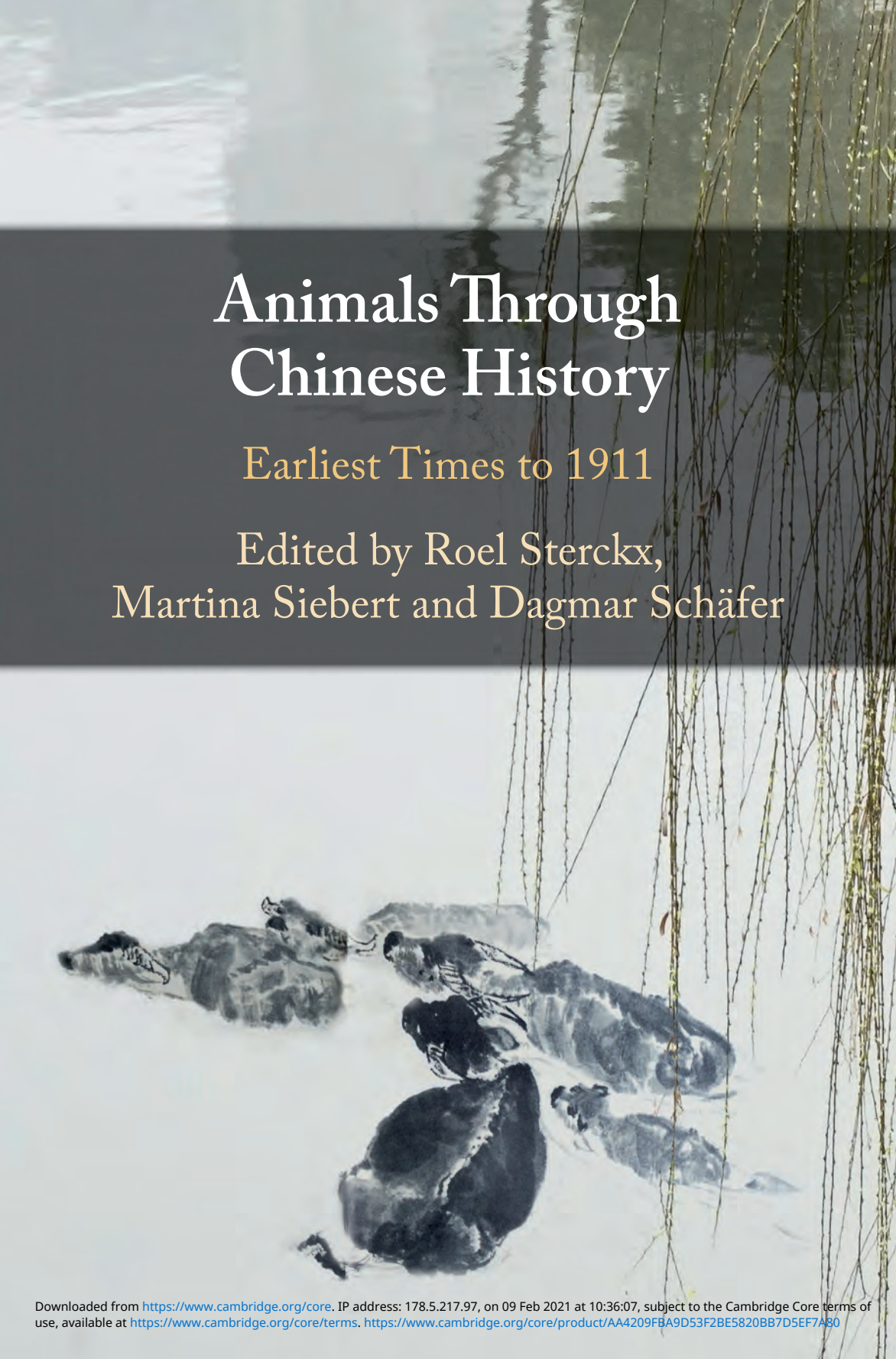
Animals Through Chinese History

Earliest Times to 1911

Edited by Roel Sterckx, Martina Siebert and Dagmar Schäfer



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This volume opens a door into the rich history of animals in China. As environmental historians turn their attention to expanded chronologies of natural change, something new can be said about human history through animals and about the globally diverse cultural and historical dynamics that have led to perceptions of animals as wild or cultures as civilized. This innovative collection of essays spanning Chinese history reveals how relations between past and present, lived and literary reality, have been central to how information about animals and the natural world has been processed and evaluated in China. Drawing on an extensive array of primary sources, ranging from ritual texts to poetry to veterinary science, this volume explores developments in the human–animal relationship through Chinese history and the ways in which the Chinese have thought about the world with and through animals. This title is also available as Open Access on Cambridge Core at doi.org/10.1017/9781108551571.

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Chronology of Dynasties

Xia	Traditionally 2205–1766 BCE
Shang	1600–c. 1050 BCE
Western Zhou	c. 1050–771 BCE
Chunqiu (Spring and Autumn period)	770–481 BCE
Zhanguo (Warring States period)	475–222 BCE
Qin	221–210 BCE
Western Han	206 BCE–9 CE
Xin dynasty	9–23 CE
Eastern Han	25–220 CE
Sanguo (Three Kingdoms period)	220–265 CE
Jin	265–420 CE
Western Jin	265–316 CE
Eastern Jin	317–420 CE
Nanbeichao (Six Dynasties period)	420–589 CE
Sui	589–617 CE
Tang	618–907 CE
Song	960–1279 CE
Northern Song	960–1126 CE
Southern Song	1126–1279 CE
Yuan	1279–1368 CE
Ming	1368–1644 CE
Qing	1644–1911 CE
Republican Period	1912–1949
People's Republic of China	1949–present

Knowing Animals in China's History
An Introduction

Dagmar Schäfer, Martina Siebert and Roel Sterckx

In the year 1864 William Alexander Parson Martin (1827–1916), English teacher and professor of international law at the Beijing School of Combined Learning (*Tongwen guan* 同文館) proposed that, etymologically, it would be more correct to use the (by then) customary terms for animals (*dongwu* 動物) and plants (*zhiwu* 植物) to refer to two types of property, namely, goods and objects that are movable and non-movable.[1] Indeed, animals by then went by many terms. Whereas classical literature had used morphological groupings such as 'birds-beasts-insects-fish' (*niao-shou-chong-yu* 鳥獸蟲魚), contemporaries of Martin also addressed animals as the 'hundred beasts' (*bai chong* 百蟲 or *bai shou* 百獸). For one short-lived moment, lexical debates laid bare the ambiguous role of 'animals' in human knowledge debates.

Animals hold a vulnerable place in historical human practices and thought, not only in terms of name or meaning. As research in the field of animal studies since 1990 has shown, historically, individuals, societies and cultures debated what an animal was and where it belonged, how animals should be interpreted, explored, used or owned – as a spiritual, intellectual, economic or physical resource, human enemy, companion or prey. This research has also shown that only rarely, though, can animals be entirely ignored, as they impacted ecologies, economies and states as much as individual and social practices and knowledge ideals. Sinologists and historians of China have shown the central importance that Chinese actors placed on animals as a window onto human society and natural change. Such research addresses a broad spectrum of topics, ranging from the symbolical and philosophical to the practical. Literature, material culture and art studies have drawn attention to animal iconography, studying accounts of foxes which transformed into female beauties to cheat on lonesome scholars and analysing the role of dragons and phoenixes as symbols of the sky on bronze vessels. Historians of economy, society, technology and science have unfolded the complex

[1] Used in 1864 in *Wanguo gongfa* 萬國功法 (*juan* 2, f. 17r). Quoted in Masini (1993), 48. See also his appendix.

entanglements of humans and animals in agriculture and the use of horses and cattle in military affairs, and have studied pests such as locust plagues, which threatened their crops.

This book aims to open a door into the rich field of animals and knowing in China, offering a selection of essays over the *longue durée*. Environmental historians in particular have turned our attention back to expanded chronologies of natural change, thus showing that something new can be told about human history through animals. These studies have usefully contributed to a globally diverse view of the cultural and historical dynamics that made animals be perceived as wild or cultures as civilized. We now know, for instance, that Ming literati considered reindeer and hunted wildlife to be the quintessential 'wild' (*ye* 野), avoided forests and did not hunt game, whereas Manchu elites celebrated their homelands' wilderness and lush vegetation for 'nurturing civilization like the emperor himself' and strove to keep some hunting territories devoid of human influence to 'purify' a Mongol steppe.[2] Within Chinese history, nuanced accounts of environmental change illuminated the diverse regional practices of animal care (from full domestication to various forms of animal taming and cross-breeding) and lifestyles (from seasonally mobile cultivators to sedentary hunter-gatherers), and thus usefully expanded simple dichotomies that, emerging from dynastic historiography, depicted a civilized society of settled farmers and literati-officials surrounded by nomadic and belligerent hunter-gatherer tribes.[3]

Stories of receding elephants and forests, the increasing impact of horses, water buffaloes and farming, clearly indicate the tensions between, on the one hand, natural continuities and changes and, on the other hand, the power of humans who approached and constructed animals through language, idiom and genre, material representations and bureaucratic means.[4] Geology, topography, bones and the remains of other material culture often focus on ways to vocalize the animal's role: how it resisted or refused human desires or adapted and affected nature beyond human intentions and means. The comparison to texts provides glimpses into how historiographical tradition tended to obliterate the social and cultural realities of human–animal relations. While animals thus emerge as powerful agents in human life, much less is known about their role in human knowledge practices, in particular how such an animal's role may have persisted or changed over the long term in relation to natural change.

We suggest that, with its rich array of both material culture and written sources, the region that we now call China lends itself in particular ways to a diachronic view of the co-existence and co-construction of human and animal

[2] Schlesinger (2017), 3. [3] Allsen (2006), 4–7; Harris (2008), 83.
[4] Elvin (2004), 308. See also Bello (2016), 3.

worlds, in both spiritual and physical terms. It is also a region in which actors themselves adopted the diachronic perspective regularly to frame and shape what knowledge or knowledge practices were.[5] The relations between past and present, lived and literary reality and imagination, were central for the processing and evaluation of information, knowledge and know-how. With this agenda in mind, the *longue durée* does not simply address a calendrical notion or an observer's perspective on history as a continuous process. Rather it takes seriously the idea that, in Chinese history, scholars and elites collated and drew connections between things, concepts and notions based on a historical context – framing them sometimes in terms of chronologies, but, more often than not, without any Braudelian implication vis-à-vis the continuities and breaks that the modern history of science has come to avoid almost entirely.[6]

Beyond anthropocenic approaches, studies that span centuries or even millennia have indeed become unusual and are also quite rarely seen in research on animals and knowledge change.[7] Research on the European ancient, medieval or early modern period habitually either explores spatial and physical distinctions, or examines an animal's role as an exotic or utilitarian entity, a discovered or familiar creature in human life.[8] Analyses of changing approaches to knowledge about animals – or knowledge gained through them – mainly focus on European imperialism and the creation of grand collections: curiosity cabinets and then natural history museums. The nineteenth and twentieth centuries, when evolutionary biology emerged and agricultural mass production initiated mass globalization, dominate this field of research.[9]

Historians of China have thus far followed two approaches – either to study an animal across varied sources and times,[10] or to focus on specific dynasties (mostly the Song and Qing) alongside historians of the West who choose a nation-state or another concrete political entity as a framework

[5] Notwithstanding global history, most animal histories indeed choose a regional framing. Few and Tortorici (2014), 1–30, highlight the absence of animals in studies on Latin America, in particular for periods beyond the grasp of written accounts.

[6] Environmental historians focus on Braudel's notion of structures (1977, 55) mostly in terms of geographical and climatic conditions. See e.g. Koselleck (2000), 96.

[7] See Holmes (2003), 465.

[8] Studies of the 1990s in particular emphasize the symbolic and representational function of animals, e.g. Cohen (2003). For an overview of the literature see DeMello (2012). See also Pluskowski (2007).

[9] This is true not only for Europe. See Chakrabarti (2010); Hoage and Deiss (1996). Nearing modern times, the time periods under discussion shorten. Grote (2015), 6, exemplifies by way of Hansjörg Rheinberger and Staffan Müller-Wille's study (2009) that one century can be considered *longue durée*.

[10] Such studies are in the minority and all rather recent. See, for instance, Hou Yongjian, Cao Zhihong et al. (2014). For a recent study with a *longue durée* view on China see Silbergeld and Wang (2016).

(usually England or Great Britain). Both approaches invite discussions on the role that political history plays in the analysis of knowledge dynamics. Exposing the intended and unintended causal relationships between natural and socio-political change, there is a need to understand what makes animal approaches to nature knowledge (or knowledge of nature through animals) relate to any particular dynasty and, ultimately, to being 'Chinese'. This raises questions such as what effect a dynasty or a social group's perception of animals – including their social, political, material, temporal and geographic presence – had on 'knowing nature'; how we should understand tensions between historical China's literary and physical animal worlds; and how they affected the animals' role in scientific and technological change.

In the rapidly growing field of human–animal studies, the chapters in this volume tackle the various contexts and value systems that defined animals' roles in society, state and thought. Authors analyse why and how elites and commoners, herdsmen and farmers, poets and literati have all sought to give different meanings to the realization that animals occupy human space, while humans intrude on animal space and habitats. Arranged in a rough chronological order, the contributions describe the histories of individual species (e.g. cats, bees, horses), discuss animals in literary genres (such as treatises on farming, 'treatises and lists', i.e. *pulu* 譜錄, or morality books) and explore language, institutions and ideals. *Longue durée* explorations of particular species are combined with studies on specific periods (pre-imperial, Song, Qing). This arrangement aims to highlight the different regimes of attention – historical ideals and methodological choices – that shaped (and are still shaping) historical human–animal relations and thus also the historical view of animals and animal knowledge: what actors considered could be known about animals, as well as the knowledge they could impart. Opening up to such concerns reveals two important themes in the study of historical human–animal relations and knowledge dynamics: (1) how social and political practices influenced knowledge about and through animals, and (2) the role of both morality and physicality in this knowledge.

Knowing 'Chinese' Animals: Creatures of Society and State

In one of the early Western studies of Chinese approaches to nature conservation, Edward H. Schafer noted in 1969 that 'the study of the history of man's knowledge of plants and animals is all the more necessary in that it has been neglected in favour of the study of the development of tools'. Schafer revealed how 'men of the T'ang' expertly handled animals and learnt about them. While he considered an inquiry into these types of engagement as informative, Schafer also noted that 'scientific' aims (which he used to address approaches

for understanding living creatures' habitats) or efforts 'to gain other sorts of knowledge as a motivation for conservation measures did not, it seems, exist for the men of the T'ang'.[11]

From a quantitative view, it could well be argued that not much has changed. Fifty years on from Schafer's account, there are still very few studies on China's historical animal knowledge. Research on the pre-dynastic and dynastic eras regularly focuses on animals as spiritual beings and sources of nutrition.[12] Historians of science in China have mainly looked at the role that animals have played in the making of modern science. What has substantially altered, though, is the qualitative view of what constitutes the nature of knowledge and animals. Studies from the 1990s, when the anthropological method gained ground, began to emphasize the different nature of Chinese approaches to animals. Others have touched upon some of Schafer's themes, such as the protection of animals, their role in humanitarian efforts and religion, as well as their impact on environmental change, thereby showing when and how classifications and understandings of animals, their uses and abuses, started making an impact and caused scientific and technological change.[13] Most importantly, such research has suggested that Chinese scholars, farmers and elites considered animals as significant tools to 'think with' (*bons à penser*), *pace* Lévi-Strauss.[14]

Meanwhile, research on China's cosmology and philosophy has intervened by illustrating these 'ways of thinking'. John Major explains that the cosmology of the *Huainanzi* 淮南子 (The Master Huainan), for instance, greatly values an animal's existence (among others, the behaviour and attributes of many carnivores such as foxes or racoons, or insects such as silkworms or cicada) showing that, in fact, animals set Chinese scholars thinking in significantly new ways about time, space, life and death. The diversity of animals in that classic verifies the principle of differentiating between *yin* and *yang*, alongside the Five Phases theory. According to this view, animal gestation discloses numerological principles, and seasonal animal behaviour provides the structural grid for daily life.[15] Thus, while animals were rarely explained or analysed on an individual basis in early thought, an inquiry into intellectual discourses, as well as the practices of daily life, shows that knowing animals was an integral part of the larger picture of understanding the 'why' and the 'how' in life generally.

Early Chinese cosmological writing indicates the historical peculiarity of the modern dichotomous view about human and non-human animals. Thinkers commenting on such early texts during the Han, Tang, Song and Ming eras,

[11] Schafer (1963).
[12] Chen Huaiyu (2009). See also Fan Fa-ti (2004), 14, and Zhang Qiong (2009).
[13] Handlin Smith (1999). [14] Lévi-Strauss (1962), 127–8.
[15] Major (1993), 177, 217–56. See also Major (2008).

time and time again, concluded that the same fundamental principles governed all 'things' – which included animals, the heavens and people.[16] This meant that all these principles were also potentially present in all things, and that differences between people and animals therefore could only be a matter of the degree to which such principles became apparent or were brought into effect. Such an approach manifested itself, for instance, in the notion of language as a continuum of all beings, in which animals, like humans, had the capacity to speak – in their own way. Humans differed from animals because people used language 'as a way to establish distinctions'.[17] At the same time, animals were substantial to human language and consequently its ways of knowing too – the foot tracks of birds and beasts, after all, inspired the mythological official Cangjie 倉頡 to develop writing.

Care needs to be taken, hence, when comparing China's historical approaches to the human–animal divide against Western traditions or modern approaches. Whenever Chinese actors compared human and animal traits and found the same principle working in both, they aimed to assess the principle's relevance and manifestation. This approach differs substantially from a modern anthropomorphizing view that attributes uniquely human traits, emotions and intentions to animals.[18] Although such instances of anthropomorphizing can be found in Chinese historical accounts, they cannot be considered the norm. In fact, we can find the interest in identifying similar principles in humans and animals (rather than the use of humans as a yardstick) running through society, state and intellectual life, with variations depending on the divergent moral and natural qualities that the fragmenting statecraft schools ('-isms' of Confucian, Daoist or Buddhist tint) or individual doctrines over the course of time assigned to animals as a group or their specific representatives.

Political actors, despite much disagreement over cosmological ideals, show a propensity to discuss animal–human relationships in terms of knowledge and understanding. As exemplars of a higher order, animals could thus not be ignored. In particular, scholars in state service, the so-called *Ru* 儒, made sure to clarify, from the Song period onwards, that agency lay mainly on the human side: animals could productively instruct humans, if humans understood animals.[19] For the Mongolian rulers of the Yuan, animals equally provided

[16] For reflections on Asia in particular, see part IV in Waldau and Patton (2006). See also Sterckx (2002), 4.

[17] See also Behr (2010), 575–6.

[18] In fact, human–animal studies also identify a substantial break between the pre- and post-Enlightenment phases in European cultures. Anthropomorphizing turned into an accepted way to connect to animals. Of course, older forms such as fairy tales etc. continued. See Daston and Mitman (2005). Giorgio Agamben (2003), 33–8, named this growing gap in his philosophical approach the 'Anthropological Machine'.

[19] Zhao Xinggen (2013), 46.

a link to the cosmos and higher understanding, although it must be noted that this dynasty otherwise can also be singled out for its particularly strong utilitarian linkages to animals such as horses, cattle, donkeys, sheep and goats. Allsen also points out that, for Mongols, animals provided a cosmological link and thus animal caretakers could also be diviners and advisors to the court. A human's understanding of animals and his or her relationship to animals 'demonstrated influence over both natural and spiritual realms, skills not thought evenly distributed among humans'.[20]

Knowing animals and knowing about animals thus impacted upon notions of human talent, expertise, and finally also the professions. Veterinary carers, breeders or doctors who caught horses, reared cattle, trained dogs, bred, domesticated, hunted or slaughtered any kind of non-human creature, were the everyday experts who *knew* their animals. In contrast, according to the Chinese cosmological view, the highest form of knowledge occurred when an animal made a person think about universal principles. Such was the capacity of the sages of the past and wise scholars and philosophers. Sometimes, knowing *with* an animal and knowing *how to* handle animals went hand-in-hand. This was apparent in experts such as diviners, who were able to predict omens using tortoise shells, snakes and birds; military strategists who developed defence and battle plans and led cattle and horses into warfare; and ritual masters who produced sacrificial and human feasts – not only preparing the meat but also rendering livestock 'edible' for the assigned spiritual and physical aim.

Connotations could certainly also change substantially among different communities to acquire shifting importance throughout time. For diviners, the nature and purpose of knowing animals was to manage the present, as much as predicting the future.[21] They also emphasized the legitimacy of rule (in terms of capability). For *Ru*-scholars during the Song, an ordered, healthy animal world per se came to signify appropriate political rule, whereas extraordinary occurrences – such as fish jumping onto dry riverbanks or green snakes being sighted near the imperial throne – represented bad rulership. On a symbolical level, animal imagery, analogies and metaphors offered an opportunity to take a political stance, presenting direct and indirect criticism of individuals, social or ethnic groups, rulers and regimes or social ordering.

[20] Allsen (2006), 145. This is not necessarily unique to Chinese culture or history, it is also attributed to Native Americans. According to Ross (2011), 47, a sense for animals, i.e. expertise of care taking, is also occasionally referred to as a 'natural' skill or at least one less infected by civilization. Liu Shuhong (2013), 69, has recently noted that Ming politicians up until the 1550s still strongly promoted animal husbandry in parallel to agriculture (*yi nong yi mu* 亦農亦牧).

[21] Raphals (2013), 143, 173.

