determining status through dietary practices is the distribution and frequency of wild animals in the domestic households of Neo-Assyrian Tušhan. As noted above, our working assumption is that different wild species held differentially perceived values for the inhabitants as food sources. The relative frequency distributions for wild taxa are shown in Figure 15.9 and Table 15.7.

Importantly, the distributions and frequencies of wild species is quite varied. Unlike the domesticates, there is no standardized pattern of disposal for the wild species. Rather, each building has a unique variety and frequencies of wild animals.

In looking at those species that we consider to be low-status food sources, such as reptiles and *Lepus sp.* (hare), we see that they form a very high percentage of the animal remains in K where hares are the dominant food source at 33 per cent and where reptiles are also present. The latter are absent altogether in M and U, while hares are found in a low percentage (8 per cent) in M and are unrepresented in U. The observation that over 42 per cent of the animal species in K are from the lowest status category is in stark contrast with all the other buildings under consideration here. In terms of the consumption of low status food sources in A/N, the only significant species to fall into this category is hare with a surprisingly high frequency of 12 per cent. While there is a small frequency for amphibians (frog) and reptiles (tortoise), it can be assumed these were not necessarily consumed. Fish on the other hand could in fact be considered a high-status food aside from the close proximity to the river. It is interesting to note that G has only hare as evidence of any low-status food resource and at a slightly higher frequency than found in A/N. Again, this is a surprise and not expected from an elite diet.

In terms of the moderate status species, *Gazella gazella* (gazelle) forms a significant percentage of the diets of the inhabitants of K, M and U, but this species represents by far the highest frequency in building M with 67 per cent of the wild population, compared to G with 43 per cent, U with 29 per cent and K with 19 per cent. *Capreolus capreolus* (roe deer), another species of moderate status, is present in buildings K, M and U with a frequency range between 14 and 17 per cent with slightly lower values in A/N; roe deer is notably absent from G. *Capra ibex* (wild goat) is moderately frequent in G with 14 per cent from the building followed by just over 1 per cent in A/N. It is possible that this species was a more desired moderate status animal in that it would have been located at a further distance from Ziyaret Tepe than either roe deer and gazelle and, thus, possibly scarcer and only accessible to the elite class.

Finally, the distribution of high-status markers is also uneven. In U, *Cervus elaphus* (red deer) is the dominant wild species at 29 per cent while K has a frequency under 5 per cent and M has no evidence of red deer. Both A/N and G have between a 10–15 per cent frequency for this animal in their assemblages. Significant also is the presence of two wild species that are regarded as higher status: *Panthera leo* (lion) and *Sus scrofa* fer. (wild boar). The former is certainly regarded as an elite animal within the Assyrian world, and evidence of lions at Tušhan is very rare. M has evidence (8 per cent) of the wild remains as lion. Wild boar were hunted animals that are not necessarily found in proximity to the city but would have been available in the swampy areas near the river. It takes time and considerable risk to locate and acquire wild boar, and yet this species is less than 5 per cent of the assemblage from A/N and is not present in G. Perhaps boar in this case has been replaced by *Cervus elaphus*

Table 15.7. *Relative frequency distributions for wild taxa in commoner buildings (Operations K, M and U) and elite buildings (A/N and G1). Unidentified specimens, small and ungulates were not calculated in these taxonomic distributions. Red is elite status and green is lower status animals.*

Taxa (NISP 135)	A/N% of wild (NISP 81)	G% of wild (NISP 7)	K% of wild (NISP 21)	M% of wild (NISP 12)	U% of wild (NISP 14)
Amphibia	4.94%	0.00%	0.00%	0.00%	0.00%
Aves	29.63%	14.29%	0.00%	0.00%	0.00%
Bos primigenius	1.23%	0.00%	0.00%	0.00%	0.00%
Bos sp.	3.70%	0.00%	9.52%	0.00%	7.14%
Capra ibex	1.23%	14.29%	0.00%	0.00%	0.00%
Capreolus capreolus	12.35%	0.00%	14.29%	16.67%	14.29%
Cervus elaphus	9.88%	14.29%	4.76%	0.00%	28.57%
Dama dama sp.	1.23%	0.00%	9.52%	0.00%	0.00%
Gazella gazella	11.11%	42.86%	19.05%	66.67%	28.57%
Lepus sp.	12.35%	14.29%	33.33%	8.33%	0.00%
Panthera leo	0.00%	0.00%	0.00%	8.33%	0.00%
Rodentia	0.00%	0.00%	4.76%	0.00%	0.00%
Sus scrofa fer.	4.94%	0.00%	0.00%	0.00%	21.43%
Sus scrofa sp.	2.47%	0.00%	0.00%	0.00%	0.00%
Pisces sp.	2.47%	0.00%	0.00%	0.00%	0.00%
Reptilia	2.47%	0.00%	4.76%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

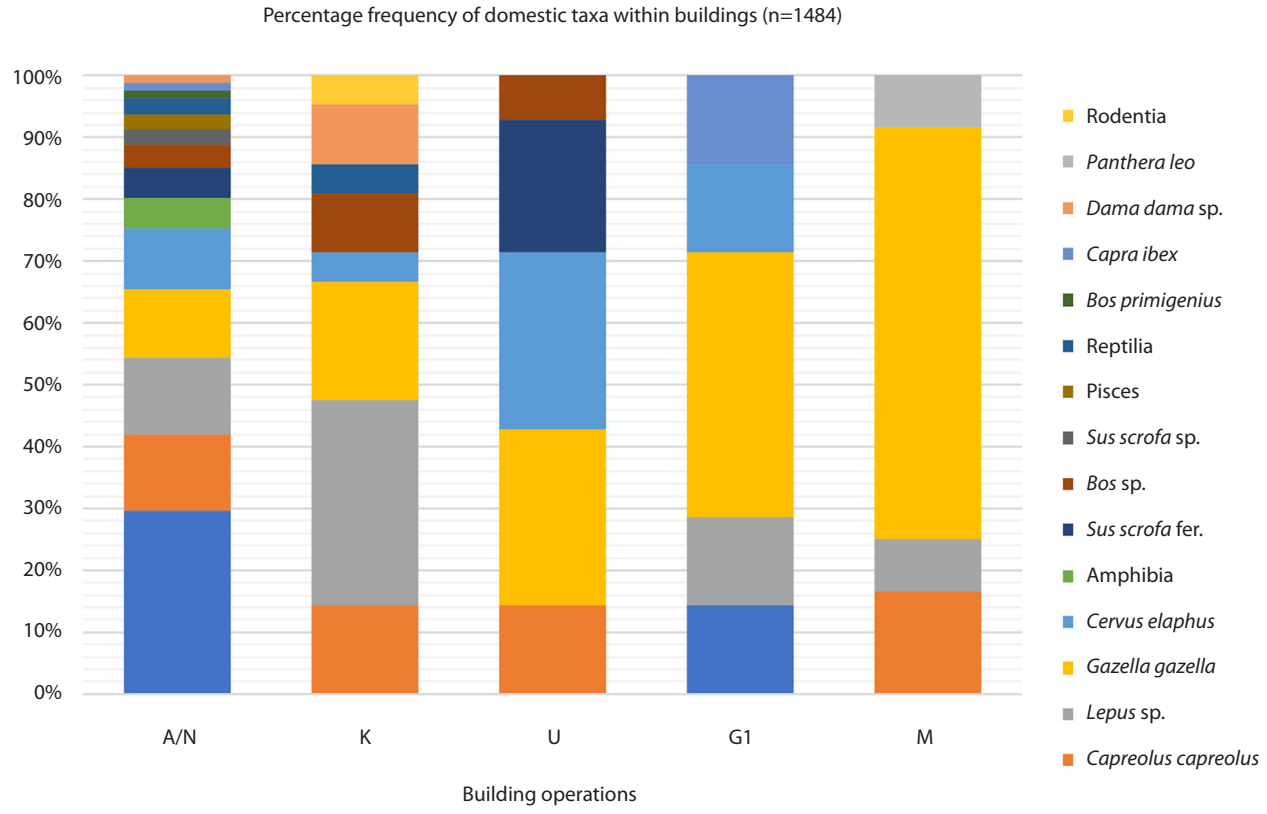

Figure 15.9. *Relative percentage frequencies of wild taxa within corrected wild populations of each building (NISP 135). Only identified taxa are included.*

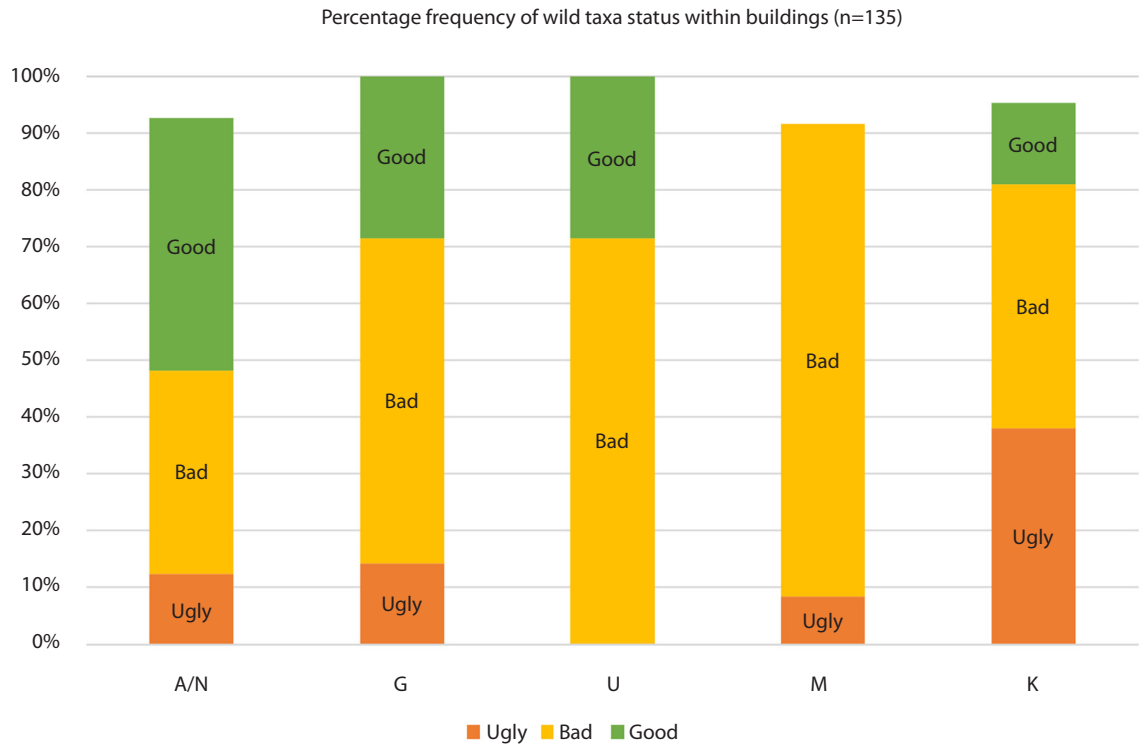

Figure 15.10. *Stacked histogram of percentage frequencies of good, bad, and ugly wild species within each Operation (buildings A/N, G, U, M and K). Totals do not add up to 100 per cent because reptile, amphibia and lion specimens were taken out of the equation due to the assumption that they were not for regular consumption and hence did not have an implied status as food.*

as the highest status animal marker in these two elite buildings. U has boar present in its corpus with a significant frequency (22 per cent) while K and M do not have any evidence for wild boar. Fish are present, as mentioned above, only in A/N and could be considered an elite marker in Assyrian society. Evidence of fish remains being used as sacrifices to Mesopotamian gods is certainly evident to the south in the Assyrian heartland and beyond. Additionally, only wild birds (*Aves* sp.) were found within elite contexts (A/N and G) and are thought to be more of a conspicuous consumption species used for augury (see Greenfield 2014). There was a high presence especially in A/N with over one-quarter of the assemblage represented by wild birds and a moderate 14 per cent within G.

In sum, while the NISP of these wild species is small, it is clear consumption practices differed markedly between the inhabitants of K, M and U and that it would be unwise to lump all three of these areas together as commoner (Fig. 15.10). K clearly has the lowest-status diet while U, with half of its wild animal resources represented by two higher-status markers (red deer and wild boar) appears to represent a different subsistence strategy. It is U that is most similar in terms of high-status marker wild animals with buildings A/N and G. Not surprisingly A/N has the highest frequency of high-status animals which include species for consumption and those for display (i.e. conspicuous consumption). G is most similar to U in that they have equal amounts of high-status specimens but it is G that actually has a combination of both medium and low status animals when it was expected that this would be the profile rather for U since it is assumed to be of lower status than G.

Discussion: elite and commoner diets

As in other cities within the Assyrian empire, there is a clear distinction in terms of status between the elites and commoners. One venue for status display at Tušhan was through food, particularly animal products. In this discussion of the diets of the commoners at Neo-Assyrian Tušhan, some general patterns were observed. First, we demonstrated that in terms of the consumption of domesticated animals across the site, all households had similar access to the same principal species. However, we also showed that there was a disproportionate distribution of certain

body portions for domestic animals, controlled by a centralized distribution program. Second, differential distribution and consumption of wild species indicates the presence of social inequality between buildings. Each building displays a proportionately small, but varied consumption of wild taxa. The differentiating factor for observing the effect of status is in terms of which wild taxa are present (or not). While the larger wild species and small exotic birds are evidence for status display and conspicuous consumption by the elites, small wild animals (excluding birds) appear to have supplemented the commoner diet.

The frequencies of wild species within each building's wild population yields an accurate picture of which species were differentially exploited over others within each specific building. The private domestic residences (K and M) have no wild pig present. This pattern is a possible indicator that these animals are not hunted by the inhabitants of this building unlike A/N and especially U where there is ample evidence for wild pigs. It appears that the large wild mammals are almost exclusively exploited by the residents of A/N, G and U, potentially hunted by just the elite population for status and possibly larger communal meals or feasts (see Greenfield 2014). There is also a relatively high presence of hare in most buildings, especially in K, except in U, suggesting that this might be a common food source for the entire settlement easily taken from the surrounding fields and gardens.

Turning in conclusion to our initial expectations, we had expected to see that the inhabitants of the A/N palace and the large, well-apportioned residence in G would demonstrate more elite dietary habits. This is borne out in the better cuts of domestic animals and the presence of larger wild game found in these buildings, and in the exotic birds found in the palace. Likewise, our expectation that K would have the humblest fare is shown in the poor cuts of domesticated sheep/goat, as well as a heavy use of low-status wild animals. M and U remain problematic. M has a very high rate of 'ugly' cuts of meat and a preponderance of moderate status gazelle in its wild animal bone assemblage, suggesting that it is a commoner house. However, it also produced a rich grave and a lion bone which are not in keeping with the general dietary pattern. U has a unique pattern with a heavy reliance on both domesticated pig, and on wild pig. It also has a high proportion of the best cuts of sheep/goat (even higher the A/N and G), suggesting an elite occupation. It would seem prudent given current evidence to suggest a three-tier pattern of household status with A/N, G and U representing the elites, M as a middle class, and K as the lowest commoner class represented in the domestic households at Neo-Assyrian Tušhan.

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Chapter 16

A new look at eels and their use in Mesopotamian medicine

Troels Pank Arbøll

He who has been bitten by a snake
is afraid of an eel – Danish proverb

The medical prescriptions, magical rituals and pharmacological treatises found in ancient Mesopotamian cuneiform texts contain a wealth of information about ingredients used in healing (Scurlock 2014). The vast majority of prescriptions rely on plant-based materials, which are often difficult to identify today, although substances of animal origin, such as animal fats, are regularly employed (Böck 2009). A few texts even use more obscure animal ingredients (Böck 2011, 696–7). And although some of these odd materials are known to have been coded names for plants (Köcher 1995; see Rumor 2017; Chalendar 2016, 100; Böck 2011, 694; Kinnier Wilson 2005, 48–9), a few nevertheless seem to derive from actual animals. One such is the fish called *kuppû* in Akkadian. As noticed in previous studies, this fish was likely an eel and its bile could be used to treat eye afflictions (von Soden 1966; Böck 2011, 697; Attia 2018, 54–5). Though previous studies have highlighted the medical use of the *kuppû*, the reasoning behind the application of *kuppû*-bile has yet to be explored. Especially in light of recent scholarship, examining the physiological conceptualization of bile (Böck 2014, 122–8), a new evaluation of the function of the *kuppû* in Mesopotamian medicine is merited.

This article analyses the sources for studying the *kuppû* in order to discuss its uses in ancient Mesopotamian medicine. The first section reviews the lexical and magical sources for identifying the *kuppû* as an eel. On the basis of prescriptions utilizing the *kuppû*'s gall(bladder), edited in the Appendix at the end of the chapter, the second section examines the use of the *kuppû*, and particularly its bile, in cuneiform medical prescriptions, especially against eye illnesses. In the third section, it is proposed that the *kuppû* can be identified as the so-called Mesopotamian spiny eel, and that the *kuppû* was illustrated on a number of Neo-Assyrian reliefs. By examining how the ancient Mesopotamians described and classified the fish called *kuppû*, this article identifies conceptual overlaps, which illustrate why ingredients from this eel were considered effective in Mesopotamian magico-medical practices.

Kuppû in cuneiform sources

The designation *kuppû* is mainly known from lexical lists, incantations, and medical prescriptions,[1] although there are few references to this animal in the overall cuneiform records. In the dictionaries, the *kuppû* is described as 'an eel-like fish, a bird' and 'a snake' written either syllabically or with the Sumerogram GÚ.BÍ$^{(ku6)}$ (CAD K, 551–2; *AHw*, 509; Landsberger 1931, 296; Landsberger 1962, 87f; von Soden 1966). Although Landsberger (1962, 87f) also suggested the fish might be identified as a 'gudgeon', the identification of the *kuppû* as an 'eel' remains largely unchallenged for sound reasons explored below (Landsberger 1934, 46, 63; von Soden 1966, 81–2; cf. Böck 2011, 697).

Although the *kuppû* could designate various animals, it was predominantly listed as a fish in different texts, such as the lexical lists Ur$_5$-ra tablet 18 (GÚ.BÍ^{ku6} = *kup-pu-*[*ú*], Landsberger 1962, 96 line 2) and *Nabnītu* (GÚ.BÍ^{ku6} = *ku-up-pu-u* KU$_6$, Finkel 1982, 195 line 134). At Mari during the Old Babylonian period, nine *kuppû*s were caught alongside other fish and mentioned in a brief administrative text (ARM 9, no. 250 obv. 4). In an early second-millennium BC Sumerian literary text, the *kuppû* is described explicitly as an eel: 'A black punting-pole, engendered in the fields' (Civil 1961, 160–1, line 77; ETCSL 2003–2006, lines 78–80: ^{ĝiš}gi-muš gíg a-šag$_4$-ga ri-a). Civil (1961, 170–1) interpreted these statements as referring to the eel-like nature of the *kuppû*, as well as its ability to

move across ground outside of water or a belief that eels were born of dirt in fields. In the Old Babylonian incantation tradition, the so-called 'worm' (*tūltu*), regularly invoked in medicine especially in relation to tooth aches, was connected to 'swamp, marsh' or 'mud' (Veldhuis 1993, 45; CAD R, 432f; Scurlock & Andersen 2005, 420–1 nos. 18.15 and 18.16; Scurlock 2014, 401–2). Furthermore, an Old Babylonian incantation to catch a snake possibly mentions the snake's origin in a 'furrow' (*šerʾu*, YOS 11, no. 19b rev. 20; Wasserman 2010b).

In order to emphasize the eel-like physical aspects of the fish, the *kuppû* was also listed alongside snakes in different incantations (see van Dijk 1957, pl. 13 obv. 6 and pl. 14 obv. 4; Finkel 1999, 226–229 line 4; George 2016, 47 no. 27, 109–111 no. 27a obv. 15, pls. 74–5). For example, one Old Babylonian spell against a snake states: '[I] seized a *kuppû*-eel' (George 2016, 47 no. 27, 109–11 no. 27a obv. 15, pls. 74–5, [*a*] *ṣ-ba-at ku-up-pi-ʾa-am*]). Due to the worm-like nature of the eel, it is natural for it to appear in lists of such creatures. The lexical list Ur_5-ra tablet 14 lists the *kuppû* as a snake (^{muš}GÚ.BÍ, Landsberger 1934, 2–3, 46, 61; Landsberger 1962, 7 line 14; for a possible overlap between snakes and the worm *tūltu*, see Landsberger 1934, 129 n. 1). Note that two types of legless and wormlike lizards exist in various areas of the Middle East, namely the Turkish worm lizard (*Blanus strauchi*) and the slow worm (*Anguis fragilis*). The observation of such animals in semi-wet areas, where eels could also appear, may have confused ancient observers in terms of classification, e.g. fish (KU_6) or snake (MUŠ). Note two similes employed in a Neo-Assyrian incantation for internal ailments: 'He is always flopping around like fish, he is always swollen like a snake' (BAM 574 col. ii 24: *i-ta-na-pa-aṣ ki-ma* KU_6.MEŠ *it-ta-nak-bir ki-ma* MUŠ, Collins 1999, 166–7). However, there is no indication that the *kuppû* should have been venomous. The *kuppû* is also mentioned in a badly damaged line in a cultic commentary with explanations of various animals as taboos for a number of deities (LKU, no. 45 obv. 18'; see Civil 1977, 66–7; Weidner 1959–1960, 108).

Finally, there is slight evidence for the *kuppû* as a bird, although the references are tenuous. A broken Akkadian name for a bird likely called GÚ.BÍ^{mušen} in Sumerian is mentioned in the lexical list Ur_5-ra (Landsberger 1962, 122 line 147, [GÚ].BÍ^{mušen} = […]). Furthermore, this Sumerian bird is mentioned in other texts, although it is likely not identifiable with the Akkadian *kuppû*, but rather *kupītu* (Veldhuis 2004, 138, 247). It is also possible that the word *kuppû* is attested as a name for horses in a few Kassite texts, although the evidence remains unclear (Balkan 1954, 30).

Medical uses of the *kuppû*-eel

Parts of the *kuppû*-eel were used in a number of medical prescriptions primarily from the first millennium BC, as edited in the Appendix. All these treatments prescribe the use of the bile (*martu*, ZÉ) or gallbladder (*martu/šīr marti*, (UZU) ZÉ) of the eel; apart from these products, the *kuppû* does not seem to have been used in healing. Bile from various animals is occasionally listed in medical treatments, although the reality of these as ingredients is often questionable.[2] Still, the *kuppû*'s bile appears to be a genuine ingredient (Böck 2011, 697). I have been able to identify ten prescriptions utilizing *kuppû*-eel gall(bladder) as a component, and all but three deal with the patient's eyes.[3] Usage of the *kuppû*'s bile for treating eye illness has been noted previously by, e.g. Wolfram von Soden (1966) and Barbara Böck (2011, 697).

Of the ten relevant treatments, seven administer the *kuppû*'s bile as part of salves applied externally to the eyes. The two terms used for eye salves are *itqūru* and *tēqītu* (see the discussion in the commentary to Prescription 3 obv. 4 and Prescription 5 ms B obv. 6). Only Prescriptions 1 and 7, which may also have targeted different afflictions, prescribe drinking the bile and applying it as a bandage. Prescription 8 is directed against 'Anus-illness', but it also employs a salve, similar to several of the prescriptions against eye ailments. The bile could be administered individually in oil (e.g. Prescription 2) or in combination with plants and other ingredients (e.g. Prescription 5; see von Soden 1966, 81). Especially salt, often specified as *Emesal*-salt, was a key component in several treatments (Prescriptions 2–6; see von Soden 1966, 81). One text states: 'you make the flesh of the *martu* lie in salt' (Prescription 2), whereas two additional treatments prescribe: '*martu* laid in salt' (Prescriptions 4 and 6). The term *martu* (ZÉ) is problematic in this connection, as it can designate both the gallbladder and bile depending on the context (CAD M/1, 297ff; AHw, 614). Thus, it is possible that examples prescribing *martu* of the *kuppû* could refer to its bile or the entire gallbladder. The use of particular verbs for placing the gall(bladder) in salt (*itūlu*, *nâlu*) may indicate that the gallbladder was pickled (see the commentary to Prescription 2 obv. 13').

When a gallbladder was placed in salt, the bile was likely drawn out into the salt through the process of diffusion, similar to drawing venom from a bee sting by placing a sugar cube on it. This approach meant that the green-yellow bile would colour the salt in these colours. Perhaps this was also intended in the other remedies employing *martu* and salt. Alternatively, the bile could simply have been poured into the substance. The remedies were generally used to treat eye illness,

for example watery eyes (Prescriptions 3 and 4). Thus, drawing out the bile from the gallbladder into the dry salt may analogically express how the cure was meant to work, namely to draw out the fluid from the eyes and thereby stop them from watering. Alternatively, one treatment appears to imitate the regulation of water by using parched ingredients (Prescription 3). But why was *kuppû*-eel bile considered an effective component especially in the treatment eye problems?

Bile is a yellow-green fluid derived from the gallbladder with a significant colour and unpleasant smell. In addition to *martu*-bile, medical texts occasionally refer to *pašittu*-bile ('the destroyer'), which was another type of bile related to illness of the epigastrium and abdomen, and it was associated with vomiting (Köcher 1978, 36; see CAD P, 249; Scurlock & Andersen 2005, 137, 522; Böck 2014, 123–4). Due to the human body's symptoms in relation to ailments associated with bile, the fluid was analogically related to illnesses such as jaundice.[4] For example, the eyes were pivotal in diagnosing this illness, since the most visible symptom is typically a discolouration of the eyes with yellow. Thus, the jaundice and bile shared the colour yellow in their physical manifestations. Most important for the understanding of bile, Böck has argued very convincingly that bile was believed to 'cause, regulate or distribute abundant water in the body' (2014, 127). In order to understand the function of the *kuppû*'s bile in Mesopotamian medicine, it is therefore necessary to consider the relationship between the eyes, water and bile.

The eyes were conceived as water sources in Mesopotamian mythological thought, as discussed recently by Panayotov (2017, 211–12). In the Babylonian Creation Myth *Enūma Eliš*, Marduk lets the Euphrates and Tigris flow from each of Tiamat's eyes when shaping the world:

> He (i.e. Marduk) opened the deep and it was sated with water. [55] From her (i.e. Tiāmat's) two eyes, he let the Euphrates and Tigris flow (Lambert 2013, 101–2; see Foster 1996, 379).
> *Enūma Eliš* tablet 5 lines 54–55: *naq-bu up-te-et-ta-a* ⌜A⌝*-ú it-téš-bi* [55] *ip-te-ma i-na* IGI^{II}*-šá pu-r*[*a-at-ta*] ⌜*i*⌝*-di-ig-lat* (for the word *naqbu*, see George 2003, 444–5).

The eyes were therefore conceived as the primary water sources in a Mesopotamian macrocosmic perspective. In the human body, tears were believed to flow from the iris or pupil of the eye, thereby making them analogous water sources (Stol 1993, 107 n. 69 with references; Fincke 2000, 22 n. 144, 223; see also Panayotov 2017, 236). For the current purpose, it is therefore noteworthy that the *kuppû*-eel, and occasionally snakes, were connected to rivers. For example, the *bašmu*-serpent is associated with the river in an incantation published by Cavigneaux (2003, 61–2), and a connection between fish and snake is also underlined in a snake incantation published by George (2016, 47 no. 27, 109–11 no. 27a obv. 7–8, pls. 74–75: 'whose scutes were fish-spawn', *pa-ap-pa-al-li-ib-bi-šu* [8] *a-ga-ar-ga-ru-um*). If we return to *Enūma Eliš*, the conceptualization of Tiāmat's anatomy and physiology also informs us about the role of bile, although in an indirect manner:

> The raging of the winds, violent rainstorms, [51] the billowing of mist – the accumulation of her venom (*imtu*) – [52] he appointed for himself and took them in his hand (see Foster 1996, 379; Lambert 2013, 101–2).
> *Enūma Eliš* tablet 5 lines 50–52: *te-bi šá-a-ri* [*š*]*u-uz-nu-nu ka-ṣa-ṣa* [51] *šu-uq-tur* IM.DUGUD *ka-mar im-ti-šá* [52] *ú-ad-di-ma ra-ma-nu-uš ú-šá-ḫi-iz qat-su*.

In Lambert's interpretation, the fluid *imtu* is described in these lines as responsible for various meteorological phenomena involving water (Lambert 2013, 478; cf. Foster 1996, 379; Westenholz & Westenholz 1997, 219). The term *imtu* can be translated as, e.g. 'venom, poison, poisonous foam' and 'spittle' (Black *et al*. 2000, 129; CAD I–J, 139–41; AHw, 379; see Lambert 2013, 101–2). While obviously related to venomous animals, such as the snake, the awe-inspiring fluid *imtu* shared an explicit conceptual overlap with 'bile' (*martu*).[5] Thus, bile was considered a powerful substance inherent in humans and animals (Arbøll 2020, 73, 79–83). The connection between the *kuppû*'s bile and the associated (snake) venom must therefore have been invoked when employing the eel as an ingredient.

Returning to the prescriptions utilizing *kuppû*-eel gall(bladder), its bile was therefore meant to function as a regulator of water, possibly drawing out excess water. Its relationship to snakes, venom and eyes illustrated above, underlines its use as a cure for watery eyes. Among the other eye problems treated by the *kuppû*'s bile were a shadow of the eye (Prescription 5) and possibly eyes covered by a membrane (Prescription 6).[6] Several snake incantations, which also reference the *kuppû*-eel, emphasize that the snake has eyes of 'awful brightness', which clearly contrast darkness (Finkel 1999, 226–7 line 12: *na-mu-ra-ta i-na-šu*.). A connection between snake venom and eye illness is perhaps also indicated in an Ur III incantation edited by van Dijk & Geller (2003, 26 no. 5; also 48 no. 12). Further, as discussed in the following section, the *kuppû*-eel may

have had visible pupils and the ability to navigate in muddy waters. Thus, the animal's physical properties provided it with analogical abilities, which could be transferred onto the patient. At least one treatment, Prescription 2, also prescribed shaving the patient's head and bandaging it before applying the salve with *kuppû* bile to his eyes. The *kuppû*-eel may have been linked specifically to the head, accompanying the venomous scorpion and various associated worms, in an Old Babylonian incantation designed for a child (YOS 11, no. 5 obv. 9–14; Wasserman 2008, 12–13 line 11).

The treatments involving the *kuppû*-eel's bile must undoubtedly have been an uncomfortable experience for the patient when administered (see Böck 2011, 697). Since the *kuppû* is not identified with certainty, it is troublesome to estimate what the modern therapeutic value of such cures, if any, may have been. Comparatively, bile from different species of carps is used for a variety of afflictions, including eye illnesses and night blindness (nyctalopia), in traditional Chinese medicine (Wang & Carey 2014, 9960–1, 9963). Generally, it has been argued that treatments employing bile in traditional Chinese medicine may provide beneficial medical effects due to the presence of fat-soluble vitamins, bilirubin, metals and melatonin in the bile of many animal species (Wang & Carey 2014, 9969–70). Still, I hesitate to adopt these indications of pharmacological efficacy as proof of eel bile's medical validity, especially because the properties of bile from eels do not seem to have been properly investigated. Any modern medical effects of the ancient Mesopotamian cures utilizing *kuppû*-eel bile therefore remain uncertain (see Attia 2018, 60 and n. 97 with further reference).

Identifying the *kuppû*-eel

Correlating an ancient animal name with a modern species can be a perilous quest. Nonetheless, it is possible to suggest an identification of the *kuppû*-eel on the basis of the available sources discussed above. Considering the various eel species living in the modern areas of Iraq, Syria and Turkey, a native identification of the *kuppû* could be the so-called Mesopotamian spiny eel (*Mastacembelus mastacembelus*), which is shown in Figure 16.1.

The Mesopotamian spiny eel is principally found in freshwater and the species occurs today in both the Euphrates and Tigris rivers, as well as in Turkey, Syria, Iraq and Iran (Ararat *et al*. 2008, 105; Çakmak & Alp 2010, 87f), where it is considered native (Coad 2015, 1). The eel itself is generally around 85 cm long and weighs just over a kilo; it has 30–35 short and sharp spines on its back, longer and soft fins on its sides and near its lower back and front, as well as a flexible snout (Coad 2015, 4). The fish appears eel-like due to a wriggling behaviour, and its sharp spines can be used for injuring enemies (Coad 2015, 2). Due to its snake-like appearance and sharp spines, the Mesopotamian spiny eel is a fearsome creature. Furthermore, it has visible pupils and a yellowish mosaic retina (Coad 2015, 4). Its body is mainly yellow, dotted with shades of similar and darker colours, and a zigzag pattern of spots in primarily brown or black colours often appears (Coad 2015, 4). The eel may occasionally burrow in mud, and it can survive for some time outside of water (Coad 2015, 2). Comparatively, snake-like qualities are referenced in Iranian names for the Mesopotamian spiny eel (Coad 2015, 2).

Figure 16.1. *A Mesopotamian spiny eel (photo by Hana Raza), taken from https://www.inaturalist.org/photos/725457.*

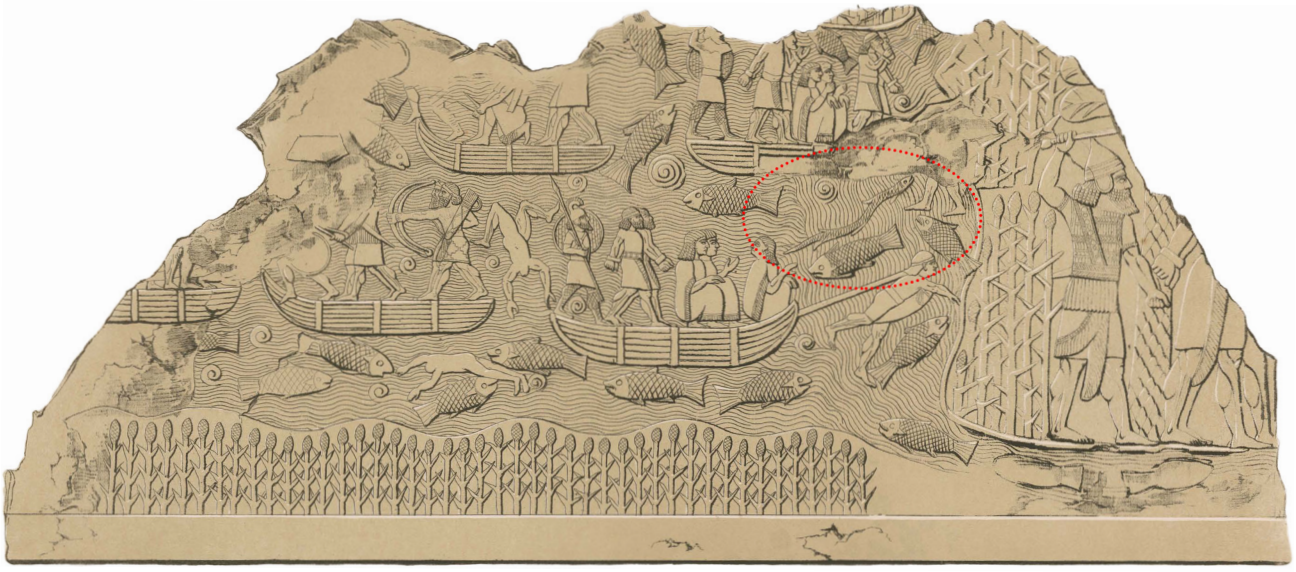

Figure 16.2. *Neo-Assyrian relief displaying an eel (after Layard 1853, pl. 28).*

The physical characteristics of the Mesopotamian spiny eel largely make it a suitable identification for the *kuppû*-eel. Its yellow colours underline the metaphoric relationship to the bile utilized in medicine. Perhaps its pattern of colours reminded observers of the human iris in relation to its medical use against eye illness. Furthermore, it has a visible and often yellow retina, which again emphasizes this relationship. It lives primarily in rivers, which is the cosmic manifestation of Tiāmat's eyes. Yet, it may reside in muddy waters and even survive in a dry environment for a brief period. It is therefore a fitting analogy for the effect of bile as a regulator of too much (or little?) water in the human body. Additionally, among the abilities of such a fish beneficient to a person with eye problems is the eel's ability to orient itself in muddy water. The occasional fierce nature of the fish combined with its metaphoric properties recalls the relationship to venom, which must have been inherent in the snake-like aspect of the eel. I therefore suggest that the *kuppû*-eel used in medical prescriptions can be identified with the Mesopotamian spiny eel. Note that the *kuppû* was described as 'black' in the Old Babylonian text quoted on p.179. This description does not fit the physical characteristics of the Mesopotamian spiny eel. Still, it is possible that the text does not reflect later conceptions of the *kuppû*. Ellison (1978, 173) identified the *kuppû* as the related *Mastacembelus halepensis*, or alternatively as *Muraenesox cinereus*. However, little evidence supports these specific identifications. Furthermore, both species appear to be less common than the Mesopotamian spiny eel in Iraq, and they were not registered in a recent biodiversity survey of northern Iraq (Ararat *et al*. 2008).

Returning to ancient Mesopotamia, we are forced to consider why there are currently no identifiable depictions of the *kuppû*-eel, if the *kuppû* was truly a native species found in the rivers of Assyria and Babylonia. However, it is possible that depictions of the eel exist, which have not been recognized previously. An eel is illustrated in a somewhat standardized manner on a number of Neo-Assyrian reliefs from Nineveh depicting river and marsh scenes, as exemplified in Figure 16.2 (see e.g. Layard 1853, pls. 28 and 42; van Buren 1939, 107 and n. 6). Note that a number of actual snakes are also illustrated in river environments on various reliefs from Khorsabad (e.g. Linder 1986, 279).

The eels are not uniform in appearance, and it is possible they are standardized according to the view of the individual artist.[7] The reliefs display the eels with heads and mouths roughly similar to other fish, and their scales are marked in a similar manner. Some are supplied with a tail identical to various fish, others appear with bodies as snakes. All examples include a number of fins, generally five, spread out evenly onto their fronts and backs. The examples on the Neo-Assyrian reliefs are never explicitly stated to illustrate the *kuppû*, and their physical features are not identical to the Mesopotamian spiny eel. Yet, it is possible that the artists depended on standardization of the underwater animals depicted, and likely the native observer of such a relief would know what animals the picture was meant to induce. As such, I consider it likely that at least some eels illustrated on the Neo-Assyrian reliefs

were intended to depict the *kuppû*. If this proposal is correct, it must be assumed that the *kuppû* could usually be found in Mesopotamian rivers.

Conclusion

The analysis of the evidence related to the fish called *kuppû* underlines previous conclusions that this creature must be considered an eel. The overlap with other snake-like beings reinforces this conclusion. The bile or gallbladder of the *kuppû*-eel was utilized in at least ten medical prescriptions, of which the majority were directed against watery eyes or a shadow covering the eye. Through a discussion of the conceptualization of bile and its relationship to venom, I proposed that the *kuppû*'s bile was utilized primarily due to a belief that the fluid regulated water, and in general because the eel was connected to rivers, which were metaphorically related to the eyes. Furthermore, I suggested that the *kuppû* could be identified with the native Mesopotamian spiny eel, seeing as it shares several physical characteristics useful for underlining the metaphoric relationship to bile and eye problems. Additionally, I suggested that the *kuppû*-eel could be depicted as a previously unidentified eel on a number of Neo-Assyrian reliefs.

Appendix: Editions of prescriptions utilizing the *kuppû*-eel

Transliterations of the following texts can also be found on CDLI and BabMed online.

Prescription 1. AMT 66,7 obv.? 14 (NA; read from CDLI photograph, P425326)

Previous edition: Geller 2005, 84–5 no. 8 ms H

14 [(DIŠ KI.MIN) ^{ú}NU.LUḪ].ḪA ^{ú}ḪAR.ḪAR ILLU LI.DUR KI DIDA GU$_7$ ZÉ GÚ.BÍ^{ku6} NAG
'[If 'ditto'(?), he eats *nuḫur*]*tu*-plant, *ḫašû*-plant (and) *abukkatu*-resin with *billatu*-substance, (and) he drinks eel bile.'

Select commentary:

14: All the initial signs are broken, and it is therefore unclear what the prescription was directed against. Seeing as a duplicate of AMT 66,7 obv.? 4–5 is directed against 'discharge' (Geller 2005, 84 ms B, unclear which line(s): NA BI *mu-ṣa* GI[G]), it is possible that the prescription in AMT 66,7 obv.? 14 also concerned this problem (see von Soden 1966, 81; concerning *mūṣu*, see Geller 2005, 1, 10; Scurlock & Andersen 2005, 103).

Concerning the *billatu*-substance and its relationship to beer brewing, see Abusch & Schwemer 2011, 469.

Prescription 2. BAM 12 obv. 11'–13' (MA; read from CDLI photograph, P281804)

Previous edition: --

11' DIŠ KI.MIN 1/3 SÌLA PA ^{giš}PÈŠ *ša i-na*$^{(ligature)}$ ^{iti}BÁRA.ZAG.GAR KU$_5$ PA ⌜x⌝[(x x x)]
12' SAG-*su tu-gal-lab* LÁ-[*su*?-*ma*?]
13' UZU ZÉ ^{ku6}GÚ.BÍ *ina* MUN *tuš-ta-al ina* Ì.GIŠ ḪE.ḪE [IGI^{II}-*šú* MAR]
'If 'ditto', 1/3 litre of fig tree (*tittu*) foliage, which is cut in the month of *nisannu* (March–April), foliage of […]. $^{12'}$ You shave his head, (and) you bandage [him, and] $^{13'}$ you *pickle* the flesh of a *kuppû*-eel's gallbladder in salt, you mix it in plant oil, [(and) you daub his eyes (with it)].'

Select commentary:

11': According to Köcher (1980a, XXIV), BAM 480 col. i 30–31 duplicates the prescription in BAM 12 obv. 11'–12'. However, only the opening seems to duplicate ingredients and instructions directly attested in BAM 12 obv. 11', and no further correlation can be identified at present (see also Worthington 2005, 8 ms A col. i 30–31; CDLI photograph, P365742). As it cannot be verified whether or not *kuppû*-eel bile was utilized in the prescription, I have chosen to leave it out of the edition here.

The prescription in BAM 12 obv. 11'–13' does not state which malady it could be utilized against, and several of the preserved prescriptions state 'If "ditto"' (DIŠ KI.MIN). However, BAM 12 ends in a broken section (rev. 47'–49') indicating it preserves bandages (rev. 47': 22 LÁ.MEŠ-*te*) likely intended to counteract eye problems (rev. 49': *ša* ŠÀ IGI^{II}-⌜*šú*⌝ […]). Attia (2018, 54) interprets this prescription as one against 'cephalic fever'.

For the *tittu*-fig tree, see CAD T, 435ff; Abusch & Schwemer 2011, 473. One has to wonder what effect the cure hoped to achieve, seeing as the sap of fig tree leaves can cause skin burns when exposed to sunlight (e.g. Bollero *et al*. 2001; Imen *et al*. 2019). Perhaps leaves collected around March–April would have been less potent.

The last visible signs of the line have been interpreted as KU_5 PA ⌜x⌝. The final wedges may be part of a ⌜giš?⌝. However, it is possible to interpret these signs in other ways. Perhaps one might read *qutu-pa* for a D-stem of *qatāpu* meaning 'to pick a fruit, to cut off an excrescence' (CAD Q, 165). Alternatively, the signs could represent the verbal form *tara-ḫás-*⌜*su*?⌝ (see BabMed online). However, the writing *tara-ḫás-su* is not well attested (cf. CAD R, 73).

13′: The reading 'pickle' in the context of the verbs *itūlu* and *nâlu* when combined with salt is suggested in CAD K, 552, and I follow this interpretation here. The verb used to express this action is *itūlu* 'to lie down, sleep' in a Š-stem (CAD U–W, 344–6), and the sentence literally reads: 'you make the flesh of a *kuppû*-eel's gallbladder lie in salt'. By placing a gallbladder in salt the bile would be drawn out of the gallbladder, and in effect the gallbladder would become pickled. Prescriptions 4 and 6 describe the pickled gallbladder via the writing NÁ-*al* (CAD K, 552). Whether this should be interpreted as the verbal form *tuš-ta-al* or a stative of the related verb *nâlu* 'to lie down' (perhaps read *ná-al*?) is uncertain (CAD N/1, 204ff; see discussion of these verbs in CAD U–W, 345). Since the Sumerogram is not written NÁ.NÁ or NÁ.MEŠ, I find it difficult to interpret NÁ-*al* as a Š-stem. I have tried to accommodate the doubt of how to interpret the writing NÁ-*al* by translating the lines in Prescriptions 4 and 6 as the stative 'pickled'.

The final reconstruction is based on other entries in BAM 12 specifying the patient's eyes as the focus of the application (obv. 16′, 23′, rev. 31′). Presumably, the final remedy was daubed (*eqû*) into the patient's eyes, which appears in the other prescriptions edited here (see also Fincke 2009, 81).

Prescription 3. BAM 14 obv. 1–4 (NA; read from CDLI photograph, P285117)

Previous edition: --

1 DIŠ NA ⌜IGI^{II}-*šú a-ga-a*⌝-*ma* ÉR [DIRI]
2 ZÉ *ša* GÚ.BÍ^{ku6} ZÉ [x x (x)]
3 ^{giš}ŠINIG *tur-ár ina* Ì [SAḪAR.URUDU]
4 DÍLIM.A.BÁR *ta-sàk te*-[*eq-qí*]
'If a man's eyes (are) *flooded*, and [full of] tears, [2] the gallbladder of a *kuppû*-eel, the gallbladder of […], [3] (and) *bīnu*-tamarisk you parch, in oil [(and) verdigris(?)] [4] you pound (it into) a salve (*itqūru*), (and) you [daub (his eyes (with it))]'.

Select commentary:

1: *Agû* can refer to a 'flow of water, current, wave, destructive flooding' (CAD A/1, 157f; *AHw*, 17). However, the term seems to be uncommon in the medical corpus. The word also appears in an Old Babylonian incantation designed for treating internal illness (Collins 1999, 164–5 line 36).

For the symptom description of eyes full of tears, also observed in Prescription 4, see Fincke 2000, 223–4.

3: I read *tur-ár* as a verbal form of *erēru* in the D-stem used in connection to drug preparation as 'to parch', see *urruru* 'to desiccate, dry out' (CAD U–W, 247f; Köcher 1965; see also Black *et al*. 2000, 77; *AHw*, 238). For similar examples, see Fincke 2000, 287 n. 2241, 291 n. 2305.

The final reconstruction is based on similar examples of eye salves utilizing 'verdigris' *šuḫṭu*, see CAD Š/3, 209; see also CAD I–J: 301. This ingredient is suitable as it also contains a greenish colour, possibly complementing the bile.

4: The reconstruction is based on many similar examples, see CAD E, 252f; CAD I–J, 301.

See CAD I–J, 301–2 for the salve(-bowl/spoon) called *itqūru*, used here and in Prescriptions 4 and 5 (see the commentary to Prescription 4 mss A7 and B15; Attia 2015, 8 n. 23; Stol 1989, 166). The word itself could designate both the salve and the container from which it was administered. There is, however, no need to render the container in the translation if the focus in the prescription is on the salve.

Prescription 4. Ms A = BAM 14 obv. 5–7 (NA; read from CDLI photograph, P285117); ms B = BAM 18 rev. 14–15 (NA; read from CDLI photograph, P285120)

Previous edition: --

A5 [DIŠ N]A IGI^{II}-*šú* ÉR DIRI ZÉ [GÚ.BÍ^{ku6}]
B14a [DIŠ] NA$^{!}$ IGI^{II}-[*šú*] ⌜ÉR DIRI⌝$^{?}$ ZÉ$^{?}$⌝ [G]Ú. ⌜BÍ^{ku6}⌝ –
'If a man's eyes are full of tears, the gallbladder of a [*k*]*uppû*-eel

A6 [*ina* MU]N NÁ[!]-*al* ^{giš}ŠI[NI]G [*ta-sàk*]
B14b–15a [x x x x] ^{15} ^{giš}ŠINIG [*t*]*a-*⌜*sàk*⌝ – *pickled* [in sal]t (and) *bīnu*-tamarisk you pound.

A7 [*ina* Ì].⌜NUN[?]⌝ [*ina* ^{gi}]$^{š?}$⌜DÍLIM[?]⌝.A.⌜BÁR[!?]⌝ [*te-*(*eq*)*-qí*]
B15b *ina* Ì.NUN *ina* ^{giš}DÍLIM.A.BÁR [*te-*(*eq*)*-qí*] [You daub (his eyes with it)] in ghee in a wooden salve *bowl*(?).'

Select commentary:

A5 and B14: For this diagnostic statement, see Fincke 2000, 129; also Scurlock & Andersen 2005, 192–3.

A6: For the reading 'pickled', see the commentary to Prescription 2 obv. 13'.

A7 and B15: The determinative ^{giš} before DÍLIM.A.BÁR could imply the container with the salve, from which it was administered, was made of wood. Seeing as the line emphasizes the container via the determinative and the preposition *ina*, I have attempted to render this in the translation. As shown in the translation by, e.g. Attia (2018, 55) '"spoonful of lead" ointment' and Heeßel (2018, 336) 'salve' or 'lead bowl', the object or the salve(?) seems ordinarily to be made of lead (see Attia 2015, 8 n. 23; Stol 1989, 166). The Sumerogram includes the words DÍLIM, which in itself can render *itqūru* and may designate a 'spoon, shallow bowl, salve', as well as the word A.BÁR, *abāru* 'lead'. See the commentary to Prescription 3 obv. 4.

The method of application is broken in both instances, but other prescriptions in ms B prescribe a similar method as the suggested reconstruction (obv. 6, 7, 8, 10).

Prescription 5. Ms A = BAM 22 rev. 20'–21' (NA; read from CDLI photograph, P285124); ms B = BAM 382 obv. 5–6 (NB; read from CDLI photograph, P285453)

Previous edition: --

A20' [DIŠ NA x x x x x x x MUN E]ME.SAL-*lim* ZÉ GÚ.BÍ^{ku6}
B5a [MU]N E[ME.SAL-*lim*] ⌜ZÉ⌝ GÚ.BÍ^{ku6} –

A21' *kur-k*[*a-nam* x x DÍLIM.A.BÁR SÚ]D IGI^{II}-šú MAR
B5b–6 ^{ú}*kur-ka-nam* ^{6} Ú.BABAR *ina* Ì.⌜NUN⌝.NA ḪE.ḪE *te-qit šá* GISSU ZI-*ḫa*
Ms. A: '[If a man … *e*]*mesal*-[salt(?)], *kuppû*-eel bile, $^{21'}$ *kurk*[*anû*-plant … you pou]nd (it into) [a salve(?)], (and) you smear his eyes (with it).'
Ms. B: '*E*[*mesal*-sal]t, *kuppû*-eel bile, *kurkanû*-plant, ^{6} (and) 'white plant' you mix in ghee; a salve (*tēqītu*) for tearing out a shadow (of the eye).'

Select commentary:

A20': Although the opening diagnostic statement is broken, the prescription before rev. 20'–21' on BAM 22 concerns a shadow of the eye with additional symptoms (obv. 16: DIŠ NA ŠÀ IGI^{II}-*šú* GISSU …, see the commentary to Prescription 5 ms B obv. 6) and the following treatment is directed against eyes with water (rev. 22': DIŠ NA IGI^{II}-⌜*šú* ÉR[?]⌝ [(DIRI[?]/ŠUB.MEŠ[?]) …]).

For *emesal*-salt, see, e.g. Abusch & Schwemer 2011, 473. It is possible that the ZÉ in this prescription designates the entire gallbladder as in other examples presented here, see Prescriptions 2 and 6.

For the tablet BAM 22, see also Fincke 2009, 85.

B5–6: It is plausible that the ingredients were largely similar to ms A. For the tablet BAM 382, see Fincke 2009, 82, 98.

A21': The reconstruction is based on similar examples, see CAD I–J, 301.

B6: The 'white plant' (*šammu peṣû*, see Abusch & Schwemer 2011, 472) was likely employed due to its opposite physical properties in relation to a 'shadow' of an eye.

The word *tēqītu* 'salve' is derived from the verb *eqû* 'to smear, daub', which is used in many prescriptions related to the eyes, including several treated above (see CAD T, 347f; Stol 1989, 166).

For the diagnostic statement, see Fincke 2000, 278 and n. 2115.

For the term 'shadow' (GISSU, *ṣillu*) in relation to eye problems, see discussions and further references in Fincke 2000, 130–1, 166, 202–8, 225–6, 284, 288; Scurlock & Andersen 2005, 196; Attia 2015, 65–7, 69–70, 87ff; Panayotov 2017, 218, 223 and ns. 60–61.

Prescription 6. BAM 23 obv. 9–10 (NA; read from CDLI photograph, P285125)

Previous edition: --

9 ⌜ZÉ⌝ GÚ.BÍ^{ku6} *ina* MUN NÁ-*al* PA ^{giš}NU.ÚR.MA ^{giš}⌜GIG[!?]⌝ *tur-á*[*r*]
10 [x x] PA ⌜x⌝[x x n]a[?] TAG Ú.ḪI.A *an-*⌜*nu*⌝*-tim* [*ta-sàk*] ⌜x⌝ *te-*⌜*qí*⌝

'You parch *Kuppû*-eel gallbladder *pickled* in salt, foliage of a pomegranate tree, (and) *kanaktu*-tree, [10] you take […] (and) foilage of […], [you pound] these plants (and) you smear (his eyes with it).'

Select commentary:

9: For the translation 'pickled', see the commentary to Prescription 2 obv. 13' and Prescription 4 ms A obv. 6.

See CAD (N/2, 345) for the translation 'foliage' in relation to the pomegranate tree (*nurmû*).

The reading of ^{giš}GIG as *kanaktu* is uncertain, and this writing appears to be rare (see CAD K, 135). It is possible that the text specified another ingredient, which cannot be properly reconstructed.

10: An alternative reading of […n]a$^{?}$ TAG could be […*tu-n*]*a*$^{?}$*-tak* 'you drip (something into something else)'.

It is unclear against what problem(s) the prescription was directed, but other entries on BAM 23 concern, e.g. the eyes covered by a *šišītu*-membrane (BAM 23 obv. 4 and 5: DIŠ NA IGI^{II}-*šú ši-ši-tú* DIRI, see CAD Š/3, 125; Fincke 2000, 120, 131, 209–210, 226; Scurlock & Andersen 2005, 196; Attia 2015, 46 and n. 164, 47 and n. 195, 66; Attia 2018, 48–50). It is unclear if this membrane was believed to hold back water, like Tiāmat's skin stretched out across heaven in *Enūma Eliš* to keep water from escaping (Foster 1996, 376; Horowitz 1998, 262–3; Rochberg 2005, 324; Lambert 2013, 94–5 tablet 4 lines 138–140).

Prescription 7. BAM 580 col. i 7'–10' (NA; read from CDLI photograph, P397304)

Previous edition: --

7' [DIŠ KI.MIN] *la i-ḫa-maṭ la i-*⌜*ṣar-rap*$^{?}$ *la*$^{?}$ *i*⌝*-re-eš-š*[*i*$^{i?}$*-šú*$^{?}$ x] ⌜x⌝ GIG *ana* ZI-*šú*

8' [ZÉ$^{?}$ G]Ú.BÍ^{ku6} AN.BAR eš ku ri ḫa/KU$_6$ ⌜AN⌝. BAR ^{giš}Š[INIG$^{?}$] ⌜x x⌝ MUŠ GE$_6$

9' [NAGA].SI ^{šim}ŠEŠ *ša* KUR-*e* 6 Ú.ḪI.A [T]ÉŠ. BI *tuš-te-mid* KI LÀL

10' [x x *ina* ^{uru}]^{du}ŠEN.TUR *tara-bak ina* KUŠ.EDIN SUR-*ri* : *ina* $^{TÚG.GADA}$ LÁ-*su-ma* TI

'[If 'ditto'], (but) there is no burning pain, it does not burn, (and) it does not *it*[*ch*$^{?}$], (then) [he is i]ll (with) […]. For tearing (it) out of him: [bile$^{?}$ of a *k*]*uppû*-eel, '*bead*' of …, '*bead*' of a *b*[*īnu*-tamarisk$^{?}$, …] of a black snake, ['horned] salt'-plant, (and) mountain *murru*-myrrh. You mix (these) six ingredients together, with honey [(and) … in] a small *tangussu*-vessel you boil it down. You rub (the substance) into a 'hide of the steppe' *alternatively:* in a linen garment, you bandage him, and he will recover.'

Select commentary:

7': For *ḫamāṭu* 'to burn, to be inflamed', see Stol 2007, 19–21. For the translation 'burning pain', see Scurlock 2014, 186, 189.

The verb *ṣarāpu* 'to burn' is not well-attested in symptom descriptions, and the few examples are mainly in the D-stem (e.g. Scurlock 2014, 493, 495; Scurlock & Andersen 2005, 288).

The verbal form, reconstructed here as ⌜*i*⌝*-re-eš-š*[*i*$^{i?}$*-šú*], is uncertain. The partly reconstructed sign ši is unclear, and the sign looks more like the beginning of pi, ud or similar signs. A form ⌜*i*⌝*-re-eš-š*[*i*$^{i?}$*-šú*] from the verbal root *rašû*/*rešû* 'to itch' is attested, although the two examples listed in the CAD (R, 207) are in an unclear context and written as either *i-re-šá-šú* or *i-re-ši-šú*.

Although it is unclear against what problem(s) the prescription was intended, the tablet BAM 580 largely contains remedies for treating rashes (Köcher 1980b, XXXI).

8': The reading of the signs AN and BAR is difficult. At face value the signs could be read, e.g. 'iron' (*parzillu*, AN.BAR) or as Ninurta (^{d}MAŠ) (see BabMed Online). A similar reading occurs in a line of the so-called 'AŠ-section' of Uruanna, in which Rumor (2017, 20 note 50) proposes the translation 'bead' of *parzillu* (see CAD P, 212ff). The writing could perhaps refer to the seeds of a plant. Alternatively, the writing may be related to BAR ('skin, rind' *quliptu*, *qilpu*), although this does not account for the AN. I follow Rumor's tentative translation 'bead', although the issue should be addressed elsewhere.

Other treatments prescribe the 'fat (*lipû*, Ì.UDU) of a black snake' (see CAD Ṣ, 77). However, the remaining wedges do not seem to support this reading.

9': For the translation of *uḫūlu qarnānû* as 'horned salt'-plant, see Abusch & Schwemer 2011, 473.

On the picture, it is very difficult to see if the sign SI has the final required vertical

wedge and whether or not the following ŠIM begins with two horizontal wedges. These signs require further collation.

BabMed online suggests the reading *tuš-ṭe$_4$-nu* as an alternative to *tuš-te-mid*.

For *dišpu* as either 'honey' or 'syrup', see Abusch & Schwemer 2011, 36 with further references.

10′: The initial broken signs could have read, e.g. Ì.GIŠ, Ì.NUN or *u* KAŠ (see examples in CAD D, 161f; CAD R, 8).

The Akkadian reading of KUŠ EDIN is considered uncertain (Farber 2008, 255; see AHw: 1389), although it may have been read *nādu* (see Scurlock 2014, 480–3, 494–5; Heeßel 2018, 318; CAD N/1, 100f; AHw, 704–5). Literally, the Sumerogram can be translated as: 'a skin of the steppe (i.e. a steppe animal)'.

I have translated the verb *ṭerû* (SUR) as 'to rub into' (Black *et al*. 2000, 414; AHw, 1388–9), but note that CAD (Ṭ, 103) argues for the translation 'to extract, squeeze or press out liquid (via a piece of leather, cloth)'. I would assume the patient was bandaged with the piece of leather specified in the text, and I therefore retain the translation 'to rub into (a piece of leather)'.

Prescription 8. BM 103386 rev. 22–24 (NA; read from the photograph and copy in the publication)

Previous edition: Heeßel 2018

22 DIŠ KI.MIN ZÉ GÚ.[B]Í^{ku6} TI-ʳ*qé* KIˡ ILLU ^{šim}BULUḪ NUMUN ^{ú}SI.SÁ

23 ^{ú}LAG-A.ŠÀ.GA ʳGÌRˡ.PAD.ʳDUˡ šá UDU.NÍTA *tur-ár* SÚD

24 DÍLIM.A.BÁR ḪE.ḪE ʳ*ku*$^{?}$-*ul*$^{?}$ˡ D[ÚR-*š*]*ú te-te-né-*ʳ*qí*ˡ*-ma* TI

'If 'ditto', you take *kuppû*-eel bile, with *baluḫḫu*-resin, seeds of *šurdunû*-plant, 'field-clod'-plant (and) a sheep bone you parch (and) pound (it). You mix (it into) a salve (*itqūru*). You continually daub the *whole* of his anus (with it), (and) he will recover.'

Select commentary:

22–24: For commentary on these lines, see Heeßel 2018, 336.

Although the problem treated is not specified, the previous prescriptions on the reverse of BM 103386 seem to be directed against 'Anus-illness' (*dur*(*u*)*giqqû*, DÚR.GIG.(GA)), and one of the following prescriptions specify it is for an ill anus with a *lamṣatu*-haemorrhoid, which may be itching and the edge is full of blood (rev. 32: DIŠ NA DÚR ʳGIGˡ *lam-ṣa-*ʳ*at* DÚRˡ-*šú* [*im-r*]*uṭ lak*/*q-s*/*šat kib-ru* MÚD SA$_5$). For the illness written DÚR.GIG, see Geller 2005, 2–3; Scurlock & Andersen 2005, 150–3; Böck 2008, 319; Heeßel 2018, 334. For the term *lamṣatu*, see the recent discussion by Heeßel 2018, 314.

23: For the plant translated as 'field-clod' (*kirbān eqli*), see Abusch & Schwemer 2011, 471.

For the verbal form *tur-ár*, see the commentary to Prescription 3.

24: For *itqūru*, see the commentary to Prescriptions 3 and 4. For another translation of this line, see Heeßel 2018, 336.

The reconstructed reading ʳ*ku*$^{?}$-*ul*$^{?}$ˡ follows Heeßel 2018. Note that the traces may not support the reading *ul*, although it is difficult to find a better-suited interpretation of the remaining wedges.

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Notes

1 I have recently published a case study drawing on medical incantations for reconstructing ancient illness conceptions (Arbøll 2018).

2 Böck 2011, 696–7. See the references to frog, geese, snake, ox, ram, scorpion and mouse bile in medical prescriptions listed in, e.g. CAD M/1, 299; see also Attia 2018, 45, 56–7 with additional examples of eye prescriptions utilizing the bile of various animals; Scurlock 2014, 217, 221, 374, 383–4; Básckay 2018, 9ff.

3 AMT 66,7 obv.$^{?}$ 14 =Prescription 1; BAM 12 obv. 11′–13′ = Prescription 2; BAM 14 obv. 1–4 = Prescription 3; BAM 14 obv. 5–7 and BAM 18 rev. 14–15 = Prescription 4; BAM 22 rev. 20′–21′ and BAM 382 obv. 5–6 = Prescription 5; BAM 23 obv. 9–10 = Prescription 6; BAM 580

col. i 7′–10′ = Prescription 7; BM 103386 rev. 22–24 = Prescription 8. Only the treatments in Prescriptions 1, 7, and 8 appear in contexts where it is reasonable to assume they was used for treating *mūṣu*-discharge, a rash, and 'Anus-illness' with an itching(?) haemorrhoid (see the commentary to Prescriptions 1, 7, and 8 in the Appendix). For a discussion of the relationship between the medical uses of the *kuppû* and the fish used for healing in the Book of Tobit, see Attia 2018; von Soden 1966, 82. Note an additional reference to 'fish bile' (ZÉ *ša* KU_6) in BAM 579 col. iv 28 concerned with internal illness (see Cadelli 2000, 279, 287).

4 This overlap is primarily based on the shared yellow-green colour, which in Akkadian is the same word ((*w*)*arqu*, SIG_7). The two common terms for jaundice in Mesopotamia are *aḫḫāzu* 'catcher-(demon)' from *aḫāzu* 'to seize, hold a person' and *amurriqānu* from *warāqu* 'to be yellow-green'. Jaundice can cause yellow discolouration of the eyes, the base of the tongue, and the patient's skin. Three causes of jaundice are classified in modern medicine, namely pre-hepatic, hepatocellular, and post-hepatic. Hepatocellular and post-hepatic jaundice concern problems related to the liver and pancreas/gallbladder/bile duct respectively. For these illnesses and the relationship to bile, see Scurlock & Andersen 2005, 32–4, 136–8; Böck 2014, 74, 122–8, 138–9; Scurlock 2014, 522–3. Barbara Böck (personal communication) informs me that jaundice could also be a symptom of, e.g. 'wind' (*šāru*). This is important in the context of the quote from *Enūma Eliš* cited on p.181, where Tiāmat's 'venom' (*imtu*), connected directly to the conceptualization of bile, could cause raging winds (*tebi šāri*).

5 *Imtu* and *martu* were equated in, e.g. Uruanna (Köcher 1978, 35–6 n. 59) and Malku tablet 8 (Hrůša 2010, 144; see also Scurlock 2014, 93 n. 55). Some snake species' venom is clearly yellow, which would reinforce this overlap. For an early example possibly linking bile and a snake, see van Dijk & Geller 2003, 21–2 no. 4 rev. 22. Venom also conceptually overlapped with words for 'spittle, saliva, phlegm' (e.g. *rupuštu*) via the Sumerogram ÚḪ, which designated such fluids, but it could also be read *imtu* (see Civil 2004, 108–9; Abusch & Schwemer 2011, 195). See also the snake incantation in Finkel 1999, 226–7 line 13, *e-li-ta-šu i-pa-ṣí-id ab-na-am*, 'His very spittle can split stone!'. Further association between the yellow colour and snakes can be found in an Old Babylonian incantation stating: '(the snake is) green like Tišpak' (VS 17 no. 4 obv. 2: [*w*]*a-ru-uq ki-ma* ^{d}*Tišpak*, see van Dijk 1969, 540–1; Foster 1996, 129; Wasserman 2010a).

6 For recent discussions of the sections for treating the eyes in the therapeutic series *šumma amēlu muḫḫašu umma ukāl*, see Attia 2015; Panayotov 2016a; 2016b; see also Geller & Panayotov 2020.

7 In a discussion of the Khorsabad reliefs, Linder (1986, 279) stated: 'The fauna in its aquatic environment, is schematically represented. It is therefore, a priori, difficult to ascertain which species the artist wishes to portray.' Trees were illustrated as few, standardized species according to region in the reigns of various Neo-Assyrian kings, thereby attempting to illustrate diversity in landscapes (Thomason 2001, 69–72). See also van Buren (1939, 104) for general considerations on the schematic nature of Mesopotamian representations. Note, however, that Chikako Watanabe (personal communication) has recently discovered three types of lions in Assurbanipal's lion hunt reliefs, which seem to relate to three different subspecies of lions. As emphasized by Watanabe elsewhere, the iconography utilized in the Neo-Assyrian reliefs 'was created with contemporary common knowledge of an ancient society' (Watanabe 2014, 346). Thus, it is plausible that the observers knew what animal was intended, although it could in some cases appear standardized.

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Chapter 17

Wild fauna in Upper Mesopotamia in the fourth and third millennia BC

Anne Devillers

The study of wild paleofaunas is a research field that has significantly developed over recent years, exploring the role that they played in relation to past societies, domestication processes, historical distribution ranges and their importance as bio-indicators in the study of paleoenvironments. With a focus on Upper Mesopotamia in the fourth and third millennia, the image given by glyptic iconography of the contemporary wild fauna is explored and the reliability of this corpus as a data source is discussed through comparison with other available data sources, mainly the archaeozoological record available. A probable model of the fauna of northern Mesopotamia in the fourth and third millennia, based on a predictive paleoecological analysis, is used to evaluate the descriptive value of the iconographic record. The latter proves to offer the same degree of species representativeness as the archaeozoological data, providing however a greater degree of regional and temporal detail due to the larger quantity of sources available. Several convergences and divergences can be noted between the iconographic and archaeozoological data sets, such as a significant difference in the proportion of wild vs. domestic fauna throughout the area and periods considered. The relative representation of animals in local sub-regions also provides useful information on limits of range, habitats, movements, biogeographical processes and symbolic significance of species.

Introduction

Wild faunas are an essential component of the environment of ancient societies, and an accurate evaluation of their composition offers fascinating insights into the interactions between animal and human. Large mammals in particular are excellent indicators of the structure, quality and evolution of an environment. However, data that permit the identification of historical ranges of large mammal species, and thus a reconstruction of regional faunas, are surprisingly scarce. Contemporary data sets are incomplete and each have their specific limitations. For wild animals, written evidence is scarce, archaeozoological data rare and scattered, and the interpretation of iconography is frequently subjective. A multidisciplinary approach combining these sources should allow a better exploitation of them.

This study assesses the potential reliability of animal representations in north Mesopotamian glyptic from the fourth and third millennia as semi-quantitative indicators of the fauna present at that time by examining the iconographic corpus in the light of the present knowledge of large mammals of Western Asia, of the recently accumulated palaeoecological records and of a comprehensive sample of published archaeozoological finds. This approach attempts to answer three questions: what information does glyptic iconography provide on the large fauna of Northern Mesopotamia in the fourth and third millennia? Is this information consistent with the other available data sets? Can glyptic material be considered a reliable indicator for the study of large fauna in Northern Mesopotamia?

The iconographic corpus

The iconographic corpus exploited in this study comprises published seal and sealing images from reliable archaeological contexts in northern Syria attributable to the fourth and third millennia, excluding the late third millennium (EJ IV) due to a significant increase of southern Mesopotamian influence on local glyptic assemblages. LC 5 and EJ III account for most of the data, respectively 33 and 55 per cent of images, which weighs heavily on all chronological interpretations. Altogether, 1802 distinct representations, displayed

Figure 17.1. *Sites of provenance of the iconographic material and regional clusters.*

on 741 archaeological items, originating from 34 sites were included.

To detect geographical trends, the sites from which iconographic data are available are combined into four regional clusters (Fig. 17.1) for which an exhaustive coverage of excavated sites was targeted, Upper Middle Euphrates (13 sites), Balikh (3 sites), Khabur (10 sites) and Lower Middle Euphrates (4 sites), and two neighbouring regions from which a limited sample was examined for comparison, Upper Euphrates (1 site) and Upper Tigris (3 sites). These clusters span several ecological zones, from the arid lowlands in the south to the piedmont of the Taurus and the Zagros in the north and northeast (Sanlaville 2000). The successive vegetation zones (Fig. 17.2) are determined by rainfall parameters, from full desert below 200 mm of rain per year, through steppe, wooded steppe dominated by almond trees and pistachios, and oak park-woodland, to, finally, dense forest above the 500 mm precipitation line (Zohary 1973; Hillman & de Moulins 2000; Moore *et al*. 2000). In the fourth and third millennia, a continuous gallery of riverine forests, today almost entirely cleared, lined the major watercourses and many of their minor tributaries. The boundaries of the zonal vegetation belts fluctuated over time, reacting to variations in climatic conditions. The period under study falls at the beginning of a phase of increasing aridity, still in progress today. Two deep aridity crises have been identified, one around 3500 BC, the other around 2200 BC (e.g. Weiss 2000; 2017; Wilkinson 2004; Ur & Wilkinson 2008; Deckers 2010).

Animal identification in the collected images requires systematic and precise identification criteria for each species. Using modern zoological references (e.g. Castelló 2016) and photographic collections, a set of identification criteria was compiled, selected among those that are both diagnostic and likely to catch the attention of scientifically untrained, but wildlife observant, artists. These criteria were applied with as much consistency as possible, despite the diversity of the styles with which we were confronted. Some representations are highly realistic, clearly showing detailed morphological characteristics, others are highly stylized, emphasizing selected key traits. Figure 17.3 compares the horn shapes of three of the most-often

depicted ungulates, the goitered gazelle, the Bezoar goat and the red mouflon. In realistic representations, the shape of the horns is sufficient to separate them. In stylized representations, a number of criteria such as the tail-carriage or the proportions of the animal, have to be combined to provide a reasonable probability. It is however unrealistic to seek 100 per cent reliability in the identifications and the results of the quantification must be treated as orders of magnitude.

Through this systematic identification process, 15 species[1] were identified with a fair degree of certainty. Of these ten are ungulates, including: five Bovidae, the aurochs (*Bos primigenius*), the Caucasian bison (*Bos caucasicus*), the Bezoar goat *(Capra aegagrus)*, the red mouflon *(Ovis gmelini)*, the goitered gazelle (*Gazella subgutturosa*), three Cervidae, the maral or Persian red deer (*Cervus maral*), the Mesopotamian fallow deer (*Dama mesopotamica*), the western roe deer (*Capreolus capreolus*); one Equidae, the Syrian onager (*Equus hemippus*); one Suidae, the Eurasian wild boar (*Sus scrofa*). The five other species are carnivores: three Felidae, the lion (*Panthera leo*), the leopard (*Panthera pardus*) and the cheetah (*Acinonyx jubatus*); one Canidae, the grey wolf (*Canis lupus*); one Ursidae, the brown bear (*Ursus arctos*).

Among ungulates (Fig. 17.4), the Bezoar goat is overrepresented everywhere, except in the Balikh. This emphasis, which is also placed on its relative, the domestic goat, probably reflects its symbolic significance (Tobler 1950; Dibon-Smith 1989; Mohmadi *et al*. 2016). By contrast, the red mouflon, with probably an equivalent economic importance, is relatively common only in the Upper Tigris and Upper Euphrates, where the hilly landscape was most propitious to its presence and hunting. The occurrences of gazelle representations reflect their plausible distribution range, the large plains of the Middle Euphrates, the Balikh and the Khabur. Wild bovines, or at least bovines clearly recognizable as wild, are rare everywhere. This may in part be due to a difficulty in clearly distinguishing

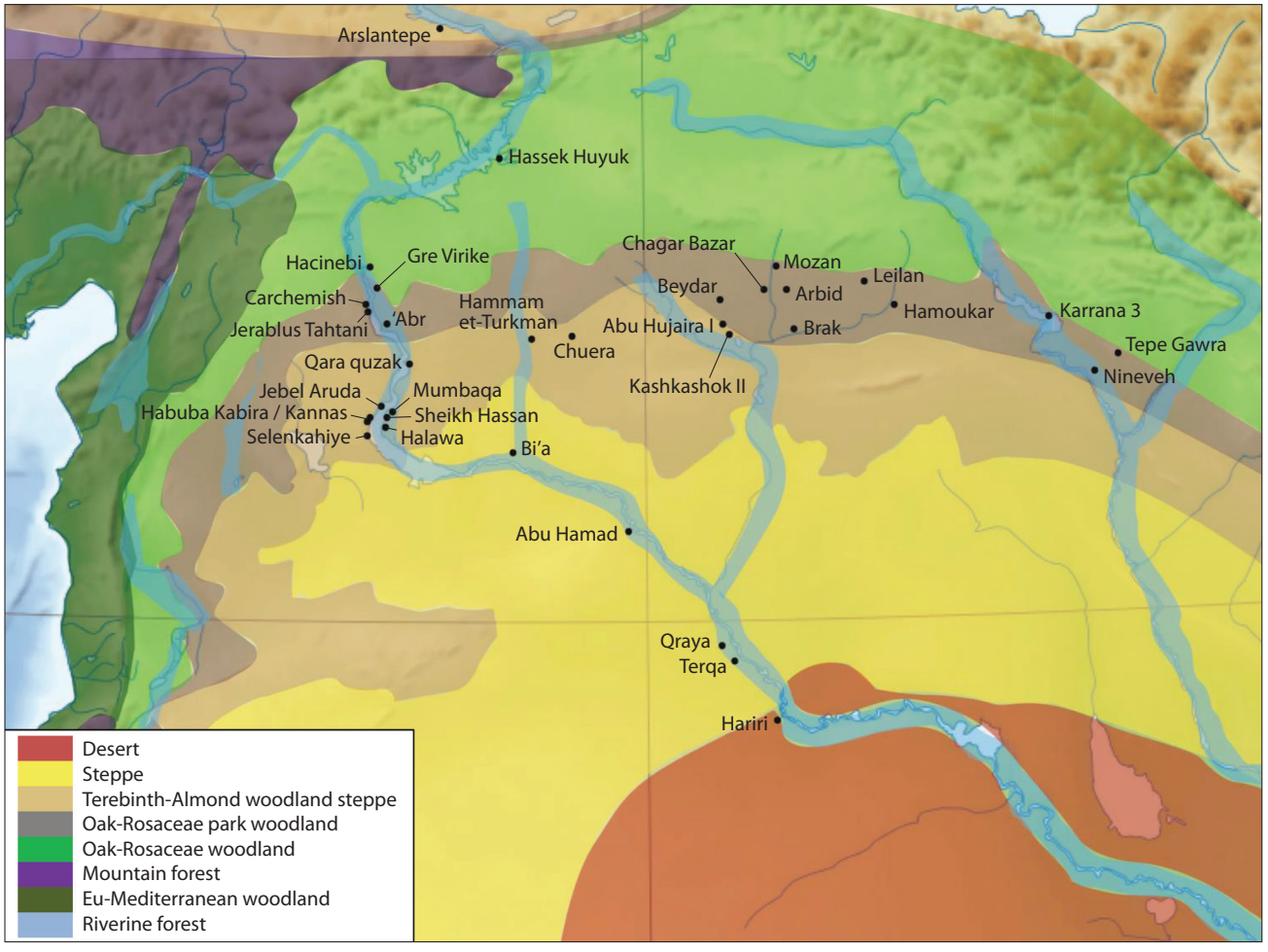

Figure 17.2. *Localization of the sites in relation to potential vegetation zones defined by Hillman in Moore* et al. *2000.*

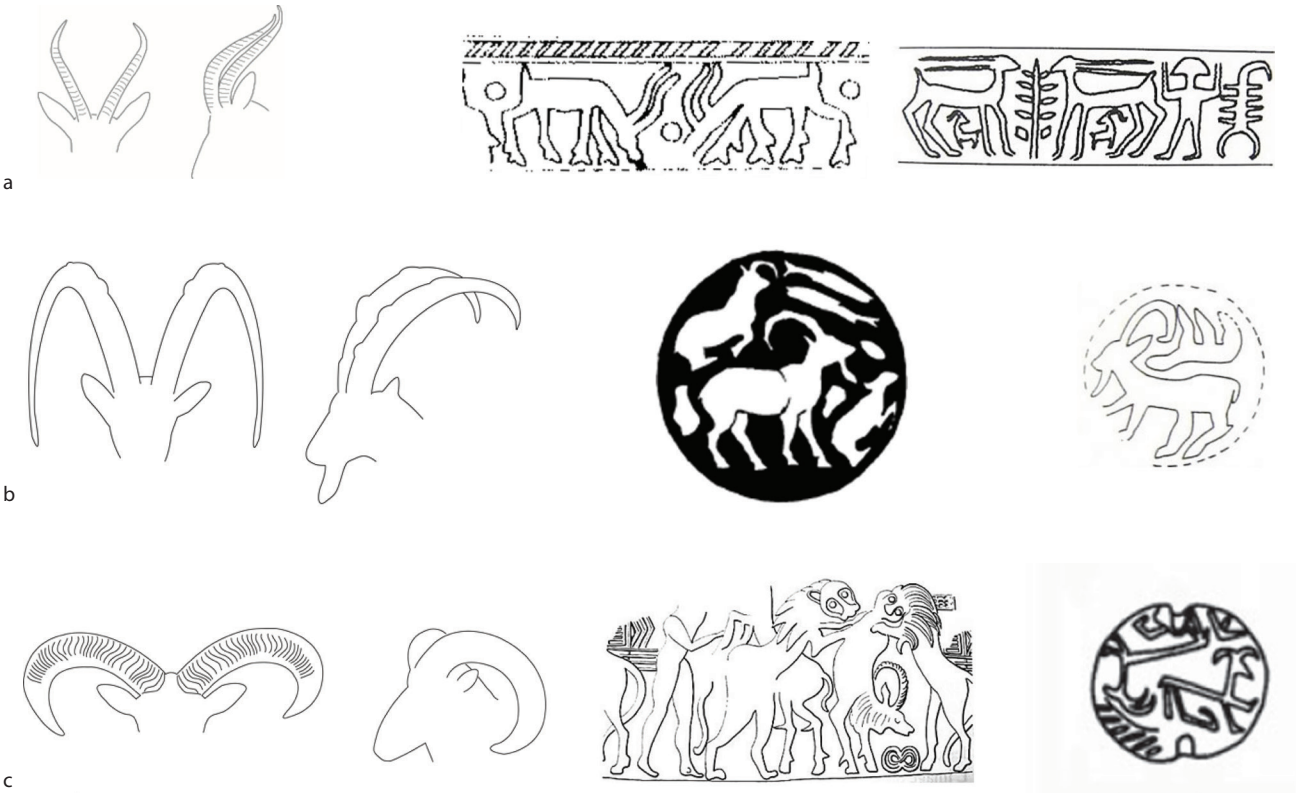

Figure 17.3. *Wild ungulates appearing most frequently in early Near Eastern glyptic: a. Gazelle: Medium-long S-shaped horns; short to medium-length tail, raised when alarmed (Tell Brak TB 12001 (detail), Matthews 1997, 233; Tell Chuera Tkh 21, Marchetti 1998); b. Bezoar goat: Long horns with nodes and a break in the curvature toward the tip ; animal often depicted with a beard or a mane (Tepe Gawra, Tobler 1950, 165; Tell Brak BM 126369, Matthews 1997); c. Red mouflon: Tightly coiled or front facing horns with regular spacing; short tail (Tell Hariri TH00.172, Beyer 2007, fig. 10b; Qara Quzak QQ93C5-91, Felli 2015).*

them from domestic cattle. However, it is likely that the aurochs had already become scarce at this time due to increased pressure from human populations. This could explain their absence from the glyptic of the Lower Middle Euphrates where the zonal vegetation was desert scrub, so that available habitat was limited to a narrow strip of riverine forest along the Euphrates, in which competition with people and domestic herds would have been strong. The bison was identified in only two realistic and one stylized representations, all dating to the fourth millennium (Brak, Gawra, Habuba Kabira).

Cervidae are well represented in all regions. In the Lower Middle Euphrates and the Balikh, the Mesopotamian fallow deer is largely dominant, delimiting a region where deer probably occupied riparian forests only, still well developed at the time and representing the only significant woodland form. In the more varied landscapes of the Khabur, the Upper Middle Euphrates and the Upper Tigris, Mesopotamian fallow deer and maral are more or less equally represented. In the Upper Euphrates, the maral is alone and becomes the most frequently represented wild animal. We are probably here beyond the distribution area of the fallow deer and in the range of still well preserved dense forests, favourable to the maral. In addition, the unusual predominance of the maral, among wild animals in general, in the Arslantepe corpus almost certainly reflects the Anatolian cultural influence.

The very low occurrence of equids is surprising. This could be attributable to a lack of obvious distinctive features or to their strong resemblance to domestic hybrids, more often represented. It could however also reflect a real situation, that of an early scarcity of the species, perhaps a consequence of intensive hunting since Neolithic times. This possibility seems to be supported by the fact that the recorded occurrences come mainly from the Khabur and the Balikh, the only areas where the Syrian onager survived until the nineteenth century. The wild boar seems considerably

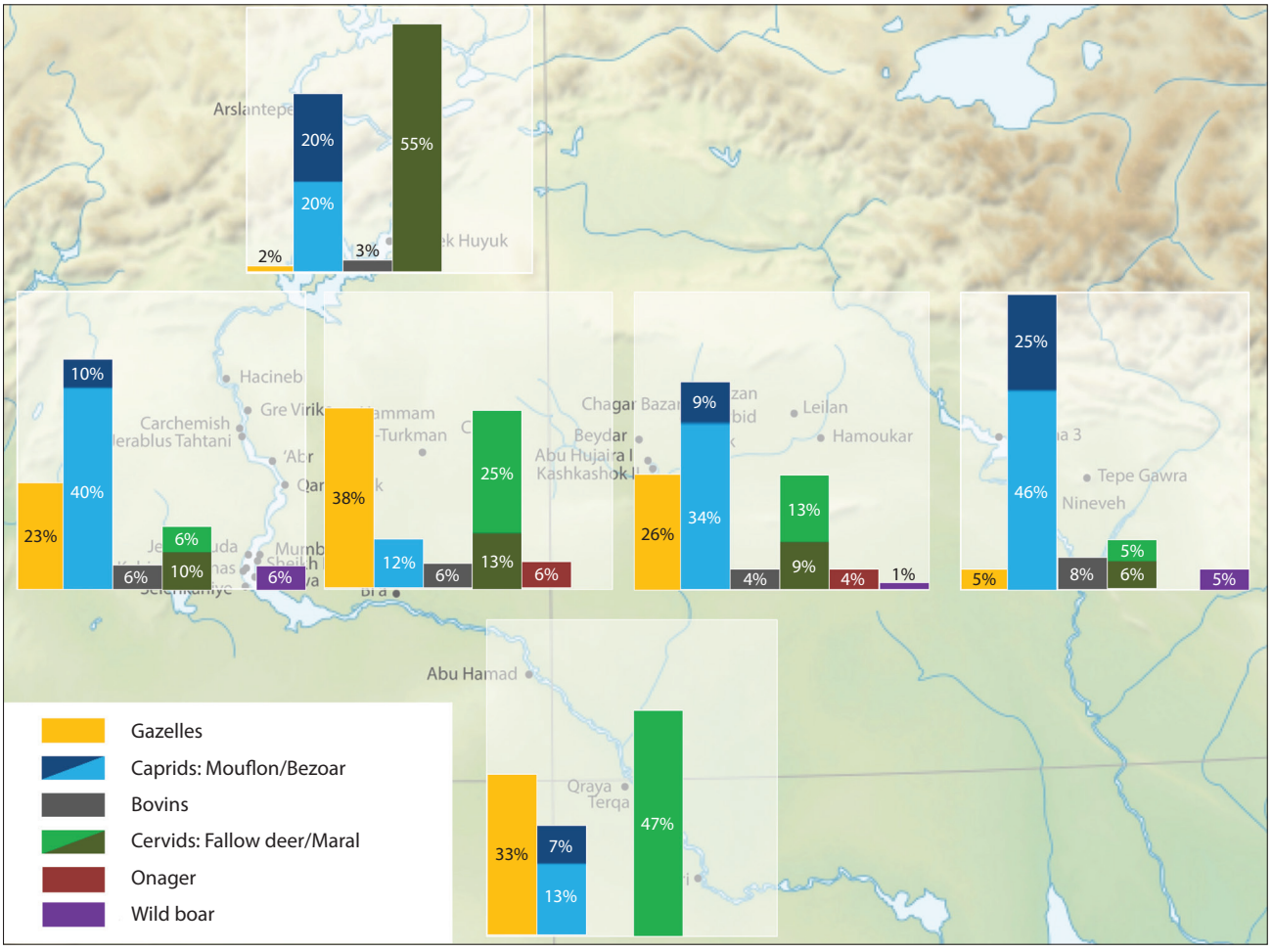

Figure 17.4. *Relative frequency of wild ungulates representations by region (in per cent).*

underrepresented compared to its expected presence. It is difficult to say whether this betrays an actual scarcity or whether there was a reluctance towards depicting it.