The cosmological interest also explains that what we might consider continuity (in the sense of unchanging structures) was in fact for Chinese actors what Reinhart Koselleck identifies as 'structures of repetition' (*Wiederholungsstrukturen*) that human beings 'consciously adopt, ritualize, culturally enrich and level to a degree of consistency that helps to stabilize a certain society'.[22] Such repetition is different from stagnancy as it allows variations – in fact, it even embraces such repetition as a way to establish a universality that can exist in diverse local and temporal contexts. Looking at knowledge making as a process of repeated actions – rather than one of structural ruptures – also gives valence to the historical experience of change as a gradual development in which the familiar way of, for instance, cooking food informs chemical analysis or modern genetics helps recreate ancient pure blood horse types.

What then does putting the animal in the focus of a *longue durée* view on practices and concepts contribute? Similar to the world of objects and technologies in which David Edgerton has pinpointed the different life cycles of things and ideas, the temporality of animals is, in contrast to the technical things that Edgerton describes, equipped with both physical and behavioural continuities that humans perceive to be beyond the grasp of human wills and minds. Living with animals and knowing them defies any *easy* dichotomies of everyday, familiar practices (such as choosing companion dogs) and scientific means (such as genetic testing and breeding). This volume then presents an explorative grid, offering various lines of inquiry such as that of specific animal species, or human professions, or approaches to human–animal encounters and human knowing of and with animals.

This Volume

Organized chronologically, the chapters brought together here reflect different approaches to the role of the *longue durée* in studying practices and knowledge change. The first two chapters focus on ascertaining what can be grasped about knowledge and expertise from material culture, oracle bones and texts from China's early period, from Shang period excavation sites (c. 1300–1150 BCE) to the dynastic reign of the Han (206 BCE–220 CE). Burial places are an important area for investigating how practices and cosmological views were related. Adam Schwartz's contribution suggests a need to rethink significantly the landscape of expertise, in response to advances in archaeological excavation processes. A ritual culture hinging on animal sacrifices, he reminds us, required careful planning and preparation that yet again necessitated an intimate understanding of the animal's

[22] Koselleck (2000), 12, 20.

reproduction cycles. In Huayuan zhuang 花園莊 (located in modern Anyang), nobles undertook a 'private' form of divination practice – mostly related to ancestral worship – with regular sacrifices that required large numbers of animals be reared in captivity. Hence, princely and lower elite households had to watch carefully the economy of animals and regulate it by establishing a hierarchy of use in which boar could replace cattle but cattle never replaced sheep. Schwartz's study also shows that, while the value of wild animals depended on their gender and rarity – with exotic animals such as antelopes being more highly prized than others – penned sheep, cattle and pigs were evaluated on the basis of their successful breeding. Diviners prophesized by colour and honed their skills by consistently applying a numerological logic in patterns of ten odd or uneven numbers to predict personal and communal affairs.

This sacrificial animal economy operated within what one could call a professionalization of ritual procedure that, as Roel Sterckx explores, became part of a civilizing narrative which allowed humans to 'distance' themselves enough from the creatures to be able to consume them, physically and spiritually. Whether or not this practice now indicates a historical turning point in which a continuum perspective was transformed into a categorical difference between humans and animals may be subject to debate. In this particular moment actors clearly considered animals not per se as edible. Instead animals had to be *translated* into consumable items, for both spiritual and nutritional purposes. Archaeological excavations and textual sources document a special set of techniques that was applied to transform an animal from a domestic being into a suitable 'victim' for ritual sacrifice. This process included selection, de-animalization, de-animation and, finally, its reconstitution as an edible and spiritual tool. In pre-dynastic and early imperial times, the state established methods that allowed it to single out the provision of sacrificial animals in two ways: (1) by externalized control over procedures; institutionalizing a pastoral economy 'with ritual obligations', assigning specialized staff, codifying the herding of livestock by way of accountancy processes, management ethos or legal practice and managing the kill, and (2) by internalized standards of classification frameworks based on physical or moral markers or on timing regulations.

By the dynastic period, intellectual styles and schools had evolved, but we can also see some continuity in the style of debate. For Keith Knapp, the answer to Rodney Taylor's question about how animals were valued in Confucian thought – were they an exemplification of diverse life forms rather than something fixed in relation to humans, or was there a unified view of life? – lies in the role of all things to exemplify and express moral causes. Knapp shows how Confucians sanctioned patriarchal society and the validity of basic moral principles by arguing that human and animal approaches to filial piety

differed only by degree. Anecdotal evidence and philosophical texts verified animals' capacity for filial piety, demonstrating: (1) the reciprocity of caring, parent–child, child–parent relationships, (2) compassion, and (3) devotion and loyalty. He also explains the belief that animals acted on innate moral principles, whereas humans were obliged to master or take an adversarial stance to their intuitions. In this world in which all bodies, human or animal, were governed by universal principles, for Confucians civilization (as cultivation) rested on a human individual's mastery of their innate capacities. Humans then were different to animals only in their capacity to abstract moral concepts and behaviour beyond food and protection.

That such human–animal comparisons did not aim to attribute merely human characteristics to animals is also evident in Barrett and Strange's suggestion that basic virtues (and an answer to how fundamental these are to society) can be found in all creatures. Adopting the *longue durée* view of the Chinese cultural and geographical sphere, Barrett and Strange insist that animal portrayals seem indeed to have refused to acknowledge any arbitrary distinction between physical and behavioural characteristics. Social and intellectual approaches to cats evolved considerably. According to textual sources, cats were not domesticated until quite late, around the second century, swayed by the influx of Buddhist cultures (which were, themselves, possibly influenced by Egyptian traditions/practices?). Throughout the centuries we can see clear tendencies. Cats feature prominently in Buddhist monastic contexts and in magic accounts of the Sui to the Five Dynasties up until about the tenth century. They become more visible in political accounts and moral considerations from the eighth and ninth centuries. Cats are used in discourses metaphorically and are not real creatures in Chan Buddhist philosophical debates. Song era (960–1279) literature had cats changed from animated spirits that influence human behaviour to creatures that were governed by the same principles as humans. While cats (and their component parts) were used in multiple ways, it was only at this time that cats turned into a commodity that could be traded as companion animals for human pleasure.

Similarly, the diachronic view that Pattinson adopts with respect to bees emphasizes the ideological impact of attention and knowledge regimes. The perception of bees changes from a negative to a positive model organism in line with the growing interest in, and use of, bee products by the Song. With a shift in moral evaluation, bees also turned from an animal that humans studied for utilitarian purposes into a social model-organism (or a more allegorical entity), until finally becoming an object of knowledge that Song scholars attempted to grasp through a sophisticated taxonomy. It is important to know in this context that, whereas honey seems to have been part of the early Asian diet, Chinese farmers, like many other cultures up until the nineteenth century, did not domesticate bees. The political nature that specific animals were

ascribed in their role as exemplifications of a higher order, in this case, can hence not be related to different productive usages of these animals. Rather it seems that social and philosophical issues were at stake.

Clearly, throughout time, animal imagery, analogies and metaphors at a symbolic level offered an opportunity for indirect criticism of individuals, rulers and regimes, as well as social groups. Bee colonies provide a useful image of imperial courts, illustrating officials' duties to their superior, depicting the insects' venomous sting as a bad omen. Allegorical cats, Barrett and Strange note, could rid the state of unwanted officials in a form of political rodent-control.

Such examples underline Thomas Allsen's point that animals were considered valuable not only as representations of political creatures which generated wealth for their owners and enabled war. Their political power also lay in the way that scholars considered animals as sources of universal patterns. In addition, state power legitimized the use of animals and made animals 'known' – as many of the following chapters explain. Francesca Bray shows that this is particularly evident in state-related sciences such as agronomy. Examining the portrayal of animals in the genre of treatises on farming (*nongshu* 農書), Bray sheds light on the relation between ideologies of ruling, sustenance and land cultivation. *Nongshu* represent a dynastically approved genre that anchored culture and civilization in crop-centred farming, and relegated husbandry to frontier regions that were uncultured or unsuitable for arable farming. Whereas the *Qimin yaoshu* 齊民要術 (Essential Techniques for the Common People) validates animals as possessions with economic benefit, sources from the Song era consider animals as somewhat inferior to crops. At that time, livestock was no longer viewed as a source of nutritional value, but measured in terms of a work force. By the Qing, some included the pig from the viewpoint of a learned Confucian who discussed suitable tasks for a virtuous household. Bray concludes that, while earlier works meditated upon an economic context, political objectives informed later agricultural tracts. Animals disappeared and re-appeared from the *nongshu* genre in relation to political and economic desires and demands of the time. For lack of sources, it is nearly impossible to assess the impact of literary works on actual practice. We can say though that scholarly decisions made in relation to livestock management did not necessarily align with economic logic. They may even have contradicted it to fit primarily political aims.

First seen by Chinese bibliographers as an 'appendix' to *nongshu* writing, specialized monographs on material culture and nature studies developed into the *pulu* genre that provided a frame for scholars to address animal species in individual, stand-alone texts. These elites' texts became part of the Chinese store of knowledge on animals from the tenth century on. Apart from

assembling valuable information on naming, morphologies and habits of an animal species, they created distinct and separate animal realities, as Martina Siebert illustrates. Some authors in the *pulu* genre remained within the limits of scholarly debates (collating texts about animals), whilst others included individual observations. Authors using a textual discursive method approached animals in relation to humans (we could call this the affect approach) and grounded their knowing of animals in morphology, moral stance, habits or allegorical precedence, whereas for some species personal observations and direct encounters played the dominant role and authors emphasized phenomenological concerns.

Over time, literary genres paid varying attention to different animals. Institutional histories reveal, though, the continuous presence of animals in actual statecraft and central concepts of daily life. Schäfer and Han, as well as Aricanli, illustrate what it means to define one's political territory, authority and legitimacy by the absence or presence of a certain species or kind of animal.

The horse, which features prominently in both Schäfer and Han and Aricanli's accounts, is probably the example *par excellence* for shifts in Chinese views of animal agency, achieving importance as a status symbol, a prestigious pet, and an agricultural or military tool.[23] The horse also stands for the dynasty as a spatially shifting and politically vulnerable entity. In the 1970s, Creel attributed the very existence of China's dynasties as autonomous empires to the invention of the cavalry horse, noting that Chinese dynasties, despite enormous investment, often failed to breed horses themselves.[24] Both the Song and the Qing exemplify political reigns that gave substantial agency to the horse by making it a source of authority and imperial legitimacy. Hence, its well-being and supply had to be secured. Thus, when the Song lost control over the steppes, they invested heavily in the development of new fencing and breeding methods in the south. Managing animal space, as many legal texts indicate, was generally vital for the agrarian state, and the movement and resettlement of animals in pasture lands was subject to careful, state-sponsored supervision. During both the Song (a dynasty that had continuously to ward off northern intruders) and the Qing (the era of a northern people who conquered the Ming dynasty with superior horsemanship) managing livestock became an integral part of running an empire.

But this is also where the similarities end. While knowing about horses became an important lever of political influence in both dynasties, different approaches were taken to the question of how to turn this into practice. Whereas the Song scrambled for the resources and expertise to breed and rear horses to

[23] Bower and Harrist (1997). [24] Creel (1970), 185.

unify the empire, institutions for equine care under Manchu Qing rulers proudly represented the diversity of cultural influences and traditions that comprised their empire: Manchu, Mongol and Chinese. Methods included practices from Mongol 'nomadic' and Chinese 'sedentary' lifestyles. Aricanli identifies such influences in looking after horses, before tracing multiple influences on the expert terminology of equine care. Language reveals a close linkage between politics and modes of expertise. The Manchu language was the gauge (and indicator) of the knowledge of horse types and horse medicines. Aricanli suggests that Manchu emphasized the 'Mongolian' origin of certain methods of looking after horses also, within claims for legitimate cultural succession (although Ming contemporaries had continued to use these terms too). Chinese precedents informed institutional structures. Mongolian practices, Manchu language expertise and identity debates are reflected in Qing dynastic equine care. Such examples indicate that there were multiple ways to explain and describe animals, and that these explanations often existed alongside each other, because context rather than content defined their being.[25]

Zheng illustrates the ambiguities of Manchu attitudes towards animals in Emperor Qianlong's (1711–99) efforts to realign the textual and empirical knowledge of animals, their life cycles and habitat. Confident in animal care, as minority leaders to a Chinese majority they were hesitant to displace pre-dating cultural norms. Qianlong expected to see what the classics told him and, to remedy his disappointment upon finding that things were otherwise, he wrote corrective commentaries, leaving the canonical text unchanged. Just as in Europe the medieval bestiary tradition continued to influence early Renaissance models of animal taxonomy,[26] in China classical texts, lexicographies and etymological works preserved repositories of knowledge that would be recycled and commented upon through the centuries.[27]

Qing approaches, as described by Aricanli and Zheng, suggest an increasingly dichotomous approach to the moral and physical causes of animal life that, as the final two chapters explain, translated into a standoff between

[25] For an example of the potential of communication through visual imagery see the excellent study of the 'emo' or cassowary by Lai (2013).

[26] On the continuities and diversification of medieval attitudes towards animals in Renaissance Europe, see Boehrer (2007).

[27] Ptak (2011), 3–17, is more confident in the definitional role of close observation behind animal nomenclature in the Chinese classics but his claim hinges on the assumption that zoological investigation occurred mostly in oral traditions now lost to us. As early Chinese medical literature shows, the early Chinese certainly did not shy away from accounting for personal experience, invoking regional traditions, and involving experiment. That a similar curiosity with reference to animals is not reflected in texts of the period therefore remains a more complex question. Many species in our texts and commentaries are probably part literary, part real. As several contributors to this volume show, an important and revealing question in this context is when and why authors choose to explain animals and their behaviour either by literary precedent or verifiable observation, or by both.

'scientific' or 'modern' approaches and any moral concerns in the nineteenth and twentieth centuries. During the socially and politically stressful periods of the Taiping era (1850–64), as Vincent Goossaert shows, animal companionship and care thus became an important site for debates over morality. Within texts from genres such as the late imperial morality books (*shanshu* 善書) Goossaert identifies several central themes: respect for life, considerations on wastefulness and greed, condemnation of releasing animals from human care, taboos regulating the pastoral economy, and caring for animals. Actors utilized and synthesized Christian, Buddhist and Confucian ideas about welfare and life and, at the same time, through creative misunderstandings as much as adaptive interpretations, invented new ideals in which animal slaughter called for an equal extinction of human life.

Goossaert then illustrates that, by late imperial times, specific genres and actors monopolized morality debates on animals as much as others only looked at physiological issues. Over the twentieth century this divide between the moral and physiological view would gain ground. It culminated, as Mindi Schneider illustrates, in utilitarian and scientific approaches to feeding and breeding pigs in the post-1978, market-reformed People's Republic of China. She also shows that, until the late 1970s, isolation from the international community had slowed down the extinction of local breeds.[28] It had also reduced China's capacity for producing chemical fertilizer. Adhering to Mao's promotion of pigs as small-scale fertilizer factories, modern economics and society have come to embrace the pig fully as a standardized creature. In modified regimes of biology and environment, scientific knowledge and know-how, the pig is subservient to society as a meat machine and as a living being largely detracted from human views. The wheel has turned full circle when, as Schneider elucidates, contemporaries anchor their practices and knowledge in human pasts, looking back nostalgically to long traditions of human–animal relations in politics, knowledge and identity debates.

Animals, China and Ways of Knowing

Notwithstanding all due associations to movable property, historically, animal mobility as well as their mutability was not easily owned or appropriated. It is no coincidence that modern archaeology takes a special interest in probing how much DNA the modern domesticated pig shares with ancient breeds.[29] Here as elsewhere, human–animal relations and knowledge practices emerge as closely interlinked.

[28] Epstein (1969), 70, had already noted a substantial reduction of local types, some of which, he writes, 'have become extinct during the last 15 years through grading up'.

[29] Yuan and Flad (2005) and Larson et al. (2010), 7688.

This collection underlines that the historical study of human–animal relations can profit from a broad historical view moving beyond the current focus on the early modern or modern periods that presently dominate animal studies and historical accounts. A study across regions and times that avails itself of many sources – including books, bones and landscapes – promises clear methodological challenges, but also substantial new insights into how humans know animals and how animals affect human practices and thought.[30] For instance, the chapters of Schwartz and Sterckx exemplify how productive it can be for archaeologists to modify the view of production and use, directing us away from 'a utilitarian perspective on animals as sources of food, raw materials, and transportation to a more expansive and nuanced appreciation', as Erica Hill has proposed.[31] This change of perspective gives a clearer picture of 'meaning as it is constructed socially and expressed materially'.[32]

The *longue durée* view adopted by Knapp, Barrett and Strange, and Pattinson emphasizes the importance of paying attention to the variety of historical records and co-existence of moral and physical concerns that elite actors produced when reflecting on human and non-human bodies and minds. Co-construction of political and intellectual ideals emerges, as Bray, Siebert and Zheng illustrate, in the eras from the Tang to the Qing, within specific genres. Equally, as Schäfer and Han and Aricanli show, administrative records matter in the historical study of human–animal relations. A comprehensive view of source materials such as private, legal and trade records, indicates that while – as many studies of the environment have emphasized – some animals became extinct, it is also worthwhile understanding why and how others propagated and prospered.[33]

The *longue durée* views included in this volume stress the need to reflect critically on narratives of linear 'historic turns'. Barrett and Strange suggest that the history of the cat fits well into a civilizational trajectory, and their transformation from functional animal to leisure companions almost entirely replicates the much faster nineteenth-century modernity shift. Their contribution as well as Pattinson's also show that it would be overly simplistic to claim that instrumentalist and sentimentalized views of animals in China were (and are) mutually exclusive. Or that it is only an outcome of modernity that civilization or being civilized is related to cruelty or empathy towards animals. Although the modern Mandarin term for 'pets' (*chong wu* 寵物) may only have appeared in dictionaries in the late 1980s, animal companionship and care was not unknown before that time. History is equally full of examples of the bad treatment of animals such as we can also find in the present, as Deborah Cao has very recently documented in her study: fur farms, a breeding industry

[30] Shelach-Lavi (2015), 92–4. [31] Hill (2013), 117–36. [32] Hesse (1995), 205.
[33] Zhang Qiong (2009).

supplying laboratory animals, trafficking in endangered animal parts and wildlife, intensive meat farming, illegal hunting, wildlife consumption, mistreatment of animals in zoos and circuses, etc.[34] It is not that sympathetic or sentimental attitudes towards animals in China gained traction over utilitarian views generally at one point in time. Instead such attitudes often developed and co-existed at the same time or in the same place. The interesting problematic for future research is how shifting ethics and ideals relate to changes in knowledge and practices.

Scrutinizing changing views of knowledge about and of animals in relation to the dynastic scheme and state control in a diachronic view illustrates how the changing geographies of livestock affected imperial decision-making. But we must also be aware of the many methodological flaws. Studies of domesticated animals such as horses, pigs, goats, mules, dogs and cats suggest that we have only just scratched the surface of understanding how such developments impacted society, politics, landscapes and human approaches to nature. For instance, as the Song moved to the south, pigs, goats and cattle had to move too, meaning that officials and farmers had to experiment with new breeds as well as new animal-keeping methods – stabling, housing, fencing and forest roaming. Little is known about how such changes affected biodiversity, because the rubric of 'dynastic territory' effectively disguises shifts in actual animal landscapes as well as how much effect state intervention actually had. This makes it unclear whether the impact affected dynastic territories under imperial control that were as small as a couple of hundred square miles around the imperial court – or areas as vast as East Asia and the entire Central Asian plain.

In this sense, the chapters in this volume showcase avenues for future research on the fascinatingly rich field of animals and knowing in Chinese history. Barrett and Strange as well as Zheng or Siebert, for instance, show the need to study metaphors, analogies, parables, song and poetry, as well as the vast arsenal of animal imagery, to understand how Chinese scholars addressed the conflict brought about by the clash of personal observation and textual precedent in relation to knowledge on animals. Schwartz and Sterckx, as well as Schneider highlight the wide array of possible sources as well as the difficulty of their availability. Clearly many historical sources represent an elite or even more restricted state view. And archaeological and ethnological method time and again 'lent the impression of scientifically dependable facts' alongside legends and presentist ideals.[35] China's early archaeology of human–animal relations is still an emerging field struggling with many issues, including an overbearing need for rescue archaeology, incomplete source materials and changing scientific approaches.[36] Previously focused on

[34] Cao (2015). [35] Schmalzer (2008), 49. [36] Shelach-Lavi (2015), 92–4.

consumption, it now needs to move from a utilitarian perspective to address other dimensions of human–animal co-existence. While the finer details of the shifts in early Chinese historical approaches to knowledge and animals may still need further research, Schwartz and Sterckx exemplify into which direction such research could proceed. They also reveal the potential of studying China's early culture in order to carry out a historical study of human–animal relations that takes on board meaning as it is constructed socially and materially.

New access to local archives and private accounts, as well as the possibility of electronically researching across vast corpora, enables historians nowadays to ask questions about animals in texts in new ways and follow terminologies and their standardization across imperial spheres. Schäfer and Han as well as Arincali show accordingly how animals appear as subjects of state rule and care in communion with humans and how animals in reverse shaped the state. Administrative regulations and legal codes reveal notions of animal-related expertise and what was considered necessary for regulating and caring for animals.[37] The imperial bureaucracy not only issued laws on domestic livestock, but also meted out punishments for offences against non-domesticated species – such as trespassing and hunting in imperial parks or negligence in locking up wild animals. This opens up an array of important questions on animals' legal status in crime and punishment or what obligations the ownership of an animal implied.

As mentioned above, according to Chinese mythology, when Cangjie invented writing by observing animal footprints and tracing birds' claw marks on the sand, he did so for the administration of society and state. The written records produced by his successors in the course of administering the state reveal shifts in daily practices and notions of animal-related expertise. They also contain information on changing nature-knowledge, human habitat and animal environments, while interpreters of the Chinese classics may have insisted on the continuation of a literary view. We must also be aware that, while certain animals, such as cattle and pigs, were continuously pivotal in the creation of ritual, social and political hierarchies, these very animals also frequently disappeared from scholarly literature, state and agricultural practice and everyday use.[38] Such observations complicate a historiographic view of a functionally stable biodiversity against which to assess literary accounts. Administrative sources show that animals not only disappeared. Certain populations also increased in density. Huge herds of cattle were based around the Pearl River in the south by the end of the Song.[39] Equally Kuo Chunghao's

[37] For examples in the Tang code, see Johnson (1979–97), vol. 2, 179–97; Cao (2015), 19–23; for Qing examples see Bodde and Morris (1967), 282–6, 350 (cases from the *Xing'an huilan* 刑案匯覽 [Conspectus of Penal Cases], covering the period 1736–1885).

[38] Steinbrecher (2009), 264–86. [39] Zhang Xianyun (2009), 202.

culinary study of ham consumption during the sixteenth century implies that pig farming spread widely around Jinhua 金華 and Huizhou 徽州, even though agronomic accounts of the same period almost entirely ignored the pig.[40]

The particular language and geography of our textual and material records of humans and animals define, to a large extent, the 'Chinese-ness' of animals and knowledge in historical studies. Animals and animal practices clearly were, as Aricanli's chapter indicates, equally strongly influenced by non-Chinese actors. Their sources need to be incorporated and their views revealed. Ultimately what constitutes 'Chinese animals', however, cannot be a question addressed exclusively by the *internal* view (i.e. given by Chinese sources on China) that this book provides, considering the matter mostly in terms of the existing biodiversity within a territory defined by modern politics and the historical legacy attributed to this geographical and cultural space. It is equally important that a study of 'animals in China's history' considers what one could call the *external* view. As Roderich Ptak and others have shown, scholars carefully observed the variety of land and sea animals when travelling for leisure or as roving servants of the empire.[41] Animals exchanged via diplomatic missions dominate our current understanding of the animal empires that inhabited Eurasia in pre-modern times. There is, though, also the wide range of animals that were continuously collected and recorded by tributary missions on regular journeys. As the empire ruled varying territories, a wide range of animals such as water buffaloes, camels and goats, crickets, goldfish and singing birds were mobilized and replaced, too.

Animals are regionally and temporally diverse. As elusive as this diversity often seems to be in historical accounts, the knowledge cultures built from and around animals were often quite distinct. The waning and waxing geography of sericulture – how the domesticated silkworm wiggled its way through human cultures and thinking – may be one other indication of the huge shifts that affected biodiversity on the Eurasian-African plain. While such changes are less abrupt than the discovery of new continents, they may not have been less influential. From the Han to the Qing, silk production first centred in China's north (modern Shandong) and Sichuan until, by the eleventh century during the Song reign, it increasingly moved south of the Yangtze partly due to climate change. Even while the domesticated silkworm remained within Chinese imperial boundaries, it moved through at least one macroclimate and multiple microclimate zones. The silkworm was also a desirable commodity beyond Chinese imperial boundaries, and animal exotica – from dragons to water buffaloes and crickets – were coveted by Persian, Mamluk, Prussian and French early modern courts, just as panda bears are part of cultural diplomacy in modern times. Habitat changes in Eurasia may not have been as disruptive

[40] Kuo Chunghao (2013). [41] Ptak (2010).

for a species as that brought about by the discovery of the Americas, but it might be worthwhile studying their subtle as well as their more dramatic short- and long-term effects, too. Within the rich confines of Chinese history, animals and knowledge developments hence still remain to be explored much more. The various species, periods and perspectives addressed in this collection provide possible points of departure within this complex but fascinating research field.

1 Shang Sacrificial Animals
Material Documents and Images

Adam C. Schwartz

Animal images – whether realistic, imaginary, schematic or just recognizable – are seen all over the archaeology, art, material culture and orthography of the late Shang period (c. 1300–1050 BCE). Most of us get introduced to Shang animals through animal motifs in Shang art, particularly the two-eyed animal pattern called the *taotie* 饕餮 or 'glutton' mask, which is not only one of China's most enduring and representative designs, but also one of the most original and distinctive in the iconography of the ancient world. The *taotie* is a highly complex and symmetrically arranged pattern-motif that can be looked at either as two animals joined together or as a single animal split apart.[1] Its origin is now reasonably determined as having derived from Neolithic prototypes,[2] and its early development and stylistic evolution in Bronze Age art has been traced through the type sites Erlitou 二里頭 (c. 1800–1600 BCE), Erligang 二里崗 (c. 1600–1400 BCE) and Panlongcheng 盤龍城 (1600–1400 BCE).[3] Yet there are still important connections to be made, as it concerns Shang ritual culture at the time when writing first appeared and when animals were first being written about.

First, I want to call attention to specific connections between late Shang Anyang period *taotie* animal 'images',[4] which by this time had evolved into being featured on bronze ritual vessels in high relief on a patterned background, sacrificial animals recorded on contemporary oracle bone inscriptions (hereafter OBI) and food and beverage for spirit and human consumption.[5] Data extracted

[1] Chang (1981), 533, 552 (fig. 6). [2] Li Xueqin (1992); Keightley (1996). [3] Bagley (2014).

[4] Although Loehr (1953), (1968) held the view that animal motifs developed out of simple geometric designs and were originally iconographically meaningless, it is clear that this was not the case when *taotie* animal-inspired patterns – if this is how we choose loosely to define them – became animal images during the Late Shang Anyang period (Loehr's Styles IV–V). See Bagley (1999), 151–5.

[5] I agree with Chang (1981), who has compellingly argued that sacrificial animals, animal motifs on bronze art and the offering vessels themselves functioned as the ritual agents that brought the dead and the living together. I have been inspired by his statement (1981, 528) that 'the *t'ao-t'ieh* and oracle bones are two important links of the same chain'.

from these material documents leave no question that an intimate connection existed between real-world sacrificial animals – particularly oxen, rams, antelopes and boars – and their images on the very bronze objects that either contained them or were meant to accompany their offering to the spirits.[6] Examining the minute and exact details of sacrifice and animals with this in mind, and within the context of humans' attempts to predict and safeguard the future through bone divination and writing, adds another dimension of understanding of how text and image on this topic are related.[7]

I would like the reader to imagine sets of ox bones (scapulae)[8] (Figure 1.1) being used to make divinations about an ox sacrifice and its accompanying grain and wine offerings – these very items were subsequently cooked and served in sets of ox-themed bronze vessels.[9] There exists a group of Western Zhou period (1045–771 BCE) bronze inscriptions where donors named their vessels after animal types like bovine, sheep, pig (Figure 1.2) and rabbit.[10] These examples show a direct connection between the ritual object, its motif, its inscription where the object's name is recorded, and a specific sacrificial animal, whose meat would be cooked and served in it. Figure 1.3 shows the beginning of the famous *Hu ding* 曶鼎 (Hu's cauldron) inscription. The cauldron, explicitly stated as being used for sacrificial offerings, was called a 'bovine cauldron' (*niu ding* 牛鼎). Although the vessel itself is lost, it is not at all surprising to find Qing dynasty catalogues

[6] Chang (1973). I take issue with Paper (1978), 21, who did not seem to give full consideration to the fact that sacrificial animal offerings were often accompanied by grain and liquor offerings. The best explanation of why grain and liquor vessels were decorated with real-world animal motifs has to be related to this. I also disagree with his assertion that 'the horn, one of the distinguishing characteristics of the *t'ao-t'ieh*, is a symbol of power, not, as has been suggested, a sign of the sacrificial animal (after Chang)'. It is precisely the *taotie* horns that reveal the animal image the motif represents, just as palaeographers commonly use the shape of an animal's horns (or lack thereof) to make identifications of simple pictographs that do not contain any phonetic information. This was Hayashi Minao's (2009) main criterion of identification. The same is true, albeit to a lesser degree, for other distinguishing features such as noses, ears, beaks, snouts and tails.

[7] Sterckx (2012).

[8] Early divination practice had favoured making divination in sets of three (retroactively called *san bu zhi* 三卜制 'divination in threes'). This could be done in two ways: either by cracking a single shell or bone three times for one inquiry, or by making a single crack on each shell or bone over a 'set' of three. The most famous instance is the line in the 'Jin teng' 金縢 (Metal Coffer) chapter of the *Shangshu* 尚書 (Book of Documents) that reads, '[The duke of Zhou] cracked three turtles [and] once repeated [they were] auspicious.' While three shell or bone sets were commonly used in the Shang king's divinations, more important or urgent events necessitated larger sets in odd multiples of five, seven or nine. Sets were also sometimes matched according to the size and shape of the bone medium. For divination sets, see Zhang Bingquan (1988), 197–238; for the habits of Shang divination practice, see Song Zhenhao (2010), 635–44.

[9] For bronze sets mentioned in Western Zhou inscriptions, see Chen Jian (2007b), 6–7. For a discussion of a single bronze set containing twenty-five pieces, see Chen Mengjia (2004), 250–4; the inscription in Figure 1.2 is from this set.

[10] The *Bo Hufu ding* 伯乎父鼎 (JC 2535) calls itself a 'sheep cauldron' (*yang ding* 羊鼎). The *Shi Shou ding* 史獸鼎 (JC 2778) mentions a gift of 'one pig cauldron' (*shi ding yi* 豕鼎一). One *Han Huangfu* 函皇父 cauldron (JC 2548) is called a 'rabbit cauldron' (*tu ding* 兔鼎).

Figure 1.1 Ox scapula Shang oracle bone (*Jiaguwen heji* 19813 recto: Early Wu Ding period) with multiple inscriptions inquiring about bovine sacrifice (arrows pointing to quantity (2) + bovine). Discovered in 1937 in Xiaotun North 小屯北.

Figure 1.2 Inscription on the *Han Huangfu ding* 函皇父鼎 (*Yin Zhou jinwen jicheng* [JC] 2745) that mentions a 'pig cauldron' (*shi ding* 豕鼎) (outlined) as part of a set (25) of ritual bronzes made for Huangfu's wife, Diao Yun (line 1, characters 5–6), which included cauldrons (11), tureens (8), liquor (4) and washing vessels (2).

mentioning that its legs had bovine motifs.[11] Hu's bovine cauldron, which was decorated on the outside with bovine motifs, was made for beef offerings.[12]

[11] See e.g. Ruan Yuan (rpt. 1937), 4.17.

[12] Based on these examples, although not stated grammatically in continuous language like the *Hu ding*, the single-graph inscriptions of a bovine and a deer on the Late Shang *niu fangding* 牛方鼎 'bovine square cauldron' and *lu fangding* 鹿方鼎 'deer square cauldron' discovered in a royal tomb (M1004) at Houjia zhuang 侯家莊 (Anyang) in 1935 are undoubtedly to be interpreted in the same way; for a different, far-fetched interpretation, see Hayashi Minao (2009), 12–15, who explains the inscriptions as lineage emblems, and relates them to ancestral spirits.

Figure 1.3 Beginning section of the *Hu ding* 曶鼎 (*Jicheng* 2838) with the sentence (outlined): 'Hu uses this metal to make (for) my cultured father Jiubo a cauldron to set out beef offerings.'

Let us now take a Shang example, by comparing an OBI from the middle of the Anyang period that details 'setting out ritual tripod cauldrons' (*zun li* 尊鬲) and providing large-scale servings of beef from thirty heads of cattle to a royal ancestor (Figure 1.4), with a bronze ritual tripod cauldron which has bovine images (Figure 1.5).

What I want to illustrate is how, in one actual ritual performative instance, the vessel used for display was connected to the animal offering, and how vessels of this type (cauldrons) were often decorated with images of this category (bovine) of sacrificial animal. Similar exercises, both inscriptional/art historical and orthographical/art historical, can be done with sheep, pigs, tigers, birds, horses, deer and fish.

There is an enormous amount of qualitative data on animals in OBI. They were, quite literally, the bones and joints that held the elite skeleton of early Chinese ritual culture together. Rather than providing a synthesis of sacrificial animals as they exist across nearly two centuries' worth of OBI, I will focus here on how these special types of animals were sanctioned and used in religious rituals over a defined time period concurrent with the *taotie* motif's high period. My more general point, however, is not about the complex meanings of ritual iconography, but rather the importance of animals to Shang ritual observed through the planning and preparation stages. A corpus-based approach to a scientifically excavated oracle bone archive like the one described below, which was unearthed at Huayuan zhuang East (Huayuan zhuang dongdi 花園莊東地, hereafter HYZ OBI) in 1991 (published in 2003) not only provides us with a complete and reliable dataset from which to work, but also offers a unique insight from first-hand records on the topic of animals and sacrifice. To study sacrificial animals first requires a prefatory overview of the institution of sacrifice itself: why and what kinds of animals were needed and how were they used? I begin therefore with a brief discussion of the organization, typology and disposition of Shang religious rites.

Sacrificing to the Shang royal ancestors, especially the former kings and their spouses, was a daily preoccupation and major corporate enterprise. Divination records on religious rites and activities number in the tens of thousands and are, by far, the largest and most complex genre of oracle bone inscriptions. As a core institutional practice, divination on this particular topic was used to certify the royal worship agenda and to fix the minute details of sacrificial and festive offerings. The lesser was pursued for the sake of the greater.

In contrast to divinations produced by or on behalf of the Shang kings, those produced by or on behalf of royal family members present novel and emic perspectives on ritual motivation and ancestral preoccupation, as well as demonstrating access and control over valuable economic resources. While

Figure 1.4 Shang oracle bone inscription (*Heji* 32125: Post Wu Ding period): (top register) 'On *Jiayin* [day 51/60] tested: On the coming *Dingsi* [day 54/60] setting out tripod cauldrons to Father Ding, make viands from thirty heads of cattle' (甲寅貞來丁巳尊鬲于父丁宜卅牛).

Figure 1.5 A Shang period ritual tripod cauldron with bovine *taotie* images. From *An Exhibition of Chinese Bronzes* (C.T. Loo & Co., New York, 1939), pl. IV, no.8.

Royal Family Group oracle bone inscriptions (hereafter RFG OBI) account for only roughly 2–3 per cent of an entire corpus of more than 100,000 pieces, they reveal crucial information about life and society outside of the king's immediate purview.

Amongst this relatively unknown and extremely understudied group of inscriptional materials, none is more important than the recently unearthed oracle bone inscriptions from Huayuan zhuang East OBI. Made in the southeast corner of the moated enclosure of the palace-temple complex at Anyang, this important discovery is a synchronically compact and unified corpus of 2,452 individual divination accounts inscribed on 529 (345 completely intact) turtle

shells and bovine scapulae.[13] Produced by or on behalf of an adult son of the twenty-seventh king Wu Ding 武丁 (r. c. 1200 BCE) over a relatively short period of time (probably several years), the HYZ OBI provide the most unified and diachronically succinct 'week-at-a-glance' account of daily life in early China. A corpus-based approach and synchronization of inscriptions into these sets offers first-hand insights into the organization of religious rites and the resources available to an important junior member – a prince – of an elite royal lineage, which played a major role in the development of Chinese civilization.

The Organization and Typology of HYZ Ancestor Worship

There were two types of Shang religious rites – those performed for ancestors, and those performed for natural powers. Those for ancestor worship can be further separated into two sub-types. The first were highly regulated and performed weekly, cyclically (or seasonally), and for particular milestone events. The second were impromptu and performed out of necessity, such as to cure an illness, to dispel calamity or to protect against it.[14] The HYZ OBI do not include any occurrence of worship events to any natural powers, such as the High God (Di 帝), mountains and rivers. The fact that such a large archive contains no such records almost certainly means that they were restricted amongst the royal family to everyone but the king. This is something that we were not fully aware of before this discovery. In summary, all of the HYZ OBI on the topic of sacrifice were related to ancestors. The majority can be classed as regular worshipping, with a minority being impromptu and in response to necessity.

The Ancestors and Weekly Worship

Weekly worship refers to the performance of rites and food offerings to ancestors on their specific temple-days within the period of one ten-day

[13] *Yinxu huayuan zhuang dongdi jiagu* 殷墟花園莊東地甲骨 (2003). After rejoins, there are a total of 529 inscribed pieces: 511 turtle plastrons, 13 turtle carapaces and 5 bovine scapulae; 345 pieces are intact. A reference in the form of HYZ 161 refers to shell no. 161 in the official publication; HYZ 161.1 refers to shell no. 161, divination account 1. Citation of all individual inscriptions follows Yao Xuan's transcription (2006) with minor revisions and only adds the abbreviation HYZ if needed for clarification. The numbers following each citation (#1, 2, etc.) refer to the crack number within a set or sequence; the numbering preceding a citation, like (2) and (3), follows a convention used in oracle bone scholarship to keep a running count of citations to make references easier to find. A count like (2a) and (2b) refers to divinations from the same fragment and/or same set. The other OBI catalogue referred to is *Jiaguwen heji* (1979–82), denoted as HJ in the text.

[14] Space considerations limit my discussion to the former. For a good discussion of impromptu rites, see Liu Yuan (2006).

week, from *Jia* 甲 [day 1/10] to *Gui* 癸 [day 10/10]. HYZ ancestor worship followed a strict adherence to the schedule: rites and offerings of sacrificial items were only performed on an ancestor's temple-day, that is, when the day of the ritual event (**in bold below**) and the day name of the ancestor (**in bold below**) matched.[15]

甲寅歲祖甲白豭一  鬯一登自西祭 一

(1) On ***Jia****yin*, sacrifice (to) **Ancestor Jia** one white boar, offer one measure of aromatic ale, (and) raise up (or: let him taste) sacrificial items from the west.[16] #1 (4.1)

乙未歲祖乙豭子祝在阜 一二

(2a) On ***Yi****wei*, sacrifice (to) **Ancestor Yi** some boars (and) our lord will pray. At Fu. #1, 2 (13.2)

丁酉歲妣丁一在阜 一

(2b) On ***Ding****you*, sacrifice (to) **Ancestress Ding** one sow. At Fu. #1 (13.5)

This selection of inscriptions provides a good introduction to divinations on ancestor worship as a type, and the HYZ OBI as a corpus. The most basic form of these divinations starts with the date of a sacrificial event, followed by a verb that – in this context – meant 'to sacrifice' (*sui* 歲; to be read *gui* 劌 'to chop-cut'), the name of the recipient ancestor, and the kind of animal to be used. Complex forms, which are divinations containing more than one clause, commonly included sub-activities that accompanied the sacrificial event, such as the presentation of ale and grain, prayer and announcements, and music and dancing. A distinctive emphasis on the colour and gender of animals added complexities to the diviner's practice. These OBI further confirm the Shang's predilection for the colour white,[17] in addition to revealing their preference, if and when available, for matching an animal's gender to a recipient ancestor.

The most notable feature of HYZ ancestor worship was that the chief recipients were all proximate ancestors no more than three generations older than the prince and protagonist of the divinations. HYZ divinations on religious affairs basically present a diachronic account of how a Shang prince interacted with his dead grandparents, great uncles and aunts, and great-grandparents. This suggests that, for those other than the king, the most ritual weight

[15] The temple-day of an ancestor was determined, subjectively, through divination; see Li Xueqin (2008), 60.

[16] Citations from pre-Qin epigraphic inscriptions and manuscripts are cited in a loose transcription style, so the character that appears in the inscription as 且 is rendered directly as 祖, 匕 as 妣, 叀 as 惠, 才 as 在, 乍 as 作, etc. A graph followed by another one in rounded brackets, e.g. 衍 (侃), indicates reading the former as the latter and is only used where clarification is required.

[17] Qiu Xigui (2012a).

was placed on maintaining a relationship between living performers and those deceased family members who proactively resided in their personal memory.

Statistics demonstrate that the prince's grandmother (Ancestress Geng; *bi Geng* 妣庚), grandfather (Ancestor Yi; *zu Yi* 祖乙) and great uncle (Ancestor Jia; *zu Jia* 祖甲) received the largest amount of ritual attention by far.[18] The collection and synchronization of multiple divination sets into longer timelines further reveal that, over consecutive ten-day weeks, at least these particular ancestors were offered sacrificial worship once a week. Barring a conjunction with periodic or seasonal ritual cycles discussed below, each ancestor's temple-day worship appears to have been carried out once weekly throughout the year. With regard to those ancestors mentioned above, this means that the HYZ prince would have needed a minimum of three animals per week to sacrifice.[19]

Bouts of divination were routinely started prior to temple-days – sometimes as far as a ten-day week in advance, in order to set its agenda and fix the details – and they usually continued right through the day of the event, to ensure that the ritual package was correct. The procedures and activities carried out on the day of a weekly ancestral rite maintained a consistent form. Presumably ending with a feast (*xiang* 饗) in the late afternoon (dinner time), and with some of the sanctified meat being distributed to participants and/or delivered to absentees, the day's activities centred on two separate but intertwined main events – a sacrificial killing and a subsequent libation (*guan* 祼). The type and amount of fare seems to have varied in accordance with status and gender, and a typical meal consisted of viands, an aromatic ale called *chang* 鬯 and grain. A less frequent but equally important second line of sacrificial rites centred on human beheadings (*fa* 伐), which were often flanked by animal slaughter and preceded by a different type of libation and viand offerings.