In all regions, except the Upper Euphrates and Upper Tigris, the lion is the most represented animal, probably quite disproportionately to its actual presence. The frequency of its representations, expressed in percentage of all representations of wild animals, approaches 50 per cent in the Balikh, is around 60 per cent in the Upper Middle Euphrates and the Khabur, and reaches 75 per cent at Mari in the Lower Middle Euphrates (Fig. 17.5). It certainly owes this place to its status as the largest predator in the area. The frequency of representations and the fidelity of some of them to the appearance and attitudes of the animal nevertheless indicate that it was present in all the Mesopotamian sub-regions throughout the fourth and third millennia, even if in small numbers. In this, the glyptic evidence, while proving consistent with other data sets, also provides a considerable addition to the mostly archaeozoological data that was considered by Schnitzler (2011) in outlining the evolution of the historical range of the lion. Much less fragmentary than the archaeozoological record, always very limited for predators, iconographic samples document a period of arrival of the lion in the Greater Mesopotamian sphere that is compatible with palaeoecological and genetic analyses.

The lion appears to have entered Asia towards the end of the Last Glacial Maximum, around 19,000 BC, the date of genetic divergence of the lineages that lead to the now extinct Barbary lion (*Panthera leo leo*) and the Asian lion (*Panthera leo persica*) (Barnett *et al*. 2014). North African lions are mostly woodland animals. Having entered Asia as a consequence of the emersion of coastal plains during the Last Glacial Maximum, they probably remained confined to the forests of the Levant until after the Younger Dryas when warmer and wetter conditions favoured reforestation (Hillman & de Moulins 2000; Moore *et al*. 2000; Finné & Holmgren 2010).

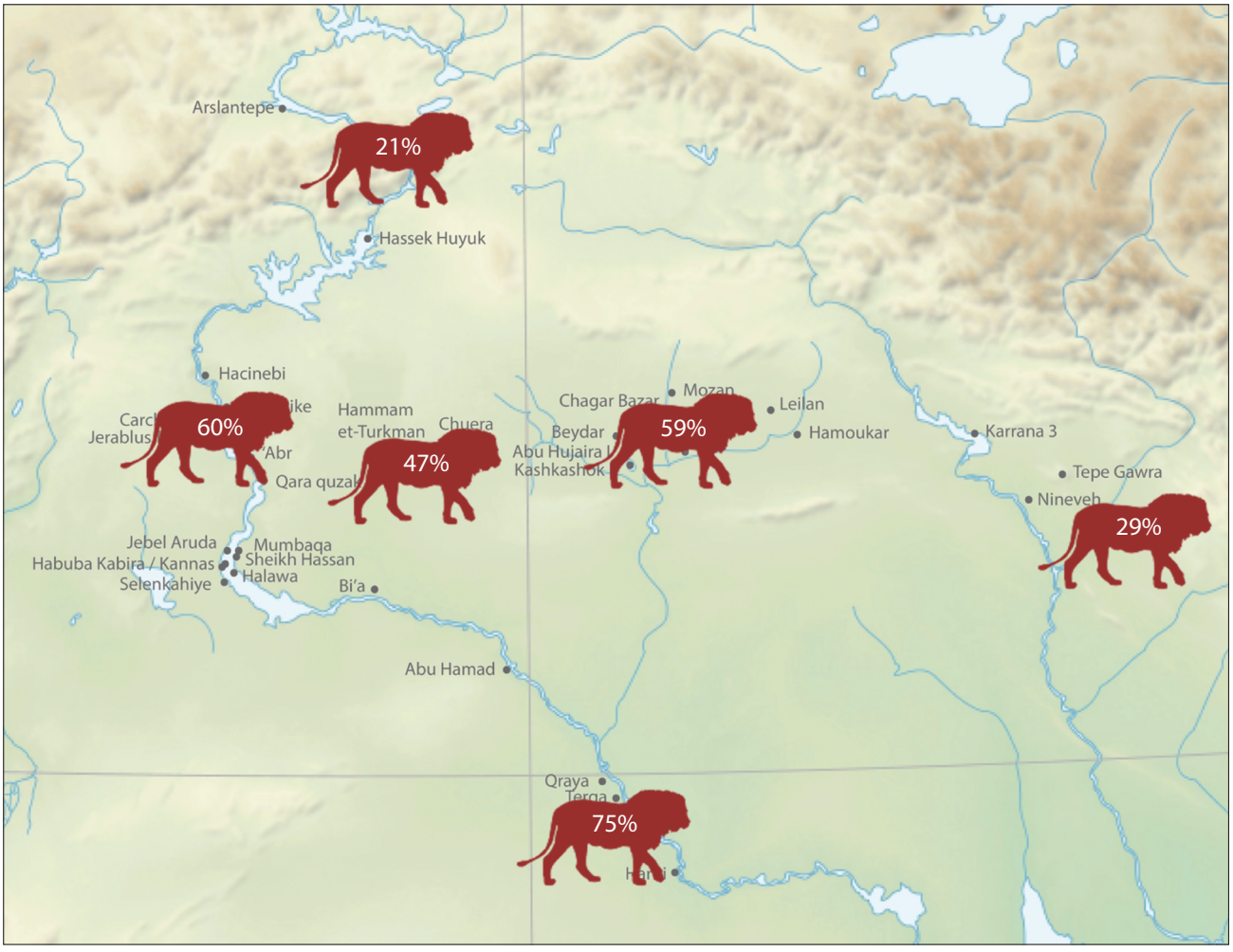

Figure 17.5. *Number of lion representations in each region as a percentage of total number of representations of wild species.*

The species was then able to progressively colonize the Near East, reaching Northern Mesopotamia during the fifth millennium BC. The first glyptic representations are found around 4000 BC in northern Syria, in the Khabur basin and on the Euphrates. Earlier sets of large predator representations from eighth and seventh millennia sites in the upper Euphrates and southern Anatolia do not include lions and instead use leopards in a similar symbolic role. From the fourth millennium on, the lion largely replaces the leopard in the iconography of Northern Mesopotamia and Anatolia, as seen in our corpus. Fewer representations in the Upper Euphrates and Upper Tigris samples than in our core samples probably point to a later arrival and thus a less well-established tradition. In the rock art of the Caucasus, the lion only appears in the third or second millennium (Manaserian 2006) and in Indian art only in the fourth century BC (Divyabhanusinh 2005). Its absence in the Harappean glyptic of the third and second millennia, and replacement by the tiger (*Panthera tigris*), is highly significant and certainly confirms its absence at the time in an area where it now has its last stronghold. As archaeozoological data are scarce for lions, with only one fossil for the Near East from *c*. 5000 BC in Israel, iconography becomes an essential source for understanding the species' history.

Carnivores other than the lion are rare in fourth and third millennium Mesopotamian glyptic (Fig. 17.6). The cheetah or the leopard sometimes replaces the lion in contest scenes, in particular at Mari, Tell Chuera or Tell Beydar, but it is infrequent. The distribution of cheetah representations corresponds to the areas of greatest frequency of gazelle images, the main prey of the Asian cheetah, *Acinonyx jubatus venaticus* (Farhadinia 2007). Nearly all of the sites where these representations were found are situated

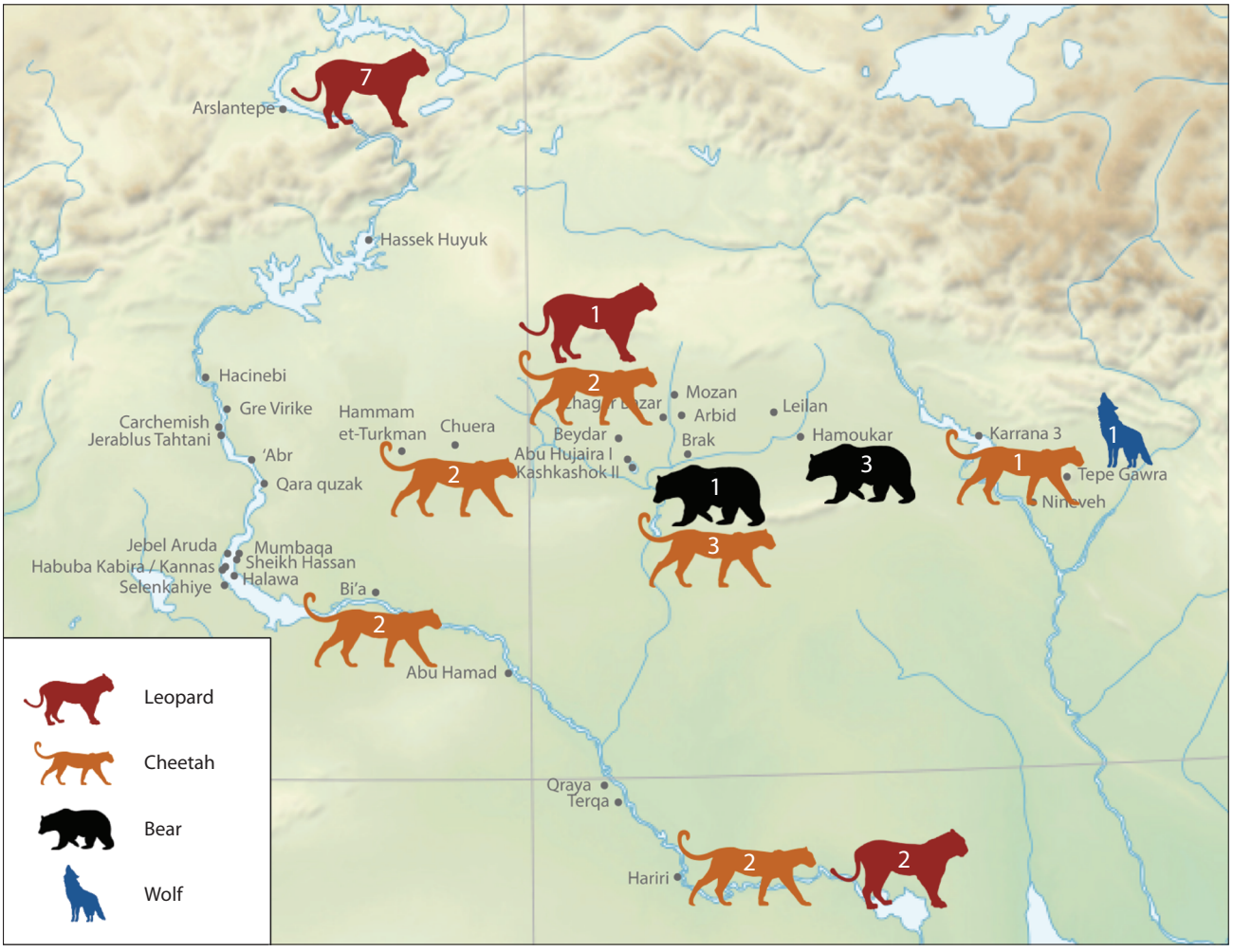

Figure 17.6. *Absolute number of representations of carnivores other than the lion found at sites included in the corpus.*

in areas of steppic plains and plateaus, optimum habitat for the ungulate. It can be noted that the sites of cheetah representations outline the likely paths of gazelle migrations from the Mesopotamian plains to the Anatolian uplands, migrations that have been documented, through isotopic analysis, as early as the tenth millennium (Lang *et al*. 2013). It is in their neighbourhood that structures probably built for mass hunting of gazelles, the 'desert kites' are found (Van Berg *et al*. 2004; Zeder *et al*. 2013).

The almost complete absence of the grey wolf in the corpus examined is noteworthy. This absence may be due to the morphology and behaviour of wolves in Southwest Asia. They are small and specialize in small prey (Hennelly *et al*. 2017). Discreet and nocturnal in their habits, filling a medium-predator rather than a top-predator niche and quite similar to domestic dogs with which they probably often hybridized (Vilá *et al*. 2005), they may have been less interesting to represent, less captivating to the imagination than more northern ones which figure prominently in the art of the steppes.

The archaeozoological record

The only other major source of data on ancient faunas is the archaeozoological record. Unfortunately for our purpose, in the case of northern Mesopotamia, it is strongly biased towards domestic species. Wild species make up barely 10 per cent of the assemblages, while they accounted for 51 per cent of the glyptic corpus. The dominance of domestic animals in the archaeozoological samples is indicative of a subsistence economy mostly based on animal husbandry rather than on hunting. Exceptions are found locally, as in fourth millennium sites of the Khabur and the Balikh that yield an abundance of gazelles and onagers. This

probably reflects the persistence of mass hunting traditions, also indicated by the proximity to some of the sites of identified 'desert kites'.

Species that are not hunted regularly, such as carnivores, are anecdotal everywhere. The lion is found in the Euphrates, Khabur and Balikh valleys. The leopard is even rarer, present only in the Euphrates and the Khabur. The cheetah is entirely absent. The Eurasian lynx (*Lynx lynx*) is found at one site in the Upper Middle Euphrates, the brown bear at two sites in the Upper Euphrates and the Upper Middle Euphrates. The most commonly found carnivore is the striped hyena (*Hyaena hyaena*), probably a consequence of its commensal behaviour.

A hypothetical potential fauna constructed through predictive niche evaluation

To assess the pertinence of the picture of the fauna depicted by the iconographic record and the archaeozoological assemblages, a method inspired by the philosophy and conceptual approach of predictive modeling of species distributions was adopted. This modeling consists in predicting the distribution of a species at a given period based on its current known distribution. The methodology was developed for the prediction of future distributions under climate change scenarios and has become a widely used tool in the disciplines of natural resource management and conservation biology (e.g. Ehrlén & Morris 2015; Hällfors *et al*. 2016). It has recently been suggested to use it more frequently in disciplines related to paleoecology, for the reconstruction of ancient distributions (Franklin *et al*. 2015). Its practical application has, from the onset, used algorithms accessible only to computers and is therefore considered a branch of bioinformatics. We have not used its formalism and algorithms, given the very heterogeneous distribution in time and space of the available data, but we have adopted its qualitative approach. We have incorporated directly into the process the data which, in the computer methodology, are used to calibrate or validate the results, that is the ancient data likely to shed light on the evolution over time of the ecological niches, the local adaptation potential of animal populations and the barriers to dispersion. Thus conceived, the method is parallel to that used by Hillman for the reconstruction of early Holocene vegetation (Moore *et al*. 2000). It produces an ecologically and biogeographically plausible model of the potential fauna of the region.

All large mammal species susceptible of being present in the fourth and third millennia in Upper Mesopotamia were considered. For extinct species, we checked if reliable indices of survival until the fourth millennium existed for the Mesopotamian sphere and if favourable environments existed within Mesopotamia at the time. For the other species, we examined the current range or, for species that have undergone a very recent regression, the range described by modern faunal inventories. We identified the ecological parameters that characterize these ranges. We then projected these parameters on the ecological reconstructions available for the period, which made it possible to define a potential range. And finally, we verified the likelihood of the occupation of this range on the basis of the archaeozoological, iconographic and textual data available for Mesopotamia and the neighbouring regions before, during and after the fourth and third millennia.

The resulting description of the potential megafauna comprises 17 species or species groups, 10 ungulates and seven carnivores, more or less strongly linked to the vegetation belts or to specific habitats within them (Table 17.1). The aurochs and four carnivores, the lion, the leopard, the grey wolf and the striped hyena are relatively ubiquitous and can potentially occur in nearly all vegetation belts, though for the aurochs the steppe is marginal. Onagers are strongly linked to steppe grasslands, the Syrian onager in the Mesopotamian basin, the Persian onager in the more humid steppes of the periphery of the basin. The cheetah and its main prey, the goitered gazelle, also have their preferential habitat in the steppe, with incursions into the wooded steppe. The wild boar occurs in all

Table 17.1. *Predicted presence of large mammals in the different vegetation belts. Species in parentheses would be occasional.*

Vegetation belts	Species
Desert / Steppe	*(Bos primigenius), Gazella subgutturosa, Equus hemippus, Panthera leo, Panthera pardus, Acinonyx jubatus, Canis lupus, Hyaena hyaena*
Wooded steppe	*Bos primigenius, (Gazella subgutturosa), Panthera leo, Panthera pardus, (Acinonyx jubatus), Canis lupus, Hyaena hyaena*
Park-woodland	*Bos primigenius, Bos caucasicus, Ovis gmelini, Cervus maral, Capreolus capreolus, Sus scrofa, Panthera leo, Panthera pardus, Lynx lynx, Canis lupus, Hyaena hyaena, Ursus arctos*
Forest	*Bos primigenius, Cervus maral, Capreolus capreolus, Sus scrofa, Panthera leo, Panthera pardus, Lynx lynx, Canis lupus, Hyaena hyaena, Ursus arctos*
Riverine forests	*Bos primigenius, Cervus maral, Dama mesopotamica, Capreolus capreolus, Sus scrofa, Panthera leo, Panthera pardus, Canis lupus*
Escarpments and rocky outcrops	*Capra aegagrus*

wooded belts, from wooded steppe to dense forest, as well as in riverine forests. Maral and roe deer thrive in park woodland, dense forest and riverine forest. Other species have a more limited habitat spectrum. The bison and the red mouflon were probably most commonly found in the park-woodland zone, the brown bear and the Eurasian lynx in the park woodland and the dense forest. The Mesopotamian fallow deer favours riverine galleries while the wild goat prefers steeper terrain and would have been found in rocky escarpments throughout the area.

Conclusions

The predictive evaluation identified 17 species that had a high probability of presence in northern Mesopotamia in the fourth and third millennia. Of these, 15 were found in the glyptic corpus. The two missing species are the lynx, an extremely discrete predator that even modern surveys very often overlook, and the striped hyena, a scavenger that may have elicited cultural prejudice. The archaeozoological samples also yielded 15 species, 13 of which are common to the iconographic record. The missing species are the bison and the cheetah. Overall, at the regional scale and from a qualitative point of view, both iconography and archaeozoology provide a fair picture of the composition of the contemporary palaeofauna. The two records are complementary, and combining them improves the image, clearly because they proceed from distinct sectors of human interactions with animals.

At a finer scale, that of the subregions defined, and from a quantitative point of view, the glyptic record seems to give a more accurate account of regional differences. The relative frequencies of representations of ungulate species in the various regions are more in accordance with their predicted abundance than their corresponding share of archaeozoological samples. The expected details of the ranges of carnivores are better detected even though their frequency of representation much exceeds their predicted abundance. Only for the wild boar do both indicators apparently fail in delivering a coherent picture.

For individual species, the iconographic record is often highly significant. Of 15 species depicted, only three, the goitered gazelle, the wild boar and the grey wolf survive in northern Mesopotamia. For the other 12, now extinct in the region, the glyptic is an essential source of information on the extent of their historical range, a parameter of great importance in faunal restoration efforts. For some of these species, the glyptic record is the only reliable indicator for the validation of palaeoecological predictive models. Thus, most modern zoological references place the southern limit

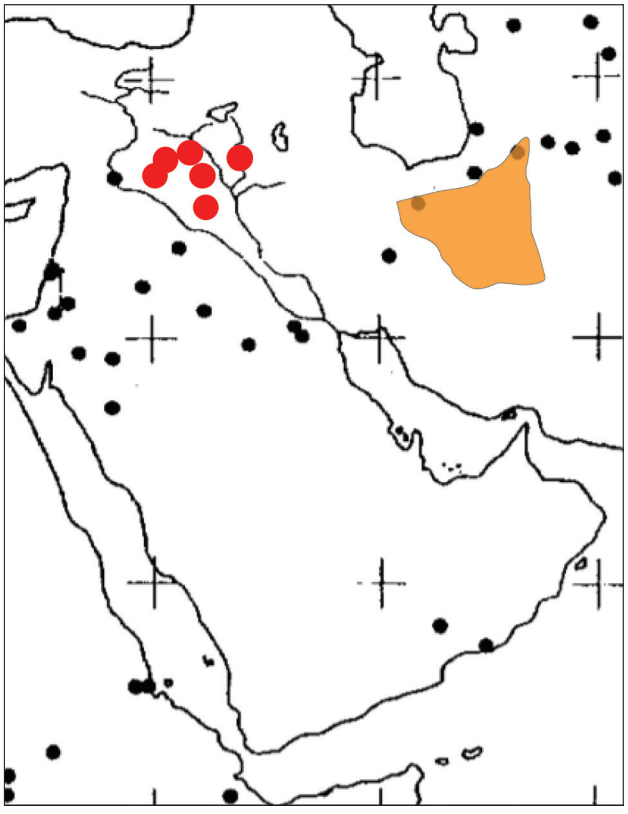

Figure 17.7. *Historic range of the cheetah showing records collected by Harrison & Bates 1991 in black. Coloured area: current distribution. Red dots: Cheetah occurrences documented by our corpus.*

of the combined historic ranges of the European bison (*Bos bonasus*) and its very close relative, the Caucasian bison in the Caucasus. Indeed, no palaeontological finds exist south of the Caucasus, in part because of the difficulty of identification of post-cranial remains in *Bos* (Vila 1998). However, Boehmer (1965) convincingly demonstrated, as part of his exhaustive analysis of Akkadian glyptic, the presence of the species south to the Zagros throughout the fourth and third millennia, an observation confirmed by our finds in the Taurus piedmont.

The Asian cheetah is also a good illustration of the importance of iconographic data, even when these are scarce. Currently the animal only survives in a very limited area of the Iranian plateau (Ahmadi *et al*. 2017). Harrison & Bates (1991) inventoried the accounts of cheetah sightings by travellers and naturalists from the nineteenth and early twentieth century throughout the Near East (Fig. 17.7). They had no data for Upper Mesopotamia. No archaeozoological records exist for earlier periods. The six cheetah occurrences in our corpus enable us to fill the gap.

Acknowledgements

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Note

1 Taxonomy and nomenclature of ungulates follows Groves & Grubb 2011, of other mammals Wilson & Reeder 2005.

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Part VI
Symbols of power: birds

Chapter 18

Waterfowl imagery in the material culture of the late second millennium BC Southern Levant

Ben Greet

Throughout the history of the Southern Levant, waterfowl have provided a fascination for the cultures that have inhabited the region, which is why images of waterfowl are often found within the region's material culture in a variety of periods. Waterfowl iconography appears on strainer handles in the Persian period; reliefs of the Roman period; church mosaics of the Byzantine period; and in the bathhouses of caliphs in the Early Islamic period. But the first instance of this fascination began in the late second millennium BC (from the Late Bronze Age to the Iron Age I), when waterfowl iconography started to occur more frequently on stamp seals, ceramic vessels, and ivory objects across the region.

Whilst this material has previously been examined in excavation reports or other thematic studies of specific materials (e.g. ivory), the aim of this study is to examine this material as a group to determine what symbolic meaning the image of the waterfowl had within the societies of the Southern Levant during the late second millennium BC. To achieve this, each category of material culture (seals, ceramic vessels, and ivory objects) will be analysed to determine the interrelation between the specific waterfowl iconography displayed on these objects and both their contexts and possible function. Two conclusions about the meaning of this waterfowl iconography are then explored: (1) that they served as religious symbols and were connected to the spread of Egyptian religious beliefs within the region; and (2) that this imagery served as a marker of elite status through the material chosen (e.g. ivory), the position of waterfowl as an elite foodstuff, and its close relationship to Egyptian power.

The material

Seals

During the late second millennium BC, waterfowl imagery is found on three categories of seals: scarabs, plaques, and waterfowl-scaraboids. These seals performed two simultaneous functions: (1) they were magico-religious objects, serving simultaneously as magical amulets and focuses of religious worship; (2) they were attached to personal identity, with each seal's iconography used to symbolize an individual in legal and economic transactions (Keel 1995, 266, § 703ff; Ameri *et al.* 2018, 4–6). Table 18.1 details the waterfowl iconography from the first two categories of seals: scarabs and plaques. Before discussing this iconography, it is worth detailing the inherent symbolism present in scarab seals. Whilst scarabs were not the only animal chosen for this type of seal, they were the most popular. This popularity may stem from the symbolism of the dung beetle within Egyptian society, where it represented the concepts of death and rebirth. This association was likely based on the behaviours of the dung beetle (Baker 2012, 28–9 with references). These beetles often feign death and could therefore be seen miraculously 'returning' to life. We can reasonably assume that this symbolism followed the image of the scarab from Egypt into the Southern Levant. For one, dung beetles are found outside of Egypt and therefore their behaviour, including their ability to 'regenerate', would also be known outside of Egypt. Additionally, this connection to death and rebirth explains the inclusion of scarab seals within the standard 'funeral kit' of the Southern Levant (Baker 2012, 28–30).

The data in Table 18.1 shows that the waterfowl iconography of these seals almost always represented a waterfowl as part of two hieroglyphic formulae: (1) 'Son of Ra' or (2) 'Son of Amun' (Fig. 18.1; see Hölbl 1979 for an expanded examination of this formula on seals in Egypt and the Southern Levant). Both these formulae had political and religious connections with Egypt by referencing the Egyptian pharaoh through his divine lineage (either Ra or Amun), with some examples mentioning specific pharaohs (Table 18.1:

Table 18.1. *Scarabs and plaques with waterfowl iconography.*

No.	Site	Type	Context	Date – Production / Context (Absolute Range)	Iconography	Translation	References214
1	Tell el-ʿAjjul	Plaque	Grave	18th Dynasty / LB IIA (*c.* 1550–1300 BC)	Side 1: Goose, Sun, Nefer / Side 2: Uraeus, Maat feather	Side 1: 'Perfect is the Son of Ra' / Side 2: Divine authority & Justice	Petrie 1931, 7, pl.14.128; Keel 1997, 146, Tell el-'Aǧul No. 122
2	Tell el-Ḥesi	Scarab	Street	18th Dynasty / LB I–IIA (*c.* 1550–1300 BC)	Goose, Men, Nefer	'Perfect is the son of Amun'	Bliss 1898, 79, fig. 117; Keel 2013, 650, Tell el-Ḥesi No. 3
3	ʿAra	Scarab	Tomb	18th Dynasty (*c.* 1550–1292 BC)	Goose, Men, Nefer	'Perfect is the son of Amun'	Ben-Tor & Keel 2014, 202, fig. 8.24; Keel 2017, 568, Kefar Ara No. 24
4	Tell el-ʿAjjul	Plaque	Palace	18th Dynasty / unclear (*c.* 1550–1292 BC)	Side 1: Goose, Men, Nefer / Side 2: Lying caprid	Side 1: 'Perfect is the son of Amun'	Petrie 1932, 9, 55, pl. 8.111; Rowe 1936, No. S. 26; Keel 1997, 208, Tell el-'Aǧul No. 314
5	Deir el-Balaḥ	Plaque	Unknown	18th Dynasty / unclear (*c.* 1550–1292 BC)	Side 1: Goose, Men, Nefer / Side 2: Rosette	'Perfect is the son of Amun'	Keel 2010a, 430, Der el-Balah No. 70
6	Tell el-ʿAjjul	Scarab	Grave	18th Dynasty / LB II (*c.* 1550–1200 BC)	Goose, Sun, Blossom/Lotus(?)	'Son of Ra' *or* Encoded name of Amun	Petrie 1932, 56, pl. 7.11; Keel 1997, 176, Tell el-'Aǧul No. 214
7	Tell el-ʿAjjul	Plaque	Grave	18th Dynasty / LB II (*c.* 1550–1200 BC)	Side 1: Hieroglyphic formula / Side 2: Goose, Amun, Nfr	Side 1: 'There is no refuge for the heart except Amun-Re' / Side 2: 'Perfect is the Son of Amun'	Keel 1997: Tell el-'Aǧul No. 274
8	Lachish	Scarab	Street	18th–19th Dynasties / LB IIB (*c.* 1550–1200 BC)	Goose, Men, Nefer	'Perfect is the son of Amun'	Tufnell 1958, No. 266, pl. 37:266, 38:266
9	Megiddo	Scarab	Tomb	18th–19th Dynasties / LB IIB (*c.* 1550–1200 BC)	Goose, Men, Nefer	'Perfect is the son of Amun'	Guy 1938, pl. 131:10
10	Tell el-ʿAjjul	Plaque	Grave	18th Dynasty / LB IIA (*c.* 1540–1300 BC)	Side 1: Goose, Men, Cartouche of Thutmosis IV	Side 1: 'Thutmosis IV, son of Amun-Ra' / Side 2: 'There is no sanctuary for the heart except Amun-Ra'	Petrie 1932, 56, pl. 7.21; Rowe 1936, no. S. 40; Keel 1997, 178, Tell el-'Aǧul No. 224
11	Hebron	Scarab	Tomb	18th Dynasty / Late Bronze Age (*c.* 1540–1130 BC)	Goose, Men, Cartouche of Thutmosis IV	'Thutmosis IV, son of Amun'	Keel & Münger 2004, 240, 255, pl. 8.16; Keel 2013, 638, Hebron No. 4
12	Tell el-Farʿa (South)	Scarab	Grave	18th–19th Dynasties / LB IIB–Iron IA (*c.* 1479–1070 BC)	Goose, Sun, Nefer	'Perfect is the son of Ra'	Petrie 1930, pl. 22.181; Keel 2010b, 90, Tell el-Far'a-Süd No. 148
13	Tell Beit Mirsim	Plaque	Tomb	18th Dynasty / LB II (*c.* 1450–1200 BC)	Both sides: Goose, Sun, Nefer	'Perfect is the Son of Ra'	Brandl 2004, 132, No. 14, 170, fig. 3.14; Keel 2010a, 74, Bet-Mirsim No. 70
14	Tell Beit Mirsim	Plaque	Tomb	18th Dynasty / LB I–Iron I (*c.* 1427–1000 BC)	Side 1: Goose, Men, Cartouche of Amenophis II / Side 2: Nefer	Side 1: 'Amenhotep II, son of Amun' / Side 2: 'Perfect'	Brandl 2004, 142, No. 38, 182, fig. 3.38; Keel 2010a, 84, Bet-Mirsim No. 93

Table 18.1 *(cont.).*

No.	Site	Type	Context	Date – Production / Context (Absolute Range)	Iconography	Translation	References214
15	Tell el-ʿAjjul	Scarab	Tomb	18th Dynasty / LB I–IIA (*c*. 1426–1300 BC)	Goose, Winged uraeus	Son, Justice	Petrie 1932, pl. 7.60, 57; Rowe 1936, no. 576; Keel 1997, 190, Tell el-ʻAǧul No. 263
16	Tell el-ʿAjjul	Scarab	Grave	Mid–18th Dynasty / LB IIA (*c*. 1400–1300 BC)	Goose, Men, Nefer	'Perfect is the son of Amun'	Petrie 1932, 57, pl. 7.48; Keel 1997, 186, Tell el-ʻAǧul No. 251
17	Deir el-Balaḥ	Scarab	Unknown	Mid-18th–19th Dynasties / unclear (*c*. 1400–1190 BC)	Goose, Men, Nefer	'Perfect is the son of Amun'	Keel 2010b, 424, Der el-Balah No. 54
18	Bethany	Scarab	Unknown	Mid-18th–19th Dynasties / unclear (*c*. 1400–1190 BC)	Goose, Men, Nefer	'Perfect is the Son of Amun'	Keel 2010b, 18, Betaniēn No. 9
19	Beth Shean	Scarab	Surface	Mid-18th–19th Dynasties / unclear (*c*. 1400–1190 BC)	Goose, Men, Nefer	'Perfect is the Son of Amun'	Keel 2010b, 180, Bet-Schean No. 189
20	Tell Jemmeh	Scarab	Unknown	Mid-18th–20th Dynasties / unclear (*c*. 1400–1150 BC)	Goose, Men, Uraeus, Nefer	'Perfect is the [royal] son of Amun'	Rowe 1936, No. 648; Keel 2013, 16, Tell Jemmeh No. 37
21	Beth Shean	Plaque	Temple	Mid-18th–19th Dynasties / LB IIB–Iron IA (*c*. 1400–1070 BC)	Side 1: Goose, Mn, bird / Side 2: Two scorpions	Side 1: 'Amun'	Rowe 1940, 19, 21, 85, pl. 38.6; Keel 2010a, 108, Bet-Schean No. 28
22	Gezer	Plaque	Unknown	Amenophis III / unclear (*c*. 1390–1353 BC)	Side 1: Goose, Sun, Cartouche of Amenophis III / Side B: Hieroglyphic script, Cartouche	Side 1: 'Amenhotep III, son of Ra' / Side 2: 'Amenhotep, beloved of Ptah, Lord of Truth'	Keel 1995, 90, fig. 153; Keel 2013, 456, Gezer No. 676
23	Gezer	Scarab	Grave	Amenophis III / LB I–II (*c*. 1390–1200 BC)	Goose, Men, Cartouche of Amenophis III	'Amenhotep III, son of Amun'	Macalister 1912 I, 320; II, 319, No. 175; III, pl. 80.21; Keel 2013, 200, Gezer No. 76
24	Gezer	Scarab	Street	19th–20th Dynasties (*c*. 1292–1075 BC)	Goose, Sun, Figure	'Son of Ra'	Macalister 1912 II, 327, No. 341; III, pl. 208.27; Keel 2013, 352, Gezer No. 424
25	Beth Shean	Scarab	Street	19th–20th Dynasties / Iron IA (*c*. 1292–1070 BC)	Goose, Sun, Maat feather	'Perfect is the Son of Ra'	Keel 2010a, 204, Bet-Schean No. 238
26	Tell el-Farʿa (South)	Scarab	Grave	19th–20th Dynasties / LB IIB–Iron IA (*c*. 1292–1070 BC)	Goose, Sun, Nefer	'Perfect is the son of Ra'	Starkey & Harding 1932, 24, pl. 52.178; Keel 2010b, 288, Tell el-Far'a-Süd No. 608
27	Tell el-Farʿa (South)	Scarab	Grave	19th–20th Dynasties / LB IIB–Iron IA (*c*. 1292–1070 BC)	Goose, Sun, Maat feather	'Perfect is the Son of Ra'	Keel 2010b: Tell el-Farʿa-Süd No. 812
28	Tell el-Farʿa (South)	Scarab	Room	19th–22nd Dynasties / Iron IIB–IIC (*c*. 1292–1070 BC)	Goose, Sun, Vertical line, Nfr	'Perfect is the Son of Ra'	Keel 2010b: Tell el-Farʿa-Süd No. 411
29	Ashkelon	Scarab	Surface	20th–22nd Dynasties (*c*. 1190–713 BC)	Goose, Sun, Milk jug	'Loved by the Son of Ra'	Keel 1997, 692, No. 10, Aschkelon No. 10
30	Beth Shean	Scarab	Open Area	Iron I (*c*. 1130–980 BC)	Goose, Sun, Plant	'Son of Ra'	Keel 2010a: Bet-Schean No. 65

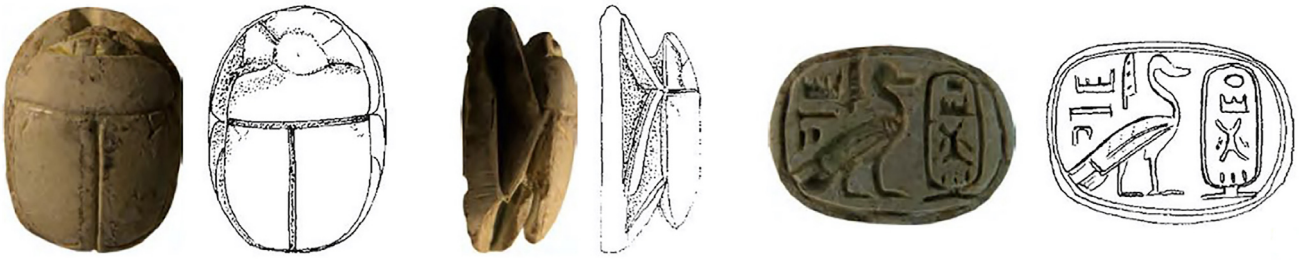

Figure 18.1. *Scarab/Plaque No. 8. Enstatite scarab seal from Hebron. On the left side of the sealing surface is the epithet 'Son of Amun(-Re)', featuring a waterfowl hieroglyph. On the right side of the sealing surface is a cartouche with the throne name of Thutmosis IV inside. Image from Keel 2013, 638, Hebron No. 4. Image reproduced with permission.*

Nos. 10–11, 14, 22–23). Simultaneously, invoking Ra/Amun links the waterfowl image with these gods. This is especially the case with Amun, as he was directly associated with the goose, with some Egyptian traditions naming him in goose-like terms like 'the Great Cackler' or as the god who laid the egg that birthed the cosmos (Houlihan 1986, 64–5; Koch 2014, 164). Furthermore, a plaque from Beth Shean (Table 18.1: No. 21) uses the image of the goose within a phonetic spelling of Amun's name (this may also be the case on a seal from Tell el-ʿAjjul [Table 18.1: No. 6]).

Table 18.2 details the waterfowl-scaraboids uncovered across the Southern Levant (Fig. 18.2). The majority are carved to resemble a sleeping waterfowl with its head turned backwards, resting on its body. It is possible that carving a waterfowl in the same manner as a dung beetle on these seals indicates that waterfowl iconography had a similar meaning to that of the scarab, i.e. of death and rebirth. However, waterfowl were not the only other animals to be portrayed. Keel (1995, 67–72, § 146–60) lists the other species that were popular animal-scaraboids in the late second millennium BC, which included apes, caprids, fish, frogs, hedgehogs, cats, and lions. Clearly, not all these animals (e.g. apes, caprids, lions, cats, fish) can be associated with the concepts of death and rebirth like the scarab. However, only a limited number of species were chosen for representation in this manner, which implies they had some type of symbolic significance for the individuals who used them. Considering the known religious symbolism of some of these species in Egypt (e.g. the cat) and the inherent amuletic nature of stamp seals, we can posit that these species still performed a similar magico-religious function that the scarab did on other seals. Additionally, whilst not the majority, some of these other species were also connected to the concepts of death and rebirth (e.g. the frog through its metamorphosis and the hedgehog through annual hibernation). Thus, as stated above, it is still plausible that the waterfowl imagery on these scaraboids was being used in the same manner as the scarab, i.e. to symbolize death and rebirth. Alternatively, Keel (1995, 71, § 158) posits a link between the waterfowl-, frog-, and cat-scaraboids and the worship of Hathor. Some evidence for this connection could be provided by the waterfowl-scaraboid with a Hathor fetish on its base found at Gezer (Fig. 18.2; Table 18.2: No. 7). Finally, the majority of these waterfowl-scaraboids date to the Eighteenth Dynasty (*c.* 1550–1292 BC), the same date as the increased frequency of the goose hieroglyphs in the region. This possible link between the Eighteenth Dynasty and waterfowl iconography is increased through the position of Amun as the dynasty's patron deity and Amun's strong association with the goose.

Figure 18.2. *Waterfowl-shaped scaraboid No. 7. Found at Gezer and has a Hathor fetish inscribed on the sealing surface. Image from Keel 2013, 286, Gezer No. 272. Image reproduced with permission.*

Table 18.2. *Waterfowl-shaped scaraboids.*

No.	Site	Context	Date – Production / Context (Absolute Range)	Iconography	Translation	Notes	Reference
1	Acco	Unknown	18th Dynasty / LB I (*c.* 1550–1400 BC)	Nfr and C-spirals			Keel 1997, 628, Akko No. 272
2	Tell el-ʿAjjul	Street	18th Dynasty / LB I (*c.* 1550–1400 BC)	Red crown, Z-spiral	Red crown of Lower Egypt	Waterfowl carved in relief profile, rather than in-the-round	Keel 1997, 246, Tell el-ʻAğul No. 425
3	Tell el-ʿAjjul	Grave	18th Dynasty / LB IIA (*c.* 1550–1300 BC)	Lotus bud(?)			Keel 1997, 514, Tell el-ʻAğul No. 1212
4	Beth Shemesh	Grave	18th Dynasty / LB IIB–Iron IB (*c.* 1550–980 BC)	Red crowns, Djed pillar	Red crown of Lower Egypt, Stability		Keel 2010a, 298, Bet-Schemesch No. 187
5	Tell Abu Hawam	Street	18th Dynasty / Iron I–IIA (*c.* 1550–900 BC)	N/A	'Great Royal Wife'	Found in an Iron Age strata	Keel 1997, 8, Tell Abu Hawam No. 11
6	Beth Shean	Temple	18th Dynasty / LB IIB (*c.* 1479–1200 BC)	Rosette			Keel 2010a, 106, Bet-Schean No. 25
7	Gezer	Street	18th Dynasty / Third Semitic (*c.* 1479–980 BC)	Hathor fetish			Keel 2013, 286, Gezer No. 272

Although much of this waterfowl iconography originated in Egypt, some of these seals suggest a local adaptation of this symbolism in the Southern Levant. Whilst many of these seals may have been imported from Egypt, some are produced within the Southern Levant itself and either reproduce this Egyptian iconography for local use or adapt this Egyptian iconography for their own purposes. Evidence of this adaptation can be seen in the production of scarabs made from composite material, rather than imported Egyptian enstatite (Keel 1995, 147 § 386), and with less technically proficient engravings, which may indicate production outside of large workshops (Table 1: Nos. 1, 6, 13, & 25). Perhaps the best example of this local adaption is one of the waterfowl-scaraboids from Tell el-ʿAjjul (Table 2: No. 2) that is carved in relief profile rather than in-the-round. This style of waterfowl-scaraboid has no known comparandum within Egypt and seems to be a specifically Southern Levantine adapted style of this type of figure-scaraboid. The examples of, not just the adoption, but the adaption of Egyptian waterfowl iconography in these seals demonstrate that the societies of the Southern Levant were not simply borrowing an Egyptian symbol, or that these images were stripped of their meaning in the Southern Levant, but, instead, that these Southern Levantine societies were using and adapting these images for their own purposes.

Ceramic vessels

Numerous fragmentary ceramic bird heads that date to the late second millennium BC have been found across the Southern Levant (Table 18.3). The flat beaks of most of these heads point towards their identification as waterfowl, but a painted example from Beth Shean that strongly resembles a mallard is perhaps the best evidence for this identification (Fig. 18.3; Mazar 2006, photo 9.15b). The scholarly consensus is that these fragmentary heads are linked to the bird-shaped bowls that were found at Tell Qasile, dated between *c.* 1200–1000 BC (Iron Age IB, Fig. 18.4; Mazar 1980, 98–9; 113; James & McGovern 1993, 173; Dothan & Ben-Schlomo 2005, 123; Yahalom-Mack & Mazar 2006, 158–9; Gadot & Yadin 2009, 398; Mazar 2009, 547–50). These bowls have the head of a waterfowl attached to their rim, as well as wings and a tail, and were associated with tall perforated cylindrical stands

Figure 18.3. *Painted ceramic duck head found at Beth Shean. Image from Mazar 2009, XXXIII. Courtesy of A. Mazar.*

Table 18.3. *Fragmentary ceramic waterfowl heads.*

Site	Amount	Context	Date – Period (Absolute Range)	Reference
Tell el-ʿAjjul	1 head	Unknown	Undated, likely Bronze Age	Petrie 1933, 9, pl. XVII
Ashdod	2 heads	Pottery Kiln	Late Bronze Age (*c*. 1550–1200 BC)	Dothan 1971, 131, figs. 66:7–8, 92:7
Beth Shean	1 head	Brick Debris	LB I–IIA (*c*. 1450–1400 BC)	Mazar 2007, 573, fig. 7.2:5
Beth Shean	6 heads	Temple	LB IIA (*c*. 1391–1351 BC)	Rowe 1940, 8–10, pl. XX:13–18
Beth Shean	13 heads	Temple, Domestic	LB IIB (*c*. 1300–1200 BC)	James & McGovern 1993, 172, figs. 86:2–4, 87:1–5, 88:1–4, 89:1–2
Beth Shean	1 head	Domestic	LB IIB (*c*. 1300–1200 BC)	Yahalom-Mack & Mazar 2006, 158–9, fig. 6.1:2
Gezer	1 head	Domestic	LB IIB–III (*c*. 1300–1100 BC)	Dever *et al*. 1986, pls. 61:10, 62:16
Beth Shean	7 heads	Domestic, Street	LB IIB–Iron I (*c*. 1300–1000 BC)	Mazar 2009, 547, fig. 9.17:1–10, photos 9.15a–g
Ashdod	2 heads	Pit	LB IIB–Iron I (*c*. 1300–1000 BC)	Dothan & Freedman 1967, 110, fig. 35:1–2, pl. XVII:11
Ashdod	2 heads	Domestic(?)	LB IIB–Iron I (*c*. 1300–1000 BC)	Dothan & Ben-Schlomo 2005, 123, fig. 3.36:5
Apek-Antipatris	1 head	Mudbrick collapse	LB IIB–Iron I (*c*. 1300–1000 BC)	Gadot & Yadin 2009, 398, No. 4, fig. 12.4
Tell Qasile	1 head	Temple	Iron IA (*c*. 1150–1050 BC)	Mazar 1980, 113, fig. 42:b, pl. 39:6

(Mazar 1980, 99). A similar bowl was recovered from Megiddo and also dates to the last two centuries of the second millennium BC (Iron Age I; Loud 1948, pl. 85.7; Mazar 1980, 96).