Joint Rites and Joint Offerings

There are two types of joint rites in the HYZ OBI: joints of ancestors with corresponding temple-days, and joints of ancestors with non-corresponding temple-days. The former refer to offerings made to multiple ancestors with the same temple-day on the same day of the week, while the latter refer to offerings made to multiple ancestors with different temple-days on

[18] Nai Junting (2006).

[19] This is the minimal number deduced through a corpus-based approach to the HYZ OBI. When assuming a similar weekly regularity of sacrifice made to other ancestors mentioned in the HYZ OBI, no fewer than ten animals would have been needed per week.

the same day of the week. While it is certainly possible to suggest that identical sacrifices for different ancestors commanded equal status from the donor's perspective, there also seem to have been economic reasons for making such multiple offerings. As the following examples illustrate, diviners proposed using whatever their patron had or anticipated having 'in stock' – in this case, lamb for everyone. The divination within the series about not including liquor (3b) probably does not mean that the spirits would not want it, but rather that it was simply 'out of stock' at the time. Other records confirm such deliveries (HYZ 265, 286) and sacrificial items offered by other contributors (HYZ 226, 237). Ad hoc requests (HYZ 218, 297) for and donations (HYZ 450) of ritual items were – and still are – an integral part of the social fabric of a ritual culture.

己酉歲祖甲𠂤一歲[祖乙]𠂤一入自 一

(3a) On *Jiyou*, sacrifice (to) Ancestor Jia one ewe (and) sacrifice (to) Ancestor Yi one ewe when entered from Lu. #1 (196.1)

弜又鬯用 一

(3b) Do not have aromatic wine. Used. #1 (196.2)

惠一羊于二祖用入自 一

(3c) Let it be one sheep to the two Ancestors (i.e. Ancestor Jia and Yi) that is used when entered from Lu. #1 (7.2)

庚戌歲妣庚𠂤一入自一

(3d) On *Gengxu*, sacrifice (to) Ancestress Geng one ewe (when) entered from Lu. #1 (196.6)

Ancestors that shared the same temple-day, as demonstrated in the sequence below, were referred to by a distinctive formula that put two kinship terms next to each other and used the single day name they had in common after it. As one can see, the selection of animals was deductive. It began with a category (sheep) (4a) and continued on to a refined item level (4b). The inability to validate the category of sheep led to a subsequent divination proposing, in a more resolute fashion, an alternative category (4c).

乙卜惠羊于母妣丙 一

(4a) On *Yi* divined: Let it be sheep to Mother, Ancestress Bing. #1 (401.1)

乙卜惠小于母祖丙 三

(4b) On *Yi* divined: Let it be small pen-raised sheep to Mother, Ancestor Bing. #3 (401.2)

乙卜皆母二妣丙 一

(4c) On *Yi* divined: All wild boars (to) Mother, Second Ancestress Bing. #1 (401.3)

The motivation of this sequence was not so much which ancestors to sacrifice to on the following day – since that was fixed – but rather, what to give to whom. The use of the modal copula *hui* 叀 (惠) at the head of the first two inscriptions placed focus on, and expressed a preference for, the object that followed.

The joining of an ancestor into the worship activities of another one with a different temple-day is a unique aspect of the practice of regulated weekly and cyclical rites. Here I only cite the former, as the form, syntax, and context between the two differ rather significantly. Joining ancestors together for a cyclical rite is discussed later.

乙巳歲祖乙牢牝刉于妣庚小牢 一

(5) On ***Yisi***, sacrifice (to) **Ancestor Yi** pen-raised cattle, cows, (and) make a blood-smearing to Ancestress Geng of small pen-raised sheep. #1 (115.2)

甲子卜夕歲祖乙祼告妣庚用 二

(6) On *Jiazi* divined: Make an evening sacrifice (to) Ancestor Yi, (and by means of) the ale libation, make an announcement (to) Ancestress Geng. Used. #2 (474.2)

The events mentioned in these two divinations were both performed on days for the worship of the prince's grandfather, Ancestor Yi. The inclusion of this ancestor spouse into ritual events for her husband will be seen again in the following section. These examples vividly illustrate how the living understood marriage to continue in the afterlife.

The Ancestors and Cyclical Sacrifices

'Cyclical Sacrifices' (*zhouji* 周祭) refers to a system comprised of three main cycles – *Yi* 翌, *Rong* 肜 and *Ji* 祭, and totalled five rites in all, with the inclusion of two additional sub-cycles within the *Ji* 祭-cycle. Each cycle, which organically grew with the death and subsequent inclusion of each dead king and his main spouse, spanned up to several months and together constituted one ritual year (*si* 祀). Thus, in addition to weekly ancestor worship, each recipient ancestor included in this system would have also received – based on the order of his or her succession – five larger and more elaborate 'periodic' worship events each year. Animals were offered in larger quantities for these special events (especially in the king's rites) and their selection and 'ritual packaging' had even more importance than usual. These records elucidate the way animals could be used to bind generations and relationships together ritually – the living with the living, the living with the dead, and the dead with the dead – through the medium of the living. Time phrases that appear in the HYZ inscriptions indicate that people other than the king ritualized time 'ancestrally'.

The most notable feature of the HYZ dataset as a group is the reserved use of a single type of animal for the Cyclical Sacrificial Rites and a specific cutting procedure – carving (*gua* 刮). A typical example, such as the one adduced below, focuses on whether this ritual package for one of the cycles will make the prince's grandmother happy.

庚辰卜刮彤妣庚用牢又牝妣庚衍(侃)用 一

(7) On ***Geng**chen* divined: Carving *Rong*-rite (offerings) (to) **Ancestress Geng**, use pen-raised cattle (and) offer cows; **Ancestress Geng** will be happy. Used. #1 (226.11)

'Happy' (*kan* 侃) is a frequently used divination coda in the HYZ OBI. Its repeated occurrence at the end of a divination statement – particularly in a special binary combination with *ruo* 若 'approved; favourable' (seventeen instances) – is a highly characteristic feature of the corpus as a whole and indicative of a specific tradition of divination practice. But what is even more interesting for us here is the belief that offering a specific animal type would produce this emotion. The limited number of these major rites performed over a year made happiness absolutely essential. Freshly carved beef equalled happiness.

In comparison to more complex divinations of this type discussed below, I refer to (7) as 'simple', because it recorded a single ancestor and both the date of the divination and the date of the event matched her temple-day. In the following two inscriptions, sacrifices made to junior or lower-status ancestors (underlined) were incorporated into the temple-day of a senior or higher-status ancestor (in bold). The form and syntax of this type of inscription is new to the OBI, has not yet been discussed in scholarship, and is open to interpretation. The reading that I advance here is significant for better understanding connections between the dead amongst themselves and interventions from the living.

丁巳歲祖乙牡一刮祖丁彤 三

(8) On ***Ding**si*, sacrifice (to) Ancestor Yi one ram (and) carve (it for) **Ancestor Ding**'s *Rong*-rite. #3 (226.5)

乙巳歲妣庚豕一刮祖乙翊 一二三

(9) On ***Yi**si*, sacrifice (to) Ancestress Geng one sow (and) carve (it for) **Ancestor Yi**'s *Yi*-rite. #1,2,3 (274)

The form of these two inscriptions is identical. Each contains two clauses that start with the date of the ritual event and continue as:

Sacrifice + ancestor name + animal type and quantity (initial clause)
Carve + ancestor name + name of event (final clause)

The days of the ritual carving event match the day names of the ancestors in the second clause, whereas the names of the ancestors mentioned in the initial

clause, and for whom the sacrifices were made, do not match the date. The syntax is different from the inscriptions mentioned previously in the section on joint rites. There, the name of the temple-day ancestor always preceded the temple-day ancestor with a non-corresponding day name which was joined in. As I understand it, the ram and sow were contributory sacrifices made in the name of one ancestor to another who was intimately related and senior to him/her; Ancestor Yi was Ancestor Ding's son and Ancestress Geng's husband. K. C. Chang's hypothesis, cited at the start of this chapter, can therefore be expanded upon. According to this view, animals not only brought the living together with the dead, but also connected the dead with the dead.

Pen-raised Animals

Cattle  (*lao* 牢), sheep  (*xiang?* 羊) and pig  (*jia* 家) are the three categories of pen-raised animals in the HYZ stock. As David Keightley comments, 'The oracle bone graph depicts a cow or sheep penned under a roof; cf. the *Shuowen* definition, 牢，閑養牛馬圈也, '*lao* is a pen for enclosing and rearing bovines and horses', thus suggesting an animal especially reared for sacrifice.[20] OBI scholars conventionally read *lao* 牢 as 'penned cow' and *xiang?* 羊 'penned sheep'. The HYZ lexicon now includes one of the earliest occurrences of *jia* 家, i.e. 'penned pig' (HYZ 61.3), which was co-opted around this time to mean 'family, house' (e.g. HJ 3096).

With the exception of the one interesting orthographic variant mentioned below, the absence of animal gender in these combined spellings infers that, in a graph like 牢, the '牛' component inside the roof could refer to either a bull or a cow. Thus, the emphasis was not on an animal's gender but on whether it was pen-raised or not.

The following set of divinations from HYZ 70 presents a simple, selective focus on which category of pen-raised animal should be used for an unspecified ritual event. The diviner, still in a categorical decision stage, shifts back and forth between odd numbers of pen-raised cattle and young sheep. When his first divination proposing three young sheep was inconclusive, he upped the offer by two. The inability to validate either led him to hand it over to his superior, the prince, to check:

三牢 一二‖[21] 三小羊 一二‖三牢‖ 五小羊 一二三‖ 子貞 一

(10a) Three (heads of) pen-raised cattle. #1,2

(10b) Three young pen-raised sheep. #1,2

[20] Keightley (2012), 323–5.

[21] This symbol is used to separate divinations within the same sequence; it is not part of the original inscription.

(10c) Three (heads of) pen-raised cattle.

(10d) Five young pen-raised sheep. #1,2,3

(10e) Our lord tested (it). #1

The diviner did not consider gender. Another inscription seems a continuation of this decision process:

甲辰卜歲祖乙牢惠牡 一二

(11) On *Jiachen* divined: When sacrificing (to) Ancestor Yi pen-raised cattle, let them be bulls. #1,2 (169.2)

Amongst the group of pen-raised animals, a special ritual value was evidently accorded to young pen-raised sheep (thirty-six instances). There is also one instance of the previously unseen graph 'young pen-raised ram' (小𦍌). Written as  (HYZ 354.1), this is a rare occurrence in Shang palaeography where the gender of a pen-raised animal was specified. As an exception, it might be better understood as a scribal abbreviation meant to denote 宰羊[22] 'pen-raised sheep-ram'. The number of young pen-raised sheep offered up in the OBI is as high as ten (HYZ 45.3, 455.1, 89.5; HJ 19849). I will return to the significance of these numbers later.

The Taxonomy and Palaeography of Sacrificial Animals

The animals most commonly used for sacrifice were cattle, sheep and pigs. It is, therefore, no coincidence that the first two are the most common *taotie*-motifs. HYZ palaeography contains a large number of individual graphs for males and females of each animal type (Table 1.1). Gender in these graphs was represented either by the pictographic addition of a reproductive organ, a deictic mark (a small circle – see 'sow' in Table 1.1) or a phonetic value – *tu* 土 for males and *bi* 匕 for females. Differentiating a pig's gender by its reproductive organ is a characteristic feature of HYZ script. Yet this method of graphic depiction was not applied for any other animals, which were written as phonographs (*xingsheng zi* 形聲字), i.e. one classifier plus one phonetic value.

Aside from this pictographic depiction of pigs, variants of boar and sow were also written as phonographs and composed of *shi* 豕 'pig' + phonetic (土/匕). There is, however, more we can find in the HYZ corpus: the three variants of 'boar' (in Figure 1.6) trace the diachronic evolution from pictograph to phonograph:

[22] Pinyin is not provided as there is no established phonetic reconstruction of these characters.

Table 1.1 *Selected HYZ palaeography of animals.*

Animal	Bone graph	Transcribed form
Bovine		牛
Prime bovine		吉牛
Bull		牡
Cow		牝
Sheep		羊
Ram		羝
Ewe		羍
Pig		豕
Castrated pig		豕
Boar		豭
Wild boar		豟
Male wild boar		豜
Hairy boar		豝
Sow		豵
Antelope		麈
Male antelope		麋
Female antelope		麃
Dog		犬
Deer		鹿
Musk deer		麝

Figure 1.6 Variant spellings of *jia* 豭 'boar' in HYZ script.

(1) is a pure pictograph that depicts a pig with an emphasized penis; (2) is a 'pseudo' phonograph, in that it is composed of a horizontally orientated *tu* 土 written just off the pig's belly. It still seems intended to represent its penis. '土' as a phonetic value seems to have been retained because of its relatable shape; (3) is a phonograph, having moved '土' away from the pig and writing it in a vertical orientation to its side as  . In the Han lexicon *Shuowen jiezi* 說文解字 (Explaining Graphs and Analysing Characters) the word for 'boar' was *jia* 豭, a pure phonograph comprised of a pig classifier plus phonetic, while in excavated Warring States materials from the Chu state (i.e. modern Hubei) it was represented by yet another variation written as  , that is *shi* 豕 'pig' phoneticized by *gu* 古. In classical Chinese *tu* 土, *jia* 叚 and *gu* 古 all belonged to the same rhyme group, *yu* 魚. Of the three, *jia* 豭 eventually became the standardized Han dynasty form for boar.

(a) (b) (c)

Figure 1.7 Variant spellings of *sha* 殺 'to kill' in HYZ script.

Two other logographs in the HYZ palaeography relating to the disposal of sacrificial animals were written with a pig element. The graph conventionally used to write the word *sha* 𣪊 (殺) 'to kill' is one such example. This form, seen throughout all periods of the Shang script (Figure 1.7a), depicts a hand holding a hammer (*chui* 錘) or club next to a bloody *chong* 虫 (the classifier for reptile or insect here is likely to be a type of snake). The HYZ script has two innovative writings (HYZ 76.1 and 226.7) where the 'reptile' gets substituted by either 'pig' (Figure 1.7b) or 'buffalo' (Figure 1.7c).[23]

The second example, *bo* 剝 'to pare', is a compound pictograph that conveys its meaning through the combination of pig and knife.[24] Its most familiar occurrence in early Chinese texts is as number 23 of the *Yijing*'s 易經 (Book of Changes) sixty-four hexagrams. The HYZ OBI now contain possibly the earliest – and certainly the most informative – usage of *bo* in a sacrificial context. HYZ 228 (Figure 1.8) is a complete turtle plastron which has been used in numerous divination sessions and is inscribed densely with nineteen interrelated divination records. The focus of this large divination set is on strong, prime cattle (*ji niu*吉[佶]牛)[25] – whether they should be pared and presented on viand tables or an altar, or both – and if the arrangements would lead to an undesirable outcome for the person who made the final decision to do so. Let's look at a brief selection:

丁亥卜吉牛介于宜 一

(12a) On *Dinghai* divined: Prime cattle – parts to the viand tray(s). #1

丁亥卜吉牛[皆]于宜 一

(12b) On *Dinghai* divined: Prime cattle – [all] to the viand tray(s). #1

[23] Chen Jian (2013). [24] Chen Jian (2007a).

[25] Qiu Xigui (2012c) reads *ji* 吉 as the ancestral form of *ji* 佶 'solid, strong'. According to Wang Guowei (1959) there was a lexical connection between 吉 and *jia* 甲 'armour > hard > first, prime'. The inscriptional phrase *ji jin*吉金 commonly seen on Zhou period bronzes did not mean 'auspicious metal' but rather referred to superior, solid metal, which was the most valued. This use of the word *ji* occurs throughout the HYZ OBI in numerous adjective–noun collocations, such as *ji yi* 吉刈 'first-rate sickles' (4), *ji gong* 吉弓 'first-rate bow' (149) and *ji gui* 吉圭 'first-rate jade tablets' (286). Nowhere else in early epigraphic documents of that period are animals modified by *ji* 吉. One poem in the *Shijing* 詩經 (Odes), 'The Six Month' (*Mao* 177) does, however, describe a team of four horses in this way.

Figure 1.8 HYZ 228; from *Yinxu Huayuan zhuang dongdi jiagu* (2003).

吉牛于宜 一

(12c) Prime cattle to the viand tray(s). #1

吉牛其于宜子弗艱 一

(12d) If the prime cattle go to the viand tray(s), our lord will not be troubled (by it). #1

戊子卜吉牛于示又剝來有曲 一

(12e) On *Wuzi* divined: Prime cattle going to the altar – offer and pare what has come from the Qu? (a tribal group or place name). #1

戊子卜吉牛其于示亡其剝于宜若 一

(12f) On *Wuzi* divined: If prime cattle go to the altar stand, (and) if there is none pared for viand tray(s), (it) will be favourable. #1

戊子卜吉牛于示 一

(12g) On *Wuzi* divined: Prime cattle to the altar. #1

吉牛亦示 一

(12h) Prime cattle also (to) the altar. #1

戊子卜又吉牛弜尊于宜 一

(12i) On *Wuzi* divined: Offer prime cattle, (but) do not present (them) on viand tray(s). #1

The Economic Value of Sacrificial Animals

OBI on the topic of sacrifice commonly record offering lists of animals. The sequence in which the animals are listed indicates each animal's hierarchical value vis-à-vis the others. For example, pen-raised cattle appear in fifty-four instances and, when used in combination with other animals, commonly lead the offering list.

乙亥升歲祖乙二牢物牛白豭  鬯一子祝二三

(13) On *Yihai*, make ascend sacrifices[26] (to) Ancestor Yi (of) two pen-raised cattle, variegated cattle, white boars, offer one measure of aromatic ale, (and) our lord will pray. #2,3 (142.5)

庚午卜在阜禦子齒于妣庚[]牢物牝白豕用 一二

(14a) On *Gengwu* divined, at Fu: To exorcise our lord's tooth to Ancestress Geng, [register] pen-raised cattle, variegated cows, (and) white pigs. Used. #1,2 (163.1)

□又(有)齒于妣庚  牢物牝白豕至  一用 一二

(14b) … the tooth to Ancestress Geng, register pen-raised cattle, variegated cows, (and) white pigs down to one sow. Used. #1,2 (163.2)

[26] The phrase *sheng sui* 升歲, common in OBI performed by or on behalf of the Shang kings, is seen only this one time in the HYZ OBI. This suggests that the prince was not regularly tasked with performing this ritual action. The identification of *sheng* 升 follows Rao Zongyi (1959), 377, who calls attention to a parallel with the OBI phrase *zhi sui* 陟歲 (lit. 'cause the sacrifice to go up'). The *Erya* 爾雅 (Approaching Refinement) lists *sheng* and *zhi*, both read in these OBI instances in the causative mode, as synonyms. See *Erya zhushu* 爾雅注疏, 2.13a. The *Xu gua* 序卦 (Hexagram Sequence) commentary of the *Yijing* aptly defines *sheng* as 'what is collected and made to ascend'. See *Zhouyi zhengyi* 周易正義, 9.13b.

甲戌歲祖甲牢幽廌白豭衩二鬯 一二三

(15) On *Jiaxu*, sacrifice (to) Ancestor Jia pen-raised cattle, dark red antelopes, (and) white boars; offer two measures of aromatic ale. #1,2,3 (237.8)

The results yield the following value propositions:

Pen-raised cattle > variegated cow > white boar
White pig > sow
Pen-raised cattle > dark red antelope > white boar.

It is noteworthy that pen-raised cattle and pen-raised sheep never appeared together in such a hierarchal offering list for the same ritual event. This implies an equivalent value – that either one would be used or the other. In general, male animals were listed before females of the same type and pure-coloured ones before those with differing colours or markings. Human victims, when present, always came at the top of any list, followed by pen-raised cattle or sheep, antelopes, cattle, sheep and, finally, pigs.[27] Dogs (five instances) were never combined in the HYZ OBI with any other animals and had no accompaniments, thus their relative value and utility cannot be determined. But, while they were considered comparatively lowly offerings in later periods, it is well known that they held a special role in Shang mortuary customs.

The Antelope

Prior to the HYZ discovery no useful information had been found about the role and ritual value of antelopes in the Shang ancestral cult, probably because these animals were found in the western mountains and on high plains outside the Shang cultural sphere.[28] They probably feature as an item stocked for the HYZ ancestor cult in this corpus (seventeen instances) for geographical reasons. An initial study of HYZ geography indicates high activity along the western boundary of the Shang royal domain and environs, especially in the area between Xiuwu 修武 (northwest Henan) and the Qinyang 沁陽 River in southern Shanxi. The HYZ prince did a lot of horse trading in and around this area, kept stock at a strategic location near or just inside the western border, and had social and business relations with powerful lineages. One such lineage, Cha 插, provided the prince with horses and antelopes (HYZ 467.7). A percentage of the prince's sacrificial animal stock, particularly bovines and antelopes, was sent to the king as 'contributions' (38.4). In these administrative OBI, antelopes are listed ahead of bovines. Bovine deliveries are common in the OBI, whereas antelope deliveries are not.

27 On 451.1 the sacrifice of a black bull occurs ahead of an unspecified sheep, on 481 a black bull occurs ahead of a ewe, and on 37.13 and 463.3,5 a bull occurs ahead of a ram. On 132 an unspecified antelope occurs ahead of a cow, on 428 and 561 a pen-raised sheep occurs ahead of a cow, and on 34.13 an unspecified pig occurs ahead of a cow.

28 Hayashi Minao (2009), 15.

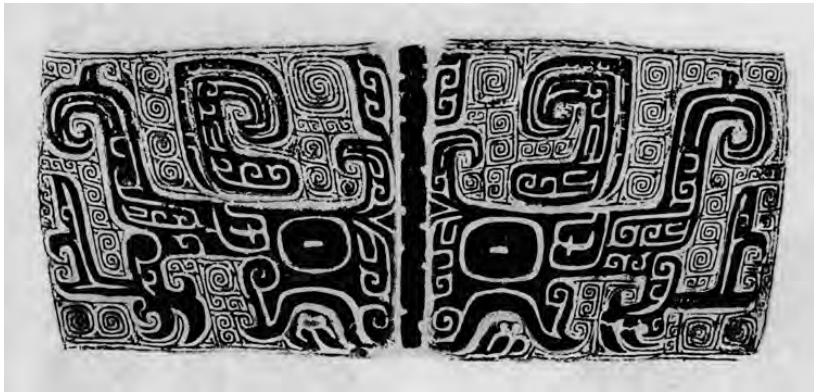

Figure 1.9 Antelope *taotie*; after Hayashi Minao (2009), 27.

The OBI graph  is commonly transcribed as *zh(a)i* 麂 and identified as an antelope (*lingyang* 羚羊). The characteristic feature of the graph was the animal's long U-shaped horns and striped body. Hayashi Minao used the antelope's characteristic horns as a means to identify its *taotie* image in bronze art (Figure 1.9).[29] HYZ OBI describe antelope according to both their gender and colour. In sacrificial listings they appear after pen-raised bovines (HYZ 149.12) but before non-penned ones and cows (HYZ 139.6, 132.1, 38.4), showing that their value was considerable. While antelope sacrifices were not nearly as frequent as cattle, sheep or pig, the value placed on them is probably due to the fact that they had to be imported.

The synchronized divination set on two separate turtle shells (HYZ 34.1 and 198.27) selectively translated below reveals insights into the complexities of divination on animal selection, and highlights the importance of getting the ritual menu right. Shang elites ate a lot of meat: three stone offering tables (each modified by a directional marker) of dark red antelope viands – the highest count ever seen in the OBI – were presented in combination with other viand offerings of cow, bull and bird meat. A hypothetical reconstruction of the context posits that several antelopes were ritually sacrificed, cut up, and presented on stone trays for a banquet organized by the prince.

辛卯卜子尊宜惠幽麂用 一

(16a) On *Xinmao* divined: Our lord will set out viand trays; let it be dark red antelope that is used. #1 (34.1)

[29] Hayashi Minao (2009), 25–9.

辛卯卜惠口宜口  牝亦惠牡用 一

(16b) On *Xinmao* divined: Let it be Kou's viands … female antelope, cow; also let it be bull that is used. #1 (198.4)

壬辰卜子尊宜右左惠麑用中惠  用

(16c) On *Renchen* divined: Our lord will set out the viand trays right and left; let it be antelope that is used; (for) the middle (one), let it be male antelope that is used. (198.6–7)

壬辰卜子亦尊宜惠  于左右用 一

(16d) On *Renchen* divined: Our lord will also set out viand trays; let it be male antelope for the left (and) right (one) that is used. #1 (198.8)

壬辰卜子尊宜惠隹口用 一

(16e) On *Renchen* divined: Our lord will set out viand trays; let it be bird … that is used. #1 (198.9)

Odd Numbers

Shang divination on the economics and numerology of ritual offerings showed a marked preference for odd numbers of items that increased incrementally by two and stopped at ten. At that point, numbers usually increased either directly to fifteen or continued in multiples of ten, with a preference for odd multiples of ten, such as thirty and fifty. The aggregate of items for a single ritual event was often odd as well. Let me here adduce a few of the more noteworthy examples found in the HYZ OBI:

- HYZ 32 is a set of four inscriptions that is notable for recording the single highest count (105) of animal offerings in the entire corpus. Each of these inscriptions started with an initial clause that proposed a fixed quantity of rams to be sacrificed. Unable to validate the first proposition, the count moved from three to five (divinations two and three) and finally to seven in the fourth.
- On HYZ 401 and HYZ 286 counts of cattle and sheep, respectively, increase in similar steps of two from three to seven, then jump to ten, i.e. 3–5–7–10.
- HYZ 113 proposed making animal contributions to the king in multiples of ten, starting with thirty (3 × 10) and ending at fifty (5 × 10).
- Returning to HYZ 32, the odd count of 105 bovines recorded for an exorcism and the mathematical combination 10 × 10 + 5 (see also HYZ 276.4) were clearly not just arbitrary numbers. They seem to have been intentionally selected with a favourable outcome in mind and without any room for negotiation.

The number five is seen all over the inscriptional corpus. It was the item count of choice, especially for exorcism offerings and for animal sacrifices

accompanying human beheadings. Consider the odd value counts of 1–5–5–1 in the following divination:

乙亥夕酒伐一[于]祖乙卯牡五牝五祉一鬯子肩禦往 一二三四[五]六

(17) On the evening of *Yihai*, make ale libation (and) behead **one human** [to] Ancestor Yi, cutting apart **five rams, five ewes** (and) offering **one** (measure) of **aromatic ale**; our lord's shoulder exorcism will be sent off. #1,2,3,4,[5],6 (243)

This 'odd phenomenon' was not just confined to the offering counts in ritual contexts and the divination process but also, interestingly, and not coincidentally, to the number of animal-themed images on bronze art discussed at the beginning of this chapter. Three bovine *taotie* are on the Shang tripod cauldron example in Figure 1.5, and perhaps more famous are the seven bovine images on the early Western Zhou tripod cauldron known as the Bo Ju li 伯矩鬲, discovered in 1974 in Beijing Liulihe, tomb 251. Finally, odd numbers regularly appear outside ritual contexts as well. Predictions within divination statements of how long it would take to recover from illness occur several times in odd multiples and were usually estimated to be three to five days (HYZ 446 and 3.8). The phrase 'five weeks' appears in isolation on a complete turtle plastron and was probably related to an anticipated arrival (HYZ 112; also 266). Elsewhere, a weather divination estimated that rain would arrive in three to five days (HYZ 256.2–3).

United Colours of the Sacrifices

Colours are emphasized throughout the HYZ OBI, in relation to the material documents too. Inscriptions, which included re-carved divination cracks, were often filled with black and red pigments. Animate and inanimate items – whether sacrificial, ritual or gift giving – were regularly spoken of in terms of their colour. In some situations, colour trumped the item itself.

HYZ diviners had a predilection to divine using sacrificial animals with a certain colour.[30] White (*bai* 白) and black (*hei* 黑) were the two most common colours, and there was a definite fondness for the former, not just for sacrificial animals but for several other kinds of items, such as stones earmarked for gifts (HYZ 37.5, 193, 359). Coloured animals in the HYZ stock included white pigs and white cattle, black cows, bulls and pigs, variegated cows and dark red antelopes. Colour combinations of black and red and black and white indicate that the Shang royal family liked to colour coordinate.

I will demonstrate here four modes of how colour terms occurred in divinations on animal sacrifice. In the first mode, the animal's colour was considered the priority and its gender was accounted for in a second divination:

[30] Wang Tao (2007a), (2007b).

甲寅歲祖甲白豭一鬯一登自西祭 一

(18a) On *Jiayin*, sacrifice (to) Ancestor Jia one white boar, offer one measure of aromatic ale, (and) raise up (or: let him taste) sacrificial items from the west. #1 (4.1)

甲寅歲祖甲白  一 一二

(18b) On *Jiayin*, sacrifice (to) Ancestor Jia one white sow. #1,2 (4.2)

The second mode focused on colour and, in doing so, de-specified the gender of the animal, although the category of the animal had presumably already been decided. The diviner, however, was still unable to get a good result. We do not know what happened thereafter.

甲子歲祖甲白豭一  鬯一 一二三四五

(19a) On *Jiazi*, sacrifice (to) Ancestor Jia one white boar (and) offer one measure of aromatic ale. #1,2,3,4,5 (459.6)

惠黑豕祖甲不用

(19b) Let it be black pigs (to) Ancestor Jia. Not used. (459.7)

The third mode revealed a preference for colour which was abandoned when the diviner could not validate it:

乙卯卜惠白豕祖乙不用 一

(20a) On *Yimao* divined: Let it be white pigs (to) Ancestor Yi. Not used. #1 (37.24)

乙卯歲祖乙豭  鬯一 一

(20b) On *Yimao*, sacrifice (to) Ancestor Yi some boars (and) offer one measure of aromatic ale. #1 (37.25)

The fourth and final mode turned attention to accompaniments and the anticipated psychological outcome of the sacrificial event, with the animal species, its gender and colour having already been validated:

乙巳歲祖乙白彘一又登祖乙衍(侃) 一

(21) On *Yisi*, to sacrifice (to) Ancestor Yi one white wild boar, there will be a (cereal) offering; Ancestor Yi will be happy. #1 (29.5)

Conclusion

A corpus-based approach to a scientifically excavated oracle bone archive such as the 1991 discovery from Huayuan zhuang East in Anyang (Henan) provides a revealing and detailed case study of life at the commencement of China's historical period. Now firmly ensconced as one of the most important discoveries from the ancient world, these new inscriptions are one of the most synchronically unified and informative bodies of early Chinese epigraphic writing ever encountered. These material 'princely' documents expose us to a

wealth of fresh data and greatly supplement what is known about the complex role animals played in the early development and transmission of Chinese ritual culture, scribal practice and social interaction. The majority of Shang OBI were on the topic of ancestor worship, and most worship events included sacrifice. The almost mesmerizing repetition of varying types of inventoried cows, sheep and pigs used as sacrificial items have led me to believe that an intimate connection existed between real-world sacrificial animals, bronze and stone offering vessels with animal *taotie* 'images' on them, animal bones as a medium for divination, and the act of recording these divinations in writing.

2 Animal to Edible

The Ritualization of Animals in Early China

Roel Sterckx

In early China, animals featured as spirit media and as symbols and metaphors in a highly anthropomorphized literary and philosophical tradition.[1] Yet it is their role as victims in sacrificial rituals – blood and meat to be consumed by spirits and ritual participants – that stands out in the sources.[2] Information on animal physiology, ethology, ecology and the daily management of animals (such as feeding, herding, welfare, etc.) is often included in descriptions of their role in ritual sacrifices. While no Warring States or early imperial text deals exclusively with the fate of animals as they transit from stable to sacrificial stand, it is possible to reconstruct parts of this process from various sources.

In this chapter I examine the successive stages of transition from animal to victim. Who was in charge of looking after the animals destined for ritual slaughter? How and on what basis were animals identified as suitable victims and set apart from the rest of the herds? Evidence suggests that the early Chinese developed a sophisticated system of animal management, while ritual criteria offered a specific vocabulary for the classification and analysis of animals.

The ritual transformation and killing of animals extracted from their natural or domesticated environment has been the subject of an extensive theoretical literature. My analysis does not adhere to any particular theoretical framework. As I have argued elsewhere, cross-cultural theories may not provide the most productive way of understanding the role of (animal) sacrifice in early Chinese religious practice. The semantics of what sacrifice means are best understood from *within* a particular tradition or society, as they are intimately contingent on the socio-political, economic and physical conditions of communities in a time

[1] For detailed studies see Sterckx (2002); Liang Liling (2010) and Chen Huaiyu (2012).
[2] For a comparative view of ritualized blood slaughter in Chinese and other early religions, see Kleeman (1994).

and place. Disregarding culturally specific vocabulary and context risks resulting in evidence being collated in order to fit a theoretical model, rather than allowing theorizing reflection to shape it from within.[3] Anthropological approaches to sacrifice have largely ignored the wealth of data that can be sourced from Chinese texts and material culture, and historians of religion have mostly limited their analysis to Mediterranean antiquity, or biblical or Vedic traditions. As Fritz Graf reiterates in a recent essay, the era of grand theories of sacrifice may have passed. The influential negative anthropologies of sacrifice proposed by René Girard and Walter Burkert in the 1970s have not led to any new theoretical reflections that command consensus among classicists and historians of religion. Most research today appears to (re)contract upon single regions, cultures or historical periods.[4]

This is not to suggest that conceptual similarities in other civilizations cannot, or should not, inspire our reading of Chinese sources. My study of Chinese sacrificial culture has led me to work by two French scholars. The first is Jean-Pierre Vernant (1914–2007) and his collaborators, who obstinately refused to draw on grand theories and emphasized that, for the Greeks, sacrifice in essence meant cuisine and the animal was a medium of communication with the spirit world. Over and above being used to obtain a response from the spirits, it was vital that the victim tasted good in the banquet for the ritual participants that followed the kill.[5] The second is Noëlie Vialles' study of abattoirs in the Adour region in southwestern France, from which this chapter borrows part of its title. Vialles describes an abattoir as 'the place that is no-place' and depicts the step-by-step process by which animals are de-animalized and de-animated into anonymous flesh for consumption.[6] Vialles' analysis helps us conceive of the ritualization of animals as a metamorphic process that operates at various levels. First, the biological and moral properties of animals are transformed and commodified into a world of carcass and flesh. This process is conducted via rules and rituals mediated by the figure of the butcher or ritual officiant. Like the abattoir suppliers, the sacrificial officiant is engaged in a process of feeding in order to be fed; the priest feeds the gods via ritual mediation, the farmer offers up his livestock via the liminal transit zone that is the slaughterhouse. What passes from meadow to sacrificial altar mirrors the transit from animal to edible.[7] Thus, slaughter entails a process of 'distancing' between the point of origin where animals are bred and kept, and the point

[3] Sterckx (2011), 6–9. [4] Graf (2012).

[5] Detienne and Vernant (1989). Recently John Scheid has argued that Roman sacrifice consisted essentially of offering a meal to the gods, following the formal sequence of the Roman banquet. See Scheid (2012), 84–95.

[6] Vialles (1994).

[7] Maurice Bloch (1992), 3, describes this radical transition in a discussion of cattle sacrifice among the Dinka in southern Sudan, where meat transits from a stage of representing the animal to one in which it becomes a substance 'alien' to humans and therefore consumable by those present.

of consumption – a notion that remains engrained in the political economy of meat consumption today.[8]

In all of this the ultimate aim is consumption, whether in the form of clinically butchered and vacuum-packed lamb chops, or as consummate offerings for the spirits. This principle is behind the recurring insistence in early Chinese texts that slaughter without consumption, de-animating without de-animalizing, or killing animals for no reason (*wu gu* 無故) should be taboo. As the 'Royal Regulations' ('Wang zhi' 王制) in the *Liji* 禮記 (Book of Rites) command: 'Feudal lords do not kill oxen without a reason, grandees do not kill sheep without a reason, a gentleman-knight does not kill dogs and pigs without reason, commoners do not eat exotic products without reason.'[9]

The link between an animal's edibility and its suitability for sacrifice has been noticed by Western zoologists and agronomists, although their unfamiliarity with the Chinese textual canon has left room for imagination. For instance, in his account of a 1963 tour of China to describe livestock, Hellmut Epstein notes that:

> The eating of dog meat in China is an old custom traceable to the sacred and profane consumption of the flesh of the wolf in ancient times. The puppies are fattened on rice, and killed when they are about nine months old. After removing the hair by scalding, the carcass is cut into six or eight pieces, boiled for about one hour, and then fired in oil. The meat is cut into small pieces and cooked with dry mushrooms, preserved bean cake, native onion, a little ginger, and water-chestnuts.[10]

While Epstein's link between dog meat consumption and the 'sacred' or 'profane' consumption of wolves in ancient China is tenuous – if 'wolf' here refers to *Canis lupus* (*lang* 狼) – his inference (drawn from Eduard Erkes) that spirits prefer to consume the meats that humans deem edible is in line with technical literature of the period.[11] Dogs were kept as either guard dogs, hunting dogs or food dogs.[12] Dog slaughter scenes are not uncommon in Han

[8] Novek (2012).

[9] *Liji jijie* 禮記集解, 13.354 ('Wang zhi'). For the idea that the ancients never killed and cooked animals without adequate reason, see also *Yantie lun jiaozhu* 鹽鐵論校注, 6.202 ('San bu zu' 散不足).

[10] Epstein (1969), 126. Epstein draws on V.W.F. Collier's *Dogs of China & Japan in Nature and Art* (1921) and Erkes (1943).

[11] The wolf appears as one of few species that people could hunt in imperial parks without punishment. Qin statutes on 'forbidden parks' (*jin yuan* 禁苑) recovered from tomb no. 6 at Longgang 龍崗 (Yunmeng 云夢 district, Hubei; 221–207 BCE; excavated 1989), mention the dhole (*Canis hodophylax*) and the wolf (*chai lang* 豺狼) alongside rabbits, pheasants and foxes, as species that were considered vermin. See *Longgang Qin jian* 龍崗秦簡, 85 (slip 32), 86 (slip 34). According to the Qin statutes found at Shuihudi 睡虎地 tomb no. 11 (Hubei), the flesh of dogs killed by park wardens could be eaten but the skins had to be handed over to the authorities. See *Shuihudi Qin mu zhujian* 睡虎地秦墓竹簡, 20 (slip 7); Hulsewé (1985), 22 (A2).

[12] *Liji jijie*, 35.939 ('Shao yi' 少儀); Kei (2005), 52–78, 167–208, 218–28.

murals[13] and dogs (*quan* 犬) destined for sacrifice were accorded a special name, 'the stew offering' (*geng xian* 羹獻).[14] But what made an animal suitable for sacrifice, and how much do we know about the management of animals used for ritual consumption? What were the stages that marked the transmutation from an ordinary domesticated animal into a select symbol to be offered up in sacrifice?

Breeding

This transition from animal into ritually significant medium began at the breeding stage. There is clear evidence that as early as Shang times (c. the twelfth century BCE onwards), the Shang king appointed special officials to supervise the herding and supply of animals for sacrificial purposes. Oracle bone inscriptions list the types of animals used (mainly pigs, sheep, cattle and dogs), specify their colour,[15] and include a rich vocabulary of technical terms denoting various sacrifices and slaughtering methods (burning, drowning, splitting, etc.).

In oracle bone script, the graph *mu* 牧 (**mjuwk*) (which occurs in variants containing the *niu* 牛 'ox' and *yang* 羊 'sheep' significs) refers both to a pastor or shepherd in charge of raising animals for sacrificial purposes, as well as to the land or area where these animals were kept. Several such named *mu* areas are mentioned. So, in addition to requisitioning animals for sacrifice through tributes from aristocratic clansmen, the Shang royal house set up breeding grounds on fertile and safe lands within its own domain and on the periphery. *Mu* 'herdsmen' were officials of considerable status, possibly even related to the royal clan. Their knowledge of local terrain also made them useful as guides in military campaigns. In contrast, those called *chu* 芻 (**tsrhju*) 'feeders', who included captives taken from Qiang 羌 enemy tribes, were of lower status and in charge of gathering fodder. The victims that were delivered by *mu* herdsmen to the royal court for sacrifice could include humans. Occasionally, the *mu* also supplied turtle carapaces for use in divination.[16] Thus, the management of livestock for ritual purposes was the province of professional specialists from early times, and the early Chinese pastoral economy was punctuated with ritual obligation.

Designated officials in charge of animals destined for ritual purposes were documented throughout the Zhou period and into early imperial times. Zhou bronze inscriptions include the titles of officials managing animals, including *mu*, although it is not certain that the latter were directly descended from the

[13] For examples, see Xia Henglian (1996), 114 (C4), 116 (C6), 118–19 (C8, C9).
[14] *Liji jijie*, 6.154 ('Qu li, xia' 曲禮下). [15] Wang Tao (2007a), (2007b).
[16] Cai Zhemao (2009); Chang Tsung-Tung (1970), 65–73.

Shang officials described above.[17] This reliance on special 'officials for breeding animals' (*yang shou zhi guan* 養獸之官) and their ability to select the best animals for sacrifice is identified in the *Liji* as one of the hallmarks of the ancients and is considered the ultimate demonstration of reverence (*jing zhi zhi* 敬之至).[18] The idealized royal state of Zhou described in the *Zhouli* 周禮 (Rites of Zhou) contains task descriptions of several officials involved with managing sacrificial animals at the breeding stage. Again, these include a *mu ren* 牧人 'breeder', whose duties included supplying victims for various state ceremonies. The 'breeder' was said to be in charge of the welfare of six types of sacrificial animals (*liu sheng* 六牲), understood by commentators to mean cattle, horses, sheep, pigs, dogs and chickens. His duty was to select 'pure and complete' (*quan* 牷) specimens, which he did by distinguishing certain animals from the herds according to the quality and colour of their hide (*mao zhi* 毛之).[19] While these breeders were not exclusively tasked with raising animals for sacrificial slaughter, they were nevertheless conferred status for this. For instance, their title appears as a name for a tutelary spirit for horses, First Herdsman (*Xian mu* 先牧).[20] It is also possible that the frequently recurring political image of the monarch or ruler as a shepherd who is 'herding his people' (*mu min* 牧民) derives from the status enjoyed by these early *mu* officials.[21]

'Fatteners' (*chong ren* 充人), 'houndsmen' (*quan ren* 犬人) and cowherds (*niu ren* 牛人) worked alongside these officials on varied tasks including preventing damage to the horns of prized oxen and sorting and inspecting victims for seasonal ritual requirements. Hunting officials supplied live and dead animals for sacrifices, while physiognomists, healers and veterinarians assessed the health of livestock and animals kept in parks.[22] Lakes in the

[17] *Mu* is described in the 'Mian *fu*' 免簠, dating to the mid-Western Zhou, noting that Mian was appointed supervisor of the land, responsible for forests, hunting and animal breeding in the suburbs of the city of Zheng 鄭. See Zhang Yachu and Liu Yu (1986), 10–11 (no. 5); Li Feng (2008), 223–4. Other officials depicted in bronze inscriptions include a *zouma* 走馬 'horse walker', a *sichu* 司芻 'hay supervisor', and a *quan* 犬 who was possibly a houndsman or breeder of sacrificial dogs. See Zhang Yachu and Liu Yu (1986), 20–2 (no. 16), 26 (no. 5), 54 (no. 16).