These bowls seem to originate from Egyptian prototypes, as similar examples have been found at Deir el-Medina in Egypt, dating to the same period as those from Tell Qasile (Nagel 1938, 172–6; figs. 141–4; Pl. IX). Furthermore, similar fragmentary heads have been recovered from Kom Rabi'a, also in Egypt, which date to the Eighteenth Dynasty, earlier than both the Tell Qasile and Deir el-Medina examples (Giddy 1999, 308–12; Pls. 69.799; 920; 70.1565; 1721; 86.499; 555).[1] The similarity of these Kom Rabi'a examples to those found in the Southern Levant and at Deir el-Medina, plus its earlier date, makes it likely that both the Tell Qasile bowls, and the fragmentary waterfowl heads associated with them, stemmed from Egyptian prototypes.

Figure 18.4. *Three waterfowl-shaped ceramic bowls atop perforated cylindrical stands found at Tell Qasile. Image from Mazar 1980, pl. 33:1. Courtesy of A. Mazar.*

Various contextual elements suggest these bowls were used in ritual activity. First, the examples from Tell Qasile were recovered from a temple and a shrine. Additionally, the perforations in the associated cylindrical stands could indicate the release of smoke/incense, possibly used to enhance the ritual experience or heat up the bowls. Finally, the Deir el-Medina examples were also recovered from a ritual context and showed blackening on their interiors, suggesting the burning of offerings (Nagel 1938, 175; James & McGovern 1993, 173). Thus, as the other fragmentary heads from Table 3 were likely affixed to similar bowls (Mazar 2009, 550), it is probable these also served a ritual function, which explains their appearance within ritual contexts (e.g. at Beth Shean, etc.). Even the fragmentary heads discovered in domestic contexts were likely used in domestic rituals, considering: (1) the rarity of this form of bowl; (2) that later Biblical sources demonstrating evidence of domestic ritual (*Jeremiah* 19:13; 32:29; 44:15–17; *1 Samuel* 23:16; *2 Samuel* 23:16); and (3) that in the previous period (*c*. 2100–1550 BC) the religious life of the Southern Levant was focused on the domestic sphere (Hallote 2002).

Ivory cosmetic boxes

Both complete and fragmentary ivory boxes shaped like waterfowl have been found across the Near East and in the Aegean, with many of these found in the Southern Levant (Fig. 18.5; Table 18.4). These boxes have been identified either as ducks or geese (Ducks: Hayes 1940, 92; Barnett 1982, 20–1; Liebowitz 1987, 14; Lilyquist 1998, 27; Biran & Ben-Dov 2002, 141–2; Ben-Schlomo 2010, 141; Geese: Bryan 1996, 50–2). However, their morphology is too generic to make a certain identification either way.

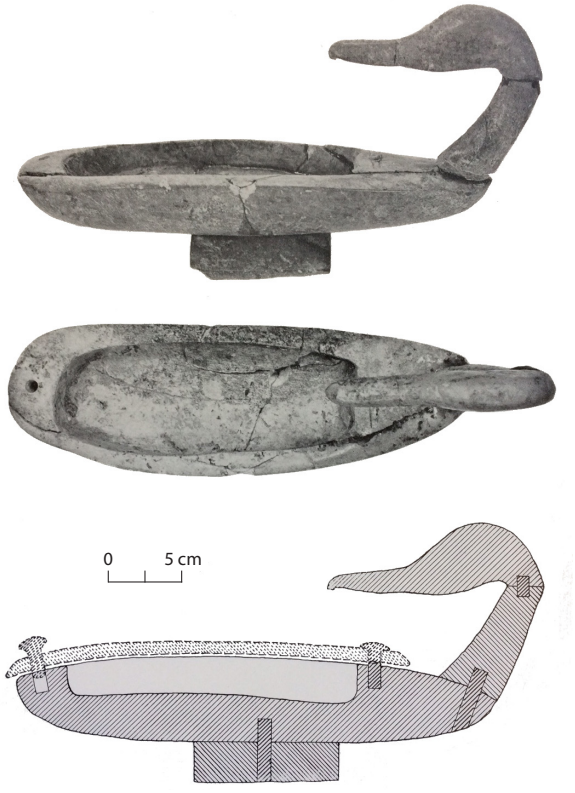

Figure 18.5. *Ivory cosmetic box in the form of a waterfowl found at Megiddo (Guy 1938, pl. 104). Image courtesy of the Oriental Institute of the University of Chicago.*

Whilst ivory boxes originated in Egypt, there are several factors that point towards the origination of this specific style in the Levant: (1) a higher frequency of this style has been found within the Levant (Ben-Schlomo 2010, 141); (2) none of the 'head backward' waterfowl-shaped boxes within Egypt can be dated earlier than those found in the Levant (Lilyquist 1998); (3) ivory did not need to be imported from Egypt for the construction of these boxes, as the Levantine population had access to both hippopotami and elephants locally (Haas 1953; Cakilar & Ikram 2016; Bar-Oz & Weissbrod 2017); (4) the popularity of the alternate 'swimming girl' style of ivory cosmetic box within Egypt suggests that this was the 'standard' style of the box and that the waterfowl-shaped style was introduced later. This all suggests that this style was developed as a local Levantine adaptation of an Egyptian cultural item.

The scholarly consensus is that these objects served as cosmetic boxes (Guy 1938, 188; Hayes 1940, 82; Barnett 1982, 20–1; Liebowitz 1987, 14; Bryan 1996, 50–2; Lilyquist 1998, 27; Biran & Ben-Dov 2002, 141–2; Ben-Schlomo 2010, 141). In order to determine their function and since this form of box originated in Egypt, we can turn to the Egyptian cosmetic tradition of the period. From this, it seems likely that these boxes contained perfumed oils, which were used to distribute a scent around the room (Forman & Manniche 1999, 64). The cosmetic boxes in Table 4 are mostly confined to religious, palatial, and funerary contexts and this function of scent distribution fits with each of these contexts. In Egypt, perfumed oils were used within temple and funerary rituals, even being placed as gifts

Table 18.4. *Waterfowl-shaped ivory cosmetic boxes.*

Site	Context	Date – Period (Absolute Range)	Fragments	Reference
Tall Dayr ʿAlla	Temple	Late Bronze Age (*c.* 1550–1130 BC)	1 head	Van der Kooij & Ibrahim 1989, 92, fig.12
Lachish	Temple	LB IIA (*c.* 1400–1325 BC)	2 bases, 1 head, 1 lid	Tufnell *et al.* 1940, 61–2, nos.10, 19, 21–2, pls. XVII, XIX–XX
Beth Shean	Temple	LB IIA (*c.* 1400–1300 BC)	1 head	Rowe 1940, pl. LIIA:2
Megiddo	Tomb	LB IIA–IIB (*c.* 1400–1200 BC)	Whole box	Guy 1938, 188, pl.104, 142:1
Lachish	Tomb	LB IIA–IIB (*c.* 1400–1200 BC)	1 head	Tufnell 1958, No.6, pl.48:6
Dan	Tomb	LB IIA–IIB (*c.* 1350–1250 BC)	2 bases, 2 wings	Biran & Ben-Dov 2002, 141, nos. 200–5, 207, fig. 1:101, pl. IIIa
Megiddo	Palace	LB IIA–III (*c.* 1380–1140 BC)	1 base, 8 heads, 9 wings	Loud 1939, pls. 12:45–53, 30:157, 45:202–9
Tell el-Farʿa (South)	Tomb	LB III–Iron IA (*c.* 1292–1077 BC)	2 bases	Starkey & Harding 1932, pl. LVII
Tell Qasile	Temple	Iron I (*c.* 1150–1050 BC)	1 base	Mazar 1985, 10–2, fig. 3.1, photo 6

for the dead on their journey to the afterlife (Forman & Manniche 1999, 33–4, 36, 109). Finally, both the contexts of these boxes and their construction from ivory identifies them as luxury products of the elite.

Carved ivory scenes

Two sets of late second-millennium BC carved ivory panels featuring waterfowl were found at Megiddo (Fig. 18.6) and Tell el-Farʿa (South) (Fig. 18.7). They both seem to have been manufactured locally (Bodenheimer 1960, 188; Bryan 1996, 77; Lilyquist 1998; James 2015, 244), possibly from locally sourced ivory. Both panels were likely decorative elements within furniture, such as a chair or bed (Walsh 2016, 198). Some other ivory-inlaid furniture has been found at Ugarit and is dated to a similar period (Feldman 2009, 184). Both were found in elite contexts. The Megiddo panels were found amongst a large deposit of luxury items in the palace structure (Loud 1939, 17, pl. 33.162; Feldman 2009, 177–9) and the Tell el-Farʿa (South) examples were found within an elite 'residency' (Petrie 1930, 19, pl. IV). Both consist of a hybrid of Egyptianizing and Levantine iconography (Bodenheimer 1960, 188; Bryan 1996, 77; Lilyquist 1998; James 2015, 244), with the iconography of both scenes sharing commonalities such as a processional scene with offerings, including captives, leading towards an enthroned figure; attendants accompanying the ruler; birds and other symbols in the interstitial spaces; and the inclusion of waterfowl. However, each group of panels depicts these waterfowl in a different context. Whilst the Megiddo panel shows a procession of waterfowl with attendants, the Tell el-Farʿa (South) panels depict the capture of waterfowl in clap-nets and the transport of trussed birds to the enthroned ruler.

Religious symbols

Several aspects of this material demonstrate that this waterfowl iconography was connected to the religious life of the Southern Levant in the late second millennium BC. The goose hieroglyphs seen on stamp seals, whilst referencing pharaonic power, were simultaneously associated with Ra or Amun. The connection to Amun seems particularly strong, due to the links between the goose and Amun in Egyptian mythology and the inclusion of the goose in the phonetic spelling of the god's name. These goose hieroglyphs also formed part of the magico-religious purpose of these stamp seals, as did the shape of the waterfowl scaraboids.[2] The waterfowl-shaped bowls found at Tell Qasile, and the fragmentary waterfowl heads associated with them, were likely used for ritual activity, both in religious and domestic spaces. Similarly, the waterfowl-shaped cosmetic boxes were seemingly used to provide scents in both religious and funerary rituals. These extensive

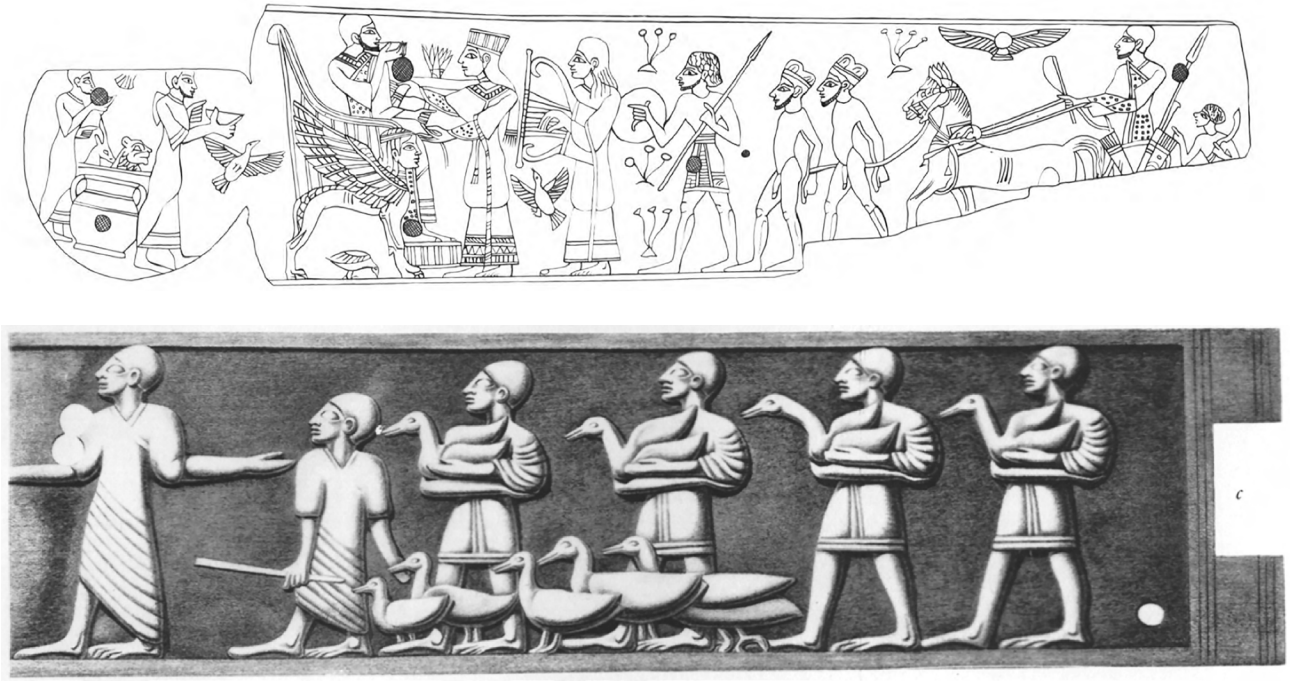

Figure 18.6. *Drawings of two of the ivory panels found at Megiddo (Loud 1939, pls. 4:2, 33:2). Image courtesy of the Oriental Institute of the University of Chicago.*

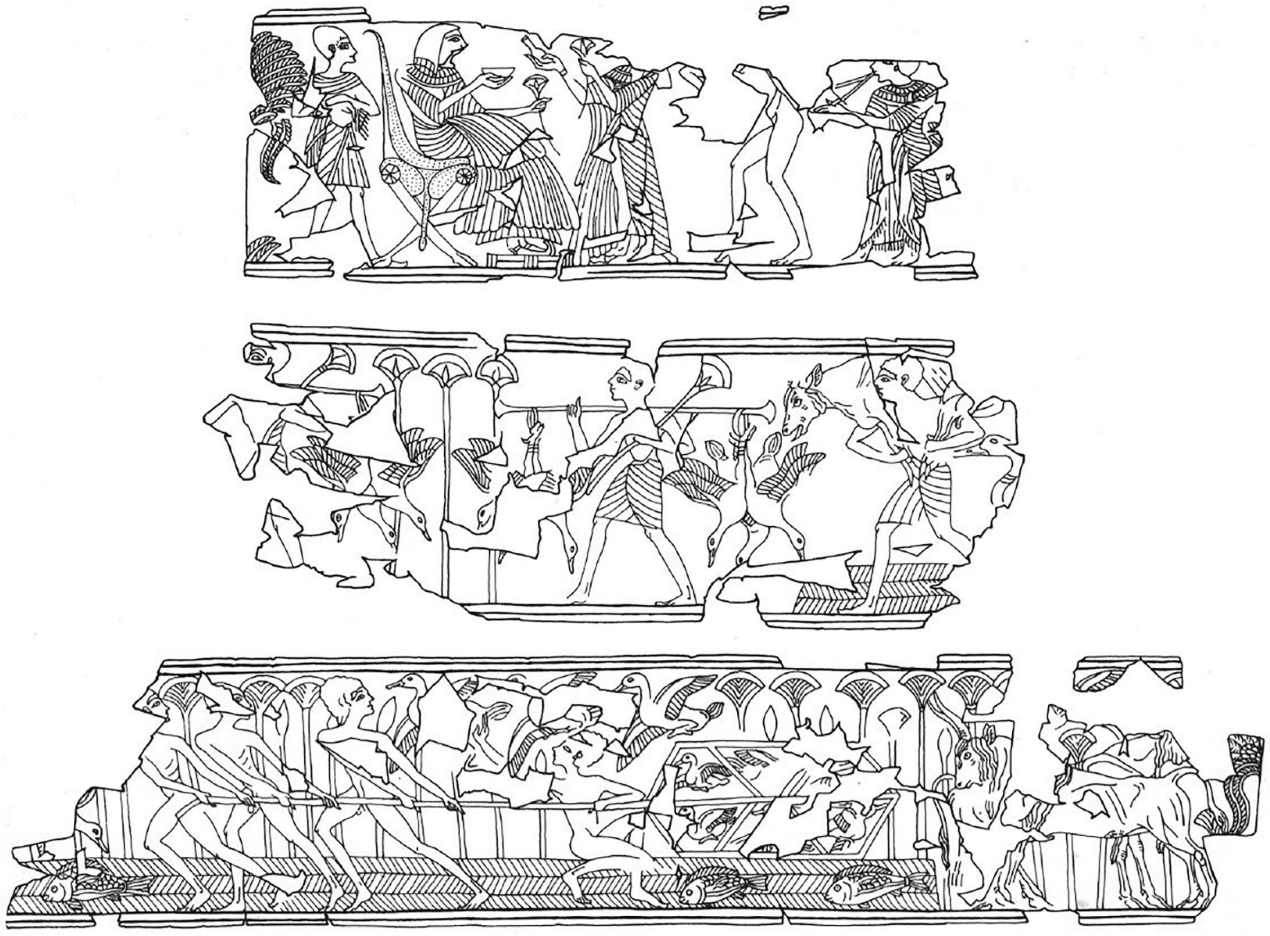

Figure 18.7. *Ivory panels found at Tell el-Farʿa (South) (Petrie 1930, pl. LV). Images courtesy of the Petrie Museum of Egyptian Archaeology, UCL.*

ritual/religious connections demonstrate that this waterfowl iconography had some type of symbolism within the religious life of the Southern Levant.

To explore the meaning of the waterfowl in this religious context, we can turn to Nataf's interpretation of the Megiddo and Tell el-Farʿa (South) panels. Nataf sees these scenes as reflective of an Egyptian mortuary cult within the Southern Levant (Nataf 2011). Partly following Markoe (1990), she emphasizes that both the choice of scenes and symbols within these scenes are taken directly from Egyptian mortuary traditions (Nataf 2011, 54–5, 58). Specifically, she sees the banquet scenes as representing a feast for the deceased and the swamp scene as representing the transition to the afterlife, both of which were prominent in Egyptian tombs of this period. The trio of birds in the Megiddo scene, and specifically the placing of a bird beneath the chair of the enthroned figure, are also connected to depictions of the deceased in Egyptian tombs. Furthermore, both the lotus flower and the papyrus plants are connected to concepts of death and rebirth that are prominent themes in Egyptian mortuary rituals. Lotus flowers are held by the enthroned figures in both scenes and by a processional figure in the Tell el-Farʿa (South) scene. The papyrus plants form the background of the Tell el-Farʿa (South) scenes and can be seen in their hieroglyphic form in the interstitial spaces of the Megiddo scenes. Nataf also suggests that one of the figures in the Megiddo scene is the goddess Hathor, who is also connected to death and rebirth. This identification is based on the figure's headdress. Finally, she notes that the rooms in which these panels were discovered share features with the mortuary cult chapels found elsewhere in the Levant, specifically the Syrian *hmn* chapels in Ugarit (Niehr 2006; Nataf 2011, 62).

The waterfowl in both these sets of scenes may have also contributed to this theme of death and rebirth. Geese were magical and apotropaic symbols within the Egyptian religious tradition, but they were also

connected to mortuary rituals through their appearance on funerary Papyri, like the Book of the Dead, and votive stelae to the deceased (Houlihan 1986, 64). Furthermore, it is possible that the waterfowl-shaped scaraboids not only replaced the image of the scarab on these seals, but were chosen because they served the same symbolic function of the scarabs, which, as discussed above, was associated with the themes of death and rebirth. The fact that some of these waterfowl-scaraboids were found in funerary contexts (Table 2: Nos. 3–4); that they repeat similar motifs such as the lotus (Table 2: No. 3) and Hathor (Table 2: No. 7);[3] and that geese appear in funerary art in Egypt all reinforce this interpretation of these seals.

Additionally, the ecology of waterfowl within the Southern Levant reinforces this interpretation of their religious symbolism. The Levantine corridor is on the edges of two of the major avian migratory flyways: the eastern edge of the Black Sea/Mediterranean fly way and the western edge of the East Asia/East Africa fly way (Boere & Stroud 2006). Due to this location on the fringe of two fly ways, around 500 million birds from *c*. 550 species migrate through the region each year (Frumkin *et al.* 1995; Sales 2016). This annual migratory cycle of appearance and disappearance provides an excellent metaphor for the cycle of death and rebirth. Furthermore, waterfowl have a high degree of liminal symbolism. In many cultures, birds have often been used to represent the crossing of the boundary between the divine and mortal realms or between life and death, due to their ability to transverse the earth and the sky (e.g. Furst 1991; Riley 2001; Gear & Gear 1991). Waterfowl take this avian liminality further through their ability to transverse three realms – earth, sky, *and water* – which makes them excellent symbols for the crossing of supernatural boundaries. This innate symbolism of waterfowl, combined with the contextual evidence of this material culture and its interrelation with Egyptian religious beliefs, makes a strong argument for this waterfowl iconography having a prominent religious symbolism within the Southern Levant in the late second millennium BC, closely tied to the concepts of death and rebirth.

Elite markers

Simultaneously, this waterfowl iconography acted as a marker of elite status. This partly stems from the luxury status of some of these items (e.g. ivory panels and boxes). But, more substantially, it arises from two aspects of the waterfowl's symbolism within the Southern Levant of this period: (1) its close connection to Egyptian culture and pharaonic power; and (2) its status as an elite foodstuff.

The Egyptian empire was the dominant cultural force in this region during the late second millennium BC and, while the process of 'Egyptianization' is more complex than simply elite emulation of a dominant culture, we do see an increase in Egyptian style objects across the region from the middle of the second millennium BC (Koch 2014, 166–8 with references). The Egyptian origins of the waterfowl-shaped ceramic bowls and ivory boxes show that waterfowl iconography was involved in this process, but perhaps the clearest example comes from the seals. The appearance of a waterfowl in hieroglyphic form creates a direct connection with Egyptian culture, reinforced by its use within the standard formulae of 'Son of Ra/Amun', which are tied directly to pharaonic power. One waterfowl-scaraboid even refers to Egyptian royal power through the inscription reading 'Great Royal Wife' (Table 18.2: No. 5). Since these seals were used as expressions of personal identity, this use of the waterfowl as a reference to Egyptian power can be read as an individual's attempt to connect their own identity to the preeminent political power in the region. In this way, the image of waterfowl acted as an elite marker, as it distinguished those with a greater connection to the dominant, and presumably elite, culture in the region.

Second, waterfowl acted as an elite marker through their position as an elite foodstuff, evidenced through the zooarchaeological record (Croft 2004) and the Megiddo and Tell el-Farʿa (South) ivory panels (Loud 1939, pls. 4:2, 33:2; Petrie 1930, pl. LV). Liebowitz (Liebowitz 1980; Lilyquist 1998) argues that these panels represent victory feasts of the Southern Levantine elite. He bases this interpretation on (1) the clear military themes such as chariots, soldiers, and captives; (2) the gathering of large amounts of provisions; and (3) the presenting offerings to the ruler. This theory may even complement Nataf's interpretation, who suggests the scenes represent feasts for deceased rulers. Whether the iconography of these panels was religious or secular in nature, Liebowitz's point, that these scenes reflect actual feasting practices during this period, is valid. This supposition is confirmed by the large amount of late-second-millennium BC goose remains that were found in elite contexts at Lachish (Croft 2004). Since waterfowl feature heavily in both feasting scenes and in the remains at Lachish, we can presume they formed a central part of some elite feasts of the late second millennium BC and, thus, were an elite foodstuff in the region. Koch (2014) even argues that both this feasting tradition and the involvement of waterfowl within it was an avenue of elite emulation of the dominant Egyptian culture during this period.

The procurement of waterfowl for these feasts adds to their position as an elite foodstuff. The Megiddo

panel, through the inclusion of smaller sized geese and a figure with a rod, seems to depict domestic geese, and the large amount of goose remains from Lachish may also suggest the presence of domestic geese. Geese were regular domestic animals in Egypt by the Eighteenth Dynasty, as is shown by the depictions of large amounts of geese alongside administrators and attendants within the artwork of this period (Boessneck 1962; Zeuner 1963, 468; Houlihan 1986, 56; Koch 2014). Yet, the Megiddo panel and Lachish remains are the first evidence for domestic geese within the Southern Levant. Thus, if these are domestic geese, not only were they recently introduced to the region, and therefore likely confined to the elite, they were yet another example of the close association between geese and the dominant Egyptian culture, as domestic geese would have originated in Egypt.

Alternatively, the Tell el-Farʿa (South) panel depicts the hunting of geese for elite feasts. Since it is difficult to osteologically distinguish between domestic and wild geese, it is also possible that the goose remains at Lachish come from hunted wild geese rather than domestic geese (Barnes *et al.* 2000; Koch 2014, 165). Throughout the second millennium BC, we see a decline of wild animals in favour of domesticated animals across the Southern Levant (Clason & Buitenhuis 1988, 237; Marom & Bar-Oz 2013, 234), a trend repeated at Lachish (Croft 2004). This lack of wild game in the zooarchaeological record implies a shift from hunting as a subsistence activity to a leisure activity. This decline, coupled with Genz' identification of bird hunting bolts in Egyptian and Southern Levantine tombs of this period (Genz 2007) and the slightly higher percentage of wild game in the zooarchaeological record of urban centres (Marom & Bar-Oz 2013, 234), suggests that hunting was becoming an elite leisure activity during this period. Whilst this does not discount the existence of small-scale hunting activities by those in lower social stratas,[4] or the existence of professional fowlers (as may be depicted in the Tell el-Farʿa [South] panels), even on this scale the pragmatic realities of agricultural life would make hunting waterfowl a leisure activity and, thus, would making eating waterfowl a luxury. Thus, whether this imagery was representing domestic or wild geese, both were intimately connected with elite culture in the region and, again, with the dominant Egyptian culture.

Conclusion

This study aimed to discover the meaning that was created when an inhabitant of the Southern Levant in the late second millennium BC looked upon the waterfowl iconography that had become more frequent in the region during this period. As the previous discussion has shown, for these inhabitants, this waterfowl iconography served simultaneously as a religious symbol and as a marker of elite status. Its religious dimensions included direct connections with Egyptian religion, through associations with Egyptian gods, especially Amun, and through its inclusion as an Egyptian mortuary symbol. Beyond this, though, it also seemed to be acting as a symbol for the concepts of death and rebirth, reinforced by the transitional nature of waterfowl in the region and the general liminal symbolism inherent in these birds. Alongside this religious meaning, waterfowl iconography symbolized an elite status through its connection to Egyptian power. This association was expressed in various ways: (1) they were directly connected to the pharaoh on seals; (2) they were included in elite feasting activity, which itself was drawn from Egyptian cultural norms; (3) they were possibly a domestic animal confined to the elite; and (4) the hunting of waterfowl was becoming confined to an elite leisure activity.

Overwhelmingly, this symbolism was strongly associated with Egyptian culture. In fact, the increased frequency of waterfowl iconography, as well as its political and religious dimensions, may stem purely from a shift in Egyptian culture. During the Eighteenth Dynasty, Amun became the patron god of the pharaohs, and, as we have discussed, the goose was closely associated with Amun and, therefore, likely became a prominent religious and political symbol within Egyptian culture from the Eighteenth Dynasty onwards. This mirrors the growing frequency of waterfowl iconography in the Southern Levant, alongside the growing political influence this Egyptian dynasty had in the region. But this is not to say that this waterfowl iconography is merely an Egyptian symbol that has been transplanted into the Southern Levant. The local production (e.g. plaques, ivory panels) or local adaptation (e.g. ivory boxes, stamp seals) of these objects suggests a similar modification of the traditional Egyptian meaning to suit the societies of the Southern Levant. In fact, the apparent absence of any erotic or fertility symbolism connected with these images demonstrates that not all of Egypt's symbolism was transferred into this region. Instead, this combination of religious symbolism, centred on death and rebirth, and strong associations with Egyptian power and elite status, was the Southern Levantine reading of a previously Egyptian symbol.

Notes

1 Giddy (1999) believes these heads to be fragments of children's toys, but their striking similarity to these bowls makes this unlikely.

2 It has been suggested that waterfowl had an erotic or fertility significance in New Kingdom art (Hermann 1932; Derchain 1976; Pinch 1993; Koch 2014, 164). However, there is currently no evidence for this interpretation within the Southern Levant.
3 A seal from Tell el-ʿAjjul may also depict a goose with a lotus (Table 1: No. 6).
4 A fairly substantial amount of avian remains was found at Tell Halif (Seger *et al*. 1990) and some water bird remains were found at Tel Jemmeh (Wapnish 1993), which may be indicative of these small-scale bird hunting activities still occurred.

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Chapter 19

Ducks, geese and swans: *Anatidae* in Mesopotamian iconography and texts

Laura Battini

The term 'birds' covers a diverse range of animals (Akkadian *iṣṣūru*, Sumerian MUŠEN – see Salonen 1973; Veldhuis 2004; CAD I, 210–4). Birds can be domestic, tamed, or wild: domestic like the cock, tamed like the hawk, wild like the eagle or the goose; they can be pets, or kept for aesthetic reasons (e.g. Neo-Assyrian zoological gardens; probably some singing birds) or for their functional role (Fig. 19.1). They belong to three natural elements: air, earth and water, especially in the southern marshes (Battini 2006a, 60–1; 2006b). The fact that they belong to the air brought them closer to the gods, who even sometimes had wings (like Ishtar). They frequently appear in love literature and in literary texts referring to trapping or hunting, or as metaphors for flying, enormous heights and deserted countries (Black 1996, 24–43; Veldhuis 2004; Wasserman 2016, texts 06, 11, 19 (dove); CAD I, 210b–211a). Represented at least from the end of the fourth millennium BC, mainly in glyptic and in clay production, they were soon associated with supernatural beings, from Imdugud/Anzu to the 'goose goddess' and Papsukkal.[1] They often appear in glyptic art, though rarely in official representations. Texts, especially lexical, literary, administrative and epistolary, provide other information, while archaeozoological data are very limited due to the fragility of bird bones (for exceptions, see e.g. Qatna, Vila & Gourichon 2007). Ancient birds are therefore still underrepresented in research on the ancient Near East (with the exception of studies in divination – see e.g. Archi 1975; Durand 1997; De Zorzi 2009; Minunno 2013).

This chapter is intended to fill this gap, focusing on *Anatidae* – that is, geese, swans and ducks. *Anatidae* are broadly diffused in glyptic and in clay production but rarely attested in official representations. Texts, especially administrative ones, provide additional information, while archaeozoological data are very scant. From these various sources, this chapter sketches a history of human-*Anatidae* relations in historical Mesopotamia. In fact, *Anatidae* are one of the two easiest birds to identify in images due to their long necks (the other being the eagle).

Difficulties of the research

This research, however, immediately finds some difficulties. Bird skeletons do not preserve well in the archaeological record. For prehistoric Europe, Mourer published a broad series of bird assemblages, often stressing the difficulty of finding full skeletons (e.g. Mourer 1975, 12). Better and more advanced technical skills in the field allow us today to find full skeletons of birds, significantly enriching our knowledge (see for example Gourichon 2002; for Qatna: Vila & Gourichon 2007; for Nippur: Boessneck 1993; Boessneck & Kokabi 1993; for Kamid el Loz: Bökönyi 1990; for Isin: Boessneck 1977; Boessneck & Kokabi 1981). A possible reason for the limited number of bird bones could be attributed to culinary practices: eating duck bones is a well-proven tradition in the French villages of the southeast still today. For the ancient Near East, Bottéro (1995, 58–103, especially 58–60, 74, 82, 88, 90) discusses the preparation of birds before cooking, which entails the removal of the head, legs and entrails, but not the bones, which is very difficult for small birds.

Texts dealing with birds are most often administrative ones. For example, in the Neo-Assyrian period, *Anatidae* are counted as booty and quoted in food lists, especially in sacrifices for the temples (SAA 10, 350; SAA 11, 40; SAA 13, 76, 77; SAA 19, 224; SAA 20, 33). Iconographic data are also difficult to interpret: the relationship between texts and images re-introduces the debate on the possibility of 'reading' popular images based on official texts (see Green 1983, 87–8; 1997, 135–58; Wiggermann 1986, 8–9; Lambert 1997, 1–9; Reade 2002; Assante 2002, especially 1–6, 13–21;

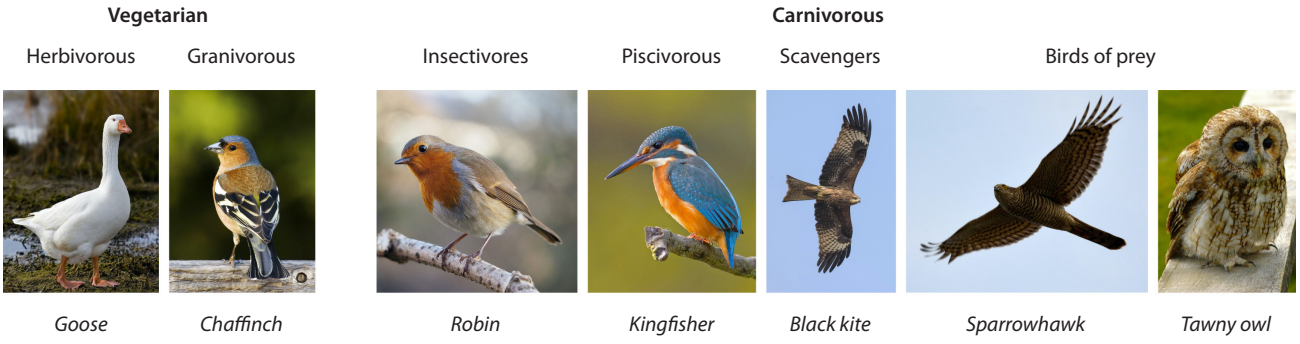

Figure 19.1. *Modern birds (photos from Wiki Commons). Goose (photo by JJ Harrison); chaffinch (photo by MichaelMaggs / Arad); robin (photo by Francis C. Franklin); kingfisher (photo by Andreas Trepte); black kite (photo by Shree Ram Khatri); sparrowhawk (photo by Raju Kasambe); tawny owl (photo by K.-M. Hansche / Arad).*

Battini 2009; on the specific difficulties in identifying species of birds, see Battini 2014). The difficulties are so prevalent that scholars hardly attempt to identify the species of birds represented. In fact, since birds primarily appear on cylinder seals, the difficulty of interpretation is understandable: one of the basic elements for identification, colour, is missing. Amiet suggests a strong connection between animals and cosmic functions, more than specific divinities (1956), as I have also suggested for the 'goose goddess' (Battini 2006a). The small size of birds on such objects (2-5 mm) prevents us from determining which species were intended to be represented.

On the other hand, how much have these small dimensions influenced the representation of birds? Did the artisans attempt to depict a specific bird or the generic species? Finally, we must not forget that figurative representations are not necessarily intended to be faithful reproductions of reality: one cannot assume zoological precision from an image (Battini 2009, with further references). For example, the bird accompanying a goddess in the seals and terracottas dated to an era between the Akkadian and the Old Babylonian periods has been identified mostly as a goose (Legrain 1930, 28; van Buren 1930, 78–80; Brentjes 1962, 636; Barrelet 1968, 230–1; Woolley & Mallowan 1976, 178, 181), but also as a swan (van Buren 1930, 80; Woolley & Mallowan 1976, 181), a dove (Brentjes 1962, 636; Barrelet 1968, 230), a duck (al-Gailani 1965, 33–40)[2] and even a wading bird. The term 'goose goddess', coined by Woolley (1926, 375), has been prevalent since in the literature. Forty years later, Opificius accepted this term, even if she recognized some difficulties of always identifying the bird as a goose (1961, 212).

Despite the small dimensions, lack of colours,[3] and potentially doubtful identifications, the birds depicted on reliefs, seals, or represented in 3-dimensional works do not all belong to the same species, like geese, eagle, partridge, pelican (Fig. 19.2). In the lexical lists, of which those dedicated to birds are among the oldest (Ebla, Shuruppak), the enumeration of many species of birds demonstrate the deep knowledge of these animals. The lexical list HAR-ra=*hubullu* dedicates more than 250 lines to birds, grouped according to the ideogram with which their name begins. Sometimes the list includes parts of the bird body, like the foot (*šêpu*, sum GÌR) or the beak (*appu*, sum KIR_4). Some passages include the names of their young (amar mušen) and even their eggs (nunuz). Thus, a clear understanding of the presence of different species of birds is evident. Further, as Owen stressed in 1981, for over a thousand years, the bird lists were maintained as an integral part of the standard curriculum for the training of young scribes (see also Veldhuis 2004, 62–5).

Last, but not least, people of western industrialized societies have lost contact with nature, with other animals, and with birds. We are used to seeing birds in the zoo or in pet shops, but rarely in nature. In the nineteenth century, the experience of animals was very different. For example, birds were considered from a strictly utilitarian point of view, based on them being either partly or completely damaging for agriculture or for humans (Conrard 1867, vi–xiv). Because they prey on rodents, some birds were considered entirely utilitarian, such as nocturnal birds of prey. Other birds were regarded as partly utilitarian, like insectivores, who, however, as all grain-eating, were also partly pests for agriculture; and other birds were seen purely as pests (diurnal birds of prey) (Conrard 1867, vi, xii–xiv). According to this classification, geese and ducks pertain to the second group, quite helpful but still able to cause damage to agriculture. These observations can aid us in understanding the feelings of people in ancient Mesopotamia. Even though it is not certain that people in ancient Mesopotamia had the same reactions towards geese as people in the nineteenth century, it

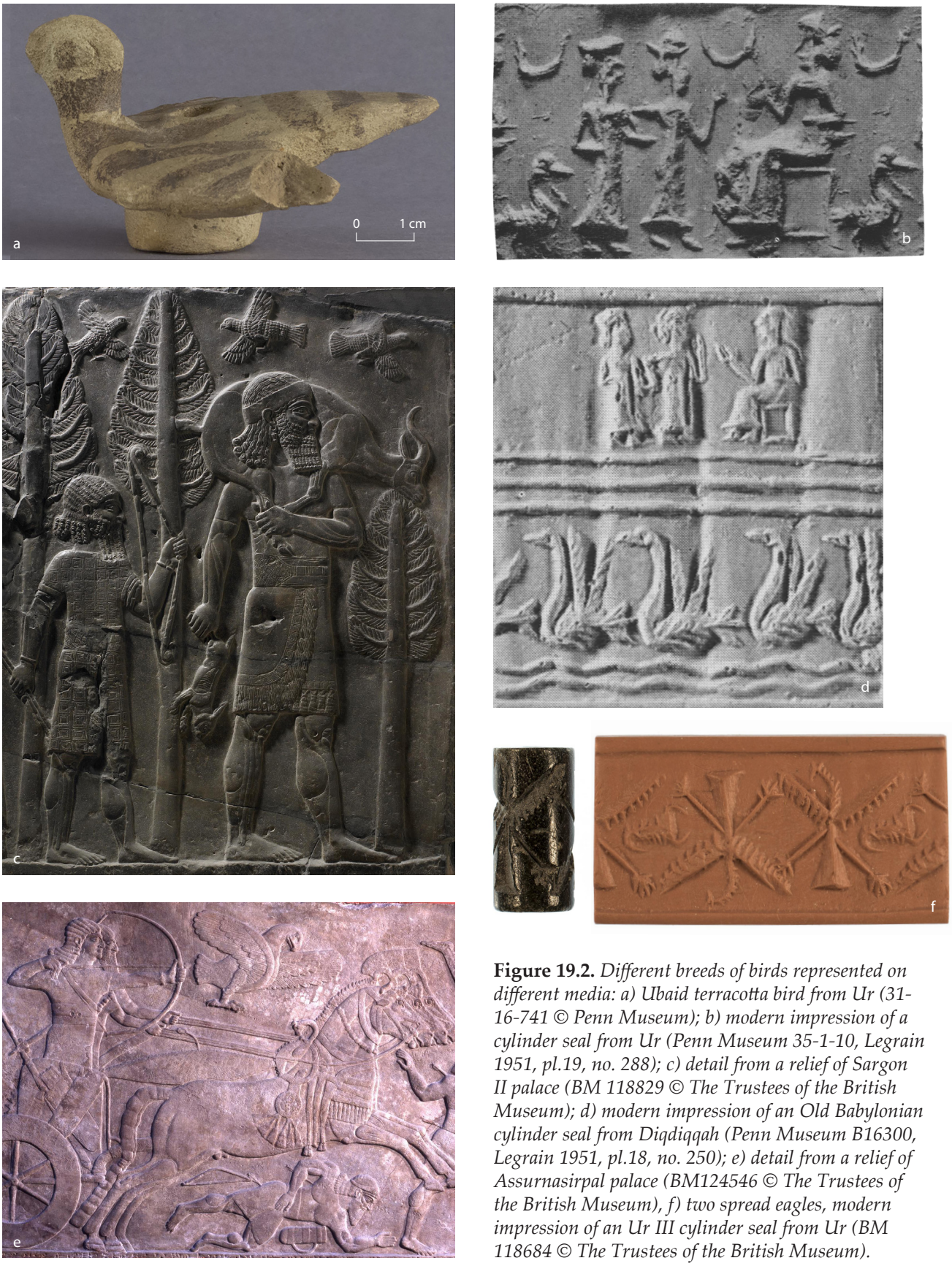

Figure 19.2. *Different breeds of birds represented on different media: a) Ubaid terracotta bird from Ur (31-16-741 © Penn Museum); b) modern impression of a cylinder seal from Ur (Penn Museum 35-1-10, Legrain 1951, pl.19, no. 288); c) detail from a relief of Sargon II palace (BM 118829 © The Trustees of the British Museum); d) modern impression of an Old Babylonian cylinder seal from Diqdiqqah (Penn Museum B16300, Legrain 1951, pl.18, no. 250); e) detail from a relief of Assurnasirpal palace (BM124546 © The Trustees of the British Museum), f) two spread eagles, modern impression of an Ur III cylinder seal from Ur (BM 118684 © The Trustees of the British Museum).*

becomes clear that our current views cannot be easily applied to the ancient Near East.

This chapter deals in general with *Anatidae*, and more specifically with geese, which are by far more frequently represented than ducks; occasionally, an identification with the swans has been proposed but it remains unverifiable since we do not even know if the swans were present in Mesopotamia between the end of the third millennium and the beginning of the second millennium (for the methodology of bird identification in ancient images, see Battini 2014). According to biologists, swans were not indigenous to Iraq in ancient times, because the country is too far south (Cramp & Simmons 1977, 370–91; Del Hoyo *et al*. 1992, 577). In Sumerian, ducks are called UZ.MUSEN and UZ.TUR and in Akkadian *paspasu* and possibly *kurukkum*[4] while geese are called respectively U_5 and *kurkû*.[5]

Anatidae in the natural world

Anatidae (Etchecopar & Hue 1970, 106–20; Mourer 1975, 30–5; Porter & Aspinall 2016, 20–34) is the large family of waterfowl capable of swimming, floating and diving in shallow water. Their webbed feet aid in swimming and walking. Their weight, their body shape and the position of their short legs, set far to the back of the body (more than in other aquatic birds) make walking more difficult. However, they are stronger walkers than other water birds, such as for example grebes. Their wings are powerful, short, pointed, and supported by strong muscles that generate rapid beat. Therefore, they can fly at a speed of 95 km/h,[6] often in flocks. Like other migratory birds, they fly in a V formation which more than doubles the flight speed compared to a bird that flies alone. Mostly herbivorous and monogamous, they include geese, swans and ducks. Geese and swans belong to the subfamilia *Anserinae*, while ducks belong to the subfamilia *Anatinae* (Etchecopar & Hue 1970, 107–8). However, the classification of the *Anatidae* are still debated.