[18] *Liji jijie*, 46.1222 ('Ji yi' 祭義).

[19] *Zhouli zhengyi* 周禮正義, 23.914–23 ('Mu ren'). Zheng Sinong 鄭司農 (Eastern Han) defines *quan* as *chun* 純 'unmixed'.

[20] The spirit appears in an incantation to a horse fertility deity among the Qin daybooks recovered at Shuihudi. A similar deity receives offerings in summer by officials in charge of the royal stud. See *Shuihudi Qin mu zhujian*, 227–8; Sterckx (1996); *Zhouli zhengyi*, 62.2615 ('Xiao ren').

[21] For analogies comparing the herding of animals with ruling people, see *Guanzi jiaozhu* 管子校注, 1:1, 1–2 ('Mu min'); 1:3, 51 ('Quan xiu' 權修). The metaphor is reminiscent of Michel Foucault's concept of 'pastoral power': government modelled on the figurative relationship between a shepherd and his flock. Cf. Golder (2007); Pandian (2012), 83–8. Yet, unlike in the pre-Christian and Christian East, the ideal of registered sedentary communities in static territories prevailed in early China.

[22] It is hard to assess the social status of veterinarians. A statement in the *Xunzi* 荀子 implies that they were not highly regarded; cf. *Xunzi jijie* 荀子集解, 4: 8.124–5 ('Ru xiao' 儒效). However,

Shanglin 上林 park, which occupied an area of around 100 square kilometres south and southwest of Han Chang'an, supplied fish and tortoises for sacrifice. These parks also functioned as breeding and hunting grounds for animals to be used in sacrificial rituals.[23]

With breeders in charge of supplying the animals, a host of other officials were tasked with procuring the victims and getting them ready for their respective ceremonies. As the following description of the work of a *yang ren* 羊人 'sheep keeper' suggests, this could mean being inventive and purchasing animals elsewhere if the local herds did not produce a sufficient number or quality of victims required:

> [The 'sheepkeeper'] is in charge of the sacrificial sheep. In all cases of a sacrificial event, he decorates the lambs. At the sacrifice he cuts the sacrificial sheep and holds up the head. In all cases of a blood consecration he supplies the sacrificial sheep. At the hosting of guests he supplies the appropriate sheep. In all cases of a drowning sacrifice, expulsion sacrifice, blood consecration or fumigation sacrifice, he supplies its sacrificial sheep. When the *mu ren* 'breeder' has no victims (of the appropriate standard), [the 'sheep keeper'] receives cash from the supervising marshal and sends his purchasers to buy victims which he then supplies (for sacrifice).[24]

There is little evidence of the existence of any special breeding programmes for animals to be used in rituals. At the Palace of Sweet Springs (Ganquan 甘泉), a cult site 100 kilometres north of Chang'an, eave tiles have been recovered with inscriptions requesting the fertility of the six domestic animals (*liu chu xing wang* 六畜興旺, *liu chu fan xi* 六畜蕃息). These suggest the existence of stables and enclosures (examples of which survive in the form of terracotta burial figurines known as *ming qi* 明器 'spirit objects'). But we have no way of knowing whether these comprised buildings or breeding crates exclusively reserved for sacrificial animals.[25] It is more likely that breeders and relevant officials were expected to distinguish suitable animals from the common herd and, when required, fatten them up and prepare them ahead of the sacrificial event. Prized oxen could be kept in a cleansed stable to be fattened for three months before being offered up.[26] According to one account, a bull could be on a fattening regime over a five-year period to reach a weight of over 700 kilograms for an event as important as a sacrifice to Heaven.[27]

some clearly did well, *pace* Sima Qian 司馬遷 (?145–?86 BCE): 'To be a horse doctor is a shallow profession (*qian fang* 淺方), yet it enabled Zhang Li 張里 [to own a mansion large enough] to have to strike a bell [to summon all his servants].' See *Shiji* 史記, 129.3282. A modest income and poor family background is suggested in the case of an Eastern Han official, Huang Xian 黃憲 (first century CE), whose father was an ox doctor (*niu yi* 牛醫). See *Hou Hanshu* 後漢書, 53.1744.

[23] See Wei Hong's 衛宏 (first century CE) *Han jiu yi* 漢舊儀, B.5a–b.

[24] *Zhouli zhengyi*, 57.2393–5.

[25] See Fu Jiayi (2002), nos. 732–4; and He Kewei (2009).

[26] *Liji jijie*, 25.694 ('Jiao te sheng' 郊特牲).

[27] *Hanshu* 漢書, 25A.1231 (note 5).

The politics of pasturage was complex. It is abundantly clear from legal documents that livestock herding was subject to strict rules of accountancy and management, with severe consequences for those in charge if they were not adhered to. The legal statutes found at Zhangjiashan 張家山 (Hubei; dating from 186 BCE) indicate that convict labourers could be put in charge of herding government-owned livestock (horses, oxen, sheep, boar or sows). For being lax and allowing their herds to nibble at other people's crops, these convict herdsmen could be punished with one hundred lashes from a bamboo cane, compensation would have to be paid to the owner of the damaged grain crops and the convicts would be forbidden from herding livestock again. Reparations were also due in the case of any loss, killing or injuring of government livestock or when animals died from sickness while in the care of herdsmen.[28] We know that Qin law was harsh on those who failed to breed oxen and horses to the desired standards, but it is not clear whether different rules and punishments applied to negligence in the case of animals destined for ritual ceremonies, as opposed to those used in agriculture, transport or the military.[29] In Qin and Han legal documents uncovered so far, a lack of animal care appears to be formulated in general terms, but an article in the later Tang code (653 CE) leaves no doubt about the implications of delivering sub-standard sacrificial victims.

> All cases where sacrificial animals offered for the great sacrifice are not cared for and fed according to the rules so that they become emaciated or injured are punished by sixty blows with a heavy stick for the first animal, increased one degree for each further animal, with a maximum punishment of one hundred blows with a heavy stick. If they die as a result of lack of care and feeding, the punishment is increased one degree.[30]

It is difficult to quantify with confidence the numbers of victims that were requisitioned for ritual purposes.[31] These varied, depending on time and occasion, with events using up to several thousand animals being recorded. According to one source, the conquest of the Shang was celebrated with the offering of over five hundred oxen to Heaven and Houji 后稷 (Lord Millet), while other spirits were treated to nearly three thousand sheep and boar.[32] Duke De 德 of Qin 秦 (r. 677–676 BCE) sacrificed three hundred sets of animals at

[28] *Er nian lüling yu Zouyan shu* 二年律令與奏讞書, 192 (slips 253–4), 255 (slip 433); Barbieri-Low and Yates (2015), 701 (no.11), 925 (no.9). Note that the term *mu* 牧 is also used in the Zhangjiashan materials to refer to a shepherd (as it did in oracle bones). See *Er nian lüling yu Zouyan shu*, 305 (slip 490); Barbieri-Low and Yates (2015), 1123 (no. 1). Diseased animals in the herds or among the courier horses had to be reported. See Zhang Junmin (2012), 220–3.

[29] *Shuihudi Qin mu zhujian*, 24 (slips 16–20); Hulsewé (1985), 27 (A9).

[30] Johnson (1979–97), vol. 2, 185–6 (art. 200).

[31] On the link between sacrificial obligation and economic activity, see Sterckx (2011), chapter 4.

[32] *Yi Zhoushu huijiao jizhu* 逸周書彙校集注, 4.470 ('Shi fu' 世俘).

the Altar of Fu 鄜.[33] During the reign of Yuandi 元帝 (49–33 BCE) over twelve thousand specialists oversaw sacrifices at hundreds of shrines in the capital and the provinces. Ban Gu 班固 (32–92 CE) insists that this number did not include those in charge of breeding and feeding the animal victims.[34] By the end of the Wang Mang 王莽 interregnum (9–23 CE), cults that required animals for slaughter proliferated at over 1,700 locations. Wang requisitioned three thousand victim sets and different kinds of birds and beasts. When the cost proved exorbitant, he used chickens instead of ducks and geese, and dogs as substitutes for deer.[35] These examples suggest that certain sacrifices required the butchery of animals on a massive scale. Overseeing the slaughter required for state sacrifices in Western Han times was the Director of the Grand Butchers (*Taizai ling* 太宰令), whose officials, butchers and meat-trimmers were in charge of all the meat offered up at temples and imperial shrines, as well as the vessels required for it.[36] The numbers cited in the sources are no doubt subject to a degree of inflation or hyperbole in order to demonstrate the grandeur and importance of events, to highlight the piety of the instigators, or to condemn them for extravagant expenditure. Equally, though, these numbers could be underplayed or the officials might be accused of displaying a lack of ritual propriety and sense of duty.

It is difficult to ascertain the economic costs of breeding and maintaining animals in relation to household income for the Warring States and Han periods. Ding Bangyou has tabulated some possible developments in the price of horses, cattle, sheep, dogs and chickens based on (late) Western Han documents recovered at Juyan and Xuanquan (near Dunhuang). The price of an ox in this region ranged between 2,500 and 3,500 cash, that of a sheep between 250 and 1,000 cash, a dog between 150 to 600 cash and a chicken around 40 cash. These documents sometimes identify animals using functional terms such as *si ma* 死馬 'dead horse', *yong niu* 用牛 'usable/edible? ox', *fu niu* 服牛 'draught oxen', *da mu yang* 大母羊 'large female sheep', or *hu gou* 胡狗 'barbarian/Hu dog'. There does not appear to be a term designating animals as specifically destined for sacrificial ceremonies, but we can assume that similar costs also applied to victims used in sacrifice (and whose meat would be distributed and consumed afterwards).[37]

In terms of the revenue landowners in Western Han could generate from supplying livestock, Sima Qian notes that someone who owned pasture lands that produced fifty horses, one hundred head of cattle, or five hundred sheep or marshland pigs would be able to live as well as a marquis enfeoffed with the

[33] *Shiji*, 5.184. [34] *Hanshu*, 73.3116. [35] *Hanshu*, 25B.1270.
[36] *Hanshu*, 19A.726; Bielenstein (1980), 18.
[37] See Ding Bangyou (2009), 236–49. Yu Kunqi (2012), 141–2, points out that oxen were dearer (as was land) during the Eastern Han, reflecting (higher demand due to) the wider spread of ox-drawn ploughing.

income of one thousand households. Being able to bring one thousand slaughtered cattle, sheep and swine to market within a year would permit a lifestyle equivalent to that of an estate owner of one thousand chariots.[38] Taxation and ritual obligation were often intricately linked to each other. The *Liji* speaks of a 'victim tax' (*xi fu* 犧賦), suggesting that sacrificial victims were counted among the revenue requisitioned by courts or local officials.[39] A chapter on fiscal control, dating to the early Han and preserved in the *Guanzi* 管子, proposed that a ruler could draw economic profit from waste lands unsuitable for agriculture by setting up a government monopoly on the procurement and sale of sacrificial sheep and cattle bred on those lands.[40]

It is evident that demands to breed and raise animals for sacrifice could pose a significant burden on households and local communities. Critics labelled the excessive expenditure on sacrificial events as a form of negligence of the people's welfare: the work in raising sacrificial victims was labour lost to breeding cattle and horses for other purposes (*xisheng bu lao ze niu ma yu* 犧牲不勞則牛馬育).[41] In contrast, exemplary officials were praised for their ability to balance the management of natural resources against demands for cultic expenditure. For instance, during his tenure as governor at Yingchuan 潁川, Huang Ba 黃霸 (d. 51 BCE) built up a reputation for alleviating poverty by promoting agriculture. He marked out which trees could be used for coffins and what piglets were to be used for sacrifice, so that officials would feed the people before feeding the spirits.[42] Di Wulun 第五論 was dispatched (c. 52 CE) as governor to the Kuaiji 會稽 commandery to stop the excessive cattle sacrifices that had drained local resources.[43] Another recurring theme is the disapproval of animal sacrifices and, concurrently, meat consumption during hard times such as famines or natural disasters. These echo the criticism of several Warring States masters of philosophy who condemned those who feed animals before humans in times of crisis.[44]

Not everyone was able to breed animals, let alone entitled to offer them up. Generally, only elites could afford the costs of rituals and their preparations. Ritual texts also suggest that there was a link between breeding and licences to offer up animals. Only those commoners who were engaged in livestock farming or raising domestic animals themselves could be entitled to use animals in sacrifices (*shu min bu xu zhe, ji wu sheng* 庶民不畜者，祭無牲).[45]

[38] *Shiji*, 129.3272–4. [39] *Liji jijie*, 5.116 ('Qu li, xia').
[40] *Guanzi jiaozhu*, 22: 76.1346 ('Shan zhi shu' 山至數).
[41] *Guanzi jiaozhu*, 8.20: 402 ('Xiao kuang' 小匡). [42] *Hanshu*, 89.3629–30.
[43] *Hou Hanshu*, 41.1397; *Fengsu tongyi jiaoshi*, 9.339 ('Guai shen' 怪神).
[44] Sterckx (2011), 80–2. [45] *Zhouli zhengyi*, 25.978 ('Lü shi' 閭師).

Physical Markers

The next stage in the ritualization of animals was to select animals which had certain desirable physical features. While titles and fragments of a technical literature dealing with the physiognomy and treatment of animals have survived, none of these appears to contain instructions specifically for animals destined for sacrifice. However, information on the most important markers to use in identifying suitable victims is scattered across various sources. We may also assume that texts on physiognomy and animal health were relevant to the selection of optimal victims for sacrifice.[46]

What made a perfect victim? The *Mozi* 墨子 notes that the sage kings of antiquity chose victims on the basis of their fatness and the perfection and colour of their hide.[47] Most comments relate to early China's most prominent sacrificial victim, the ox or bull.[48] Factors taken into account include an ox's age, size, the colour and purity of its hide (whether monochrome or spotted), and the condition of its horns. Some of these criteria go back to the Shang and early Zhou period. As several examples in Schwartz's chapter in this book illustrate, oracle bone inscriptions contain a detailed vocabulary of colour. Later texts suggest that red, reddish and black oxen were much prized, although the purity of the hide seems to be more important than colour alone.[49] Claims by ritualists that the Xia preferred black victims, the Shang favoured white animals and the Zhou red are hard to corroborate and may be largely theoretical.[50] Yang Xiong 揚雄 (53 BCE–18 CE) states that, as long as the victims' hides were pure and unmixed (*sui* 睟), they were suitable for the temple – whether black, reddish or white.[51] Different degrees of perfection were required, depending on who was going to perform the sacrifice and which spirits would be addressed. The *Liji* notes that, if there was anything infelicitous (*bu ji* 不吉) about the ox destined for sacrifice to the high spirit Di 帝, such as wounds, it could be degraded and offered to the spirit of the grain instead. The length of the fattening period also depended on the importance of the occasion.[52] Old animals should be avoided. The *Zuozhuan* 左傳 (Zuo Commentary) notes how those who tasted the sacrificial meat on behalf of the ancestors would object: 'The ancients had a saying that no one likes to act as the representative of the dead (*shi* 尸) during a sacrifice at the slaying of an

[46] On technical literature, see Sterckx (2002), 25–7.
[47] *Mozi jiangu* 墨子閒詁, 8:31.236 ('Ming gui, xia' 明鬼下). Several of the criteria that made up the perfect offering, such as age and colour, were also important in Greek and Roman sacrifice. See Ekroth (2014).
[48] On the use of bulls as offerings, see Bodde (1975), 201–9; Bilsky (1975), 117–18, 137, 140, 268–9; Armstrong (1945); Goossaert (2005a), (2005b).
[49] For a rare mention of the use of a white horse as offering in a covenant, see *Xinshu jiaozhu* 新書校注, 7.270 ('Er bi' 耳痹).
[50] *Liji jijie*, 7.173 ('Tangong, shang' 檀弓上).
[51] *Yangzi Fayan*, 12.6; as in Nylan (2013), 210–11.
[52] *Liji jijie*, 25.694 ('Jiao te sheng').

old ox, how much less at the slaying of a ruler!'[53] Likewise, offering up a calf (*du* 犢) was interpreted as a mark of sincerity (*cheng* 誠).[54]

The horns of the sacrificial bull were another important factor. They had to be even in size and small horns were considered beautiful.[55] The most valuable oxen were those with short and pristine horns.[56] The technical term is *jianli* 繭栗 'cocoon-like and chestnut-shaped', which refers to the budding horns of a sacrificial calf.[57] Several incidents record a bull being dismissed because of injuries to its horns. In some cases, reference is made to rodents that threaten the potency of a bull by nibbling away at its horns. As a rule, sick or injured animals were not used. If an animal's physical condition was considered inadequate, sacrifices could be cancelled or modified. When divinations about a pending sacrifice were unfavourable, the victim could be released.[58]

The fact that sacrificial animals stood out from the common herd transpires in numerous analogies and tales, in which philosophers and moralists comment on their physical perfection to make a wider argument. In the *Lunyu* 論語 (Analects) Confucius uses this analogy to suggest that low-born individuals should still be valued for their talents and virtues: 'If the off-spring of a ploughing ox is red and evenly horned (*xing qie jiao* 騂且角), even if people think it unsuitable, would the spirits of mountains and rivers reject it?'[59] The *Huainanzi* 淮南子 offers a similar comment, asking if the river spirit He Bo 河伯 would refuse the offer of a sacrificial calf that was born from a spotted, hornless and tailless working-ox?[60] Outward appearance is also the subject of an exchange by Yang Xiong:

> Someone asked me, 'What's the difference between the hide of the plough ox and that of a pure black or red ox, once the hides are shorn?'
>
> 'They are the same.'
>
> 'But if that is so, why is the one not used in ploughing?'

[53] *Chunqiu Zuozhuan zhu* 春秋左傳注, 903 (Lord Cheng, year 17).
[54] *Liji jijie*, 25.689 ('Jiao te sheng').
[55] A Zhou bronze inscription on a basin known as the 'Shi Qiang *pan*' 史牆盤, composed shortly before 900 BCE, praises the sacrificial animals as 'even-horned and redly gleaming'. See Shaughnessy (1991), 1–4, 190.
[56] *Guoyu* 國語, 18.564–71 ('Chu yu, xia' 楚語下); *Liji jijie*, 13.354 ('Wang zhi'); *Han jiu yi*, 2.2a.
[57] *Guoyu*, 18.565; *Chunqiu fanlu yi zheng* 春秋繁露義證, 7:23.194; *Hanshu*, 22.1052, 25B.1266; *Shiji*, 12.461, 28.1389. According to the *Shi ming* 釋名 (Explaining Names), calves and lambs that had not yet sprouted horns were known as *tong* 童 'youthful'. See *Shi ming*, 10.94 (no. 9).
[58] *Chunqiu Zuozhuan zhu*, 667 (Lord Xuan, year 3), 831 (Lord Cheng, year 7), 950 (Lord Xiang, year 7), where the bull is released after three failed divinations; 1598 (Lord Ding, year 15), 1604 (Lord Ai, year 1), 486 (Lord Xi, year 31), where the victim is set free after four trials.
[59] *Lunyu yi zhu* 論語譯注, 57 (VI.6).
[60] *Huainan honglie jijie* 淮南鴻烈集解, 16.543 ('Shui shan' 說山), noting elsewhere (17.575 ['Shui lin' 說林]) that a piebald horse does not qualify as a sacrificial animal.