Swans are among the larger birds, and the largest of the *Anatidae* family. They can reach 1.59 m in height and weigh 15 kg. They have 'teeth' which enable them to catch and eat fish. Geese are smaller than swans but larger than ducks. They are more similar to swans than to ducks: they have a long neck and a broad and short bill (Etchecopar & Hue 1970, 106–12; Mourer 1975, 30–2). Geese do not have teeth, but a serrated tongue that helps catch and eat aquatic plants and algae, as well as molluscs and insects. They supplement their diet with grains (barley, oats, wheat, corn), roots, insects, snails and worms. Monogamous, geese and swans live in permanent pairs throughout the year, meaning that they are better fed, more dominant and more fecund than those isolated. They are very protective of their companion and offspring, often threatened by humans with whom they are not familiar, and very sensitive to movement, making a loud call if sensing danger.[7]

In the domestication process, geese were selected for their size: while domestic geese weigh up to 10 kg, wild geese hardly reach 4 kg. Domestication also changed the structure of their body, from the slim rear and the horizontal posture of wild geese to the large fatty rear and the more upright posture of domesticated geese. Domestic geese are also more fertile than wild ones, laying up to 50 eggs per year, compared to only 5–10 per year for wild geese. Although their heavy weight affects their ability to fly, most breeds of domestic geese are capable of flying.

Ducks are not a monophyletic group. That is, the different species are not biologically linked but assembled together on the basis of common overall forms. This explains the large variety of subfamilies. Most species of ducks are similar to geese, but smaller and lighter. In comparison with geese, they have both smaller legs and shorter neck. Their food is more varied than the *Anserinae*: they can eat grass, aquatic plants, insects, worms, and even fishes, molluscs and small amphibians. Their wide flat beak is well adapted to pulling up waterweed, searching for insect larvae, and pulling worms and small molluscs out of mud. Along the edge of their beak, there is the pecten, a comb-like structure which filters the water and traps food. Contrary to geese and swan, ducks are temporarily monogamous: they have a companion for one year but not for all their life. In most species, it is the mother duck who takes care of the little ones: after hatching the eggs, she brings the ducklings to the water. She rejects ducklings presenting a health problem and leaves unattended the eggs that have not closed at the same time as the others.

Domestic poultry, like geese, ducks and pigeons, are found in tablet XVIII of the series HAR-ra=*hubullu* (Landsberger 1962, 79–173). This tablet deals with 'special animals', which are not listed with either wild animals (tablet XIV) or with domestic ones (tablet XIII). Tablet XVIII concerns animals living in a particular 'milieu', water for fishes, air for birds. Even domesticated breeds, like poultry, are in the XVIII tablet, grouped according to the ideogram that their name starts with. Therefore, in this tablet, the lexical point of view is more important than the zoological or biological one – as for example the distinction in different species or the distinction between domesticated and wild species. On the other hand, in private letters and in administrative texts, the point of reference seems to be more concerned with ornithology, since geese and ducks are distinguished based on their wild or

domesticated form. However, that does not reflect a real ornithological interest, but rather a need to distinguish between the domesticated forms, for being larger and heavier than the wild ones (Battini 2009). The proverbs mention both wild[8] and domesticated species,[9] while legal texts consider birds as human property, so essentially as domesticated.

Iconographic representations do not generally show *Anatidae* in their natural environment. Such representations are rare, mostly terracottas (Barrelet 1968, nos.116, 119, 120, 553; Woolley & Mallowan 1976, nos. 209–214; Cholidis 1992, no. 27; Pennsylvania Museum 31-43-319, 331-43-320, 31-43-321 and 31-43-323), and tend to suggest a meaning that goes beyond nature. Some clay miniature objects, like miniature chairs and chariots (Fig. 19.3; see also Ziegler 1962, nos. 128, 129 McCown *et al.* 1967, pl. 143.12; Barrelet 1968, nos. 116, 119, 120; Woolley & Mallowan 1976, nos. 209–214, 231; Cholidis 1992, pl. 13.27; Wrede 2003: nos. 1268, 1269), represent *Anatidae* in their natural habitat on their own (that is, without any other animal or anthropomorphic figures). Here, the symmetrical composition fits well with the natural habitat of these birds living together: they move, sleep, and eat at the same time as their companion. On the model chairs, they are represented in one or three pairs,[10] flying (deployed wings), or standing, and around the pair there are some kind of tree and circles. Trees probably refer to their natural habitat and are an allusion to the vegetarian customs of the bird, but because of their absence of teeth, *Anatidae* rather eat grass and aquatic plants. However, the trees represented in such a context refer rather to the divine sphere, as do the circles. The trees have no clear connection with the geese and so it is quite possible that they have a significance linked to the supernatural world.[11] The tree of life has a long history (Giovino 2007), which begins at least at the end of the third millennium BC, when in some cylinder seals it is depicted on a podium with one or two worshippers paying homage to it (see Parrot 1954, figs. 42–53; Battini forthcoming, 'L'arbre de vie').

Some seals do represent birds in a natural environment, swimming on the water with their wings wide open (Figs. 19.4a and 19.4c). A few, attested from the third to the first millennia BC, depict the birds unrelated to other anthropomorphic figures (e.g. Moortgat 1940, nos. 46 and 247; Porada 1948, no. 32; Parrot 1954, nos. 18–28; here Fig. 19.4a). The geese most often appear swimming, or seldom walking, and sometimes accompanied by other animals, most often scorpions, which are very symbolic animals.[12] If the birds are described with attention, prove of the interest for the natural world, their insertion into the scene gives them a rather symbolic meaning. This is increased by the engraving

Figure 19.3. *A miniature chair representing geese in natural 'milieu'. Old Babylonian period, from Diqdiqqah (BM 116854 © The Trustees of the British Museum).*

on a seal:[13] carry pictures of animals on oneself, even if seals have also an identity function, pertains more to the symbolic and apotropaic sphere.

By far the majority of seals depicting geese shows them with other figures: they can be part of the principal scene, which is always an 'introduction' scene, or separated in the lowest register while the principal introduction scene occupies the upper register (e.g. Legrain 1951, nos. 247–253, 255–256; Buchanan 1981, nos. 463, 493; Collon 1982, nos. 236, 286–288, 331–336; here Fig. 19.4c). In the first case, they are represented standing (apart from the case of the 'goose' goddess, where geese serve as chair and footrest for the goddess), and their low fatty rear suggests an identification with domesticated species. In the second case, the geese are depicted in their natural milieu, often in water, swimming, like they do in the marshes of southern Iraq.[14] This image is due to direct observation and can be interpreted as a mark of interest in these birds. But the majority of the representations of *Anatidae* pertain to the human and divine worlds: the human gaze on birds only rarely consider them without a relationship to the anthropomorphic world.

Figure 19.4. *Cylinder seals with geese: a. geese on their own, modern impression of an Ur III cylinder seal from Tello/Girsu (Parrot 1954, pl. 2, no. 19); and with other figures: b. seal impression on an Ur III cuneiform tablet from Tello (Fisher 1997, no. 10); and c. Ur III cylinder seal from Diqdiqqah (BM 119205 © The Trustees of the British Museum).*

Anatidae in the human world

Apart from lexical lists and a few occasional references in literary or epistolary compositions, the textual documentation is parsimonious with bird information, 'yet many of the birds named in these texts (=lexical lists) rarely, if ever, appear in administrative documents' (Owen 1981, 29). The breeding of poultry is well attested in the documentation of the Ur III period. At Puzrish-Dagan, the texts belonging to the archive of Shulgi-simtî, the wife of Shulgi, mention different species of pigeons, ducks and geese and their eggs (Sharlach 2017, 190–8). A few references of fattened ducks are known from the Early Dynastic period at Girsu and Irisagrig (Feliu 2004, 303–8; Wu 2006, 6). Temples and palaces, at least in the first millennium BC, had a special place where birds were fattened (*bīt iṣṣūri*, the 'house of the birds', a kind of fowl run; CAD I, 214a–b). Further, an overseer called *ša ana muḫḫi iṣṣūrī* is known in Late Babylonian texts as responsible for supervising royal poultry (CAD I, 214b). *Anatidae* were not only the privilege of kings, they were also the property of private individuals who could own poultry, as demonstrated by private correspondence, for example in Kraus 1964, 113 r.7 and Kraus 1972, 82 r.3 and 7.

Beginning at the end of the third millennium BC, numerous terracotta figurines represent *Anatidae*. These could have been rattles or toys, especially in cases where the entire bird body is represented. One of the oldest known examples of such a terracotta figurine is an object from Tell Billa, dated to the Ur III to Old Babylonian period, housed in the Penn Museum, bearing museum number 31-51-256 (Fig. 19.5c). At 10.5 cm long, it has lost its head, but it can be identified with a rattle as suggested by the dimensions and the little hole on its back. Another example, probably from the same period, and painted, comes from Nippur and is now housed in the Penn Museum, Philadelphia (B 12 245).[15]

The entire bodies of *Anatidae* were also portrayed in personal ornaments, as demonstrated by some very small examples from Ur, dated to the Ur III period (Fig. 19.6).[16] They are interpreted as amulets, but the presence of a hole (pierced through horizontally from side to side or vertically through the back) suggests a use in a necklace or other jewellery. This could also be in line with a possible apotropaic function. Given the position of the hole, when they were carried on a necklace, their head would point down, towards the heart. Their function was thus not purely decorative, but they also had a special meaning, related to the time when they were produced (Ur III) and probably related to the so-called 'goose goddess' (see below).

Two further utilitarian uses of *Anatidae* are attested, in medicine and in metrology. Geese and ducks are encountered in the composition of medical mixtures against several diseases, especially diseases of the eye and anus (Fincke 2009; Geller 2016). Although ducks are not clearly identifiable in most of the images including *Anatidae*, they were the most common subject

Figure 19.5. *Toys in the shape of a goose; objects nos. 31-16-974, 33-35-61 and 31-51-256. Courtesy of the Penn Museum.*

Figure 19.6. *Personal ornaments from Ur; objects nos. 31-43-319, 31-43-320, and 31-43-321. Courtesy of the Penn Museum.*

Figure 19.7. *Culinary text YOS 11, 26 (YBC 8958) © Yale Babylonian Collection, photo courtesy of Carl Kaufman.*

of weights from the third to the first millennium BC. The reasons for this are still not well understood, but in any case, the manner of representation reveals some interest in these birds. They are represented with the head turned 180°, towards the tail, as when ducks rest and sleep. It is the most fascinating and surprising position of this animal because it can do what no human can do and many civilizations have portrayed ducks in this way.[17] However, I assume in part that the simple and concentrated shape of a resting duck was suitable for weights.

Anatidae were also a source of food. Three Old Babylonian culinary texts from the Yale Babylonian Collection deal with recipes that include birds, especially YOS 11, 26 (Fig. 19.7). This tablet is essentially devoted to birds and presents a recipe for goose (Bottéro 1995, 6, 11–15, 58–103). YOS 11 25 presents a recipe of bird broth (Bottéro 1995, 52). Unlike the other two tablets, YOS 11 26 provides more detail on how to proceed in the execution of the recipe. Unfortunately, it is broken in various places and especially for the goose recipe, it is not easy to understand what is preserved (Bottéro 1995, 85–8). However, the procedure seems consistent for birds: the main thing was to remove the head, entrails and legs and then to carefully wash the remains (Bottéro 1995, 58–60, 74, 82, 88, 90). They were then cooked twice, the first time boiled and the second browned with different seasonings, spices and water. Either the cooking ends, leaving still some water and so the meat is eaten in this soup (Bottéro 1995, 76–8 (recipe B), probably also 86–9 (recipes D and E, but the tablet is very broken)), or once the cooking water is completely consumed, the meat is arranged in a very complicated way. The meat is put on a layer of bread, then covered with vegetables and at the end covered with another layer of bread (Bottéro 1995, 60–72, 83–4, 100–2; recipes A, C, G). The fact that the entire tablet is dedicated to bird recipes suggests that they were an appreciated dish, although perhaps not accessible for all, but well known and cooked in multiple ways.

Apart from their meat, their eggs were also eaten, as is demonstrated by economic and lexical texts from the third millennium BC onwards, which document huge quantities of duck eggs (nunuz) to be consumed (Velhuis 2004, 88). The frequency of letters requesting duck eggs is also suggestive of their value. A Sargonid text from the Istanbul Archaeological Museum lists ducks (us-/uz tur) for distribution to different people (Foster 2018). An Old Babylonian letter is a request to send duck eggs for one shekel of silver (Kraus 1964, 113 r.7); another asks for ducklings (Kraus 1972, 82 r.3 and 7). In royal banquets, meat and eggs of *Anatidae* were often presented. In celebrating the foundation of his new capital, Assurnasirpal provided a large amount of food, including birds: 1000 big ducks, 500 ducks, 500 geese, 1000 *mesukku* birds, 1000 *qaribu* birds, 10,000 pigeons, 10,000 turtle doves, 10,000 small birds, and so on (Grayson 1991). In this context, three Neo-Babylonian tablets, CT 55 nos. 45, 712 and 713, deserve particular attention. They deal with geese, ducks and the storehouse,[18] but they also have engraved drawings of a goose. The position of the drawing on the edge (tablet no. 712) or on the reverse (tablets nos. 45 and 713) could suggest that their function was to indicate the subject of the tablet but being so rare they are more probably the result of bored scribes (Zawadzky & Jursa 2001, 360).

Anatidae in the divine world

Anatidae had a strong connection with the divine world. A popular representation between the Akkadian and the Old Babylonian period in southern Iraq concerns a goose goddess (Battini 2006a, with previous

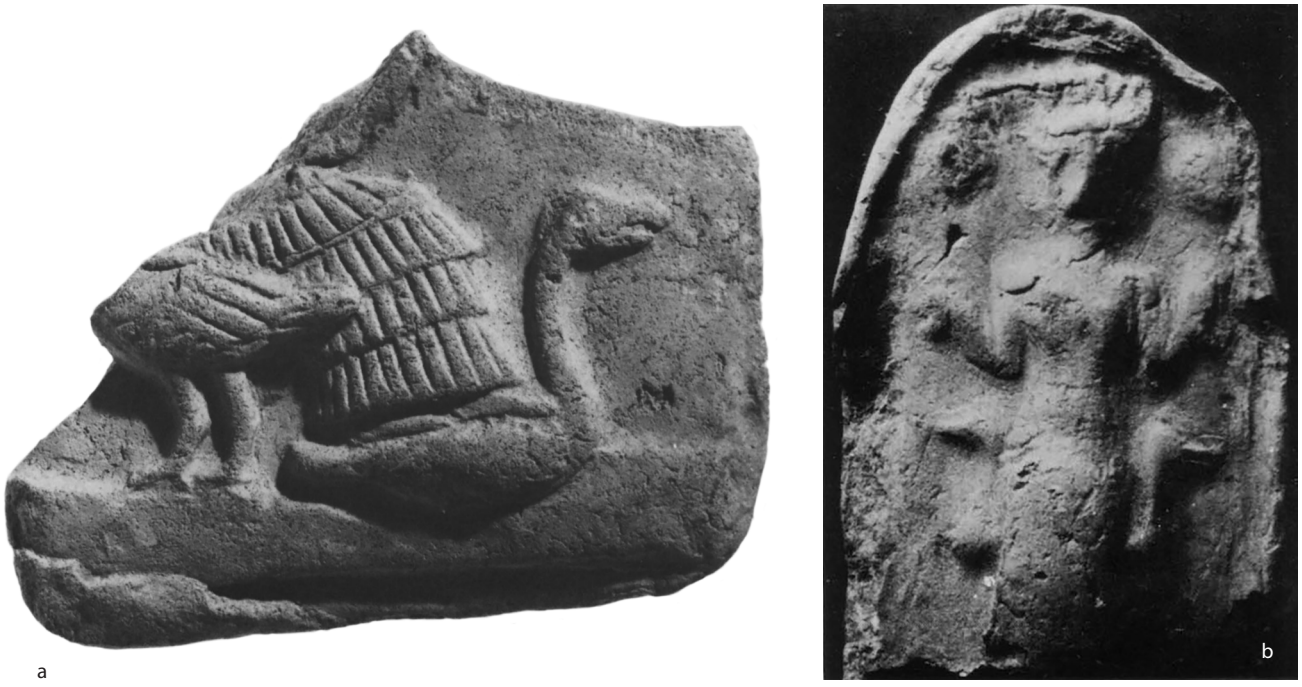

Figure 19.8. *The Goose Goddess: a) Terracotta from Ur, BM 127484 (Maxwell-Hyslop 1992, pl. VII a); b) terracotta from Ur, Old Babylonian period (Woolley & Mallowan 1976, pl. 89 no. 225).*

bibliography). The goose goddess is depicted both on terracottas and on cylinder seals (Fig. 19.8). Different variants of this image can be distinguished,[19] but the same peculiarities can be noticed. Most frequently, the goddess is sitting on one goose, either in profile or in full frontality, sometimes resting her feet on another goose. In one of her hands, she holds a vase with or without gushing water, while her other hand is raised. Several different identifications have been proposed for this goddess, including Baba, Ningal, Nanshe and Gula,[20] but no definite proposal can be made concerning the identity of the goddess, since the texts do not suggest a particular link between this species of birds and a deity.[21] However, these are not official images, so it is difficult to deduce from official texts a non-official *pietas*. The elements that accompany the goddess link her to the sphere of fertility and reproduction (water, fishes, eggs), which were essential concerns in many ancient societies (Battini 2006a).

Anatidae were certainly part of temple activities, such as divinations, sacrifices and offerings. From the Ur III (Sharlach 2017, 193, 198)[22] to the Neo-Assyrian period, administrative documents itemize geese and ducks, along with other birds, in the offerings to different deities, as for example Nabu, the goddess Sarrat-shame, Bel and Sikutu, and sometimes Assur (SAA 7, 159, 175, 206, 211, 213). Zoomorphic vessels in the shape of a goose or a duck, found in temples, confirm the role of *Anatidae* in rituals.[23] Goose-shaped vessels are attested in historical Mesopotamia as early as the Jemdet Nasr period.[24] Geese were also engraved on pottery, especially on a fine grey, sometimes burnished, ware, probably painted and with incisions filled with white paste. This ware has been discovered at different sites in southern Mesopotamia (Tello, Diyala, Larsa, Ur, even Susa; for Old Babylonian examples, see Delougaz 1952, 149, pls. 124–5). A wonderful example (Fig. 19.9), now in the Louvre Museum, depicts a frontal naked and winged goddess (tiara) with raised hands, often identified with Ishtar, accompanied by fish (lower register) and geese (upper register), a bull and a turtle.[25] This vase likely played a function in ritual, but it also had a connection to the 'goose goddess'. Further, it suggests that the fragmentary vases, where only the image of geese is preserved, may have represented the same goddess as the Louvre vase.

Conclusions

A substantial amount of representations of *Anatidae* can be found in Mesopotamia, especially between the end of the third and the beginning of the second millennium BC. Most depict geese, a few ducks, but none clearly show swans. Birds were not a purely decorative motif: their significance is strictly related to the scene of which they are a part, and only individual analysis

Figure 19.9. *Incised and painted vase from Larsa; AO 17000, Department of Near Eastern Antiquities. The Louvre © Marie-Lan Nguyen / Wikimedia Commons / CC-BY 2.5.*

of each object can help us understand why a bird was represented, be that either magic, cultic or apotropaic. The context of discovery can help. Only a small part of the objects representing geese has a known context of discovery. But even if data are few, they can be analysed to better understand the functions of these objects. Most often they were found in houses or in temples, sometimes in palaces. Therefore, they are present everywhere, in all socio-economic levels of society. Two Lagash tablets with an impression of a seal of the goose goddess (Fisher 1997) show that this type of seal was actually in use. It is possible to exclude a purely magical, apotropaic or ornamental function: an apotropaic function can go hand in hand with an economic and social function. It would therefore be too simplistic to assume that the same image always has the same function(s). This kind of generalization, which perhaps has a calming, analgesic value for today's researcher taken by the desire to explain everything, leads to simplifying the complex reality of the past. And it opacifies the beauty of research, which resides precisely in this complexity of meanings.

Notes

1 For the epic on Anzu, see Annus 2001; see also Veldhuis 2004, 30–8. For the iconographic analysis of Anzu, see Fuhr-Jaeppelt 1972; Marchetti 1996. For the goose goddess, see Battini 2006a.

2 No identification has been attempted with shelducks which, although belonging to the same family of ducks, are more similar to geese (Etchecopar & Hue 1970, 107–8).

3 In Egypt, the presence of colours and the larger dimensions of representations of birds (Houlihan & Goodman 1986; Bailleul-LeSuer & Ressman 2012) allow for more precise identification.

4 For ducks, see Salonen 1973, 288–9; CAD P, 222a–224a (ducks, ducklings, duck eggs). For *kurukkum* as a kind of duck, see Black & al-Rawi 1987, 119. The meaning for *paspasu* and *kurkû* is still debated (Tarasewicz 2009, 152).

5 For geese, see Salonen 1973, 216–22; CAD K, 561b–563a.

6 Even the mallard duck can fly at such a speed if it is in escape flight.

7 This characteristic was used by humans as a warning sign since antiquity: under the Romans, in the Capitolium and until today in South Vietnam, where geese were used to guard the parked aircraft during the night.

8 'He went fowling without a bird trap. He caught nothing' (Lambert 1960, 230). For the connection between proverbs and the goddess Nanshe and birds, see Velhuis 2004, 96–8.

9 'A duck which is not eaten at the right time' (Lambert 1960, 238). Salonen (1973, 289) quotes the Sumerian proverb 'Tigris is a duck, Euphrates is a goose; the king may not approach them, otherwise his hand will...'.

10 One pair is depicted in most examples (Ziegler 1962, 128 and 129; McCown *et al.* 1967, pl. 143.12; Barrelet 1968, nos.116, 119, 120; Woolley & Mallowan 1976, nos. 210–214, 231; Cholidis 1992, pl. 13, no. 27; Wrede 2003, nos. 1268 and 1269). The motif of tree pairs is less frequent (e.g. Woolley & Mallowan 1976, no. 209).

11 Collins (2017, 86) suggests that any representation of animals is linked to the supernatural world. This was also the idea of many other scholars, some of them linking more strictly an animal to a divinity (e.g. van Buren 1939; Opificius 1961; Collon 1989; Groneberg 2000; Veldhuis 2004). I side with Amiet (1956), who proposed not to link the animal to a specific deity but rather to a function (fertility, protection, war) (Battini 2006a). For the study of animal symbolism, see also Watanabe 2002.

12 Before being linked to Ishara, and probably even after, scorpions have been connected with sexual intercourse (cf. van Buren 1937, 1–2, 12–18; Teissier 1984, 11; Bergamini 1987, 44; Mazzoni 1992, 35–43; 2002, 367. See lately Battini 2006b with references therein).

13 Magic texts often advise the use of certain stones (and many seals are made of precious and imported stones). In the myth of the fight of the gods against a kind of dragon, which infests and terrorizes the earth, a god succeeds in defeating and killing the dragon by holding before its face, as protection, his seal which is called *kunukku napishtishu*, the 'seal of his life' (Cassin 1960, note 6).

14 According to breeders, the three conditions for geese and ducks to stay in place are: safety, enough to eat, and a body of water (Etchecopar & Hue 1970, 106–7).

15 Unfortunately, I could not see this terracotta in Philadelphia and the only photo is in black and white, so it is difficult to discern the colour. The object was a gift, in 1900, from Hermann Hilprecht after the Babylonian Expedition to Nippur.

16 Pennsylvania Museum 31–43–319, 331–43–320, 31–43–321 and 31–43–323; 31–43–319 = frit, 'duck or goose', pierced through horizontally from side to side to side, 2.5 × 2.1 (h) cm, Ur III. 331–43–320 = frit, 'duck or goose', pierced through back vertically, 1.7 × 2 (h) cm, Ur III. 331–43–321= frit, 'duck or goose', pierced through back vertically, 1.8 × 1.8 (h) cm, Ur III. The case of n. 331–43–323 (= glazed frit, 'dove', without hole, 3.2 × 2.3 (h) cm,) is different for the absence of a hole. I cannot clearly recognize whether it is a dove, a duck or a goose. See also SAA 7, 85: ii 7 'a goose head in lapis lazuli'.

17 For example, in Egypt and on the Levantine coast, duck-shaped make-up boxes with their heads twisted to watch their tails are very common (cf. Adler 1996). Still in the late nineteenth and early twentieth centuries, boxes of this type were produced in France by Fondica.

18 I thank Pierre Villard for this translation (CT 55, 712–713).

19 For the four coroplastic variants, see Battini 2006a.

20 For example, Woolley 1926, 375; 1976, 56, 178; Legrain 1930, 28; van Buren 1930, li; 1939, 94; Frankfort 1939, 109, 130; and Collon 1982, 138 identify her with Baba. Even if less certain, this identification is not ruled out by Moorey (1975, 87) and Wiseman (1960, 169 and note 35). The identification with Gula, proposed by Ward was followed by Parrot (1948, 239), Wiseman (1960, 169 and note 35) and Moorey (1975, 87). The identification with Ningal (Legrain 1951, 27; Cholidis 1992, 70–6, 109–110) remains marginal. For an identification with Nanshe, see van Buren 1938, 74.

21 A new hypothesis proposed by Battini 2006a is based on those elements that accompany the goddess apart from the geese, and is not based on the textual information.

22 A literary text without a precise date, 'The Debate between Fish and Bird', ends in favour of the bird, because it can sing in the temple, thus making the gods rejoice, and it can be eaten in the great banquets (Sharlach 2017, 198).

23 *Iṣṣūru* can also indicate a ritual vessel (CAD I, 213b).

24 Delougaz 1952, 43–44, pls. 25a, 27 (Jemdet Nasr), 93, pl. 94a (Early Dynastic). Wilson 2012, 80, pls. 38–40 (Ur III period).

25 Louvre, AO 17 000. H. 26.2 cm, diameter 13.5 cm. Paint and incised. Found in tomb 15 at Larsa in 1933 by A. Parrot.

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Chapter 20

Wild ostriches: a valuable animal in ancient Mesopotamia

Olga V. Popova & Louise Quillien

The role of ostriches in Mesopotamian society can be studied through a comparison of textual data and archaeological finds. Ostriches were often present at royal courts. They were considered rare and prestigious animals, and used as distraction for the elite in zoological gardens and as diplomatic gifts. On Assyrian seals, fast and dangerous ostriches were depicted as royal hunting trophies, along with lions. Their eggs and feathers were particularly valuable for the manufacture of luxurious objects such as vessels, fans and garments. We examine here the place of these animals in Mesopotamian culture and the way in which ostrich hunting contributed to the construction of royal ideology.

The ostrich is a wild animal that lives in semi-desert areas. It is the tallest and the fastest of birds, but it cannot fly. Due to its ability to run fast and the strength of its feet, the ostrich has no natural predators. It can travel long distances to feed itself and flee from danger. The Mesopotamian ostrich belonged to the subspecies *Struthio camelus syriacus*, the Arabian/Syrian ostrich. The animal reportedly found its way to the Middle East from Africa during the Pleistocene, 2.58 million years–11,700 BC (Herles 2007, 175; quoting Robinson & Matthee 1999, 165). This subspecies was driven to extinction in the middle of the twentieth century AD (on ostriches in Arabia, see Potts 2001). Nowadays, only two subspecies remain: African ostrich, *Struthio camelus Linnaeus* and Somalian ostrich, *Struthio molybdophanes*.

Humans have interacted with ostriches since prehistoric times. The oldest evidence from Mesopotamia illustrates confrontation in the form of a flint found stuck in the pelvic bone of an ostrich skeleton, dated to the Mousterian period, 350,000–35,000 BC, at Umm el Tlel, El Kowm, Central Syria (Bonilauri *et al*. 2007, 39–46). Signs of the presence of ostriches in Mesopotamia occur in faunal remains, iconography and texts. A synthesis of the archaeological discoveries with the corresponding scientific literature is presented by Herles (2007). Rare remains of ostrich skeletons have been found at Levantine and Syrian sites from the fourth to the second millennium BC, suggesting that ostriches lived in this area.[1] In contrast, many eggshells have been discovered in palaces, temples, buildings and in burials, not only in the regions where bones are attested (Syria and the Levant) but also in southern Mesopotamia, for instance at Kiš, Umma, Ur, and Abu Salabikh.[2] We do not know if ostriches also lived in the south or if these eggs were imported. Only a few eggs date back to the first millennium BC; among them are the remarkable findings from Nimrud, ninth/eigtht century BC (Oates 2001, 46).

Iconographic depictions of ostriches exist throughout all periods of Mesopotamian history. An extensive overview of the iconographic data is presented in an article by Collon (2010). Ostriches appear on a mural painting at Tell Buqras, dated to the Neolithic period, and this is the earliest iconographic evidence we have (Nunn 1988, pl. 2; Herles 2007, 180). They were depicted on seals from the third to the first millennium BC, as well as in second millennium BC Babylonian terracotta plaques (Collon 2010) and on Kassite kudurrus (Herles 2009). Representations are especially numerous in Neo-Assyrian glyptic and on many objects found in the palaces of Nineveh and Kalḫu: a vessel, ivory bands and statuettes.[3] This unequal spatial and temporal distribution of the material and iconographic data might be due to the results of the excavations that were obviously not exhaustive. Nevertheless, one can observe general trends that we will try to explain, for instance, the increasing popularity of the animal as an iconographic motif during the Neo-Assyrian period.

The term for ostrich is spelled GA.NU$_{11}$ in Sumerian, *lurmu* in Akkadian (CAD L, 255; AHw 564; Stol 2011–2012, 211–12). At least six Ur III texts, *c*. 2100–2000 BC, mention ostriches: in the middle of a list of cattle (CT 32, 14; P108664) and in a boat (CM 26, 051; P292578).

An ostrich in silver, perhaps a statuette, appears in one text (SAT 2, 527; P143727) and ostrich eggs, given to the grand vizier (SUKKAL.MAḪ) are mentioned in two others (AO 02458; P108815 & ITT 5, 8221; P111720). One also finds ostriches in two lexical lists from Shuruppak and Abu-Salabikh, dating from the Early Dynastic III period, *c*. 2600–2500 BC (SF 058; P010649 & OIP 99, 34; P010094). During the second millennium BC, the core of written sources mentioning ostriches comes from Mari's palace archive.[4] Apart from these, an ostrich egg occurs in a text from Nuzi (HSS 14 247=Lacheman 1939, 130–2) and in another from Ugarit (RS 25.421=Nougayrol 1968, 310–19). The animal is also attested in several Old Babylonian lexical lists from Nippur[5] and in a bird names inventory from Sippar (IM 90646). A Middle Assyrian text from Tell Sabi Abyad (T 97–33) evokes the fattening of female ostriches. Ostriches also appear in the royal inscriptions of the Assyrian kings as hunting trophies,[6] and ostrich eggshells are frequently attested in Assyrian medical texts (for instance BAM 3, 237; 313; 318). As for Babylonia, in the first millennium BC, a letter sent from the land of Bīt-Yakīn to Nergal-nāṣir states that there are no ostrich eggs in the region of Nippur (SAA 17, 147). Two texts from Uruk dated to the Neo-Babylonian and Hellenistic periods mention ostrich eggs, but their provenance is not specified (TCL 12, 123 and TU 38). Ostrich is cited in the famous *Mapa Mundi*, together with other wild animals created by Marduk (CT 22, pl. 48).

In this chapter, we will first study how the hunt of this wild animal manifested the power of the kings and participated in the construction of royal ideology; then we will observe various uses of the animal and its by-products at royal courts in order to better understand the role of this animal in Mesopotamia.

Ostriches and royal ideology

A wild animal

Although today we are used to seeing ostriches in farms, in the ancient Near East, they were wild animals. They appear in different types of sources. Ostriches were associated with other wild fauna in figurative scenes engraved on seals. For instance, a seal from Tello, dated to the Early Dynastic period (*c*. 2900–2350 BC), shows a hunting scene where a lion, an ibex, a stag and a jackal or a fox are represented together with an ostrich (Fig. 20.1). On a Middle Assyrian seal, a hero hunting an ostrich is figured together with a lion and a stag (Fig. 20.2).

Some textual sources also evoke ostriches living in peripheral areas. The Sumerian literary text *Ur-Nanše and the Birds* describes the behaviour of different wild birds such as the pelican, the vulture, the raven and the peacock. According to this text, the ostrich 'produces eggs bigger than a mountain. One takes these eggs as carrying baskets. The bird is familiar with the watch at night' (Ur-Nanše C, Nanše and the birds: A 46–8, translation of Veldhuis 2004, 119). Indeed, male and female ostriches take turns to incubate the eggs and watch them so that they do not remain unattended, contrary to their bad reputation in the Bible, where

Figure 20.1. *Modern impression of a cylinder seal, Tello, Early Dynastic period, picture taken from von der Osten 1934, no. 680, see Collon 2010, no. 95 for bibliography.*

Figure 20.2. *Modern impression of a cylinder seal, Mesopotamia, Middle Assyrian period, BM 89862 © The Trustees of the British Museum (CC BY-NC-SA 4.0), see Collon 2010, no. 72 for bibliography. https://www.britishmuseum.org/collection/object/W_1891-0113-1 (last accessed 26.09.2020).*

in Job 39, 14, an ostrich leaves its eggs on the ground, and heats them on the dust.

Several letters from Mari (eighteenth century BC) mention that ostrich eggs are found 'in the steppe' or 'in the desert'. For instance, in a letter of Ilušu-nāṣir, governor of Qaṭṭunan, to his lord Zimrî-Lîm, we read the following: 'One other thing. We collected four ostrich eggs from the steppe, and I have them taken to my lord' (ARM 27 9, 31–4). In FM 2 62, another governor of Qaṭṭunan, Hadni-Ilum-ma, is writing to Zimrî-Lîm that 'The rains have been continuous and desert mushrooms have just appeared in the district. I had some taken to my Lord's house with two ostrich eggs' (FM 2 62, 8–12). In the letter ARM 14 86 from Yaqqim-Addu, governor of Saggarâtum, to his lord Zimrî-Lîm, Yaqqim-Addu says that during patrols in the steppe belonging to the King of Mari, gendarmes found two ostrich eggs (ARM 14 86, 27–30).

In the royal inscriptions of the Assyrian kings, the hunting booty includes ostriches among other wild animals. An inscription of Aššur-bēl-kala (1075–1057 BC) lists the animals killed by the king: 'panthers, [...] tigers[?] (*midinū*), [...] bears, two wild bears of the marshes, (and) [...] ostriches' (RIMA 2, 103–4), and Ashurnaṣirpal II (883–859 BC) relates his hunting exploits in the following way: '[...] alive in my hands I captured, and herds of wild oxen, and elephants, and lions, and ostriches, and male and female monkeys, and wild asses, and gazelle, and stags, and bears, and panthers, and cheetah, all the beasts of the plain and of the mountains' (AKA I, col iv, 36–46). Tukultī-Ninurta II (891–884 BC) specifies in one of his inscriptions that he killed ostriches in a desert area: 'I set up camp (and) spent the night here. Ḫindanu is on the other side of the Euphrates river. During the hunt in the desert, I killed ostriches. The little ostriches, the birds, I took them with my own hands' (Scheil 1909, 79–82).

Assyrian royal inscriptions indicate the regions the animal lived: Aššur-bēl-kala was hunting in the mountains near Assyria (RIMA 2, 103–4), Tukultī-Ninurta II captured ostriches in the desert at Ḫindanu in the Middle Euphrates (Scheil 1909, 79–82); Ashurnaṣirpal II also hunted them in the Middle Euphrates (RIMA 2, 215–16) and listed 200 ostriches killed (RIMA 2, 288ff). These attestations are not surprising as they correspond to the place where ostrich bones had been certified in the third and second millennia BC, in Syria and the Levant (see the reference in the introduction of the present chapter).

In the famous Babylonian tablet of the *Mapa Mundi* (BM 92687), dating back to the fifth century BC, the text accompanying the map of the world enumerates the animals that Marduk created on earth: 'Moun]tain goat, gazelle, zebu, panther, bull-m[an] [...l]ion, wolf, red-deer, hye[na ... monk]ey, female-monkey, ibex, ostrich, cat, chamelon [...] beasts, which Marduk created along with the restless sea' (CT 22 48, 6'–9', Horowitz 1988, 149). They are not common animals in Mesopotamia. According to Horowitz, the purpose of this tablet was to describe distant areas as well as to locate them with regard to more familiar places such as Babylon, Assyria, and the Euphrates river (Horowitz 1988, 160). The

Figure 20.3. *Cylinder seal and its modern impression, Mesopotamia, Neo-Assyrian period, BM 102397, © The Trustees of the British Museum (CC BY-NC-SA 4.0), see Collon 2001, 171 for bibliography. https://www.britishmuseum.org/collection/object/W_1906-0512-318 (last accessed 26.09.2020).*

ostrich was therefore perceived as an animal living far from areas inhabited by humans until the most recent periods of Mesopotamian history.

Ostrich hunting and royal zoological gardens

Texts and iconography document the hunt for ostriches in Mesopotamia. The ostrich can run very fast, up to 70 km/h, and is very difficult to capture. However, especially in the first millennium BC, there are many representations of a hero or a king hunting ostriches. While these images conform to the tradition of royal representation and convey royal ideology, they often belong to a mythical register. Nevertheless, it is interesting to observe the hunting techniques that Mesopotamians boast about in these depictions. Some seals demonstrate a hero holding ostriches in their hands (Fig. 20.3).

Seal representations also show the weapons used to hunt ostriches: a sword (Fig. 20.4),[7] a stick, a sickle (Fig. 20.5),[8] a spear (Fig. 20.2), and a bow. In some images, the man is holding an ostrich in one hand and has a weapon in the other. Sometimes the hunter is on foot, sometimes he rides a horse (Oates 2001, 65 and fig. 40) or a camel,[9] and in rare cases he is in a chariot (see in particular the scenes of the wall panels of Nimrud,[10] more 'realistic' than the glyptic). Some scenes show several people hunting an ostrich together.[11]

The meat of ostriches is edible but very tough. Despite records especially of Assyrian kings killing ostriches, it seems that they were not hunted for their meat (Herles 2007, 200), and that ostrich meat was not eaten. Indeed, in a royal inscription RIMA 2 30, Ashurnaṣirpal prides himself on having killed 200 ostriches during a hunt, but no such animal is mentioned later in the same text, when the menu of the banquet offered by the king for the dedication of the palace at Kalḫu is detailed. However, it does not explicitly say that ostrich meat was not eaten at all. There is one attestation in medical prescription that recommends it: 'He will eat ostrich meat and become (cultually) clean' (BAM 3, 318, iii 4). It is a special medicinal use of this meat, and it is for the moment the only attestation of consumption of ostrich meat in the textual data.

The texts indicate that ostriches were sometimes kept alive as a hunting trophy, and put into royal zoological gardens. In Mari's palace, rare animals, offered as diplomatic gifts or captured on the king's orders, were kept in zoological gardens (Durand 2004, 835). Like lions, ostriches were among the animals that the king of Mari wanted to capture alive (Guichard 1997, 323–5). The same practice is attested during the Neo-Assyrian period: in an inscription of Ashurnaṣirpal, the king claims to have captured 140 ostriches alive with other animals in order to breed them: 'I captured

alive 50 wild bulls, 140 ostriches, (and) 20 strong lions from the mountains and forests. I received five live elephants as tribute from the governor of the land Sūḫu and the governor of the land Ludbu (and) they went about with me on my campaign. I formed herds of wild bulls, lions, ostriches, (and) male (and) female monkeys. I bred herds of them' (RIMA 2 30, 90–100). In another inscription, the same king states that he brought wild animals back to Kalḫu to show them to the population: '(...) alive in my hands I captured, and herds of wild oxen, and elephants, and lions, and ostriches, and male and female monkeys, and wild asses, and gazelle, and stags, and bears, and panthers, and cheetah, all the beasts of the plain and of the mountains in my city of Calaḫ I collected, and the people of all my land I cause to behold them' (AKA I, col iv, 36–50). It is therefore very likely that ostriches were integrated into the royal gardens.

Figure 20.4. *Cylinder seal and its modern impression, Mesopotamia, Middle Assyrian period, © Pierpont Morgan Library, no. 606, New York (Acquired by Pierpont Morgan between 1885 and 1908), Porada 1948, no. 606, Collon 2010, no. 57. https://www.themorgan.org/seals-and-tablets/84234 (last accessed 04.12.2019).*

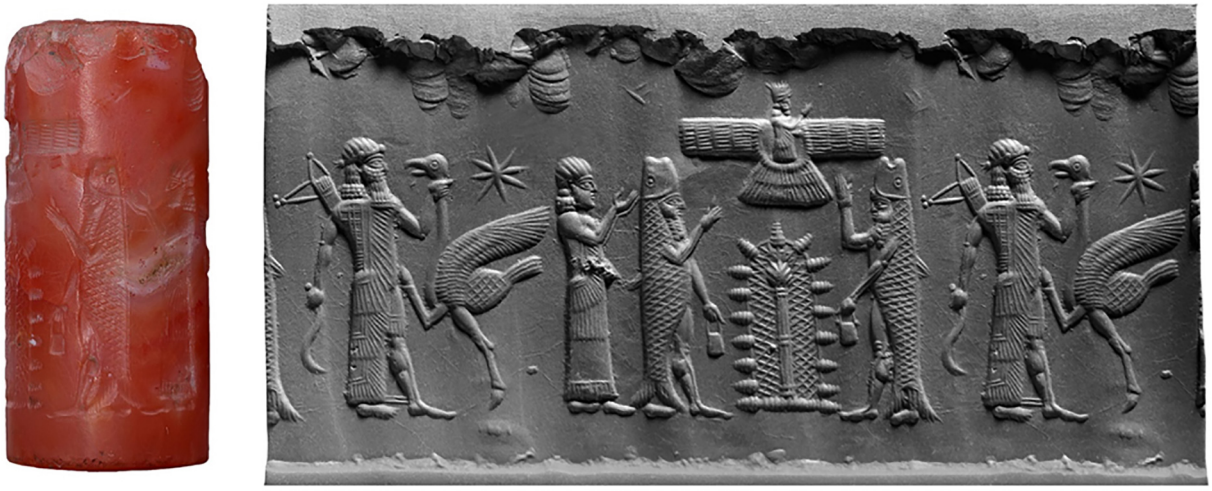

Figure 20.5. *Cylinder seal and its modern impression, Mesopotamia, Neo-Babylonian period, 1000–539 BC, © Pierpont Morgan Library, no. 773, New York, Porada 1948, no. 773. https://www.themorgan.org/seals-and-tablets/84395 (last accessed 04.12.2019).*

The interest in ostriches and their hunting, which appears in Assyrian and Babylonian iconography on seals and reliefs in the first millennium BC, shows a growing interest in distant spaces, concurrent with the military conquests of this time. The capture of wild animals such as lions and ostriches and their keep in the royal zoological gardens as well as the interest in geography manifest the power acquired by kings over these spaces.

A royal prerogative

At Mari, it seems that ostriches and their eggs found in the steppe were reserved for the king. One text from Mari demonstrates that it was forbidden to kill an ostrich, as was the case for the lion. These animals had to be captured alive and brought to the king: 'Tell my Lord, thus says Habdu-ma-Dagan, your servant. My lord wrote to me about 9 ostriches. I have tried to (take) 9 ostriches. A Bedouin (...). An ostrich [was taken]. When I come to my lord's house, he will give it. According to my lord's order (*asakkum* lit. 'taboo'), if more ostriches appear, they will be kept for my Lord!' (M 10999, Guichard 1997, 323–5). This is an interesting parallelism between the lion and the ostrich. The ostrich eggs that could be found in the countryside were also sent directly to the king. This practice shows that the animals of the steppe were part of the royal domain, and that the rulers thus asserted their power over the peripheral territories.

Texts from other periods also attest prerogatives over the ostrich and its eggs. For example, two documents from Ur III (DAS 18 and ITT 5, 8221) record ostrich eggs that were 'for the grand vizier' (SUKKAL.MAḪ). Perhaps the eggs found were reserved for this administrator. Assyrian royal inscriptions concerning royal hunts show that this animal was worthy prey for the king. We can even draw a parallel between the lion and the ostrich in some iconographic representations (for example, Collon 2010, no. 84). Cylinder seals show a lion and ostriches fighting together at the same level (Fig. 20.6).

According to Collon (2010, 1), in the iconography, the ostrich is not associated with a specific god, i.e. no god has the ostrich as his animal symbol. Sometimes

Figure 20.6. *Cylinder seal, Northern Mesopotamia,* c. *1600–1000* BC, *© Cabinet des Médailles, Bibliothèque Nationale de France, DMMA 1980.292.49, P502740 provided by Sceaux et empreintes de sceau du Proche-Orient ancien http://sespoa.huma-num.fr/items/show/715 (last accessed 04.12.2019).*

its meat and eggs were used in rituals; at Uruk, eggs were offered for the divine meals by the Babylonian king Nabonidus (TCL 12, 123). It is interesting to note that the king has these goods at his disposal in Babylon in the sixth century BC, in the absence of contemporary data concerning royal hunts.

The use of the animal and its by-products at royal courts

Diplomatic gifts and royal tribute

Ostriches were offered as diplomatic gifts. This phenomenon is documented in the Old Babylonian period, when the building of a whole diplomatic system began, leading to the formation of great powers in the ancient Near East (Lafont 2001). Diplomatic gifts were an instrument for the kings to show their wealth and to forge alliances. In their correspondence, they appear as sending or requesting prestige goods. The ostrich was one of these valuable and coveted possessions, as the correspondence of the king of Mari shows. Sibkuna-Addu, the king of Šuda, writes to Zimrî-Lîm (1775–1761 BC): 'You wrote to me in these terms: if you have a real desire, tell me what you want, so that I can give it to you. Now, if [...] clothes, shirts, shawls [...] horses [...] Now, I don't have an ostrich, send me a beautiful ostrich, as soon as possible' (ARM 28 33, 5–16).[12] Šuda is here one of the capitals of Zalmaqum, located near Mount Hasam, in the north of Baliḫ, in the Khabur triangle (Ziegler & Langlois 2017, 348). The sender seems to suppose that Zimrî-Lîm has ostriches at his disposal. But even for the king of Mari, ostriches are difficult to find. In a letter to Liqtum, the wife of Adal-šenni, the king of Burundum, Zimrî-Lîm writes: 'In the land where you are, there are many ostriches; why don't you send some to my house?' (ARM 10 140, 30–3).[13] Burundum was the capital of the kingdom in the actual Tur Abdin, a region situated in southwest Turkey, at the border of Syria (Ziegler & Langlois 2017, 69–70). This letter seems to indicate that ostriches lived in this area, but in another letter, the king of Burundum himself requests a garment made with ostrich feathers from Zimrî-Lîm.[14] Ostriches thus seem difficult to obtain for the kings of the region, which surely made them even more valuable gifts.

Later, in the first millennium BC, during the age of empires, wars are better documented than diplomatic exchanges. Ostriches were sometimes part of the booty taken by force from the defeated enemy. Two iconographic depictions show bearers of tribute holding ostriches. The first is a fine ivory statuette from Nimrud (storeroom NE2, Fort Shalmaneser) representing a Nubian holding a goat around his shoulders and an ostrich by its neck (Oates 1962, 13, pl. VII; Herles 2007, 189; Collon 2010, no. 74). It is probably an African ostrich and if the statuette was brought to Assyria, the same may not be the case for the animal itself. Nevertheless, Nubians are widely represented in reliefs depicting Ashurbanipal's Egyptian campaign (Barnett 1976, pl. 36, slab 17). The second is a bowl discovered in the tomb of a member of the merchant aristocracy at Arjan (Elam), dated to the mid-seventh century BC (Majidzadeh 1992, fig. 1, 78; Herles 2007, 195; Collon 2010, no. 77). Two pairs of ostriches are driven by a man in the middle of a procession of tribute bearers, along with other animals like lions. The style merges elements of Elamite, Assyrian, Egyptian and Phoenician art. More than a representation of a historical scene, it shows the content of a very prestigious war tribute for the Elamite aristocracy, with ostriches being a part of it. Ostriches were therefore among the precious and rare goods exchanged between kings, offered as diplomatic gifts or taken in tribute after a military victory.

A source of luxury items: vessels and garments

The ostrich was also an animal coveted for its eggs and feathers. The ostrich egg is the largest egg with a shell of an extant animal and it can weigh more than one kilogram. Its shell is thick (2–3 mm) and hard. Once emptied, ostrich eggshells provide good material for vessels and they were used as such in ancient Mesopotamia. The eggshells used as vases have a neat opening on one side and are often decorated on the rim. Some of them have been found with a foot that allowed them to stand upright. Ostrich eggs were used in contexts that go beyond the palatial environment: they were also discovered in tombs, temples, and residential quarters. Syntheses of the discoveries of ostrich eggs in Mesopotamia have been presented in a number of studies (Laufer 1926; Finet 1982; Caubet 1983; Herles 2007; Matoïan 2008).

The oldest ostrich eggshells known to date have been found in the Levant and date back to the fifth-fourth millennium BC.[15] In Mesopotamia, a fragmented painted eggshell dated to the Uruk IV period (3350–3200 BC) was discovered in the South temple of Tell Qannas / Habuba Kabira, Northern Syria (Finet 1982, 72; Herles 2007, 177). During the third millennium BC, ostrich eggs turned into precious vessels have been found in Mesopotamian tombs, temples and palaces. They are often decorated with inlays. For instance, an ostrich eggshell together with a pottery rim inlaid with pieces of shell and bitumen was discovered at Tell Jokha, ancient Umma, in a building dated to the Early Dynastic period, 2900–2350 BC (Rumaidh 2000, 27, fig. 84). Famous are the ostrich eggshell vessels of the Royal Cemetery of Ur, second half of the third millennium BC

(Woolley 1934, pl. 156, 170a). These were opened at the top to serve as cups or bowls. One is decorated with a band of mosaic round the rim, made with inlay of mother-of-pearl and red paste in bitumen (BM 123556, last accessed 04.12.2019). Another is an imitation made of gold, with its rim and foot adorned with mosaics of ostrich eggshell, limestone, lapis lazuli and sandstone inlaid in bitumen (Penn Museum B16692, last accessed 04.12.2019). Ostrich eggs were therefore appreciated as luxury containers at that time.

From the second millennium BC, the findings of ostrich eggshells are more numerous, but painted eggshells replaced inlaid eggshells. A painted eggshell was found in the throne room of the royal palace of Ugarit (Matoïan 2008). They are also attested in the Levant, in Cyprus and in the Mycenaean world (Caubet 1983; Matoïan 2008). Unpainted eggshells and fragments have also been discovered at many archaeological sites in the Levant and in Mesopotamia, especially in tombs.[16] This shows that they were less rare objects at the time. In southern Mesopotamia, during the Kassite period, ostrich eggs were still found in places of worship and power, for instance in the palace of Dur Kurigalzu/Aqar Quf, the headquarters of a Kassite dynasty during the thirteenth/twelfth century BC (Baqir 1945, 14; Moorey 1994, 128). Decorated ostrich eggshells were a part of the Bronze Age traded goods in the Mediterranean world and in the Near East. In the first millennium BC, finds of ostrich eggs became rarer in Mesopotamia, but remained numerous in the Mediterranean world (Caubet 1983, 182–3). Eggshells painted with red colours were uncovered in the Assyrian palace of Nimrud (ninth/eighth century BC).[17]

Sumerian and Akkadian texts evoke luxury vessels made of ostrich eggshell. An Ur III text refers to an eggshell set in gold, similar to the ones discovered in the Royal Cemetery (AO 3370, Thureau-Dangin 1903, no. 229). Some texts give clues to the use of these luxury recipients. Lú.DINGIR.RA, a Sumerian author from Nippur, evokes 'a phial of ostrich shell, overflowing with perfumed oil' in a poem he dedicated to his mother (Civil 1964, 1–11; Cooper 1971, 157–62). A tablet from the royal archive of Mari mentions an ostrich egg mounted in gold (ARM 26 I/1, 487, n. 19, text M.18010). At Ugarit, a text mentions a vessel of ostrich eggshell containing aromata (RS 25.421, Nougayrol 1968, 310–19). The UR5.RA=*ḫubullu* lexical lists record a recipient in the shape of an ostrich egg: 'BUR.NUNUZ.GA.NU$_{11}$ MUŠEN = *šape-el lu-ur-me*' (Hh. X, 110; CAD L, 255). Ostrich eggshells could therefore be used to contain precious substances.

Unlike eggs, ostrich feathers are rarely mentioned in Mesopotamian texts. Garments made with these feathers are attested at Mari, in several texts: *ṣubât kap lurmim* or TÚG *kap lurmim* (Durand 2009, 105–6). For instance, in a letter, Adal-šenni, the king of Burundum, asks Zimrî-Lîm, the king of Mari, to send him such a garment, because the king of Lullû, who is visiting him, wants one: 'Have brought to me 20 or 30 wild bull horns and (a garment) of ostrich feathers / *k*[*a*]*p*$^{(!)}$ *lu-ur-mi-im*(mušen)' (ARM 28, 43, 15–17, edition and bibliography on http://www.archibab.fr/ no. T6955). This item is also listed in administrative documents of the palace of Mari, and is mentioned in a dowry where it is worth 10 shekels of silver.[18] It is not very frequent in the archive. According to Durand, apart from two women, the king is the only beneficiary of this precious item (Durand 2009, 106).

On the seals, heroes are most often depicted collecting the eggs of ostriches. However, on a Middle Assyrian seal (dated 1250–1150 BC), we clearly see the figure pulling the feathers out of the animal's tail (Fig. 20.4). According to Collon, one may find figures wearing ostrich feathers in headdresses on Nineveh wall panels representing Nubian prisoners captured by Ashurbanipal, archers and musicians (Calmeyer 1969, 184–95; Barnett 1976, pl. 36, slab 17; Collon 2010).

Ostrich eggs in ritual texts and offerings for the gods

Ostrich eggs are used in medical prescriptions and for the gods' offerings. In medico-magical rituals, it is often the shell of the ostrich that is used to treat different diseases, for instance: '*barīrātu*, myrrh, resin of *baluḫḫu*, shell of an ostrich egg, these ten medications you bray together, he drinks them in wine or beer on an empty stomach and he recovers' (AMT 59, 1, 34). The eggshell was especially prescribed to treat renal disease (Geller 2005, vii).

Ostrich eggs were eaten at the table of the kings, judging by the eggs found pierced or broken. A text from Mari does mention an ostrich egg served to the king as an omelette (ARM 26 I/1, 487, n. 18, text M.13158). In first-millennium BC Babylonia, ostrich eggs were part of the food and animals offered by kings to temples to supply the offering table of the gods. A ritual text from Uruk, dated to the Hellenistic period, requests that three ostrich eggs were given to the gods for the second meal of the day, together with other products like duck eggs (AO 6451 r. 17, edition Thureau-Dangin 1921, 38, 84; Linssen 2004, 136, 178; see also Beaulieu 1991, 52 and Beaulieu 2003, 28 n. 46). We do not know if this instruction was obeyed. Nevertheless, an earlier administrative text from Uruk, dated to the Neo-Babylonian period (550–549 BC), shows that king Nabonidus gave ostrich eggs to the temple on two occasions. It is a long text listing the cattle, sheep and birds of the royal offerings (*niqê šarri*), delivered to the Eanna temple from the first to the sixth year of

Nabonidus' reign. Among the offerings of the first year one finds: '6 geese, 5 ducks, 20 turtle doves, 70 doves, 7 ostrich eggs, 18 duck eggs' and the third year: '12 geese, 5 ducks, 40 turtle doves, 23 doves, 8 ostrich eggs' (TCL 12, 123, edition Moore 1935, no. 23 & Kozuh 2014, 242–5). In the other years, the offerings did not contain any eggs. There is no other attestation, for the moment, of ostrich eggs in the administrative texts of the Babylonian temples of the first millennium BC. It seems that these eggs were a rare dish that only kings had the capacity to offer to the gods, occasionally.

Conclusion

The ostrich was a valuable animal in Mesopotamia. Ostriches, their eggs and feathers are mentioned in Mesopotamian documentation during all the periods of cuneiform writing. Remains of ostrich bones found in Mesopotamia date from the fourth to the third millennium BC. These data testify to the presence of the animal near the Euphrates and the Khabur in Northern Syria and in the Levant. It can be assumed that ostriches lived in the semi-desert steppe pastures that surround the river valleys. However, the presence of ostrich eggs, iconographic representations, as well as textual data, testify that this animal was known far beyond this area, at least as far as Southern Mesopotamia. During the third millennium BC, ostriches were depicted as wild animals in the iconography. According to the texts and archaeological discoveries, their eggs were precious goods, adorned with inlays and transformed into prestigious vessels for the elite.

Finds of ostrich eggs dated to the second millennium BC are more numerous. They are present in very diverse archaeological contexts and their trade is attested in the Levantine area. The animal is depicted on terracotta plaques. Letters from Mari, in particular, present the ostrich as a wild animal, living in the steppe surrounding human living spaces, and whose hunt was reserved for the king. The animal was offered as diplomatic gifts, showing the kings' wealth and prodigality. Its eggs were used for luxury vessel and their feathers for the fabrication of garments and headdresses.

During the first millennium BC, the ostrich became very popular in Assyrian and Babylonian glyptic and iconography in general, whereas there are few finds of eggshells and no bones from this period. If this is not an effect of the uneven archaeological excavations in the region, the rarity of the animal in Assyria and Babylonia was perhaps one of the causes of its popularity. The Neo-Assyrian royal inscriptions describe the kings hunting ostriches among other wild animals like the lion. Cylinder seals and a vessel depict different hunting techniques. The ostrich was also perceived, at this time, as a mythical animal: fighting a genie-hero on scenes engraved on cylinder seals, or mentioned among the wild animals of the Babylonian peripheries in the *Mapa Mundi*. Therefore, at the time of the building of the empires, ostriches became a motif highlighting the king's power and skill and, through its hunt, demonstrating his domination over the inhabited spaces and peripheral territories that they intended to conquer and master.

The ostrich also had a role in medicine and religion. We do not have evidence of the eating of ostrich meat in everyday life, except in medical prescriptions of the Assyrian corpus. But eggs were eaten at the table of the kings. Crushed eggshells were a medicine prescribed against renal disease. During the Neo-Babylonian and Hellenistic period, in Babylonia, ostrich eggs were a rare meal offered by the king for the table of the gods.

Notes

1 Habuba Kabira, Syria, end of the fourth millennium BC; Mispe Ramon, Neguev desert, third millennium BC; Halawa, Syria, 2700 – 2500 BC; Selenkahiye (Syria), 2400–1900 BC; Umm al-Mara, Syria, seventeenth-eighteenth century BC; palace of Mari, Syria, eighteenth century BC. On all these discoveries see the bibliographic references in Herles 2007.

2 On the discoveries of ostrich eggshells see the following articles and their bibliographies: Laufer 1926; Finet 1982; Reese 1985; 1991; Caubet 1983; Herles 2007; Matoïan 2008.

3 For instance, a golden jug depicts archers hunting ostriches (IM 115618, Collon 2008, fig. 14 and pl. 7; Collon 2010, no. 68); ivory bands with a procession of these animals (Barnett 1975, pl. 13; Collon 2010, no. 40), and the ivory statuette of a Nubian holding an ostrich by the neck (Oates 1962, 13 and pl. 7).

4 ARM 10, 140; ARM 27, 9; ARM 28, 33; ARM 28 43; Durand 1994, no. 62; FM 3, 60, ARM 14, 86; M.10999=Guichard 1997, 323–5.

5 References of these texts in the CDLI: P229306, P230090, P230310, P227951, P227972, P273620. Old Babylonian lexical texts of unknown provenance: P247855, P499076.

6 Inscriptions of Aššur-bēl-kala (1075–1057 BC), RIMA 2, 95–105; Tukultī-Ninurta II (891–884 BC), Scheil 1909, l. 79–82; Ashurnaṣirpal II (883–859 BC), AKA 203 iv 40, AKA 360 iii 49, RIMA 2, 288ff.

7 For instance, a Neo-Babylonian stamp seal, seventh-sixth centuries BC, from the Ullens de Schooten Collection, picture and drawing in Collon 1998, no. 7.

8 For instance, a Neo-Assyrian cylinder seal, 700 BC, Bibliothèque Nationale, Cabinet des Médailles, Paris, no. 330, drawing and bibliography in Collon 2010, no. 58.

9 Omphalos bowl, Aleppo Museum, Lattaquie, Falsone 1992, 85–9, pl. 2–4, esp. pl. 3b; Collon 1998, no. 12

10 Golden jug, Nimrud, 780–700, IM 115618, Collon 2008, fig. 14 and pl. 7.

11 IM 115618. Another curious ancient hunting technique, not documented in Mesopotamia, is the disguise of a hunter with ostrich skin and feathers to pretend to be an ostrich and approach them. This supposition is documented by Strabo (60 BC–AD 20) in Arabia (*Geography* XVI, 4, 11) and in ethnographic studies on hunting techniques in the Sahara (d'Hui 2011).
12 ARM 28 33=LAPO 16, 406–7 (no. 259); edition and bibliography on http://www.archibab.fr/ no. T6945.
13 ARM 10 140=LAPO 18, 372–3 (no. 1184); edition and bibliography on http://www.archibab.fr/ no. T8702.
14 ARM 28 43, edition and bibliography on http://www.archibab.fr/ no. T6955.
15 They were found at Tell Abu Matar (Israel), fifth millennium BC, Perrot 1955, 172, fig. 18, and at Byblos, fourth millennium BC, Dunand 1937, 1014, no. 18553, pl. 186.
16 In Mesopotamia, they were found in Syria (Tell Brak, Al-Rawada, Hadiha and at Mari in a thirteenth century BC cemetery) and at Nuzi. See Herles 2007.
17 In the room 14–15 of the Northwest palace, Max Mallowan recorded the discovery of 'numerous specimens of ostrich eggs', other fragments were discovered in room 13 (Oates 2001, 46). Other eggs dated to the first millennium BC were found in the rural site of Tell Knedig (northern Syria) and in Iran, Luristan.
18 Six texts are recorded by Durand 2009, 105 (T.263; T.480; XXII 120; IX 102; XXIV 221; M.12814; XXXI 239). The dowry is ARM 30, 239.

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Part VII
Companions and working animals: equids and dogs

Chapter 21

Face to face with working donkeys in Mesopotamia: insights from modern development studies

Jill Goulder

In the developed world the close daily presence of working animals has been rapidly wiped from our urban consciousness. Working animals remain central to the lives of millions in the developing world today; there are cogent reasons for increasing recognition of their major influence in antiquity – not just for ploughing and transport, but in terms of related new human occupations and activities.

Archaeological thought has become insulated from detailed appreciation of rural employment of animals, relying on unquestioning acceptance of high-level European and Asian anthropological models, with 'oxen' (no mention of female cows or donkeys) as an abstraction rather than as living creatures with their maintenance and husbandry requirements (see Goulder 2020, 151).

Andrew Sherratt in his iconic secondary-products model (1981) focused on the advent and diffusion of ox-ploughing in Mesopotamia, with ox-carts for transportation as in the contemporary Central Asian steppes. He originally mentioned donkeys only briefly as working on long-distance pack routes in the southern Levant, though he later acknowledged their spread to Mesopotamia (Sherratt 2003, 238, 243). Sherratt's model for Mesopotamia perhaps made unconscious reference to early use of working animals in Europe, where ploughing was often deeper and heavier and where donkeys were not yet present. This led to the sign for a plough, seen in the earliest texts in the late fourth millennium BC, as being widely associated with ox-ploughing; however, Englund (1995, 33) points out that in the earliest texts

> [o]nly several uncertain accounts register together the existence of both the plow represented by the sign APIN and oxen represented by the sign GU_4. Whether oxen played a large role in field work in the Late Uruk period is thus a matter of conjecture.

Working donkeys appear in Mesopotamian texts from the late fourth millennium BC and are commonly listed in the third millennium BC as employed in ploughing and other centralized agricultural operations.

Valasia Isaakidou (2011, 97) argues that Sherratt's secondary products model has been since then rather lazily taken up by commentators with

> preconceived notions of technological progress and economic intensification, driven by growing human population density and an expanding urban world system. For those disinclined to investigate farming practices, it offered an attractively clear, off-the-peg springboard for more interesting forays into human social behaviour. The extent to which data were accommodated to the model, rather than vice versa, became increasingly clear in later expositions….

I believe firmly that Andrew Sherratt would have been the first to agree that his model was designed as a basis for elaboration and adjustment, not for buying off the shelf.

Donkey-mindedness

The lack of 'donkey-mindedness' in discussion of this period outlined above, perhaps the product of a prevailing view of the virtues of deep (ox-) ploughing, has led to 'donkey-blind' models of early working-animal systems (Goulder 2018, 81). For example, Russell (2012, 208), in her otherwise useful text-book on humans and animals in prehistory, inexplicably omits the donkey from her table of 'major domestic animals', and, (on page 228), lists only cattle, horses, camels and even possibly dogs as likely early pack animals.

This is exacerbated by the issue that zooarchaeological detection of working-donkey use can be very problematic. Working donkeys in many cultures from antiquity to today have surprisingly rarely been eaten, with the carcasses left in the desert or dragged outside settlements, so they are very under-represented in food-middens. In earlier twentieth-century AD Mesopotamian archaeology, too, investigation was largely settlement-oriented, so again any working donkeys on small farms and villages were not detected. To add to their invisibility, *Equus asinus* remains are notoriously hard to tell from those of onagers (*Equus hemionus*) (e.g. Geigl & Grange 2012, 90); these were native to Mesopotamia and commonly hunted for meat and hides. The onager's intractable and restless temperament contrasts with that of the donkey; onager-donkey hybrids were employed for work in the third millennium BC, but it is now increasingly agreed, from faunal and textual evidence, that onagers were never systematically domesticated (Clutton-Brock 2012, 29). Zarins (2014, 14–32, 45–7, 65–7) makes a comprehensive case for interpretations of historical accounts and earlier texts on domesticated equids falling prey to confusion with donkeys and hybrids.

Absence of evidence should not be taken as evidence of absence, and these often unconsidered aspects are of central importance to my case for the under-estimation of the role and impact of donkeys in Mesopotamia (Goulder 2020). These factors result in a profile in the ancient Near East which is at odds with donkey use in modern developing regions. This inevitably impedes – among other elements – archaeological recognition of basic human-employing logistical matters such as breeding, supply, training, grazing and foddering, and of the impact of working animals on local economies through processes such as labour adjustments, hiring and lending, and the central contribution of short-distance transportation work.

Modern studies

There has been only very limited archaeological use of modern working-animal study sources in ancient Near Eastern studies to date, where ethnoarchaeology relating to animals has focused largely on the impact on human society of hunted and herded animals. Among the few exceptions, Renger (1990) consulted two official handbooks on draught animal use in sub-Saharan Africa for shedding light on working-animal use in third-millennium BC Mesopotamia. Bogucki (1993), a key post-Sherratt source for insight on the adoption of working animals in early Europe and commonly referred to in ancient Near Eastern work, cites four modern sub-Saharan African studies. Brodie (2008), focusing on the Aegean, also cites four modern African sources, and Goody (1976) refers to several of the same genre as examples of his wider findings; Halstead (e.g. 2014) makes use of many years of informal ethnographic observation among traditional farmers in present-day Greece.

I have therefore taken a new interdisciplinary approach, addressing the subject of the daily practicalities of working-animal usage through detailed qualitative analysis of several hundred official, NGO and academic studies of working-animal use in developing areas today (Goulder 2018, 82). A particularly rich source of studies is sub-Saharan Africa, where from the 1980s (post 'peak oil') there has been a new focus by agencies and NGOs on promoting use of working animals. While some useful working-animal studies have emerged from other regions, there is only limited published material from the modern Near East. Indeed, direct regional analogy there with use of working animals in antiquity would be largely inappropriate, due to major mechanization in many areas (Goulder 2016, 67). In a brief chapter it has been impossible to reference more than a small fraction of the 389 modern working-animal studies that form my data-set; my book (Goulder 2020) gives much more detail.

Sub-Saharan African studies have a particular value in that in many regions working cattle and donkeys have only been adopted in recent decades; in some regions, there has been a direct transition from hoe agriculture and human porterage to the use of animals, without intervening mechanization. As part of my research I also undertook brief observation visits myself to rural areas of Burkina Faso and Ethiopia (Fig. 21.1).

Such modern studies offer a largely untapped resource for assessment (with caveats) of the likely on-the-ground role and impact of working animals in antiquity – in particular on the unexamined role of donkeys. They investigate at farm and household level the practical social and economic ramifications of their adoption and use (largely ignored in more over-arching models), and demonstrate vividly the complexities of working-animal operational systems, sometimes in situations where the facilities today include little that was not available in the fourth millennium BC.

The use of ethnographies for study of ancient societies is an established approach, valuable in addressing potential biases and gaps. Wylie (2002, 145) argues cogently for their assistance in 'eliminating error and assessing likelihood, improving credibility and delimiting uncertainty'. In many of the recent working-animal studies by agencies in Africa and elsewhere there has been an explicit intention to move away from northern European priorities and to

Figure 21.1. *Interviewing farmers in western Ethiopia (© Jill Goulder 2014).*

establish local needs and practices with close attention to suitability of solutions to the local environment and farming traditions. This offers archaeologists the opportunity to reassess the often Western-centric epistemology of early working-animal use in the Near East, where there has been little challenge to assumptions such as that decisions, by animal-users and others, were always directed towards greater utility, productivity and profitability in developed-world terms (Wylie 2002, 145).

In my work I have taken an ethological approach to the studies, focusing on the irreducibles of natural animal behaviour and psychological responses to situations; these have an important influence on human interaction with cattle and donkeys in terms of work and husbandry. An imperfect recognition of their respective abilities and limitations can lead to an over-narrow view of their roles and value in the past, and my objective has been to test and offer revisions to common assumptions about their relative capabilities.

The social patterns of donkeys differ significantly from those of cattle. Donkeys live naturally in small sociable groups, so adapt well to working alongside humans; they are quick to learn and require little supervision. As widely evidenced today, a donkey can be led by a child to collect water, firewood and so on, freeing the mother to do other daily work such as making items for sale at markets. Donkeys, too, are used worldwide for unaccompanied smuggling of goods across national borders (e.g. (Africa) Jones 2009, 3; Sosovele 2004, 109; (Near East) Yilmaz 2012, 57; Nasser Kalawoun pers. comm. 2017). They have excellent memories for routes, very good night vision, and work well in difficult environments; advantage was taken of this by Assyrian merchants in the early second millennium BC for taking back-routes into Kaneš to avoid tax-payment on their goods (Larsen 2015, 157–8, 173, 179). Donkeys are also widely used, in the USA and elsewhere, as unaccompanied guard animals for flocks of sheep and goats: they can kill

coyotes and even see off mountain lions (e.g. Yilmaz 2012, 23). This is never something that cattle can do.

The physiological differences between donkeys and cattle have also affected their usage. Donkeys are strong for their feed input and low-maintenance: they are drought-tolerant, thrive on rough forage and are widely left free to find their own sustenance; as in general they are not a food source, they are less susceptible than cattle to theft. Cattle have greater absolute traction power, if this is needed for ploughing heavy soils, but constitute a greater investment than donkeys, with far more intensive herding, feeding and watering needs (e.g. Sosovele 2004, 107–9). Working cattle need high-quality grazing or foddering, with long periods in daytime to eat and ruminate (donkeys feed at night) and daily access to water, requiring active herding.

It has become clear during my research that top-down attempts to construct coherent theoretical models for the usage and benefits of working animals in the fourth and third millennia BC in Mesopotamia risk bypassing key findings. The adoption of working animals involves not solely the replacement of human labour (indeed it shifts or can even increase labour) but the development of entirely new social linkages, means of income, husbandry tasks and household arrangements. The complex minutiae of daily life with working animals – using an ox year-round, keeping a multi-purpose working cow, developing new income sources and household labour systems from donkey ownership (notably for women) – build up to a series of models hardly proposed yet.

Breeding and supply

A valuable and unexpected finding from the modern studies concerns the vast and geographically elaborate donkey-breeding industry in Africa and elsewhere. Despite more donkeys today than ever in prehistory being bred and traded, there is little published material to assist us in reconstructing likely systems in ancient Mesopotamia and beyond. Breeders and traders today as in antiquity inhabit remote regions and prefer to keep their activities out of official records, and as profitable entrepreneurs they are not the targets of aid organizations. Dercksen (2004, 258) underlines for example the scarcity of provenance information on the huge numbers of donkeys used in the pack-caravans described in the Kaneš texts. The modern West has lost touch with the complex nature and central importance until recent times of working-equid breeding and trading, equivalent perhaps to the vehicle industry today. The evidence from both antiquity and modern analogy is that large-scale breeding of donkeys for work, from the time of their early systematic use in Mesopotamia, has been conducted by specialists and located in remote, arid regions suited to their natural habitat.

In Mesopotamian texts, there are few references to breeding apart from to semi-nomadic Haneans breeding donkeys locally, as in early second-millennium BC Mari texts (Kupper 1957, 6–15; Zarins 2014, 201, 249). While the accumulation of donkeys at regional centres for onward transfer was susceptible to state control, I suggest that the systematic-breeding sector itself – perhaps concentrated in remote regions – was likely to have been privately operated. When systematic use of donkeys evolved in the late fourth/early third millennia BC, the breeding of donkeys may have become a specialist business for certain less mobile but still non-urban sub-groups. Milevski (2011, 177, 196, 232–5), discussing third-millennium BC southern Levant, suggests similarly from modern analogy that donkeys at the time were likely to have been bred by specialists, as in modern Arabia where the Solubba breed donkeys for other groups.

Among the few commentators on this barely recorded sector in modern Africa, Blench *et al*. (2004, 217; West Africa), Förster *et al.* (2013, 197; Egypt) and Pearson *et al.* (2001, 64, 67; Ethiopia) report how donkey-breeders raise their animals in remote, arid regions and sell them in a continual long-distance flow via large markets to donkey-merchants, who keep smaller groups of donkeys near urban and agricultural areas, supplying individual farmers and transporters and occasionally replenishing caravans. On my own brief research visits to West Africa and Ethiopia (2013/4) I witnessed ample further evidence of the scale and geographical scope of the donkey-breeding industry, supplying the huge demand for transport and traction donkeys in regions unsuited to breeding and where donkey mortality is high (Goulder 2018, 84; 2020, 53–5). Zarins (2014, 245) summarizes the textual references to donkey supply and demand in third-millennium BC Mesopotamia in terms that closely describe the modern African situations:

> [M]ortality rates were high and longevity was at a minimum. Therefore, the net local effect was negative, and, as a result, constant purchase from the peripheral areas of Mesopotamia was necessary to supplement local breeding.

There are intriguing clues in the texts to this phenomenon, with donkeys possibly being bred to the north and east and brought for sale at markets in

Mesopotamia, at transfer points between breeding and demand zones as happens in Africa today. Third-millennium BC commercial texts from Lagash and Mari indicate donkey supply centres at Dêr and Gutium in the Zagros region, Mari, and Kish in central Mesopotamia (e.g. Sallaberger 2014, 350; Zarins 2014, 160, 199); a tablet from Tello refers for example to more than 700 donkeys transferred hundreds of kilometres from Gutium to Lagash, a Mesopotamian demand centre. In the 'demand towns' in Africa today, there are regular markets (Fig. 21.2) and also urban 'pop-up' markets, where on a known day the streets of a town fill with donkeys brought in for sale. There are hints that a similar system operated in Mesopotamia in the early second millennium BC, where an Old Babylonian commercial letter advises a recipient 'concerning asses that you need, come here and buy asses, the asses have come up from the country' (Tablet BM 97347, CT 33 21; Zarins 2014, 201).

Kathryn Kelley (pers. comm. 2017) reports on the proto-cuneiform sign KUR – which has an association with mountains and foreign products – used in unprovenanced late fourth-millennium BC archaic texts in relation to donkeys (and male slaves), possibly indicating their importing for work over the Zagros mountains, perhaps from donkey-breeding rocky desert areas to the northeast.

Hiring and lending

At the next stage of the biography of a working donkey, then and now, overwhelming modern examples demonstrate how they circulate in the local community. Numerous accounts from sub-Saharan Africa describe a flourishing system of hiring, lending and communal ownership of donkeys, including 'contract' use for carrying others' produce and goods. These strong and self-generating levelling mechanisms enable maintenance of a minimum practical resource of working animals within a community.

Texts from antiquity support the hypothesis that the hiring, lending and sharing of donkeys was a central part of the donkey-using industry, enabling wide usage and allowing wealth disparities to be bridged. The hiring out of caravan animals is mentioned in the second-millennium BC Kaneš texts concerning the pack trade between Anatolia and Aššur; Dercksen (2004, 261–3) suggests that there may have been established local businesses hiring out donkeys for a stretch of the route, sometimes with a driver, and reclaiming the animals at the next town.

A text from second-millennium BC Deir el-Medina in Egypt suggests donkeys being hired out *ad hoc* for a few days, with the owner perhaps taking the donkey back home for the night (Janssen 2005, 11). Janssen

Figure 21.2. *Thrice-weekly donkey market in western Ethiopia (© Jill Goulder 2014).*

(2005, 110) and Janssen *et al.* (2003, 26–7, 44) report on a puzzle in several Deir el-Medina texts in which woodcutters (and also water-carriers, doorkeepers, policemen, a fisherman and a potter) hire donkeys from workmen, sometimes for only a few days and at high rates. Mitchell (2018, 50) explains this as indicating that donkeys were too expensive to be owned by such low-class workers, but the commentators cited above suggest that these recorded instances are in fact exceptions: woodcutters and water-carriers have daily need of transport and so may well have owned donkeys or obtained them from elsewhere, perhaps from a communal pool, with only occasional emergency hiring-in.

Both immediate benefit (e.g. grazing and protection from predators) and long-term social benefit can be achieved by lending donkeys. Donkeys are lent to help relatives and friends or to establish good relationships with neighbours and local groups (see e.g. the large Admassu and Shiferaw 2011 survey in Ethiopia (2011, 8)); Pearson *et al.* (2001, 23) report from an Ethiopian study that as a result 'donkey use seems to be part of the social network' in rural areas. Waithanji (2009, 34) reports as a practical point from a survey in Kenya that such lending 'is free to discourage further borrowing as paying for the donkey gives the person renting it a sense of entitlement to the donkey'.

In Mesopotamia, with its many centrally owned ploughing animals, there are few textual references to cattle hiring or sharing until late in the third millennium BC, when for example in a Girsu text, rent for plough animals is recorded in litres of barley (Heimpel 1995, 88). In early second-millennium BC texts, Stol (1995, 185, 191, 198–9) records regular references to cattle being hired for threshing/ploughing/pulling a wagon. He makes the point (1995, 198) that human members of the plough-team are similarly hired, underlining the seasonal nature of ploughing and the occupation elsewhere of humans and animals for the rest of the year.

The role of person-to-person dissemination

The modern development studies in regions of sub-Saharan Africa afford a particularly rich opportunity to read eye-witness accounts of adoption of working donkeys and cattle by cultures formerly using hand-cultivation and human porterage, bringing to life the sometimes sterile references in archaeology to diffusion and establishment of the new technology. There has been almost no envisaging of the actual process of adoption of working animals at ground level, particularly in the case of donkeys (introduced domesticates in Mesopotamia); the modern studies give strong reinforcement to a person-to-person information transfer model, subverting official initiatives (Goulder 2016, 72). African experience indicates that it is the person-to-person spread of understanding of the means of managing donkeys or cattle that precipitates widespread adoption of one or the other. Tibbs (1989, 12), writing of working-animal adoption in China, underlines that 'enthusiasm' for the new technology, as well as knowledge, is found to be 'best transmitted farmer to farmer'.

In western Ethiopia in 2014 I spoke for example to a farmer in a transmigrant community who had come from a cattle-using region but on arrival had seen a neighbour ploughing with donkeys, so had gone to him to learn how to use them and to make harness suitable for an animal with very different conformation from cattle (see Goulder 2020, 88–9). Similarly I met elderly farmers in central Burkina Faso in 2013 who explained that before the 1960s they had kept cattle and were aware of pack-caravan donkeys but had had no thought of using animals for cultivation until the concept was introduced by French post-colonial organizations; in the southwest, farmers had commonly held back from ploughing-animal adoption until young men returning from emigration brought eye-witness accounts and the funds to invest (and of course preconceptions as to which species to choose).

Resettled groups and returning wage-migrants in several other parts of sub-Saharan Africa are reported by regional experts at ATNESA workshops as having provided the concept and impetus for adopting animals for work (e.g. Sosovele 1994, 318–19; Starkey 1994a, 78); once implanted, new practices diffused from village to village, as with the southward spread of donkey use in regions of Africa (Starkey 1994b, 1). Starkey (1992, 21) also reports that oxen were promoted for ploughing and transport in several West African countries in the AD 1970s-80s, but that the farmers became more successfully introduced to working-animal adoption by their close cultural links with neighbouring regions such as Senegal, where donkeys were the established work animal.

Short-distance transportation

Local transportation, if mentioned at all in archaeological commentary, is still too often casually associated with the wheel, betraying perhaps a modern European bias and possibly preconceptions from analogy with the fourth-millennium BC development of ox-carts on the Central Asian steppe. Donkeys in ancient Near Eastern archaeology are spoken of almost entirely in the context of pack-caravans (see below), and these latter continue today in various parts of the world; but

Figure 21.3. *Carrying bricks in India (© Stephen Blakeway 2014, by permission).*

the two most common functions of the more than 45 million donkeys working in the world today are the carrying of fuel and water daily to rural and urban homesteads.

There is also the huge seasonal traffic of crops, fodder and dung from field to farm or to threshing-field or store, and from farm to village or market. Short-distance transport in villages and farms in the modern developing world is widely recognized as time-consuming and burdensome, in year-round terms far exceeding that of agricultural fieldwork (Waithanji 2014, 2). Studies of transportation activity in villages in Tanzania and Ghana, employing the tonne-km measure (effort involved in moving one tonne one kilometre), demonstrated that three-quarters of the annual transportation effort occurred within the village; water, firewood, and crops to the grinding-mill are the main activities, with water accounting for 70 per cent of the tonnage, women taking the majority of the burden, and the processes taking up to four hours daily (Doran 1994, 272–3).

Good modern example also gives strong evidence of the major modern unsung functions of donkeys for carrying bricks, cement, sand, timber, reeds and stones for construction (Fig. 21.3): a change in the archaeological record of the type or weight of material used, or change of source, could indicate new animal transportation. Similarly, with heavy or bulky raw materials – wood, clay, metal ore, charcoal, wool, flax – there could well be evidence of a dispersion of manufacturing sites, further from sources of raw materials and also from canals and rivers.

Transporting goods for others by donkey is commonly reported in studies of developing regions today as an important source of income and social benefit, and also for farmers aiming to maximize working-animal utilization in slack seasons (Goulder 2016, 72), with donkeys seen as productive assets in the same category as land and other holdings. Transporting fuel and water for financial gain is a staple in modern Africa and elsewhere; this trade is likely to have ancient antecedents, as with the water-carriers and woodcutters in second-millennium BC Egypt that I note earlier. Payment for transport services is often in kind, as recorded in antiquity, including repayment of obligations or storing up of goodwill.

Transport from field to farm and to consumption location has of course always been available in human form, but archaeological models of surplus-provision in Mesopotamia in the fourth-third millennium BC rarely address the practicalities of dealing with the major increase in bulk for transfer from the hinterland

Figure 21.4. *Donkeys with 100 kg grain-sacks at Yehil Berenda market, Addis Ababa (© Jill Goulder 2014).*

to newly urbanized nodes. Even less is said about what overwhelming modern evidence shows to be the key daily items conveyed year-round into urban areas in modern developing countries: fuel, water and construction materials.

Reports such as Admassu & Shiferaw's (2011, 27) working-equid survey results in Ethiopia demonstrate that in modern developing regions, use of donkeys in urban and peri-urban areas is commonly intensive and potentially lucrative; so this is a useful occupation for landless individuals. In modern Ethiopia '[a] large part of the people and of the economy of Addis Ababa depends on donkey transport for the movement of grain from wholesale centres to retail outlets and households' (Zenebe & Fekade 2004, 69), with several thousand donkeys employed daily at the vast Yehil Berenda grain-market (Fig. 21.4).

Analogies between urbanization in fourth-millennium BC Mesopotamia and modern situations are necessarily tentative and must rely on the resilience of basic forces; but insufficient attention has been paid to the practical workings of modern major cities. Tarr (1999, 434), writing of urban horse usage in AD nineteenth-century New York, encapsulates the inescapable need of cities for local essential supply systems:

> [o]ne way to think about cities is to conceptualize them as energy systems – as entities that require flows of energy for a wide range of purposes including heat, light, and power. Over time, the sources of these energy flows have changed from human to animal power, and then to steam, electricity, and gas.

Cities then as now became heavily dependent on their supply systems, with predictability of supply of foodstuffs and raw materials even more crucial than quantity (Marshall & Hildebrand 2002, 99–105). New modes of short-distance transportation to supply large centralized demand might have been a necessary context in which urbanization flourished, albeit not an initiator. I argue that the improvement to short-distance transport provided by local pack-donkey use was as central as were plough-generated surpluses to the operation of cities in fourth-third millennium BC Mesopotamia. It was also a crucial contributor to the burgeoning of centralized manufacturing and large-scale agriculture.

I have not addressed in this chapter the enigmatic and largely unrecorded subject of long-distance pack caravans, which operate firmly under the official

radar to this day: I expand slightly on this in my book (Goulder 2020, 116–33). Organizers of donkey-caravans throughout history and prehistory have been very interested in conducting profitable activities beyond the reach of authorities who would tax them, and of bandits who would similarly extract money from them. We can see this in the early second-millennium BC Kaneš cuneiform texts on the traffic between Aššur and Anatolia carrying tin and textiles, where as noted earlier donkey-caravans took difficult back-routes into Kaneš to avoid tax-payment on their goods (Larsen 2015, 157–8, 173, 179; Veenhof 1972, 34, 323–38).

Transforming women's lives?

A frustration in my research into the broader role of donkeys in fourth-third millennium BC Mesopotamia has been the marked scarcity of archaeological and textual clues to the daily lives of women. The study of women in this period has mainly to date been addressed anthropologically by top-down analyses of the changing social position of women in certain modern agricultural cultures (e.g. Goody 1976). In my bottom-up examinations of modern developing-world societies, where cattle ownership and usage are often prestige-related and largely the preserve of males, there is rich evidence that women often have considerably more cultural access to donkeys than to working cattle (Goulder 2016, 77–9). A theme in numerous published modern agricultural and socio-economic overviews and workshop papers is of this gender- and status-neutral attribution to donkeys; a major FAO working paper on animal traction world-wide reports that 'donkeys have fewer associations with masculine power than most other work animals' (Starkey 2011, 27).