'To show the utmost filial reverence when serving the spirits, in sacrifices one does not dare to use the plough ox. But who cares whether the animals are brindled or not, if one is killing sheep and stabbing suckling pigs to entertain guests or to honour the troops' exertions with a feast?'[61]

Another frequent theme is the knowledge that being selected and decorated as a perfect animal will lead to certain death. The *Zuozhuan* uses the image of a cock plucking its own tail feathers to avoid being selected.[62] Zhuangzi 莊子 compares being bred and fed in luxury to the lot of a hog which ends up on a sacrificial altar, suggesting that serving in office is the equivalent of being offered up.[63] Yi Yi 夷逸 (seventh century BCE) rejects the prospect of becoming an official and compares himself to 'an ox that would sooner submit to a yoke in order to plough the fields rather than wear embroidery, enter a court, and become a sacrificial victim'.[64] To authors and orators at the time, sacrificial animals, set apart from the common herd and selected on the basis of their perfect physique and beauty, exemplified the inevitability of failure and demise, despite the temporary trappings of luxury and status:

The ox reserved for the suburban sacrifice is fed and nourished throughout a whole year, before being bedecked in patterned embroidery and led into the temple hall. Then the Grand Steward takes his belled knife to lay open its hair. At that moment, even if the ox wanted to be panting up a steep hillside under a heavy load, it would not get its wish.[65]

The process of breeding and selecting sacrificial animals was inscribed in the seasonal calendar. Texts known as Monthly Ordinances (*yueling* 月令) provide an overview of what the annual cycle leading up to the point of slaughter may have looked like.[66] The ritual year began in the first month of spring, when the ruler had sacrificial guidelines drawn up. During the season of growth, female animals were not allowed to be sacrificed, since they were essential for propagating the herds. The use of live animals in sacrifice remained taboo throughout the second month so that, by late spring, calves and foals that were marked for sacrifice could be selected and their numbers written down. Next, these animals were kept in pens or let out to pasture, to grow and gain weight. By late summer the court issued levies of hay and fodder (known as *chu gao* 芻藁) from its subjects to feed the victims required for state and ancestral sacrifices. In mid-autumn there was an annual inspection of the sacrificial victims (also known as *chu huan* 芻豢 'grass and grain-fed

[61] *Yangzi Fayan*, 3.18; as in Nylan (2013), 47–9.
[62] *Chunqiu Zuozhuan zhu*, 1434 (Lord Zhao, year 22); *Guoyu*, 3.142–3 ('Zhou yu, xia').
[63] *Zhuangzi jishi* 莊子集釋, 19.648, 32.1062.
[64] *Shizi* 尸子, as in Fischer (2012), 140, fragment 64.
[65] *Yantie lun jiaozhu*, 18.231 ('Hui xue' 毀學).
[66] On the Monthly Ordinances, their different versions, and the information they contain, see Zheng's Chapter 11 in this volume (especially footnote 1).

animals'). Priests and slaughter officials made their rounds to examine the animals' physical condition, fodder and colouration, and to measure their size and weight.[67] By late autumn, the animal stocks destined for sacrifice should be mature and ready for collection along with the regular tax and tribute duties. At the end of the year, the ruler ordered his officials to rank all feudal lords with obligations, and list which animals should be levied from them for the sacrifices to Heaven, Shangdi, and the altars of soil and grain. States or dependencies sharing the ruler's surname had to supply fodder for the animals to be slaughtered to lineage ancestors. Again, registers were drawn up and all landowners counted – from ministers and grandees down to the common people – so that animals could be levied from them for offerings to mountains, forests and important rivers.[68] Meticulous accountancy went into recording, counting and demanding victim animals. The agricultural cycle of the calendar was punctuated by tasks which aimed to supply animals for the rituals that marked the passage of the seasons and the year. While we have no way of knowing how rigorously this schedule was adhered to in reality, the maintenance of a smoothly running ritual economy clearly underpinned the rationale for establishing these calendrical rules and regulations. It also reveals a world in which ritual obligation was embedded as part of the normal management of the natural world and its agricultural resources. Rather than a separate and dedicated industry with the purpose of supplying the altars and ancestral halls with creatures, animals were levied as an excise on the harvest of ordinary livestock.

Between Animal and Edible

Once animals were identified for sacrifice, they entered a liminal zone. This was a period during which, *pace* Vialles, they were de-animalized but not yet de-animated – neither animal nor meat. Separated from the ordinary herd, the ritualized animal was now accorded special status. For instance, a ruler had to descend from his chariot when passing a ritually cleansed sacrificial ox.[69] Animals destined for sacrifice, as well as ritual implements, could not be sold at the market alongside ordinary animals,[70] while the names of victim animals could not be given to a child.[71]

[67] The *Liji* version of the *yueling* refers to the colour of animals, using the term *wu se* 物色, which is also mentioned in documents in the Qin local archive of Qianling 遷陵 county (discovered in 2002 at Liye 里耶, Hunan), where it refers to the colour of fish. See *Liye Qin jiandu jiaoshi*, 8–85 recto (59), 8–769 recto (222).

[68] *Lüshi chunqiu jiaoshi* 呂氏春秋校釋, 1.2, 2.64, 3.122, 4.186, 5.241, 6.311; see also *Guoyu*, 18.567 ('Chu yu, xia'); *Da Dai Liji jiegu* 大戴禮記解詁, 5.102 ('Zengzi tian yuan' 曾子天圓); and Okamura (2003), 1–80, esp. 3–17.

[69] *Liji jijie*, 4.102 ('Qu li, shang').

[70] *Liji jijie*, 14.374 ('Wang zhi'); *Kongzi jiayu*, 7.6a.

[71] *Chunqiu Zuozhuan zhu*, 116 (Lord Huan, year 6).

Other taboos and rules were used to transform an animal from a biological creature into a ritual medium. A special nomenclature replaced the common names used to refer to the animals. Terms such as *xi* 犧 and *sheng* 牲 referred to sacrificial animals generally. According to the *Zuozhuan*, an ox could only be called a *sheng* 'victim' after divinations had taken place to determine its selection and fix the day of slaughter. Once a suitable day had been identified, the Jin dynasty commentator Du Yu 杜預 (222–284 CE) notes, 'the name of the ox is changed into *sheng*'.[72] Sacrificial animals could be referred to by their 'victim appellation' (*shenghao* 牲號). It is not clear how widespread the use of this ritual vocabulary was, or how the practice of using special names and titles applied to other objects, implements and entities used or addressed during ritual prayer and sacrifice.[73] The *Liji* specifies some of these titles for animal offerings, and some are also mentioned in other texts. A sacrificial ox was known as 'the one [mysterious?] creature with the large footprint' (*yi yuan da wu* 一元大武; following definitions by Zheng Xuan 鄭玄). Sacrificial pigs and sucking-pigs were called 'hard bristles' (*ganglie* 剛鬣) and 'fatlings' (*dun/tun fei* 腯/豚肥) respectively.[74] Sheep used in ancestral sacrifices were called 'soft hair' (*roumao* 柔毛), dogs were known as a 'stew offering' (as previously mentioned). 'Red shriek' (*hanyin* 翰音) was the name for a sacrificial cockerel and 'gap-toe' (*shuzhi* 疏趾) referred to pheasants or fowl. A sacrificial hare was called 'the clairvoyant' (*mingshi* 明視), and the list continues with special names for dried and fresh fish, water, ale, grains, jades, etc. These ritual titles reflected the desire for sacrificial animals to be fat and glossy when offered up: a well-fed ox leaves large footprints; fat pigs grow hard hair and whiskers; fat sheep grow soft and fine wool; a fat cockerel has a powerful call. The distance between a pheasant's toes showed how well it was nourished. Dogs grow fat on human leftovers, which in turn made them a perfect treat in a stew for ghosts and spirits. Rabbits' eyes were believed to open wider when they became fat. Zheng Xuan notes that these special names were used to distinguish victim animals from animals for human use.[75] Cai Yong 蔡邕 (133–192 CE) points out that such ritual nomenclatures were also a mark of respect for the spirits as well as differentiators of animals and other ingredients consumed by people.[76]

Special terms also denoted sets or combinations of animals destined for sacrifice. The term *lao* 牢, referring to groups of animals of two or more,

[72] *Chunqiu Zuozhuan zhu*, 486 (Lord Xi, year 31).

[73] The *Zhouli* for instance refers to 'six appellations' (*liu hao* 六號) which include the names of spirits, demons, mystical emanations, sacrificial animals, sacrificial grains and jades. See *Zhouli zhengyi*, 49.1997 ('Da zhu' 大祝).

[74] The term *xi jia* 犧猳 is used to describe an unblemished sacrificial pig in *Lüshi chunqiu jiaoshi*, 24.1592 ('Zan neng' 贊能). *Zhuangzi*, 22.750 ('Zhi bei you' 知北遊) mentions a market supervisor sinking his heels into his hogs to measure how fat they were.

[75] *Liji jijie*, 6.154–5 ('Qu li, xia').

[76] *Duduan* 獨斷, 1.15a–b.

suggests that sacrificial animals were kept and fed in separate pens. As the previous chapter showed, Shang oracle bones contain a distinct vocabulary for penned animals – but it is uncertain how far these relate to later terms which represented a particular set of animals. Xu Shen 許慎 (c. 55–149 CE) defines *lao* as an 'enclosure' (*xian* 閑), specifically an enclosure for oxen and horses. If sacrificial animals were usually tied up and fattened in a pen, then *lao* may have become used as a word to describe them.[77] The term *te niu* 特牛 refers to a single bullock offering.[78] A *tai lao* 太牢 (or *da lao* 大牢) 'greater lot' denoted the combination of a bull, a sheep and a pig that was used at the high(er) end of ritual occasions and by people of high status, whereas a *shao lao* 少牢 'lesser lot' consisted of just a sheep and a pig and had less ritual gravitas. However, it is important to note that this ritual nomenclature was by no means fixed, and commentaries include various explanations for these terms.[79] Zooarchaeology – a field still in its infancy for China's early historical period – will no doubt enhance our understanding of this in the future. Zooarchaeological evidence can alter the static picture of animal sacrifice derived from inscriptional evidence and texts.[80] It will permit judgements on frequency, combination and size of victim animals which are difficult to extract from text-based sources. But, while technical terminology may have been in flux, it is clear that attempts to refer to animals with epithets and titles that distinguish them from secular usage symbolically contributed to their transformation from animal to offering.

The Kill

Sacrificial animals were washed, cleansed and decorated prior to being slaughtered and offered up.[81] In the case of an ox offered up in the suburban sacrifices, this ritual cleansing stage could run to a quarantine of three months.[82] By that stage, the preparatory cycle had run its course (identification and selection,

[77] *Shuowen jiezi*, 2A.8a.

[78] See *Guoyu*, 2.286 note 2, where Wei Zhao 韋昭 (d. 273 CE) adds that two victims make a *lao*. See also *Shiji*, 12.469.

[79] *Liji jijie*, 13.352 ('Wang zhi'). Sanft confirms the fluid meaning of these terms against examples in recent palaeographic texts. See Sanft (2014), 340–4.

[80] Yuan and Flad (2005), for example, compared remains from four different Shang sites. They conclude that royal sacrifices changed substantially, from solitary pigs and dogs in early Shang, to an increasing share of cattle and, eventually, horses in the later periods. The Warring States and early imperial periods are receiving growing attention by historians with an interest in climate and environment. The complex dynamics between environment, species and landscape as geo-physical fact and ideological construct is a fascinating area of inquiry. Yet, many basic heuristic hurdles remain to be scaled, not least how statistics derived from literary and (court-based) historical sources should be used.

[81] See e.g. *Mao shi zhengyi* 毛詩正義, 13B.7b; *Mu Tianzi zhuan* 穆天子傳, 2.1b; *Liji jijie*, 46.1222 ('Ji yi'); *Han jiu yi*, 2.3b–4a.

[82] Zhang Hequan (1993), 202–4.

fattening, cleansing, decorating) and had transformed the animal into an ideal subject, ready for ceremonial slaughter. Judging by the rich vocabulary used to describe the killing, cutting, drowning, burning and offering up of animals, there were multiple ways in which animals met their end. It is not certain whether the instructions preserved in ritual texts reflect practice at all times and in all places, but descriptions of the sacrificial kill – some dating back to the earliest odes in the *Shijing* 詩經 (Odes) – suggest that there were some standard procedures. A knife with rattling bells (*luan* 鸞) recurs as the tool used to stab and bleed the creature. To verify the degree of the animal's purity, the ritual officiant would first open up its hair layers.[83] The *Liji* notes that, once the animal was led forward and fastened to a pillar (at the entrance to a temple in this case), officials bared their arms to inspect its hair, paying particular attention to the growth around its ears. Following this, the animal was killed and cut.[84]

The role of blood was central. It was not only used as an offering to the spirits, but also smeared on objects such as ritual bells and vessels to consecrate them, or libated to mark out a ritual space. In pre-Qin times, blood was also used to seal covenants.[85] In early China, blood was as likely to be perceived as a substance associated with ritual culture (and the battlefield) as understood in the context of medical or physiological theory, as shown by the *Shuowen jiezi*'s 說文解字 (Explaining Graphs and Analysing Characters) definition of the graph *xue* 血, for instance. Rather than linking blood to *qi* or animated life, Xu Shen defines the graph as 'the blood of animals offered during a sacrifice (*ji suo jian shengxue ye* 祭所薦牲血也)'.[86] Hair and blood were signs of the creature's interior and exterior purity. Blood-shedding and plucking hair is explained in the *Guoyu* 國語 (Discourses of the States) as follows: 'The hair [or 'hairing'] of an animal serves to demonstrate its colour (*mao yi shi wu* 毛以示物); blood [or 'bleeding'] serves to announce the act of killing (*xue yi gao sha* 血以告殺). One receives the spirits in trust by pulling out the hair and collecting the blood in order to offer it up together, [thereby turning] purity into a form of respect.'[87] To imagine the final moments in the life of those creatures whose fate was determined through the various ritualization and sacrifice

[83] *Mao shi zhengyi*, 13B.20b ('Xin nan shan' 信南山; Mao 210, stanza 5); *Zhouli zhengyi*, 36.1440 ('Xiao zongbo' 小宗伯); *Liji jijie*, 24.657 ('Li qi' 禮器), 26.702 ('Jiao te sheng'), 46.1222 ('Ji yi'), 47.1240 ('Ji tong' 祭統).

[84] *Liji jijie*, 46.1215 ('Ji yi').

[85] For a detailed survey of blood usage in pre-Qin ritual, see Yang Hua (2012a), (2012b). For a blood consecration of a drum, see *Chunqiu Zuozhuan zhu*, 1271 (Lord Zhao, year 5). The *Mencius* contains the well-known story of King Xuan 宣 of Qi 齊 (fourth century BCE), who cancelled the slaughter of a bull for the blood consecration of a bell because he had seen the animal alive. Moved by pity for the animal, he ordered the bull to be replaced by a sheep. See *Mengzi zhengyi*, 3.80–3 (1A.7).

[86] *Shuowen jiezi*, 5A.50b.

[87] *Guoyu*, 18.564–71 ('Chu yu, xia').

stages described in this chapter, the following scene offers an example of what may have been a common sight to those who gathered around temples, altars and shrines.

> The butcher swipes clean (*shi* 拭) the sheep, the priest chants a prayer (to bless the animal) and the cook, while facing north, takes the animal and places it to the south of the stone pillar (*bei* 碑), the highest officiant standing to the east. Then the butcher lifts up the sheep and climbs onto the roof at the middle-point between east and west. In the centre of the roof and facing south, he stabs the sheep and lets the blood run down in front of him. Then he descends. At the gate of the temple and at each of the two side rooms a chicken is used, first at the gate and then at the side rooms. The hairs and feathers around the ears are pulled out under the roof (before the killing). When the chickens are cut, at the temple gates and the rooms on each side of it, officers stand opposite the respective gate and room and face north. When the ritual is done, the priest announces that it is over. After that everyone retires. A message is then returned to the ruler announcing: 'The blood consecration of such-and-such a temple has now been completed.'[88]

Thus, the blood shedding marked the end of the animal, whose meat and carcass would then take on new meanings. We have reached the stage at which the animal, bled of its life force, had been fully transformed into a substance that was edible for both humans and spirits. Animals and their meat then became a central ingredient in a complex web of signifiers that marked social and political relationships. They featured as real and symbolical capital in gift exchanges, became the subject of meticulous banqueting and dietary conventions, and acted as symbolic nourishment for the spirit world.[89]

Conclusion

Our understanding of how animals influenced human life in early China and how people shaped the fate of the livestock, domesticated and wild animals that surrounded them has been significantly guided by textual sources that are replete with information. Yet texts can only present a partial picture, even when they are studied with anthropological curiosity. We have yet to appreciate fully the need for advances in zooarchaeology and the study of visual culture that must be made in order to question and complement our reading of texts. In many ways, historians of China have yet to visit, rather than revisit, the pangolin, to paraphrase Mary Douglas. The management of livestock, hunting, farming and the consumption of animals is also depicted in early Chinese visual culture. However, scholars have barely touched the surface of this body of visual evidence, while studies of animal iconography remain largely

[88] *Liji jijie*, 42.1120–3 ('Za ji, xia' 雜記下). The technical term for the blood consecration described here is *xin* 釁.

[89] For detailed studies of the significance of meat in those contexts, see Sterckx (2011), 26–34, 49–59; and Boileau (2013), chapter 4.

descriptive. To be sure, early China's visual vocabulary may contain less information on animal sacrifice when compared, for instance, to ancient Greece.[90] Perhaps the notion that ritual aimed to transform the zoomorph/animal into an entity that was a-morph/edible may partly account for this. Nevertheless, the visual evidence raises intriguing questions about the ritualization of animals which have not yet been considered. For example, are hunting and agricultural scenes in funerary art related to the ritual context of a tomb, and if so, in what ways? What should we make of the terracotta replicas of animal pens, stables, ponds and farmsteads that are so prominent in Han period tombs? Can these materials be interpreted as part of a ritual vocabulary?

As revealing as our analysis of animal references is for studying the mechanics of ritual, an equally important question must be: through what domains or spheres of daily existence did animals impact on the lives of humans in early China? Focusing on the cycle of ritualization itself may lead to a belief that the early Chinese ritual economy created a sphere of activity through its handling of animals that was distinctively removed from the use of animals in daily life. However, this is clearly not the case. While the management of animals destined for ritual purposes was certainly subject to professionalization, people and officials handled the supply of sacrificial animals alongside their wider duties as breeders, hunters, shepherds, butchers, cooks, etc. In terms of agency, the ritual and non-ritual use of animals was often conflated. After all, meat was shared out and consumed as part of a sacrifice. Therefore, I contend that sacrificial ritual was simply one of several filters or domains through which the animal world was presented to human communities in early China, alongside other experiences with animals resulting from their use in agriculture, locomotion, human diet, medicine, etc. Just like domesticating animals, 'ritualizing' animals for sacrifice was an integral part of what many in early China saw as the origin narrative of human civilization.[91] Therefore, it may make sense after all that the legendary Fu Xi 伏羲, who was apocryphally credited with domesticating and subduing (*fu* 伏) animals, was also known by his variant name, Pao Xi 庖犧, the 'butcher of sacrificial victims'.[92]

[90] On the discrepancy between textual and visual depictions of animal sacrifice, see Sterckx (2012); excellent collections of Greek examples include van Straten (1995) and Gebauer (2002).

[91] For more on these narratives, see Sterckx (2002), 94–6.

[92] While the variant 庖犧 is used in several Eastern Han sources, to my knowledge Huangfu Mi's 皇甫謐 (215–282 CE) 'Di wang shi ji' 帝王世紀 (Record of Emperor and Kings) is the first source to credit Paoxi Shi 庖犧氏 with 'taking sacrificial animals in order to supply the kitchens' (取犧牲以充庖廚，故號庖犧氏). See *Di wang shi ji jicun* 帝王世紀輯存, 1.3. Sima Zhen's 司馬貞 (679–732 CE) 'San Huang ben ji' 三皇本紀 contains a similar statement. See *Hou Hanshu*, 40B.1362 (note 9). Sima Guang 司馬光 (1019–86) credits Fu Xi with animal domestication in his *Tongjian ji gu lu* 通鑒稽古錄 (Record of the *Comprehensive Mirror*'s Examination into the Past). See *Ji gu lu*, 1.2.

3 Noble Creatures

Filial and Righteous Animals in Early Medieval Confucian Thought

Keith N. Knapp

During China's early medieval period (100–600 CE), tales about children who exemplify the virtue of *xiao* 孝 (filial piety) became particularly numerous and noteworthy. Prominent men, including emperors, authored collections of these narratives, which were often called *Xiaozi zhuan* 孝子傳 (Accounts of Filial Offspring). With the exception of two related manuscripts preserved in Kyoto, Japan, all of these works have been lost – we only know their contents through quotations found in medieval era encyclopaedias.[1] The exemplars featured in *Xiaozi zhuan* often embody the prescriptive behaviour towards parents set out in the *Ru* 儒 ('Confucian' or 'Classicist') ritual codes, such as the *Liji* 禮記 (Book of Rites). The goodness of their actions frequently caused the spirit world to reward them with either auspicious omens or rewards. Although the overwhelming majority of these tales have human protagonists, a few have animal ones.

The existence of filial animals is surprising, though, since Confucian philosophers maintained that humans are the noblest creatures in the universe and the only ones who can realize virtues such as benevolence and righteousness. So, on what basis would anthropocentric Confucian authors attribute human virtue to animals? In what way were these animals virtuous? Was their practice of virtue in any way distinct from their human counterparts? Why was it during the early medieval period that animals started to be particularly credited with moral behaviour? To what extent were the authors anthropomorphizing animal behaviour or just basing their stories on actual observation? This chapter will show that the writers of these Confucian tales thought animals were just as capable of being virtuous as humans. Their narratives depict them as being filial to their animal kin and acting righteously towards human strangers. To them, the difference between animals and humans is that people recognize and institutionalize the hierarchical relationship between father and son, whereas

[1] For a discussion of this literary genre, see Knapp (2005).

animals do not. Hence, humans and animals are dissimilar in degree rather than kind. This recognition that animals were morally similar to humans might stem from the influence of Buddhism. However, I will argue that it is much more likely related to the contemporary notion found in the prefaces of *Xiaozi zhuan* – that filial piety is part of Heaven's endowment that all creatures share.

Early Confucian Views on the Difference between Humans and Animals

The early medieval realization that filial piety was part of the heavenly endowment of each living creature had to overcome the longstanding Confucian belief that humans were far superior to animals. Many Confucian philosophers considered humans more important than any other creature because they could practise virtue. The Confucian philosopher Xunzi 荀子 (313–238 BCE) distinguishes between people and animals in the following manner:

> Fire and water possess vital breath (*qi* 氣) but have no life (*sheng* 生). Plants and trees possess life, but lack awareness (*zhi* 知). Birds and beasts have awareness, but lack a sense of morality and justice (*you yi* 有義). Humans possess vital breath, life, and awareness, and add to them a sense of morality and justice. It is for this reason that they are the noblest beings in the world. In physical power they are not as good as an ox, in swiftness they do not equal the horse; yet the ox and horse can be put to their use. Why is that? I say it is because humans alone can form societies and animals cannot. Why can man form a society? I say it is due to the division (*fen* 分) of society into classes. How can social divisions be translated into behaviour? I say it is because of humans' sense of morality and justice. Thus, if their sense of morality and justice is used to divide society into classes, concord will result.[2]

For Xunzi the distinguishing characteristic of humans is that they can be virtuous, which enables them to form societies. Virtue allows social divisions to exist because inferiors can recognize their superiors' excellence and superiors will treat inferiors fairly. In other words, virtue permits hierarchy. Although animals are similar to humans in that they have vital energy and awareness, they can never come together and act as one because they lack virtue, which condemns them to a life of strife and human control.