The carrying of burdens is known as the traditional role of women in many cultures, and NGOs and agro-economic organizations in African regions in particular have focused significantly in recent years on the overwhelming benefits of donkey-use for easing the work of women (Fig. 21.5). In a major quantitative NGO survey in Ethiopia this is found to be the single most important social contribution of donkey ownership (Admassu & Shiferaw 2011, 8). As well as reduction of hardship, the delegation to donkeys of heavy load-carrying and manual cultivation work reduces reproductive and other medical problems in women; among mobile groups, donkeys can transport small children, lessening constraints on family size (Mitchell 2018, 36). Donkeys correctly employed are docile and easy to handle by women and their children. Occasional barriers are reported, as in some West African societies where women have access to

Figure 21.5. *Kenyan woman with seven children carrying food home from market (© Donkey Sanctuary 2011, by permission).*

donkeys but still carry fuel or water themselves (e.g. Starkey 2011, 26–7); the underlying reason may in fact be economic, as reported by Doran (1994, 275):

> '[h]ouseholds had to choose between conserving the energy of their animals or that of their women; in many cases the choice favoured the animals'.

The modern non-prestige status of donkeys has a long history: see e.g. Way (2011, 94) on donkey insults in texts from the third millennium BC in Mesopotamia. There has been debate on this as ancient Near Eastern depictions and the presence of equids in high-status burials appeared to indicate elite status for donkeys. Milevski (2011, 233) and others, though, make cogent arguments for 'elite' donkeys in southern Levant graves being rather symbols of the source of wealth of pack-caravan owning merchants. On closer examination, too, equids in elite texts, representations and burials in Mesopotamia are commonly the expensive and prized onager-donkey hybrids (Postgate 1986, 194–200; Weber 2008), while Zarins (2014, 53–65) has re-examined studies and faunal evidence from the elite burials at Ur, Kish and elsewhere, concluding that some of the bones were either not associated with the human burial or were not even from equids.

The near-invisibility of both donkeys and women in the archaeological and textual record in fourth- and third-millennium BC Mesopotamia is a significant obstacle to pursuance of this subject; future work may need to operate from the other direction, focusing on re-interpreting social and economic changes at the time in the light of the clear findings from modern studies of the likely impact of the advent of donkeys on the lives of the non-elite, and notably of women.

And finally, ploughing

The subject of ploughing in antiquity and today is a vast one, encompassing agronomic matters well beyond the scope of this short chapter. As I argue earlier, it is also an over-emphasized one in discussion of early working-animal use; so I provide here only a short note on some overlooked practicalities of ploughing adoption in relation to working animals.

Figure 21.6. *Woman ploughing with a donkey in central Burkina Faso (© Jill Goulder 2013).*

Strong evidence from modern ard-plough use in developing regions indicates that ploughing is not necessarily an advance over manual cultivation. For example, Kjaerby (1983, 38) reports that in parts of Tanzania rules were introduced banning ploughing altogether in light soils due to erosion problems. Ard ploughing can be deeper than manual digging, but this can be inappropriate for light, arid soils, resulting in desiccation. Ploughing opens the soil more speedily, but leads to an extra labour-burden per farm of weeding and harvesting, and of preliminary field-clearing, as well as of the major task of the care and feeding of the working animals. Top-down models of the adoption of plough agriculture commonly risk 'leaving out the animals', notably factors arising from the different virtues of oxen, cows and donkeys, which can apply to large and small farms alike.

Oxen are and were of course widely used for ploughing, but throughout history and up to today this is also commonly done in some regions by donkeys (Fig. 21.6) and female cows, especially in areas of light, dry soil. Texts from the third millennium BC record donkeys regularly used for ploughing and other field-work (e.g. Heimpel 1995; Zarins 2014, 190); they are widely used today in some regions, particularly where a multi-purpose animal is needed on a small farm. Female cows are little mentioned in earlier Mesopotamian texts (e.g. Maekawa 1979, 102): it may be that in centrally controlled agricultural regimes the extra feeding and care needed if cows are to work, as well as provide milk and calves, might not be considered worthwhile, whereas on the unrecorded small farms a female cow would again be multi-purpose. From the late third millennium BC, references become more common (e.g. Heimpel 1995, 89), though there are indications that listings included non-working females producing calves for a plough team.

Summing up

There has been very little focus on early systematic use of working donkeys in fourth-third millennium BC Mesopotamia, a result of the coinciding of several factors. In this chapter, I suggest a new evidential viewpoint, based on modern studies of day-to-day working animal use and management. My aim has been to collate from the growing body of on-the-ground working-animal studies from Africa and elsewhere the small-scale clues and descriptions of the social and economic consequences of the adoption and use of working donkeys and cattle in a range of modern communities. These shed light on adaptations in the ancient Near East and allow reassessment of the often Western-centric epistemology of donkey-use in particular, reducing their invisibility and moving towards greater appreciation of their role and impact.

These studies make clear how choice and usage of working animals are firmly based on the physiology and behaviour of donkeys and cattle. They underline the social and community adjustment – for good or bad – of working-animal adoption, notably the value of donkeys for small-scale farmers and for women and the disenfranchized. Short-distance pack work, between field, farm, village and market – the bedrock of modern employment of donkeys in developing regions – is almost wholly unrecognized in models of usage in fourth-third millennium BC Mesopotamia. Existing archaeo-anthropological models also fall short of examining the significant new activities and occupations consequent on adoption of such new technology.

Donkeys might usefully be regarded archaeologically in a similar light to organic materials: known to be present only by their impact on archaeologically detectable factors, with their absence from the record too readily resulting in their neglect in interpretation.

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Chapter 22

Sacred and the profane: donkey burial and consumption at Early Bronze Tell eṣ-Ṣâfi/Gath

Haskel J. Greenfield, Jon Ross, Tina L. Greenfield & Aren M. Maeir

In recent years, there has been a renewed focus on the domestication and importance of donkeys for ancient Near Eastern and other early societies (Mitchell 2017; 2018). Based on genetics, donkeys appear to have been domesticated in northeast Africa (c. Somalia or Ethiopia) sometime during the fifth millennium BC (Rossel *et al.* 2008). From there, they spread first to Egypt where they appear in late Pre- and Early Dynastic sites (Marshall 2000; Rossel *et al.* 2008), and become ubiquitous across the Near East soon afterwards (e.g. Gardiner *et al.* 1952; Partridge 1996; Förster 2007). Early domestic donkey remains are found across the Near East by the beginning of the Early Bronze Age (EB), initially in the southern Levant (*c.* 3500 BC) (Grigson 2012; Milevski & Horwitz 2019) and soon afterwards across the rest of the Near East (by 3000 BC) (Way 2010; Potts 2011; Zarins 2014). The evidence for early donkeys is diverse, and includes figurines, iconography, isolated bones, and complete burials, as well as textual references.

While most of the literature focuses on domestication (Grigson 2012; Milevski & Horwitz, 2019) or the special nature of donkeys as more than beasts of burden (Way 2010; 2011), it is clear that donkeys were utilized from the beginning for both the sacred (dedicated to a religious or ritual purpose) and the profane (non-religious purposes) (e.g. Rappaport 1971; Besserman 2006; Way 2010; Porter & Schwartz 2012). Donkeys are used to carry or pull the elite (Way 2010; Zarins 1986; 2014), as ceremonial sacrificial animals in elite tombs (Scurlock 2002; Rossel *et al.* 2008; Zarins 2014), and as beasts of burden (Jans & Bretschneider 1998; Al-Ajlouny *et al.* 2012; Makowski 2014; Shai *et al.* 2016) based on texts, iconography, figurines, and burials. Yet, most analyses of the zooarchaeological remains do not consider the larger evidence for their use in both domains within the same site. In this chapter, we present the corpus of zooarchaeological and artefactual data for the use of donkeys as both sacred and profane, in non-elite domestic contexts from the EB site of Tell eṣ-Ṣâfi/Gath.

Tell eṣ-Ṣâfi/Gath

Tell eṣ-Ṣâfi/Gath (modern Tell eṣ-Ṣâfi; ancient Gath) is located in central Israel at the westernmost edge of the Judean Foothills (*Shephelah* – Hebrew). It is positioned atop a natural limestone outcrop that overlooks the Elah River Valley and the coastal plain (Fig. 22.1). It is approximately 20 km from the coast, which can almost be seen on a clear day from the western pinnacle of the mound. From its pinnacle, one can see in all directions, which makes it a natural commanding location.

The location of the site allowed for access to fresh water and exploitation of a rich variety and abundance of natural food resources from both the rolling foothills and coastal plain, which may help to explain the long occupation with repeated destruction and abandonment over time. It was occupied periodically from the later Chalcolithic (*c.* 4000 BC) until it was finally abandoned in AD 1948 (Maeir 2012a,b). Given the results of the surface survey and extensive excavation across various parts of the mound, it was approximately 24 ha in size (Fig. 22.2) during the EB II-III (*c.* 3100–2600/2550 BC). As such, it was one of the largest and among the most important Early Bronze settlements in the region (Maeir 2012a,b; Uziel & Maeir 2012; Shai *et al.* 2014; Greenfield *et al.* 2016; 2017).

During this period, the site becomes one of several major regional and fortified urban centres that dot the landscape across the region (Miroschedji 2009; Levy-Reifer 2012; 2016; Nigro 2014; 2016; Shai *et al.* 2016; Chadwick *et al.* 2017; Welch *et al.* 2019). The nature of the regional settlement hierarchy (in conjunction with extensive excavation data) suggests that this period marks the beginning of complex urban and possibly

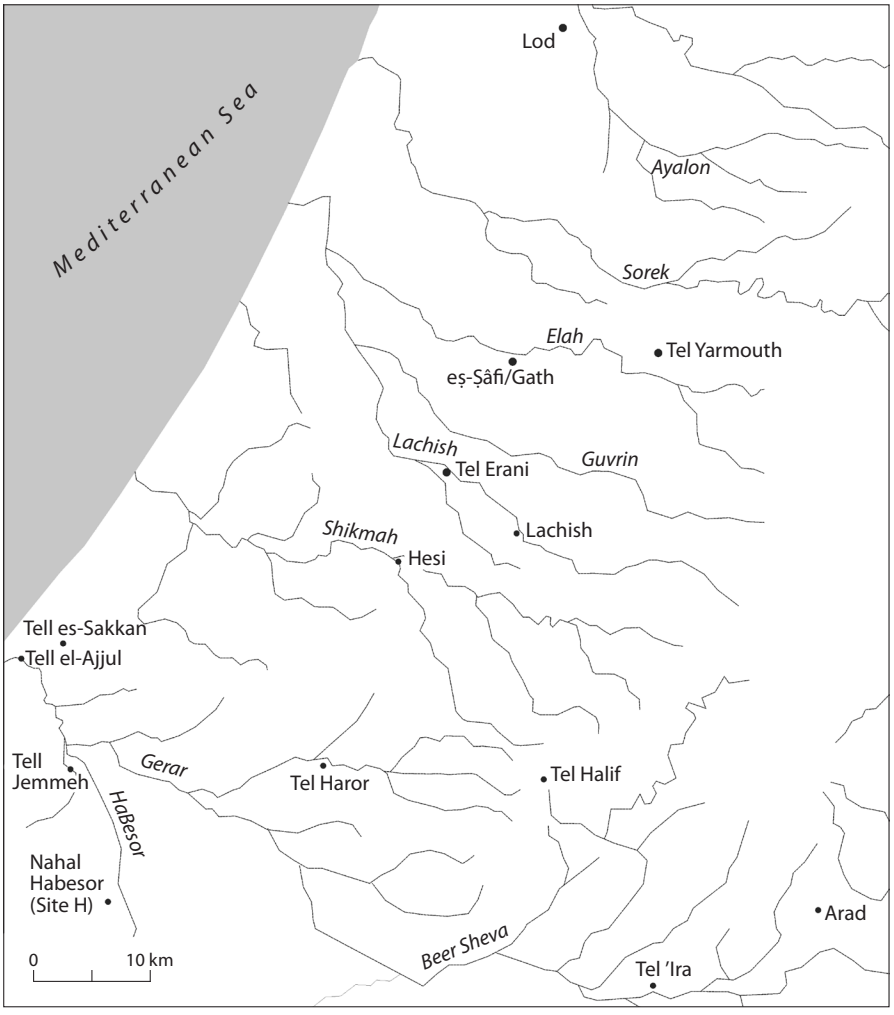

Figure 22.1. *Map showing location of Tell eṣ-Ṣâfi/Gath and some other major Early Bronze III sites in the region.*

low-level state societies in the region. Coinciding with the appearance of regional settlement hierarchies with fortified urban centres at the top of the hierarchy are large public buildings (probably palaces) (Miroschedji 2003; Ussishkin 2018), large ritual complexes (probably temples) (Ussishkin 2018), large-scale and centralized storage facilities (Greenberg 2002; 2014; Mazar & Rotem 2009), and various types of administrative activities, as indicated by the use of glyptic devices (Miroschedji 1997; 2006; 2009; Greenberg 2001; 2011; Maeir *et al.* 2011; Albaz *et al.* 2017).

These all suggest a robust and centralized system of administrative, ritual, social, and economic activities within and between urban centres in the region (and beyond). In this system, city-states vied with each other for control over both people and resources, as evidenced by the presence of large-scale fortifications that surround almost all major settlements in the region during this period (Miroschedji 1999; 2006, 2009; Greenberg 2002; 2014; Uziel *et al.* 2014; Levy-Reifer 2016; Nigro 2016). Most likely, they were political units similar to peer-polities that controlled their immediate hinterlands (e.g. Renfrew & Cherry 1986). The site is positioned adjacent or close to several routes of movement that extend through the region (north-south 'Trough Valley' along the base of the Judean Mountains to the east; north-south along the coastal plain to the west; east-west from the coast to the highlands through the Elah Valley) (Dorsey 1991).

The Early Bronze occupation at Area E

Evidence for an extensive EB occupation (based on systematic surface collection and excavations) has been found across the entire tell (or upper mound) at the site (Fig. 22.2). Preserved EB deposits have been excavated across a large part of the eastern half of the site (Areas A, E, J, and P), and at the western end (Area F). In addition, excavations in the last year of the nineteenth century and confirmed by our excavations demonstrate that the entire tell was encircled by an EB fortification system with a thick and high stone wall

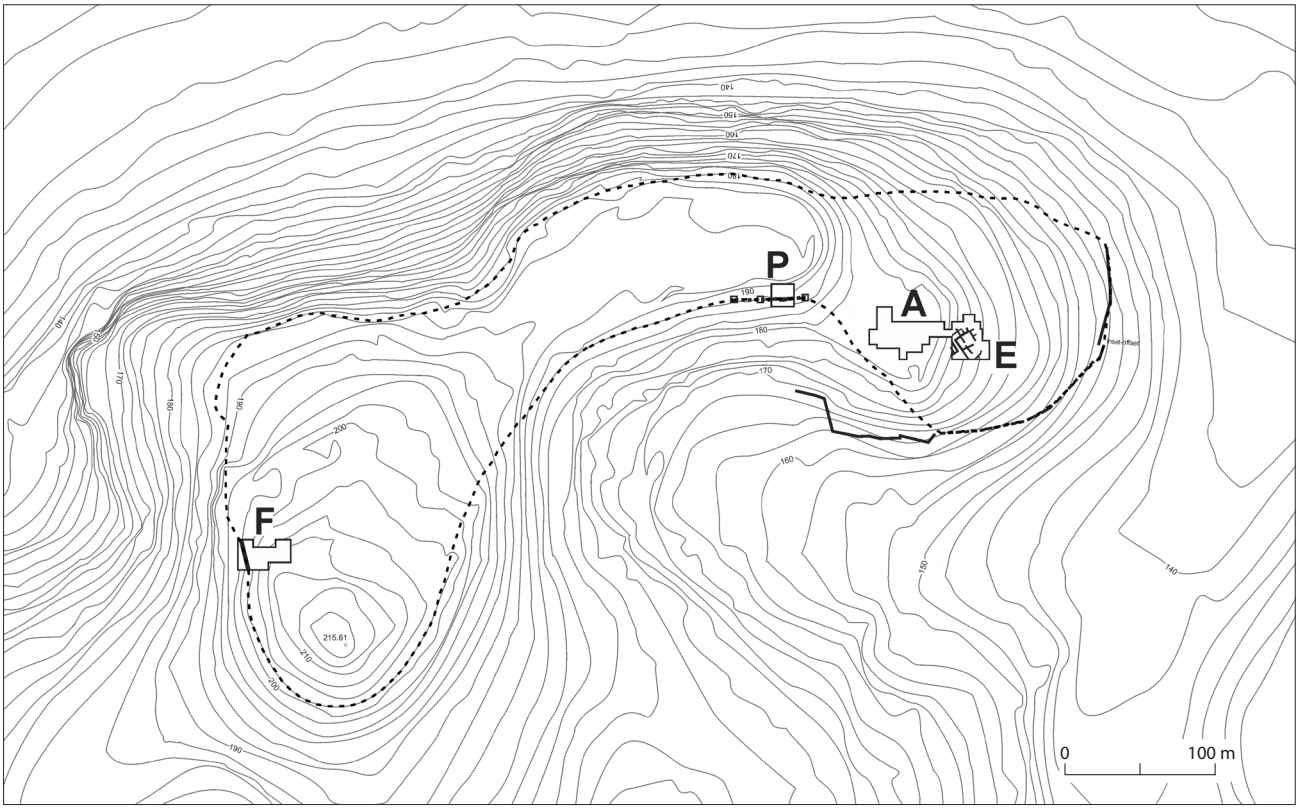

Figure 22.2. *Map of Tell eṣ-Ṣâfi/Gath archaeological site with the location of the various excavation areas. The dotted line shows the suggested size of EB settlement and fortification line on the upper tell. Excavation areas are labelled by letters.*

base (Bliss & Macalister 1902; Shai *et al*. 2016; Avissar *et al*. 2017; Chadwick *et al*. 2017; Welch *et al*. 2019).

In Area E, at the eastern end of the site, our excavations uncovered part of an EB III urban neighbourhood. Sections of several non-elite domestic residential buildings and an intervening alleyway have been investigated (Fig. 22.3). The most extensively investigated of the EB strata in this excavation area belong to the E5 strata (with 3 phases: E5a/latest, E5b/middle, and E5c/earliest). During the earliest of these, Stratum E5c, the overall layout of the buildings was established, and subsequently underwent two major renovations where rooms were subdivided over time (Strata E5b and E5a).

Terminal radiocarbon dates for this stratum obtained through high precision dating based on short-lived organics (i.e. olive pits) from very secure final deposits at the termination of the stratum (e.g. within restorable ceramic vessels) suggest that Stratum E5a was terminated *c*. 2550–2600 BC based on a one-sigma calibrated date range (Regev 2013; Shai *et al*. 2014). This date is close to the widely accepted data for the end of the EB III across the region (Adams 2017b; Höflmayer 2017). Stratum E5c is estimated to begin *c*. 2700 BC, however ^{14}C dates of the earlier part of the E5 strata are not yet available. This is the stratum under discussion here.

The buildings in Stratum E5c (Fig. 22.3) are constructed on a series of terrace-like steps to compensate for the natural slope of the terrain. The structures to the west are higher in elevation than those to the east. In almost all cases, the floors of each room are earthen. A few of the rooms have cobbled sections. None of the donkey skeletons are buried beneath the cobbled sections. A thick (10-20 cm) layer of grey ashy soil accumulated above the floors during the occupation. After approximately 50 years (based on ethnographic analogies, and our recent estimation of the length of occupation for the EB in the area and the number of phases of occupation), parts or all of the mudbrick walls and upper stories of the buildings were torn down and utilized to provide the foundation for the next level of earthen floors.

Most of the articulated donkey remains derive from Stratum E5c. There are four (and possibly more) completely articulated donkey skeletons buried beneath

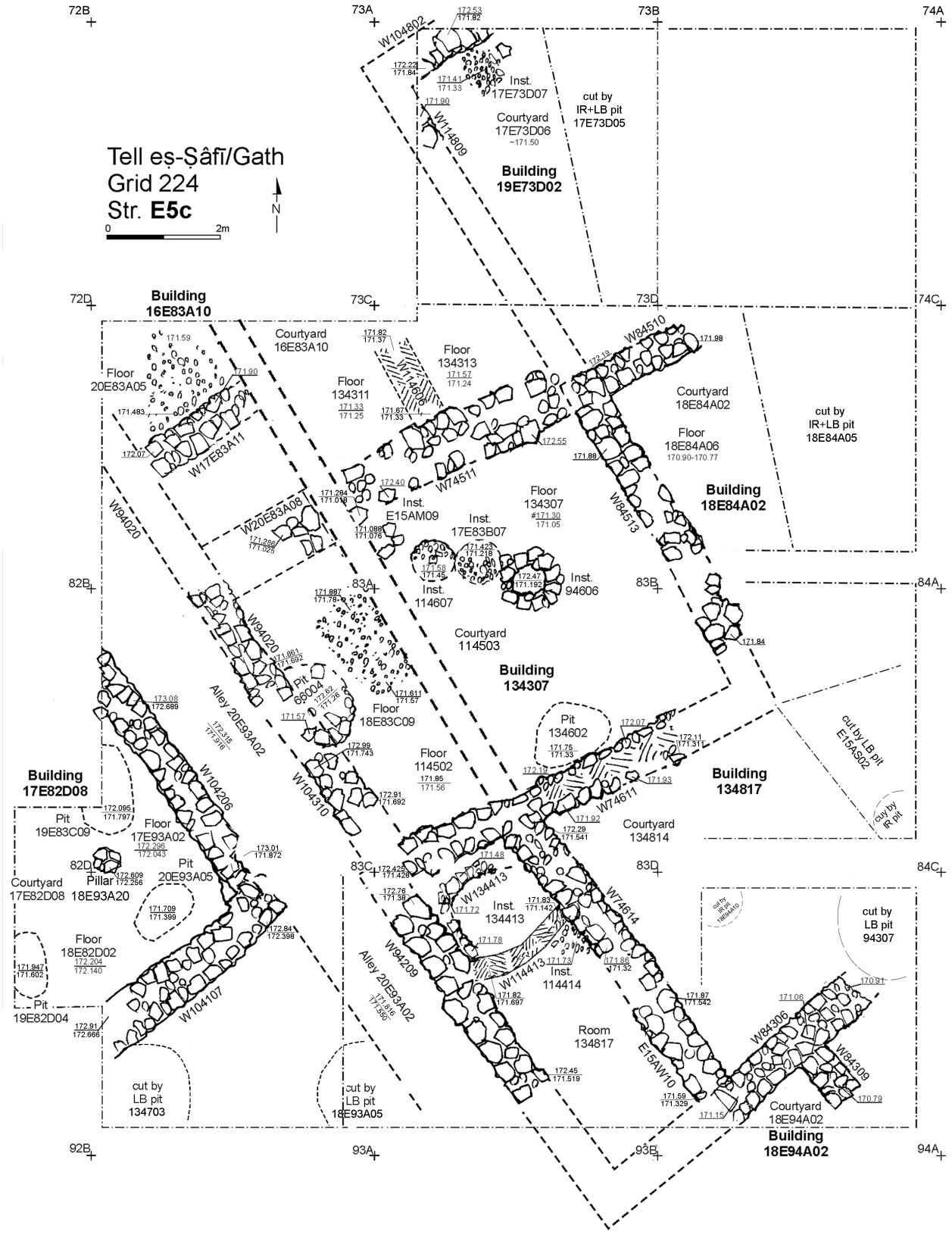

Figure 22.3. *Plan of Stratum E5c in Area E at Tell eṣ-Ṣâfi/Gath, showing the location of the four donkey burial pits 134602, 19E82D04, 19E83C09 and 20E93A05. The dashed lines show the location of reconstructed walls.*

the earthen floor of courtyards in two large buildings on either side of the alleyway. There are also donkey skeletal elements randomly distributed across the excavation area. The significance of these in terms of the two themes (sacred and profane) are discussed next.

The method of recovery of faunal remains in the Area E excavations was very systematic. At first, we tried to dry sieve everything through 5 cm mesh. However, it was quickly realized that this caused more damage to the faunal remains than benefit. The bones were very fragile and would often fragment or even disintegrate when put into the sieves. At first, it was thought this might be a function of sloppy excavation. However, after participation in the field, it became very clear that this occurred despite careful excavation and recovery. It is estimated that over 75 per cent of the larger faunal assemblage exhibit modern damage as a result of their state of preservation. As a result, the team shifted to a more selective dry and wet sieving operation. For the most part, only primary deposits (pits, floors, accumulations above floors, etc) were carefully hand-collected, dry sieved, or water-sieved in a flotation tank. All donkey pit deposits were floated. All specimens discussed here are curated at Bar-Ilan University with the rest of the archaeological assemblage from the site.

The sacred asses of Tell eṣ-Ṣâfi/Gath

Four completely articulated domestic donkey skeletons were excavated in shallow pits beneath the floors of two of the large buildings in Stratum E5c. One is below Building 13407 and the other three below the floor of Building 17E82D08.

Below the dirt floor of Courtyard 114502 of Building 134307, within Stratum E5c, a complete skeleton of a domestic donkey (*Equus asinus)* was found (Locus and Pit 134602, Fig. 22.4). This space within the building was probably an open courtyard given its large dimensions (*c*. 8 × 8 m) and the absence of pillars. It was placed in a shallow pit excavated into the underlying Stratum E6 and sealed by the Stratum E5c dirt floor. There is no evidence of a pit through the Stratum E5c floor and the deposit is securely dated to the moment immediately before the construction of the Stratum E5c building. The deposit was clearly a ritual interment, since the

Figure 22.4. *Photograph of sacrificial donkey (L134602) from the Early Bronze III Stratum E5c in Area E at Tell eṣ-Ṣâfi/Gath, facing south.*

Figure 22.5. *Photographs of the three donkey burials beneath Building 17E82D09 from the Early Bronze III in Stratum E5c in Area E at Tell eṣ-Ṣâfi/Gath: a. Donkey burial 20E93A05 in pit 20E93A05, photo facing northwest; b. Donkey burial 19E83C09 in pit L19E83C09, photo facing southwest; and c. Donkey burial 19E82D04 in pit L19E82D04, photo facing west.*

skeleton was carefully placed in the pit on its right side with the torso facing west (toward the setting sun), the front and hind legs were tied together (trussed) below the abdomen, and the upper neck (cervical) vertebra and cranium dismembered and placed on the abdomen facing east (toward the rising sun). There was no evidence of any other objects found associated with the burial. It is evident the animal was sacrificed, since the head was fully cut off and carefully placed on the abdomen facing in the opposite direction (Greenfield *et al.* 2012).

Three additional complete domestic donkey skeletons (Fig. 22.5) were found across the alleyway in Courtyard 17E82D08 of a second building (Building 17E82D08) (Greenfield *et al.* 2018). Again, it is assumed this space was also probably an open courtyard given the absence of pillars and its large size. These animals were also placed in shallow pits excavated into the underlying Stratum E6. Each deposit was below the Stratum E5c dirt floor. All three skeletons were lying on their left sides. Similarly, there were no objects associated with these interments, and all were old subadults or young adults who were killed in the prime of their life.

In contrast to the sacrificed donkey discussed above, all three of the donkey skeletons found in this building were fully intact with their craniums still attached. The skulls of all four donkeys faced eastwards (toward the rising sun), suggesting a cultic/ritual orientation towards the east for the burials. Nevertheless, given their similar age, orientation and structured deposition, it is likely that each of the donkeys buried

beneath the floors of the Stratum E5c buildings were ritual (sacrificial) deposits (Greenfield *et al*. 2018). Furthermore, one of the donkeys (Donkey burial in pit L20E93A05) exhibited evidence of a butchery mark on the medial face of the epistropheus, possibly suggesting the nature of its slaughter.

We have theorized elsewhere that the burial of all four donkeys, of similar age and sex, with a similar orientation (heads pointing towards the rising sun), under the floors of courtyards in buildings of a domestic neighbourhood at the eastern periphery of the city, suggests that this might be the residences of merchants. The presence of non-local goods (grinding stones from the Golan and Galilee, bitumen from the Dead Sea, ceramics from further up the Levantine coast, and at least two animals from Egypt can be used to support this theory (Shai *et al*. 2014; Arnold *et al*. 2016; Shai *et al*. 2016; Greenfield *et al*. 2018). In the next period (Middle Bronze) of the Near East, merchant neighbourhoods are found at the periphery of settlements (Larsen 1967; Veenhof 1995). Merchants, ethnographically and historically, have used the donkey as an important totem and symbol of their role in society (Milevski 2011).

It has been proposed elsewhere that the donkey burials may be nothing more than random disposal of dead animals not appropriate for consumption as food (e.g. Grigson 2012; Milevski & Horwitz 2019, 78). However, the careful interments along the same orientation within the same stratum suggest otherwise. The completeness of each individual skeleton in combination with burial in an area that was continuously occupied for several hundred years suggests that these animals were carefully chosen, sacrificed and interred as part of the ritual renewal of the neighbourhood. It would seem that each time the neighbourhood is renewed physically, it is also renewed spiritually.

The profane asses of Tell eṣ-Ṣâfi/Gath

There are several non-ritual domains in which donkeys are exploited at Tell eṣ-Ṣâfi/Gath, including as beasts of burden and food. The evidence for this is presented next.

Beasts of burden

The donkeys were also used to carry goods, as is depicted on figurines at various sites (Shai *et al*. 2016; Shai *et al*. 2017). Animal figurines from various sites across the region and at Tell eṣ-Ṣâfi/Gath often have large jars or baskets depicted on both sides of the animals (Al-Ajlouny *et al*. 2011; Al-Ajlouny *et al*. 2012). This suggests that they were carrying large loads. Textual and iconographic sources from Egypt very clearly show that donkeys were used as pack animals for both local and long-distance movement of goods. Osteological evidence from one of the donkeys (sacrificial) shows that it exhibited minor pathologies at limb joints (Shai *et al*. 2016; Greenfield *et al*. 2018; Greenfield *et al*. 2021).

It is likely that the donkeys also carried people – i.e. were ridden. There is clear evidence for bit wear on the teeth on some of the donkeys at Tell eṣ-Ṣâfi/Gath. It is likely that a soft bit was used, such as rope, hide, wood, or bone since the wear is slight – however, the donkeys were relatively young and the bit wear was only in its early stages of development. The presence of donkey figurines with saddles at other sites also suggests that they were ridden, as well as used for carrying goods (Hizmi 2004; Makowski 2014; Greenfield *et al*. 2018).

Evidence for movement

Donkeys during the Early Bronze Age were clearly carrying goods and people not only locally, but also between widely separated regions. Aside from ancient Egyptian and Mesopotamian texts that detail caravans of donkeys moving goods across the region (Hennessy 1967; Rainey 2006; Sallaberger 2014; Shai *et al*. 2016; Rosen 2019), dental isotopic analyses (carbon, oxygen, and strontium) from the clearly sacrificed donkey skeleton (Donkey Burial 134602) and a sample of ovicaprines from the site were conducted. The results suggest that there is zooarchaeological evidence for movement of domestic draught/draft (donkey) and husbandry animals (goat) between Old Kingdom Egypt and EB III Canaan (Arnold *et al*. 2016; Arnold *et al*. 2018). The donkey and one goat were born and raised in Egypt and only arrived in the region around Tell eṣ-Ṣâfi/Gath for a brief time (6 months) before it was slaughtered (Arnold *et al*. 2016) (Fig. 22.8a-c).

There is little variation in the dental isotopes in the first and second molars of the sacrificial donkey (Donkey burial 134602). There is a clear shift in the isotopic pattern of the third molar that reflects the movement from the Nile region to the region around Tell eṣ-Ṣâfi/Gath. These results stand in contrast to that seen in the majority of analysed sheep and goat teeth. The majority of sheep and goats were herded and grazed in the region surrounding Tell eṣ-Ṣâfi/Gath (Arnold *et al*. 2018).

Donkeys as food

The remains of several other donkeys have been found scattered throughout the excavation area of the Stratum E5c occupation. There are 74 different NISP (Number of identified specimens that are not articulated with another) composed of 78 bone/teeth fragments and 82 bone/teeth elements that could be assigned to a secure depositional context (Table 22.1).

Table 22.1. *Frequency distribution of non-articulated* Equus asinus *(domestic donkey) bone elements in Stratum E5c by building number, room number, deposit type, and bone element.*

Building, room, deposit type, element	Sum of NISP	Sum of # pre-excavation fragments (TNF)	Sum of # elements
Bldg 134307	11	11	11
Room 114502	9	9	9
Floor makeup	1	1	1
Rib	1	1	1
Accumulation above floor	8	8	8
Loose tooth	1	1	1
Patella	1	1	1
Phalange	1	1	1
Rib	1	1	1
Sesamoid	1	1	1
Tibia	1	1	1
Vertebra	2	2	2
Room 134307	1	1	1
?	1	1	1
Scapula	1	1	1
Room 134311	1	1	1
Accumulation above floor	1	1	1
Radius	1	1	1
Bldg 134817	2	2	2
Room 134814	1	1	1
Accumulation above floor	1	1	1
Metapodium	1	1	1
Room 134817	1	1	1
Accumulation above floor	1	1	1
Loose tooth	1	1	1
Bldg 16E83A10	2	2	2
Room 16E83A10	1	1	1
Accumulation above floor	1	1	1
Cranium	1	1	1
Room 20E83A05	1	1	1
Accumulation above floor	1	1	1
Vertebra	1	1	1
Bldg 18E84A02	12	12	12
Room 18E84A02	12	12	12
Building collapse	9	9	9
Astragalus	1	1	1
Calcaneus	1	1	1
Cranium	1	1	1
Femur	1	1	1
Humerus	1	1	1
Radius	1	1	1
Rib	1	1	1
Scapula	1	1	1
Tibia	1	1	1
Accumulation above floor	2	2	2
Metacarpus	1	1	1
Tibia	1	1	1
Floor	1	1	1
Scapula	1	1	1
Bldg 93A South Building	1	1	1
Building collapse	1	1	1
Astragalus	1	1	1
Alleyway	44	48	52
Alleyway accumulation	44	48	52
Cranium	6	6	6
Femur	2	2	2
Humerus	1	1	1
Loose tooth	2	2	2
Loose tooth – lower	3	6	5
Loose tooth – upper	4	4	4
Mandible	4	4	10
Metacarpus	1	1	1
Metatarsus	1	1	1
Phalange	6	6	6
Radius+ulna	2	2	2
Rib	1	1	1
Sesamoid	2	2	2
Tarsal	1	1	1
Tibia	2	3	2
Calcaneus	1	1	1
Vertebra	7	7	7
Grand Total	74	78	82

None appear to be articulated with other bones, unlike the clearly articulated burials. These do not appear to be part of ritual donkey burials described above and are divided amongst a variety of deposits across the entire excavation area.

The non-articulated specimens include a variety of age groups (infant, juveniles, subadults, and adults – Table 22.2). All ageable bones are included in this table to ensure sufficient sample size representation. A minor frequency (13 per cent) were not ageable at

Table 22.2. *Frequency distribution of non-articulated* Equus asinus *(domestic donkey) bone elements in Stratum E5c by age groups.*

Age and sub-age class	Sum of NISP	% NISP	Sum of NISP	% NISP2
Neonate	2	1.24%	2	1.75%
Old	2	1.24%		
Juvenile	8	4.97%	8	7.02%
Young	1	0.62%		
Old	3	1.86%		
Unknown	4	2.48%		
Subadult	40	24.84%	40	35.09%
Young	3	1.86%		
Old	15	9.32%		
Unknown	22	13.66%		
Subadult/Adult	25	15.53%		
Unknown	25	15.53%		
Adult	64	39.75%	64	56.14%
Young	11	6.83%		
Middle	4	2.48%		
Old	4	2.48%		
Unknown	22	13.66%		
Grand Total	161	100.00%	114	100%

all and a substantial proportion could not be aged to more than the indeterminate subadult/adult category (15 per cent). When these are removed (NISP2), the vast majority are adults (56 per cent), most of which are younger individuals. This is followed by subadults (35 per cent), which are dominated by older individuals. There are very few neonates (1.7 per cent) and juveniles (7 per cent) in the assemblage. Clearly, the majority of donkeys were kept alive into adulthood and were probably only slaughtered when they were no longer useful for traction and/or transport.

First, and very surprisingly, no loose donkey remains were recovered from Building 17E82D08 even though this is where three complete donkey skeletons were buried. Second, the largest group of loose donkey bones was found in the alleyway (NIPS=45; Table 22.3; Fig. 22.6). These are described first. Donkey bones are dumped/discarded in the alleyway with the remains of other animals and other artefacts (ceramics, ground stone, chipped stone, etc.). These include Loci 19E83C06, 20E83C04, and 134814, which contained a small number of elements that cover the entire skeleton – including cranium, loose tooth, mandible, vertebra, humerus, radius, femur, tibia, metapodium, sesamoids, carpal, tarsal, and phalange elements. There is no clear concentration of bones, although many were found along the length of the eastern face of the western wall face of the alleyway (W104206), and mixed with the bones from other taxa. Their concentration along this wall is probably a result of the larger bones being kicked to the side of the alley, where they were able to better survive various attritional forces, such as trampling. They can be considered part of the filling in or dumping of debris in alleyway.

Loose donkey bones were also found in several buildings (NISP=29; Table 22.3; Fig. 22.6). The smallest quantity (a single astragalus) was found in a poorly defined building (because of intrusive LB pits) at the south end of Square 93A (labelled as 93A South Building in L16E93A08). Building 18E84A02 contained the most specimens (NISP=12). In Building 18E84A02, most of the donkey bones were found in the building collapse layer (NISP=9), and fewer in the ash accumulation above the floor (NISP=2) or floor makeup (NISP=1). They include the following elements – cranium, rib, scapula, humerus, radius, femur, tibia, metacarpus, astragalus and calcaneus. As with the alleyway, they are a mix of hard and more fragile

Table 22.3. *Frequency (NISP) of Stratum E5c* Equus asinus *osteological elements by depositional context (alleyway and buildings). Data used in Figure 22.6. Data from insecure deposits not included.*

	Depositional context					
Element	Alleyway	18E84A02	134307	16E83A10	134817	93A South Building
Cranium	6	1		1		
Mandible	4					
Loose tooth	9		1		1	
Vertebra	7		2	1		
Rib	1	1	2			
Scapula		2	1			
Humerus	1	1				
Radius		1	1			
Radius+ulna	2					
Femur	2	1				
Patella			1			
Tibia	2	2	1			
Astragalus		1				1
Calcaneus	1	1				
Tarsal	1					
Metacarpus	1	1				
Metatarsus	1					
Metapodium					1	
Sesamoid	2		1			
Phalange	5		1		1	
Total	45	12	11	2	3	1

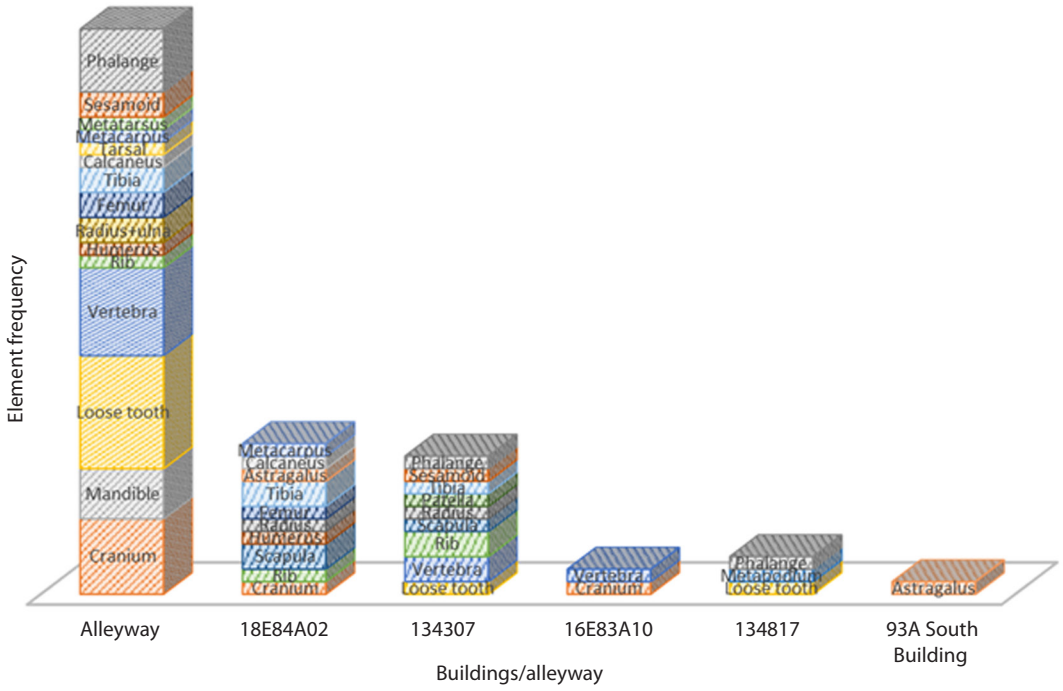

Figure 22.6. *Histogram of* Equus asinus *osteological element frequency (NISP) by secure depositional context in Stratum E5c. Each minimum line on the y-axis represents a single specimen.*

elements. But only the astragalus and calcaneus are complete. In Building 134307, the 11 donkey bones are lightly distributed between three rooms – Rooms 114502, 134307, and 134311 (Tables 22.1 and 22.3; Fig. 22.6). They were found in a variety of deposits, but the majority cluster in the ash accumulation above the floor (loose tooth, rib, vertebra, tibia, and phalange). Two were found in the floor makeup (rib) and in an indeterminate deposit type (scapula). Two fragments were in Building 134817 – a metapodium (in Room 134814) and a loose tooth (in Room 134817). Two more donkey bones were found in Building 16E83A10. All were found in deposits that could not be identified as accumulation above floor or building collapse, and are hence labelled as indeterminate layers – a cranial fragment in Room 16E83A10 and a vertebra in Room 20E83A05. Were these the remains of food? Or were the donkeys merely utilized for their skins? It is unlikely that the donkeys were utilized only for their skins given the distribution of all body parts in most houses. The large skeletal element distribution in addition to the presence of butchering marks on some of the donkey elements suggests that some of the flesh was consumed (albeit not in large quantities).

Three of the loose (unarticulated) donkey bone elements from the E5c Stratum display signs of butchering marks – a vertebra (atlas) in Locus 20E83C04, Basket 20E83C049), rib, and posterior first phalange in

Figure 22.7. *Photograph of plantar face of a donkey (*Equus asinus*) third phalange bone with butchery slicing marks – from Locus 19E83C06 and Basket 19E83C262, Stratum E5c at Tell eṣ-Ṣâfi/Gath. Photograph by Haskel J. Greenfield.*

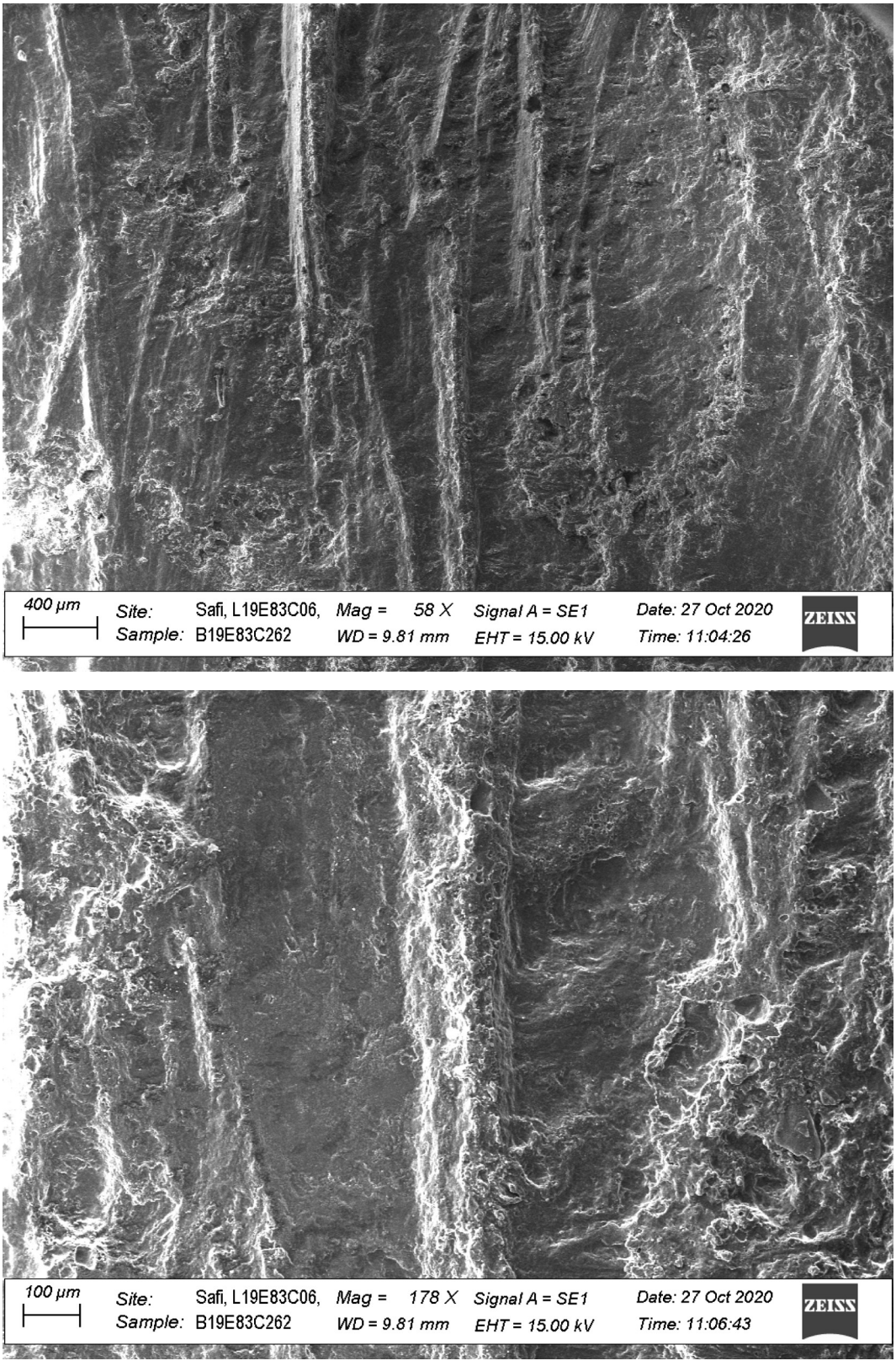

Figure 22.8a-b. *Scanning Electron Microscope photograph of butchery slicing marks on the donkey* (Equus asinus) *first phalange from Locus 19E83C06 and Basket 19E83C262 at Tell eṣ-Ṣâfi/Gath. Photographs by Haskel J. Greenfield.*

Locus 19E83C06, Baskets 19E83C262 and 19E83C220, respectively) (Fig. 22.7). All three had been discarded in the alleyway. They were part of a cluster of loose donkey bones found amidst discarded bones (and other items) toward the NW end of the alley along the east face of W104206 (in Square 83C). All three belong to either old subadults or young adults. The atlas and first phalange are from young adults, while the rib could only be aged to the more general subadult/adult category, based on their state of ossification/fusion and muscle attachments on the bone. The sex could not be determined, but the atlas and first phalange probably belonged to females given their gracile nature and small size.

The atlas and phalange bones with butchering marks were examined microscopically. The grooves on the phalange were on the plantar face of the shaft and were the result of multiple intersecting slices (Fig. 22.8). They were likely from skinning since they are not at either end of the bone where disarticulation normally occurs. Two sets of slicing marks were observed on the atlas bone of the vertebral column. The first was oriented diagonally to the long axis of the bone, at the lateral edge just above the anterior/cranial articular cavity, on the dorsal face. The second was oriented perpendicular to its long axis, and located on the caudal edge of the right lateral wing on the ventral face. Both sets of slice marks on the atlas were related to the disarticulation process of the cranium from the cervical vertebra. Light optical and scanning electron microscopy of the butchery marks on the phalange and other bones suggest that the slicing marks were made by unifacially produced, but not retouched, chipped stone tool flakes or blades.

The presence of butchering marks on the loose donkey bones complements the recently recognized presence of slaughtering marks on one the sacrificed donkeys (Donkey burial 20E82D04). Together, these suggest that consumption of donkey flesh as well as the use of their skin, in addition to ritual, was an important part of daily life in the EB at Tell eṣ-Ṣâfi/Gath.

Conclusions

The goal of this chapter is to integrate our understanding of both the profane and sacred roles of early domestic donkeys during the Early Bronze Age of the southern Levant and neighbouring regions, particularly with respect to the finds at the site of Tell eṣ-Ṣâfi/Gath. Early donkeys were domesticated in NE Africa and quickly became an important part of life, for both the elite and lower strata of society. They are slaughtered and buried in royal tombs in Egypt and Mesopotamia (Postgate 1986; Rossel *et al*. 2008; Way 2010; Mitchell 2018), and under houses of commoners throughout the southern Levant (Sapir-Hen *et al*. 2017; Greenfield *et al*. 2018), and probably much further afield (Vila 1998; 2005; 2006; Way 2010; 2011). They are used from the earliest times to transport people, goods and information across and between Egypt and the Near East. This has long been documented through textual and iconographic data, and recently confirmed through provenance sourcing of archaeological artefacts (e.g. Stager 1992; Ashton *et al*. 2000; Nicholson & Shaw 2000; Shaw 2000; Sowada 2009; Miroschedji 2012; Höflmayer 2014; Adams 2017a; Finkelstein *et al*. 2018; Joffe 2019).

Recent zooarchaeological data utilizing stable isotope analysis of the enamel of donkey teeth from Tell eṣ-Ṣâfi/Gath confirm the movement of animals between Egypt and the southern Levant during the Old Kingdom (Arnold & Greenfield 2018; Arnold *et al*. 2018; Arnold *et al*. 2016). Egyptian texts describe caravans with hundreds of donkeys carrying goods back and forth from the Middle Kingdom (Dynasty 12) onwards. The plethora of Early Bronze donkey figurines with riders and carrying goods also attests to both of these roles (Hizmi 2004; Al-Ajlouny *et al*. 2012; Makowski 2014; Shai *et al*. 2016). But, it is generally presented as mostly one way movement of goods – from Canaan to Egypt (Bard 2015). The evidence now suggests that movement of animals (and goods) between these two (and probably other) regions was a likely two-way exchange from the beginning of the Bronze Age with the spread of donkeys across the region (Sowada 2009; 2014; Potts 2011).

Donkeys are much more suitable than cattle (an earlier domestic) for carrying heavy loads over long distances and uneven ground. They revolutionized the transport of goods across the region by enabling bulk transport of larger quantities and heavier goods than in earlier periods. This is reflected in the larger frequencies of mundane goods being transported far from distant sources than in earlier periods.

In light of the results from the excavations of the Early Bronze III levels at Tell eṣ-Ṣâfi/Gath, it is possible to further suggest that donkeys were also used in the profane domain. Not only were they used as beasts of burden, but also as food. The small number of isolated donkey bones mixed in with the larger faunal assemblage, plus the presence of a few bones with butchering marks, shows that they are a minor part of the diet, but one that cannot be ignored.

The use of domestic donkeys as food and to transport people and goods between the regions probably dates from the moment when they spread from northeast Africa across the Near East during the fourth millennium BC shortly after their domestication (Ovadia 1992; Rossel *et al*. 2008; Way 2011;

Grigson 2012; Zarins 2014; Mitchell 2018). Along with the spread of donkeys, there is a dramatic increase in the scale of regional and inter-regional exchange systems. This likely occurred to satisfy the demands of both the newly emerging elites and growing urban populations. This is evident from the large quantities of heavy goods (e.g. grinding stones, mace heads, ceramics, etc) that are transported across and between regions (Sowada 2014; 2018; Beller *et al*. 2016; 2019). Donkeys become and remain an essential part of the economy and religions for early Near Eastern cultures from the beginning of the Bronze Age and remain so until modern times. In sum, donkeys during the Early Bronze Age were exploited for their primary products (meat, skin), secondary products (transportation), as well as for ritual purposes.

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Chapter 23

Dogs and equids in war in third millennium BC Mesopotamia

Christina Tsouparopoulou & Laerke Recht

This chapter explores interactions between dogs and equids in Mesopotamia. It focuses especially on their use in battle during the third millennium BC, and corroborates results from the pertinent textual, visual and archaeological evidence. One of the aims is to consolidate the postulation presented by Tsouparopoulou in 2012 that dogs were used in the military in Mesopotamia in the Ur III period (*c*. 2112–2004 BC). The available visual evidence verifies this and pushes the date of their close interaction and their use in battle already to the Early Dynastic period (*c*. 2900–2350 BC). The relationship unfolds along two main lines: the iconographic record depicts the two species side by side in battle, while texts record dogs belonging to army generals being provided with equids as their fodder. The resulting dog-equid dynamics, facilitated by humans, has important implications for how animals were used in and prepared for war.

Dogs and equids have a long relationship. This relationship has not always been equal. Dogs have been depicted aiding humans in hunting equids, documented as being fed equids, or a more equal representation of companionship, either fighting together in war or buried together. In this chapter, we will discuss both their symmetrical and asymmetrical relations, in particular in the context of warfare in the third millennium BC in Mesopotamia. The equids mainly of interest here are domestic donkeys and donkey-hemione hybrids (*E. asinus* x *E. hemionus*), although hemiones and horses (*E. caballus*) were also present (the latter quite rare and appear mostly towards the end of the third millennium BC).

Symmetrical relation: companionship

Visual

The iconographic material presents us with depictions of teams of equids pulling wheeled vehicles actively engaged in battle. Perhaps the most famous example from the third millennium is the Standard of Ur (Collins 2015). Found in the Royal Tomb PG 779 of Ur, and dating to the Early Dynastic period, it is decorated on all four sides. In its third lower register of the so-called 'war-side', wheeled vehicles are drawn by teams of four equids – either donkeys or hybrids – trampling enemies and depicted as actively taking part in the battle (Fig. 23.1). This particular scene on the Standard of Ur is well-known and oft-repeated. In fact, the motif of wheeled vehicles drawn by equid teams in what appear to be battle scenarios – sometimes in the active gallop, sometimes trampling human bodies – is known during the Early Dynastic and Akkadian periods from both southern and northern Mesopotamia. Apart from inlays like those on the Standard of Ur (similar presumably decorative inlays are found at Mari), the most common medium of visual evidence is cylinder seals and their impressions.

In a few of such 'battle' scenes, dogs are depicted alongside the equids as actively participating in the battle. One such example comes from two sealings from Ur, found under the southwestern part of the Royal Cemetery, among house remains (U. 13938, U. 13963, Legrain 1936, pl. 16, no. 298, pl. 48). These sealings date to the Early Dynastic III period. The composition is in two registers and the lower register reminds us of the Standard of Ur's war scene (Fig. 23.2). We have a scene of battle with a wheeled vehicle drawn by equids at speed. Two dogs are shown here accompanying the vehicle. One is below the equids, between their front and hind legs, probably running *next to* the vehicle rather than dangerously between the equids' legs. The other dog follows behind, after a walking soldier. A naked enemy is shown upside down in front of the wheeled vehicle along with another soldier, who is brandishing a weapon. The two dogs are rendered very differently, suggesting two different breeds. The

Figure 23.1. *Detail of the War side of the Standard of Ur; BM 1928,1010.3, AN12575001 CC BY-NC-SA 4.0 © The Trustees of the British Museum.*

Figure 23.2. *U. 13963. Clay door peg sealing; the elaborate design on the cylinder seal is divided into registers; above, a lion attacking a stag between two reclining human headed bulls, little figures, a bird, a crescent and a scorpion; below a man in a chariot, accompanied by attendants and dog (?), and a scene of men fighting. BM 1930,1213.407, AN191497001 CC BY-NC-SA 4.0 © The Trustees of the British Museum.*

one behind appears larger and longer-legged than the one below the equids, which appears to be of a smaller, stockier stature. The one behind is reminiscent of the saluki breed, while the one next to the equids seems to be similar to dogs appearing on other seals (such as the one discussed below).

An unprovenanced Early Dynastic III cylinder seal, housed at the Vorderasiatisches Museum in Berlin (VA 2952, Frankfort 1939, pl. XVn; Moortgat 1940, no. 145; Lippert 2016) is also composed of two registers. On the lower register, we have a similar composition of a battle scene with a wheeled vehicle drawn by equids and a dog following the ensemble, itself followed again by three soldiers holding their weapons (Fig. 23.3). There are traces of an object between the legs of the equids, possibly an enemy being trampled over by the equids, but unfortunately, there is damage to the seal exactly at this place, so it is difficult to be certain what the object is. The dog behind the wheeled vehicle is medium sized and appears stocky with erect ears and an upwards, curled-over tail. It does not seem reminiscent of the lean saluki breed of dogs but finds a close parallel in a gold dog pendant from Susa, which dates to the Late Uruk period (Duval *et al.* 1987).

Of similar design, although depicting a less obviously aggressive scene, is another cylinder seal impressed three times on a sherd from Tell Mozan, which was found in an Old Babylonian context but has been dated to the ED III-Akkadian period because of its 'Brak' style (Fig. 23.4; MZ99 C2-i0245, Dohmann-Pfälzner & Pfälzner 2000, 226, fig. 29). The scene is not that of an active battle, as there are no enemies or victims depicted, and the team of three equids walk at a steady slow pace. Aggressive action may, however, be implied by the presence of javelins kept in the front compartment of the wheeled vehicle, in the same position as on the Standard of Ur. The dog depicted here, following the wheeled vehicle, is similar to the dog depicted in the Ur sealings, next to the equids, but not the one depicted on the seal from Berlin. This one is leaner and smaller, and only a short tail can be seen. It may be no coincidence that birds also follow the company: as we will see below, dogs and birds could act as scavengers in the aftermath of battle (for animals in war, see also Battini 2019).

Yet another scene of dogs accompanying humans is found on a sealing from Tell Chuera (Moortgat-Correns 1988, 73, fig. 11). The action here is also more static, but the presence of prey animals suggests that in this case, the image is one of hunting rather than battle. This brings us to the realization that dogs could have been thought of as companions in life and in death. Just as they were seen together fighting the enemy in battles or chasing prey in hunting, or just standing next to each other, they were also sometimes buried together.

Burials and ritual depositions

Equids are one of the few animals found as complete or nearly complete skeletons in the ancient Near East. In the third millennium BC, skeletons of equids as part of burials or as ritual depositions have been found both in Mesopotamia and in the southern Levant, as well as Egypt. Occasionally, the equid remains are

Figure 23.3. *Digital reproduction of cylinder seal VA 2952, after Lippert 2016, CC-BY-NC-SA 3.0 DE.*

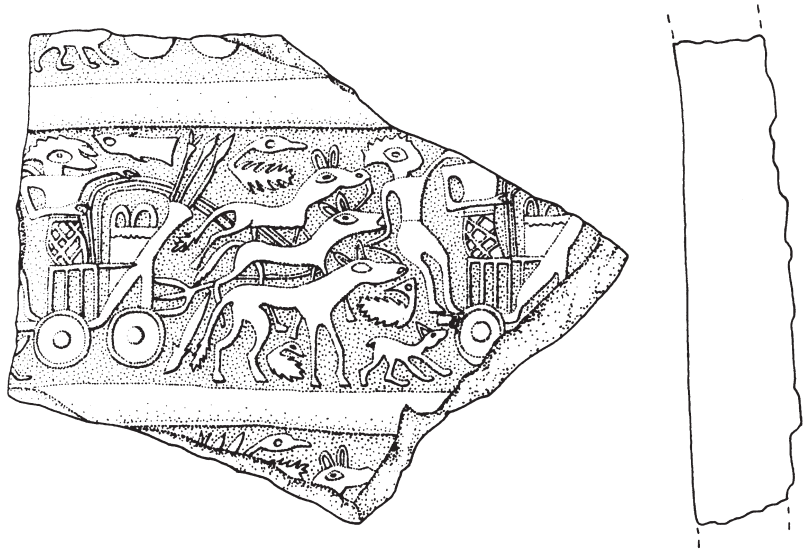

Figure 23.4. *MZ99 C2-i0245, after Dohmann-Pfälzner & Pfälzner 2000, 226, fig. 29. Courtesy of P. Pfälzner.*

accompanied by remains of dogs. Figure 23.5 shows a map with sites from the third millennium where complete equid skeletons have been discovered in ritual or burial contexts (for catalogues of equid depositions in ritual contexts, see Way 2011, Ch. 3; Recht 2018). Sites with dogs in similar contexts have also been marked, and, of primary concern here are the sites where equids and dogs are found together or in close proximity, although these are not always complete, articulated skeletons.

One example comes from Tomb 5G at Tell Madhhur in the Hamrin Basin, dated to Early Dynastic

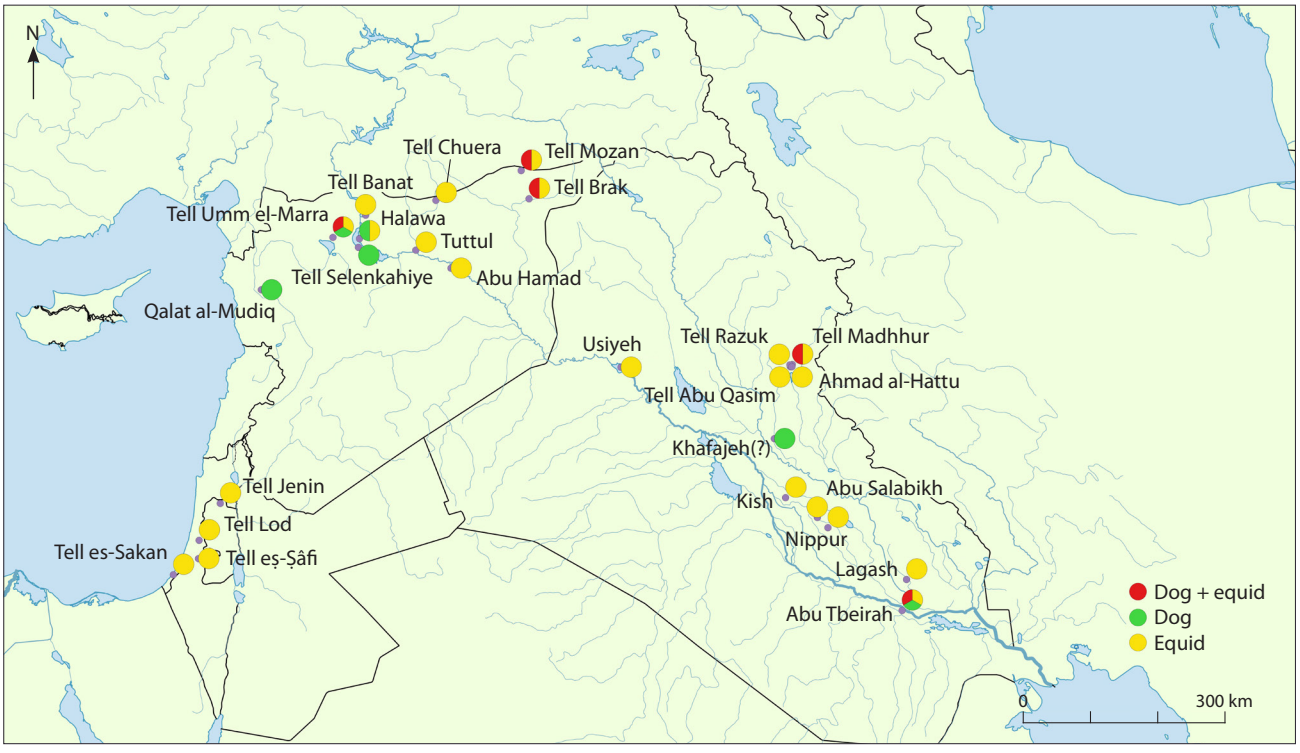

Figure 23.5. *Sites with equid, dog and equid-dog depositions (burials and ritual deposits) in the third millennium* BC *(data based on catalogue in Recht 2018, as well as Alhaique* et al. *this volume; Delougaz* et al. *1967; Hansen 1973; Collon* et al. *1975; van Loon 1979; Orthmann 1981; Al-Zawahra & Ezzughayyar 1998; de Miroschedij* et al. *2001; Oates & Oates 2001; di Martino 2005; Vila 2005; Yannai 2008; Schwartz* et al. *2012; Greenfield* et al. *2018).*

III-Akkadian (Killick & Roaf 1979; Roaf 1984). Here, a large pit burial contained one adult male burial together with his offerings: 48 ceramic vessels, semi-precious beads, two bronze pins, a bronze cosmetic set, a bronze dagger, three bronze vessels and food offerings. The tomb also contained two equids carefully laid side by side (Fig. 23.6). These have been identified as either donkeys or onager-donkey hybrids, one aged approximately 2.5 years old, the other over 20 years (Clutton-Brock 1986). It is possible that a wooden wheeled vehicle was originally placed behind the equids (Killick & Roaf 1979, 540), as also hypothesized for contemporary equid burials at Abu Salabikh (Grave 162, Postgate 1986, 201; Grave 234, Postgate *forthc*. and pers. comm.). Between the two equids was a newborn or foetal canid, either a domestic puppy or a jackal. In this case, the association between equid and canid is clear, very carefully and deliberately created. The composition mirrors what we see on the cylinder seals, where the dog can be placed immediately next to the team of equids. The important difference, however, is that this canid was extremely young, possibly even foetal.

Further instances where dogs and equids appear together come from Tell Umm el-Marra, where the association occurs at two of the so-called 'Installations': B and C (Weber 2008; 2012; 2017). These installations are part of a mid-late third millennium BC mortuary complex which includes wealthy tombs of human burials (Schwartz *et al*. 2006; 2012). Complete or nearly complete equid skeletons were deposited in separately constructed mudbrick installations. Installation B was divided into two compartments, each containing one equid and three puppies, while Installation C contained two equid skeletons (one aged *c*. 20, the other younger) and one (young) adult dog, deposited after the equids. The latter again seems to mirror what we see in the glyptic evidence, and one could imagine a life-long training companionship between these animals, although of course the archaeological context here does not reveal whether this was a symbolic or real companionship.

At Tell Brak, the situation is a little different, where we find an adult dog buried separately from donkeys (Fig. 23.7). At some point during the Akkadian period, an entire complex, interpreted as a 'caravanserai', complete with reception area, storage space, temple and a possible tower, was ritually closed at Tell Brak (Oates & Oates 2001, 41–92, 298). The closure involved deliberate depositions of complete donkey skeletons, a complete adult male dog, parts of human skeletons, and other animal parts, alongside metal and ceramic objects. The dog stood at *c*. 54 cm at the shoulders, and compares favourably to the saluki breed (Clutton-Brock 2001), and to dogs from Tell Chuera, calculated to be just below 50 cm at the shoulders (Boessneck 1988, 94). Only the dog and the

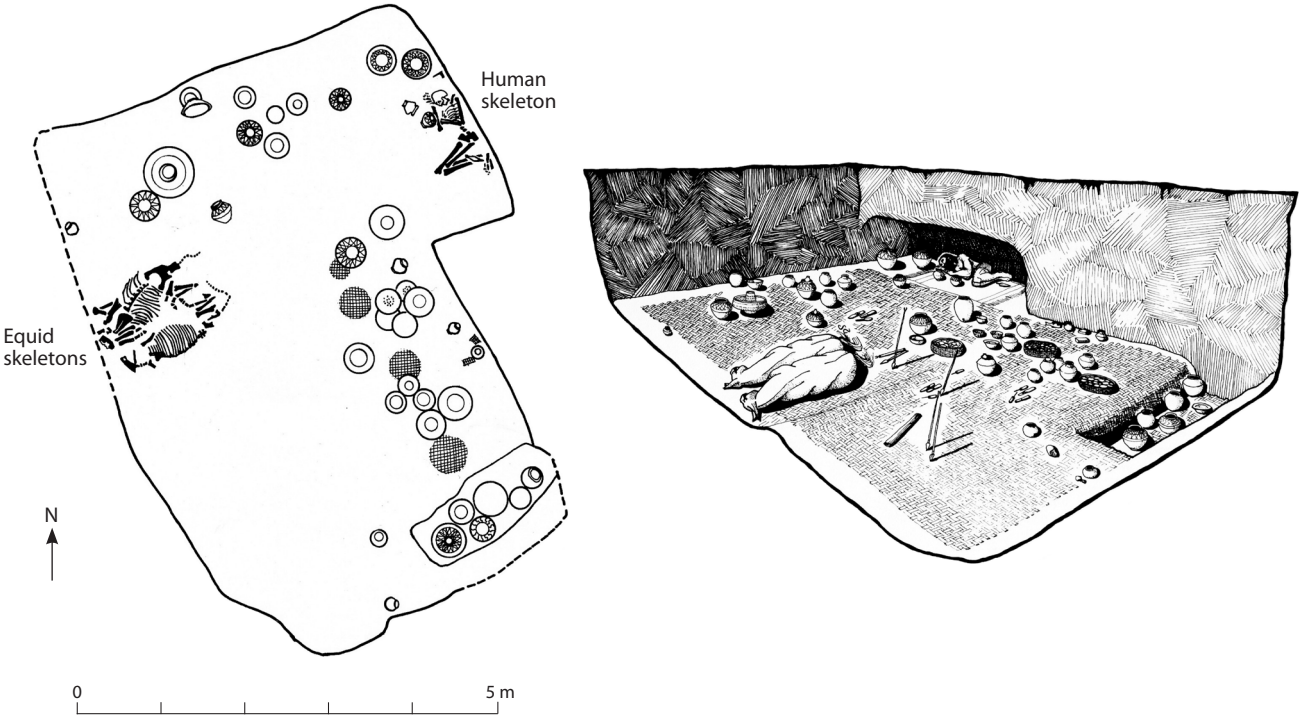

Figure 23.6. *Tell Madhhur Tomb 5G plan (courtesy of M. Roaf).*

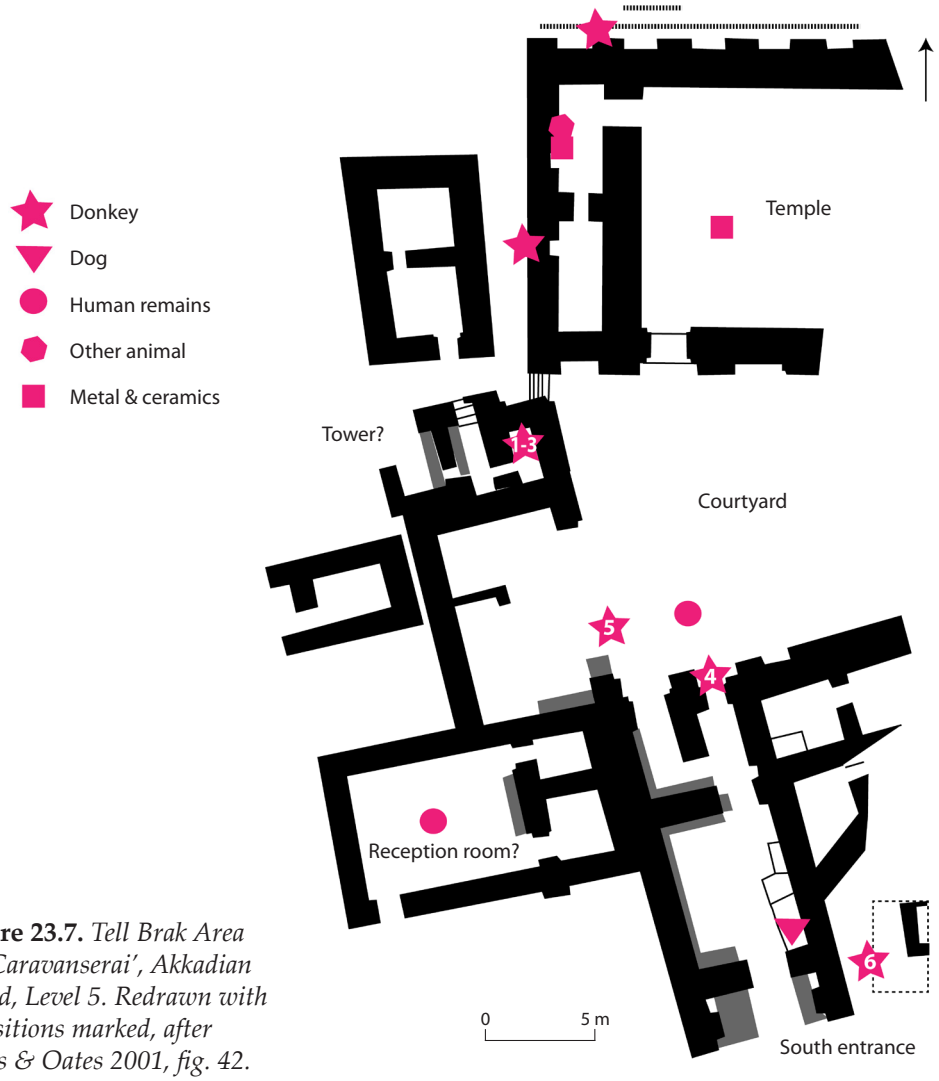

Figure 23.7. *Tell Brak Area FS 'Caravanserai', Akkadian period, Level 5. Redrawn with depositions marked, after Oates & Oates 2001, fig. 42.*

donkeys were complete, and although not in close proximity, they were clearly conceptually associated in this particular ritual.

While the adult dogs may be understood in light of the companionship shared in the battlefield, the young puppies may not be so easily explained. It is possible that the puppies were perceived of as training with the equids from a very young age (after all, one of the equids from Tell Madhhur would also only just have started its training at the tender age of 2.5 years old). We could also hypothesize that the puppies represent another layer of offering, being themselves offerings or grave goods for the equids, while the equids are intended as grave goods for the deceased human (cf. Weber 2012, for a similar interpretation suggested for Tell Umm el-Marra). In any case, it is important to note that the association between equid and dog is spatially stronger than that between human-equid or human-dog.

Asymmetrical relation: dog eat equid

The relationship between equid and dog was not purely one of a symmetrical companionship. Early on, dogs were used to help in the hunting of wild equids – evidence from this comes from the pre-Neolithic (seventh or possibly eighth millennium BC) rock art panels from Shuwaymis, a wadi in northwestern Saudi Arabia (Guagnin *et al.* 2018, 225–36). Panel 105 may be the earliest visual evidence of dogs and equids depicted together. It shows them at odds with each other: an equid and its young are surrounded by 11 dogs. These hunting dogs have been identified as the Canaan dog. They are medium-sized, with erect ears and a curly tail. The equids could have been either African wild asses (*E. africanus*) or hemiones (*E. hemionus*). Hemiones were still hunted in third-millennium BC Mesopotamia, perhaps especially in the north, where the Syrian onager is believed to have roamed. This activity, however,

does not seem to feature prominently in the art again until the appearance of the Neo-Assyrian palace reliefs of the first millennium BC, where, in fact, both dogs and horses aid in the hunt for hemiones (see e.g. panel from the North Palace at Nineveh, BM 1856,0909.48, Reade 2018, fig. 57).

The fact that dogs are carnivores could have been another of their uses in war: to scavenge on the flesh of the dead enemies. This is depicted on a stele of Sargon found in Susa, which shows dogs and vultures feeding on the bodies of dead enemies (Nigro 1998). Unfortunately, the stele is quite damaged, but at least two dogs can be recognized, both seemingly pulling at and biting severed human body parts along with their avine counterparts (Fig. 23.8). The dogs here seem to be of the stockier type that we saw on the Berlin seal, with the upwards-curling tail. They are most likely domestic. The one best preserved, in the lower left-hand corner, wears a kind of collar or band that covers its shoulders and front body.

Faunal record

Occasionally, dogs fed on the meat of equids, supported by evidence found in the faunal remains. Beside complete skeletons in burials, equid bones in general make up only a small percentage in the faunal record of third-millennium BC sites. They were not frequently eaten by humans, and therefore only appear in small numbers in settlement refuse. However, we do find some suggestions of dogs eating equids: both at Tell Brak and Abu Salabikh, equid bones that have taphonomic markers consistent with being gnawed by dogs, have been found. At Abu Salabikh, a number of heavily gnawed bones of equids were identified (Clutton-Brock 1986, 207–8), and at Tell Brak a donkey's second phalanx had carnivore (possibly dog's) gnaw marks on it (Weber 2001, 348). As mentioned by Alhaique *et al.* (this volume), gnawed bones from Abu Tbeirah are also consistent with canine activities. The fact that dogs fed on the meat of equids is further corroborated by documents of the late third millennium BC, which also allow us to identify them as military dogs (Tsouparopoulou 2012 and references therein). This activity may also be identified in the Levant. At the EB I site of Ashqelon, a complete dog skeleton was found with its head resting on the tibia of a young donkey, with signs of gnawing (Kansa 2004, 291–2).

Textual evidence

Equids seem to have been a widely circulating category of animals in the Ur III state. The available assets of the Ur III state in equids, documented in the Puzrish-Dagan archive of the state's livestock agency (Tsouparopoulou 2013a), over four years during the reign of the king Shulgi were 2204 $dusu_2$ (donkeys), 360 anše eden-na (hemione/onager), 727 $^{anše}kunga_2$ (hybrid between donkey and hemione) and 38 $^{anše}si_2$-si_2 (horses) (Calvot 1969, 102). These are large numbers of animals and even if we divide these by the four years, we still end up with over 800 equids per year as being in the hands of the state. Although these were not all the asset of the army, belonging to the Ur III military, it is still an impressive quantity. These equids were bred or brought within the state as booty and often from people related to the army.

Figure 23.8. *Sargon stele (drawing from Nigro 1998; close up photograph from Flickr, courtesy of ALFGRN).*

There are texts that mention for example that almost 40 donkeys were brought in from the land of the Amorites as booty, possibly connected to a particular military event (e.g. 21+ $dusu_2$ $nita_2$, 37 $dusu_2$ munus nam-ra-ak kur mar-tu, dated to Shulgi's forty-seventh regnal year, in OIP 115, 336). These equids were then seemingly given over to known military generals. There are other texts which document equids being the property of a Šeškala, a known military general in the Ur III period (e.g. 32 $dusu_2$ nig_2-gur_{11} Šeš-kal-la, dated to Ibbi-Suen's second regnal year in UDT 162). Most possibly these equids were used in battle, either to pull wheeled vehicles as we see from the visual record, or to carry equipment and food during expeditions. This use is well-known from modern times, and a high number of equids served – and died – during WWI and WWII. The Ur III texts present an interesting after-use of the bodies of those equids who were either injured in battle or became sick or just died: they were fed to the army dogs.

Only three types of equids were fed to the army dogs, or else the dogs that were connected to the military, by way of their handlers: $dusu_2$ (donkey), $^{anše}kunga_2$ (a hybrid between hemione and donkey) and anše (equid/donkey). Horses ($^{anše}si_2$-si_2) and hemione (eden-na) are not usually recorded as being fed to the dogs, although there is one single example of two horses being fed to lions (BIN 3, 454). This absence is likely due to horses still being relatively rare, and not yet fully integrated into the army, while hemiones as a wild species were used for pulling vehicles to a very limited extent, if at all (Postgate 1986; Zarins 2014, 217). The equids fed to the army dogs are generally characterized by their sex ($nita_2$ or munus), once by age, with mention of a suckling baby donkey ($dusu_2$ amar ga), and with the qualifier šu-gid_2, which probably refers to their health (Tsouparopoulou 2013b, with pertinent references therein).

Very interestingly, in those Ur III texts which record dogs and their fodder, we are also acquainted with another group of dogs, those related to Gula, the goddess of healing (Tsouparopoulou 2020; see also Nett, this volume). These dogs are fed bovine and ovine animals; so far, we have found very rare mention of equids being given to those dogs. This may not be due to any kind of taboo concerning consumption of equids by the deity's dogs, but rather because the equids given to the army dogs were those injured or killed in battle.

Calculations

If we can calculate how many equids were given over to the dog handlers of the military as feed for their dogs, we could possibly also estimate the number of dogs the Ur III army had in its force. Through a thorough study of the dossier of texts related to the dogs being fed equids, four military generals have been identified: Ilalum, Nir-idagal, Šeškala and Dukra, with at least ten dog handlers below these four generals: Šu-ili, Ea-bani, Ilati, Sarrum-Bani, Zimzilah, Lala, Lamma-Šulgi, Bati, Šulalum, and Lugal-urani (Tsouparopoulou 2012). A rough calculation, based on the actual documentation of equids given over to the dogs as well as the return of equid skins to the state after the dogs had eaten their flesh, shows that the state was expending about four equids per month for the military dogs.

We do not have direct evidence of how many dogs were in the army, or how many were trained/owned by specific handlers related to the military. However, knowing that the dogs received about four equids per month as fodder, we can try to calculate the amount of meat that they might have been provided with. The weight would of course depend on the height and condition of each animal. We have calculated the withers height based on available faunal measurements and assumed that the animals were about or slightly below what is today considered a healthy size, and that about 85 per cent of the animal is consumable by dogs.

Calculation of withers height is based on published measurements of 16 *E. asinus*, 19 *E. asinus* / *E. hemionus*, and 28 *E. asinus* x *E. hemionus* (as identified by zooarchaeologists) from third-millennium contexts at Abu Salabikh, Tell Asmar, Nippur (Clutton-Brock 1986), Tell Halawa (Boessneck & Kokabi 1981), Tell Umm el-Marra (Weber 2008), Tell Bi'a (Boessneck & von den Driesch 1986), Tell Mozan (Doll 2010), Tell Brak (Clutton-Brock & Davies 1993), Habuba Kabira (von den Driesch *et al*. 2014), and Tell Jenin (Al-Zawahra & Ezzughayyar 1998). The heights have been calculated or recalculated based on adjustments suggested by Johnstone (2004). The weight has been roughly calculated based on estimates suggested by The Donkey Sanctuary (Evans & Crane 2018, 257). This leads us to suggest that the consumable meat would be up to 748–952 kg per month, or 25–32 kg per day (Table 23.1). If the army dogs were about the size of a saluki (although the pertinent visual evidence suggests some were smaller), this results in a total of 50–64 dogs, with each handler having in his care about six dogs.

This calculation seems to correspond well with the information we get regarding the numbers of equids from the mid-third millennium BC account of the dispute over the border of the Sumerian city-states of Umma and Lagash, and especially from the description of the battle that took place in the Ugiga field between En-metena, the son of En-ana-tum and later ruler of Lagash, and Ur-Luma, the ruler of Umma. The conflict between the city-states of Umma

Table 23.1. *Calculation of meat weight.*

Equus	Estimated withers heights	Average withers height	Average estimated weight	Consumable
E. asinus	105–130 cm	116 cm	*c.* 220 kg	*c.* 187 kg
E. asinus / *E. hemionus*	102–132 cm	120 cm	*c.* 230 kg	*c.* 195 kg
E. asinus x *E. hemionus*	119–131 cm	127 cm	*c.* 280 kg	*c.* 238 kg
4 equids per month = 25–32 kg meat per day –> 50–64 dogs in total				

and Lagash was agricultural, involving payments for land use and improper use of irrigation systems. Two cone inscriptions of En-metena summarize the history of the border war (Cooper 1983). There, En-metena boasts that he defeated Ur-Luma in battle and made him flee back to Umma, abandoning his contingent of 60 teams of donkeys at the Lummagirnunta canal. The Lagashites slaughtered them and heaped the corpses into mounds:

> In the Ugiga field, the field of Ninĝirsu, En-ana-tum, ruler of Lagaš, fought with him (Ur-Luma, the ruler of Umma). En-metena, the beloved child of En-ana-tum, defeated him. Ur-Luma escaped, (En-metena) forced him back to Umma. 60 teams of his (Ur-Luma's) donkeys were abandoned on the bank of the Luma-ĝirnunta canal. The bones of their personnel were left strewn all around the plain. He (En-metena) piled up their burial mounds in five places (RIME 1.9.5.1 composite, iii 5–27).

If we assume that the teams of donkeys of Ur-Luma's army consisted of four donkeys each, this would equal 240 donkeys altogether, a reasonable number of donkeys to be used in the battlefield. If we estimate that one dog (at most two) was following the wheeled vehicle drawn by these donkeys (as seen on the cylinder seals), then we should expect to have 60 dogs in the army force of the ruler of Early Dynastic Umma, a comparable number to the dogs we have calculated for the army force of the Ur III military.

Conclusion

Warfare is cruel and violent, but also fairly common throughout the history of the ancient Near East, from minor skirmishes between city-states to full-blown expansionist policies. Humans were not alone in being recruited and trained for such activities. We have here discussed how both equids and dogs featured as part of the army. The two species each had specific roles to play, but also appear to have close associations. These associations have two different but related aspects, one reflecting mutual training and participation in battle, the other reflecting the aftermath, with dogs feeding on dead or injured equids. The former may also explain the occurrence of co-burials of equids and dogs, although in some cases, more complex dynamics appear to be at play, related to youth and ritual practice.

A number of equid species were present in Mesopotamia in the third millennium, but the relations between dogs and equids seem to have centred on (domestic) donkeys and the kunga$_2$-hybrids. These were the two types of equid mainly trained for battle in the third millennium, and also the ones recorded as fed to the army dogs. It also seems that two different breeds of dogs can be identified: one slender, fairly long-legged, greyhound-like, the other shorter, stockier and with an upwards-curling tail, possibly with specialized abilities in sight and scent, respectively. While the equids are depicted as actively engaged in battle, it is less clear exactly what role the dogs played, as it surely went beyond simply picking at the bodies of the dead. They could be used to attack, chase down the enemy, act as guards or even carry messages. Whatever their exact role, what we see is that in the third millennium BC, dogs and equids fought together as companions on the battlefield and symbolically shared death in co-burials. This implies that they also trained together on a regular basis in order to prepare for violent clashes with enemies. The expenditure for keeping and feeding the numbers of animals recorded would have been high, and resources could be maximized by feeding sick, injured or dead equids to the army dogs, thus revealing another aspect of complex dog-equid relations in ancient Mesopotamia.

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Fierce lions, angry mice and fat-tailed sheep

Animals have always been an integral part of human existence. In the ancient Near East, this is evident in the record of excavated assemblages of faunal remains, iconography and – for the later historical periods – texts. Animals have predominantly been examined as part of consumption and economy, and while these are important aspects of society in the ancient Near East, the relationships between humans and animals were extremely varied and complex.

Domesticated animals had great impact on social, political and economic structures – for example cattle in agriculture and diet, or donkeys and horses in transport, trade and war. Fantastic mythological beasts such as lion-headed eagles or Anzu-birds in Mesopotamia or Egyptian deities such as the falcon-headed god Horus were part of religious beliefs and myths, while exotic creatures such as lions were part of elite symbolling from the fourth millennium BC onward. In some cases, animals also intruded on human lives in unwanted ways by scavenging or entering the household; this especially applies to small or wild animals. But animals were also attributed agency with the ability to solve problems; the distinction between humans and other animals often blurs in ritual, personal and place names, fables and royal ideology. They were helpers, pets and companions in life and death, peace and war. An association with cult and mortuary practices involves sacrifice and feasting, while some animals held special symbolic significance.

This volume is a tribute to the animals of the ancient Near East (including Mesopotamia, Anatolia, the Levant and Egypt), from the fourth through first millennia BC, and their complex relationship with the environment and other human and nonhuman animals. Offering faunal, textual and iconographic studies, the contributions present a fascinating array of the many ways in which animals influence human life and death, and explore new perspectives in the exciting field of human-animal studies as applied to this part of the world.

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