The Confucian philosopher and statesman Dong Zhongshu 董仲舒 (c. 179–104 BCE) also believed that humans were superior to all other animals because of their ability to acquire virtue. He articulated two reasons for human superiority. First, like Xunzi, he thought that human excellence rested in its ability to maintain hierarchical, social relations. A memorial in his biography states:

[2] *Xunzi zhuzi suoyin*, 39 ('Wang zhi' 王制); trans. Knoblock (1994), vol. 2, 103–4. This passage is cited in Needham (1969), 22–3.

People receive their mandate from Heaven; as a result, they are superior and different from all other creatures. Entering the home, man has the intimacy found between father and son, and elder and younger brother; upon leaving home, he has the friendship between superior and inferior, and lord and retainer. Upon encountering each other at a meeting, they display the order appropriate for elders and youngsters. Clearly they have patterns that they follow to greet each other; happily, they have kindnesses with which to love each other. Because of this, people are the most noble.[3]

This passage clearly indicates that the ability of humans to interact peacefully with each other – despite their difference in status – is what sets them apart from other creatures. Animals might recognize a parent or sibling, but they cannot understand status distinctions. They live in the rough and tumble world of equality and strife. Second, Dong emphasizes that humans are also superior because they are an embodiment of Heaven and Earth:

Of the things produced by the refined essence (*jing* 精) of Heaven and Earth, none are more worthy than people. People receive their mandate from Heaven; as a result, they are superior and unique. Other creatures suffer from defects and thereby cannot become humane and righteous (*ren yi* 仁義); only man is able to become humane and righteous. Since other creatures suffer from defects they cannot be equal to Heaven and Earth; only man can be an equal to Heaven and Earth. People have 360 joints; that matches the number of Heaven. His body, bones, and flesh match the thickness of the Earth. Above he has ears and eyes that can hear and see, which are signs of the sun and moon. His body has orifices and veins, which are signs of the rivers and valleys. The heart-mind experiences grief, happiness, joy, and anger, which resembles the *qi* 氣 of the spirits. If you look at a person's entire body, there is nothing loftier, thus it is of the same kind as Heaven and Earth. Other creatures are only able to indirectly live through obtaining the *yinyang* 陰陽 of Heaven. However, people clearly have its [Heaven and Earth's] patterns of order (*wen li* 文理).[4]

In other words, because people embody the patterns of Heaven and Earth, they are superior to all other things. No matter what other creatures do, due to their inborn deficiencies they can never perfect themselves – they can be neither humane nor righteous. This view of man's place in the world is what Derk Bodde has described as a 'semireceptive approach' towards nature, in which the human world is seen as a microcosm of the natural world, but one in which the focus is clearly on the importance of humans.[5] Due to human superiority, animals and all the other ten thousand things are merely meant to supply man with his needs. Dong Zhongshu states that, '[Heaven and Earth] produce the five grains to feed them [people]; it provides silk and hemp to clothe them; it uses the six domestic animals to nurture them, it allows men to tame cows, ride

[3] *Hanshu*, 56.1516; Bodde (1991), 316.
[4] *Chunqiu fanlu yi zheng*, 13: 56.354 ('Ren fu Tianshu' 人副天數); translation modified from Fung (1983), 30.
[5] Bodde (1991), 321–2.

horses, ensnare panthers, and capture tigers. People are worthier than other things because man has obtained the efficacy of Heaven.'[6] In another place he states, 'Heaven and Earth give birth to the ten thousand things to nurture people. Therefore, those things that are edible are used to nourish the body; those that are majestic are used as clothing.'[7] Animals and all other things merely exist to benefit people.

In the early medieval period, some Confucian thinkers continued to espouse this same view of man's superiority to animals. In attacking the Buddhist doctrine of *karma*, the astronomer and official He Chengtian 何承天 (370–447 CE) argued against the idea that humans and animals were equal living beings (*zhongsheng* 眾生). Like Dong Zhongshu, he contended that people are superior because not only do they embody the traits of Heaven and Earth but, without people, the cosmos would be diminished.

> Heaven uses *yin* and *yang* to be differentiated; Earth uses soft and hard to be employed. People stand by means of humanity and righteousness. Without Heaven and Earth people would never be born; without people Heaven and Earth would never be efficacious. The Three Powers (Heaven, Earth, and people) share the same form and need each other to grow. Therefore, [humans] receive pure and harmonious *qi* and their knowledge is particularly developed. Their feelings can sum up the past and present and their wisdom can cover the ten thousand things.[8]

In other words, he maintained that people have a privileged spot in the cosmos, which is on a par with Heaven and Earth. Without humans the cosmos would be incomplete. Sharing in the nature of Heaven and Earth is what makes people both smarter and morally better than other creatures. When his Buddhist opponent presses him to admit that only sages fit that description, he admitts that, whereas sages are different from ordinary people because of their virtue and intelligence, ordinary people are still different from animals.[9]

Crows and Reciprocity

Despite these theoretical suppositions, upon turning to Confucian filial piety stories created during the Eastern Han (25–220 CE) and Six Dynasties (220–589 CE) periods, we discover several depictions of animals fulfilling the role of moral exemplars. The *Xiaozi zhuan* depict crows and monkeys exemplifying filiality and tigers and cranes acknowledging righteousness. Gan Bao's 干寶 (fl. 317–350 CE) *Soushen ji* 搜神記 (Records of Searching for Spirits), a collection of *zhiguai* 志怪 'anomaly accounts', which relates many

[6] *Hanshu*, 56.1516. [7] *Chunqiu fanlu yi zheng*, 6: 14.151 ('Fu zhi xiang' 服制像).
[8] *Hongming ji* 弘明集, *Guang Hongming ji* 廣弘明集, 4.22c.
[9] *Hongming ji, Guang Hongming ji*, 4.25b; see also Gao Xinman (2013), 107–19; and Campany (1996), 391–2.

of the narratives found in the *Xiaozi zhuan*, credits an even wider array of animals with virtuous behaviour, such as dogs, turtles, ants and even snakes. To obtain a sense of the scope and depth to which authors of these tales viewed animals as capable of acting morally, let us begin by discussing the three types of animals to which virtuous acts are most frequently attributed: crows, monkeys and dogs.

One of the most important filial acts attributed to animals was *fanbu* 反哺 'feeding in return' or, literally, 'returning regurgitation', which is commonly associated with birds. The following account about crows illustrates this concept:

> Crows are compassionate birds. They are born in the deep woods. From outside their high nests, holding food in their beaks, the parents place it into their chicks' mouths. Without waiting for the chicks to cry, the parents on their own accord present them with food. When the parents' wings fatigue and they can no longer fly, their children's wings are already fully developed. Flying to and fro, the children bring food and return regurgitation (*fanbu*) for their mother. Since birds are like this, how much more should humans be! Crows bring food in their beaks to feed their young, and adult children bring food in their beaks to feed their mother. These birds are all filial (*xiao*).[10]

Obviously, 'returning regurgitation' means that offspring, without being prompted, provide food for their elderly and decrepit parents, just as their parents fed them when they were helpless and dependent hatchlings. In short, crows understand the principle of reciprocity that forms the basis of the parent–child relationship. Other types of birds were also thought to engage in the same type of filial behaviour. The late third-century BCE *Lüshi chunqiu* 吕氏春秋 (Mr. Lü's Springs and Autumns) describes mountain finches in the following manner: they 'reside together in the same nest, offspring and mothers feed each other; and they live harmoniously and delight in each other's company'.[11]

Even though others birds were also credited with 'feeding in return', crows were most commonly associated with filial piety. The *Shuowen jiezi* 說文解字 (Explaining Graphs and Analysing Characters), a Han period lexicon, simply defines crows as filial birds.[12] Confucian apocrypha explain crows' filiality as a result of their possession of outstanding *qi* (vital energy). For example, one apocryphon states: 'The planet Mars is a crow, which is a filial bird. How do we know a crow is a filial bird? This is because it has the essence of *yang*, which is the will of Heaven. A crow resides in the middle of the sun. It follows Heaven;

[10] *Kōshiden chūkai* 孝子傳注解, 330.
[11] Quoted in *Yiwen leiju* 藝文類聚, 92.1594. Cai Yong's 蔡邕 (132–192 CE) 'Qin cao' 琴操 (Zither Tunes) also credits turtledoves with 'feeding in return'. See *Yiwen leiju*, 92.1599; Watters (1867), 234–7.
[12] *Shuowen jiezi*, 4A.56a.

by this means it manifests filial piety.'[13] Crows are filial because they embody the vital energy of *yang* (*yang qi* 陽氣), the metaphysical principle associated with light, growth, masculinity, etc., which is itself a manifestation of Heaven. The writer Cheng Gongsui 成公綏 (230–273 CE) explains that crows are viewed as filial because they 'return regurgitation' and recognize the principle of *yang* 養 'caring for one's parents'.[14]

During the Eastern Han period, crows became exemplars of filiality, to the point where accounts of them were incorporated into *Xiaozi zhuan*. Even though there were many filial piety stories to choose from, the fame of the filial crow was such that it was depicted pictorially at both the second-century Wu Liang Shrine 武梁祠 (Shandong) and the tomb at Helinge'er 和林格爾 (Inner Mongolia).[15] In Yinwan 尹灣 (Jiangsu) tomb no. 6, which was probably sealed in around 10 BCE, archaeologists found eighteen wooden strips making up a work called '*Shenwu fu*' 神烏賦 (Rhapsody on the Spirit Crows). Based on its contents, Roel Sterckx concludes that the idea that crows were filial and righteous was already widespread in the Western Han.[16] One stanza from the poem reads:

> Among all animals that can fly,
> The crow is the most dignified.
> By nature it is fond of humaneness (*ren* 仁).
> It returns regurgitation (*fanbu*) to its parents.
> It practises righteousness in a perfect manner,
> And very much realizes the way of humans.[17]

In this stanza, crows embody both humanity and righteousness. Indeed, the author unequivocally emphasizes that they are able to attain human perfection. Despite never actually calling the bird 'filial', the author makes it clear that crows fulfilled *gongyang* 供養 'reverent caring', which early medieval Confucians considered the most fundamental duty a person could do for their parents.[18]

'Returning regurgitation' was so impressive that the early medieval Chinese thought that humans should learn from this animal behaviour. In fact, a filial piety tale was created in which a human protagonist literally imitates the crow's behaviour. Xing Qu's 邢渠 father was so old and toothless that he could not chew food, so Xing always masticated (*bu* 哺) food for him. After doing this for

[13] *Yiwen leiju*, 92.1591. Similarly, the *Chunqiu yundoushu* 春秋運斗樞 states: 'Feathers and flying belong to the *yang* principle. The *qi* of the *yang* principle is benevolence (*ren*). Hence crows feed in return.' See *Taiping yulan* 太平御覽, 920.1b.
[14] *Yiwen leiju*, 92.1593. [15] Kuroda (2007), 289–92. [16] Sterckx (2002), 27, 251n.63.
[17] My translation; I have consulted Van Ess (2003), 612. For the Chinese text of this prose-poem, see Qiu Xigui (1997), 52.
[18] On the meaning and importance of this concept, see Knapp (2005), 113–36.

some time, his father miraculously grew a new set of choppers.[19] The key word in this passage, *bu* 'to masticate' or 'regurgitate', is extended here to mean 'to feed'. It links Xing's actions with those of crows by suggesting that Xing regurgitated food for his father, just as a crow would. The popularity of the notion of bird-like 'returning regurgitation' is shown by the frequency with which the Xing Qu tale is illustrated in Eastern Han art.[20] Zhao Gou 趙狗 is another story with this exact motif. On a pictorial stone from Dawenkou 大汶口, Zhao Gou is shown feeding his toothless father – their mouths are almost touching. To the right of these figures, two birds are passing food to each other; their beaks are almost touching.[21] In this case, the artisan graphically underscores the parallel between filial crows and sons.

Where did the Chinese get the idea that crows feed in this way? The passage quoted above is more of a general description of crows than a story about any particular bird, and it seems to be based on personal observations. Modern science indicates that these observations were not far off the mark. Biologists consider crows and ravens to be the most intelligent of birds. They can remember human faces, can effectively transfer information to each other and over generations, and one kind in New Caledonia can even make tools. Although crow offspring do not feed their elderly parents, it is true that juvenile offspring will continue to reside with their parents after maturing, in a few cases for up to five years. They also help their parents build the nest, defend territory and feed nestlings. Moreover, while living in a large communal roost, crows may fly as far as 80 miles to forage for food, but still commute home in the evening to be with their 'family'.[22] Therefore, describing crows as filial is not whimsical.

Monkeys and Compassion

Besides crows, the other animals that appear as heroes in *Xiaozi zhuan* are simians: the macaque (*hou* 猴) and the gibbon (*yuan* 猿). Filial piety narratives that feature these primates emphasize their compassion for their kin. The fifth-century *Zhou Jingshi Xiaozi zhuan* 周景式孝子傳 (Zhou Jingshi's Accounts of Filial Offspring) relates the following tale:

> I once went to Sui'an 綏安 County. Along the way, I encountered and chased a macaque mother carrying a child. She dived under the water. Even though the water was deep it was clear. I used my halberd to stab her. From her ribs downwards everything was cut off, but her spine was still intact. She kept searching for her child, which was [now] in the boat. Only after following alongside the boat and using her hand to pat her child, did she die.[23]

[19] *Taiping yulan*, 411.6a; and *Kōshiden chūkai*, 47–8.
[20] Knapp (2005), 129–30.
[21] For this image, see Jiang (2000), 176–7.
[22] Gilbert (1992); Heinrich (2000); Marzluff, Angell and Ehrlich (2005), 15–95.
[23] *Taiping yulan*, 920.4b.

This moving account is unique, since it is written in the first person. Although it is about a mother's concern for her child, rather than the other way around, Zhou Jingshi (fifth century) still viewed it as appropriate to include in his *Xiaozi zhuan*. Despite suffering terribly from her wounds, the mother macaque only thought about comforting her offspring.

The following tale again emphasizes a mother's grief at her offspring's misfortune. A man went to the mountains and captured a baby gibbon, whose mother followed the hunter to his home. The hunter tied the baby to a tree in his courtyard, so that the mother gibbon could see it. Upon reaching the house, she slapped her cheeks, as if using her grief to beg for her infant's release. Instead, the hunter struck the baby dead. The mother gibbon moaned sorrowfully, threw herself down (off the roof) and died. The hunter opened her insides and found that every inch of her intestine had burst apart. Within six months, the hunter's entire family had died from a disease, extinguishing his lineage.[24] In this tale, although she cannot speak, the mother gibbon clearly begs for her infant's life. Upon witnessing its murder, she commits suicide. In short, like many human filial exemplars, she dies from her grief.[25] In what is possibly a variant of this tale, an officer obtained a baby macaque and tried to sail away. The mother macaque grievously wailed and chased the boat along the riverbank for more than a hundred *li* 里, whereupon she finally successfully leapt aboard, dying in the attempt. When the soldier cut open her insides, every inch of her intestine had burst apart from intense grief. When Huan Wen 桓溫 (312–373 CE) heard about this, he became angry and had the officer demoted.[26] Here again, after doing everything possible to stay with her child, the macaque mother appears literally to die of heartache. Even the strongman Huan Wen regarded his officer's action of splitting a mother from her child as being so cruel as to warrant demotion.

Just as simian mothers were portrayed as showing love and compassion for their offspring, juvenile monkeys reciprocated this care and sympathy. A well-known example of this is conveyed through the story of General Deng Zhi 鄧芝 (d. 121 CE). Spotting a gibbon holding its offspring in a tree, he raised his crossbow and shot the mother gibbon. Rather than fleeing, the young gibbon pulled out the arrow and stuffed leaves into its mother's wound. When he saw this, Deng sighed and threw his crossbow into the river. He seemed to realize that, since gibbons also have strong kin feelings, he had just murdered the child's mother. Interestingly, this is a case where an ape morally transforms a man's behaviour. In a variant of this tale, Deng states, 'Alas, I have violated the nature of

[24] *Soushen ji*, no. 460. [25] Knapp (2005), 146.
[26] *Shishuo xinyu jianshu* 世說新語箋疏, 28.864 ('Chu mian' 黜免); trans. Van Gulik (1967), 49.

things; I will soon die.'[27] In other words, since he has transgressed against the way things should be, he expects to receive supernatural punishment.

All of these stories vividly illustrate that, for the writers, simian mothers and children share the same intimate attachment to each other as human mothers and their children. They depict macaque and gibbon mothers so emotionally attached to their offspring that they die of grief when tragically separated from them, and an infant gibbon who will not abandon its injured mother, whatever the cost. The famous Sinologist and gibbon owner R.H. van Gulik notes that this was such common knowledge that the traditional method of capturing gibbons alive was to shoot a mother gibbon with a bow and arrow or a poisoned dart. When the gibbon fell to the ground, the infant gibbon would still be clinging to her.[28] In all of these narratives, the authors disapprove of harming the familial bond between a monkey mother and child. Deng Zhi realizes that he has violated natural law by killing the infant gibbon's beloved mother. In another tale, the official's patron, Huan Wen, rejects him because of his cruel treatment of the mother macaque. As for the hunter who cruelly tied the baby gibbon to a tree and killed it to torture its mother, the spirit world annihilated him and his family within six months. Through these narrative devices, the authors affirm that monkeys do indeed manifest filial piety and that this value is sacred, no matter which species displays it.

Was it just human fancy that macaques and gibbons had familial feelings for each other? Were the authors merely imputing human feelings to these simians? The answer is definitely no. These tales almost certainly stemmed from direct observation of monkey behaviour. Our first monkey tale is written in the first person, which makes it appear to be based on the author's actual experience. It is also clear that a number of early medieval, upper-class men kept gibbons as pets. The Confucian philosopher Fu Xuan 傅玄 (217–278 CE) wrote a 'Yuanhou fu' 猿猴賦 (Prose-poem on Gibbons and Macaques) in which he describes his pet monkeys.[29] The fifth-century *Zhou Suoshi Xiaozi zhuan* 周索氏孝子傳 (Zhou Suoshi's Accounts of Filial Children) describes gibbons thus: 'They have long arms that are sometimes yellow, sometimes black. They reject nests and excel at the following [things]. They can spin in the air. They are fond of singing. If the female is captured by a human, ultimately [the child?] cannot exist on its own.'[30] Here, rather than narrate a specific tale about gibbons, the author chose to provide a general description of these animals. Van Gulik notes that gibbons live high up in the trees but do not make nests or platforms, they

[27] *Sanguo zhi* 三國志, 45.1072. This tale appears in the commentary by Pei Songzhi 裴松之 (372?–451 CE), which attributes it to the fourth-century local history *Huayang guozhi* 華陽國志 (Records of the States South of Mount Hua).
[28] Van Gulik (1967), 48–9. [29] Van Gulik (1967), 47–8.
[30] *Chuxue ji* 初學記, 29.720; *Taiping yulan*, 910.2a.

live in close-knit families, and come to the aid of threatened close kin. Females only have one baby at a time and nurse it for two years. During that time, the baby always stays close to its mother. Young gibbons stay with their families for six to seven years. Adult gibbons make long whooping calls in the mornings, at dusk and sometimes at noon.[31] It seems that the description of gibbons in the *Zhou Suoshi Xiaozi zhuan* is fairly accurate.

Dogs and Devotion

Unlike crows or monkeys, no surviving fragments from *Xiaozi zhuan* include tales with canine exemplars. Nevertheless, I am including tales about virtuous dogs because there is a possibility that these stories did appear in *Xiaozi zhuan*. Some *Xiaozi zhuan* were quite lengthy – the longest was thirty fascicles long[32] – but medieval encyclopaedias only preserve a limited number of quotations from these works. For example, even though the fifth-century *Zheng Ji Xiaozi zhuan* 鄭緝孝子傳 (Zheng Ji's Accounts of Filial Offspring) was ten fascicles long, only a single fragment of one account remains. Since many of the same filial exemplar tales exist in both *Xiaozi zhuan* and *zhiguai* works, it seems reasonable to assume that at least a few *Xiaozi zhuan* would also contain tales of dogs manifesting extreme devotion for their owners.

Just like filial humans who would endanger their lives to protect their parents, early medieval *zhiguai* authors frequently credited dogs with risking their own lives to protect their masters. For instance, Li Xinchun 李信純 had a dog named Black Dragon (Heilong 黑龍) which he loved dearly. One day Li got drunk and, on his way home, fell asleep in a field. Just then, the Prefect was hunting in the area and ordered that a fire be set to smoke the wildlife from the high grass out into the open. Unable to awaken his master, Black Dragon immersed himself in a nearby brook several times and shook off the water all around his master. Since the dog had moistened the ground around him, Li was able to escape from harm. However, the dog died of exhaustion by his side.[33] In another tale in which a man is saved by his canine companion, a dog named True Tail (Diwei 的尾) fought off a huge snake that had almost crushed his master to death. While his master lay unconscious on the ground, the dog eventually drew the attention of a passer-by through his grief-stricken behaviour. After his master was taken home, True Tail refused any food until his master regained consciousness and began to eat.[34] True Tail's refusal to eat until his master does so replicates the actions of filial sons who refuse to eat

[31] Van Gulik (1967), 5–9. [32] Knapp (2005), 62–3.
[33] *Soushen ji*, no. 457. See the similar tale of Yang Sheng 楊生, in which the dog lives. See Wang Guoliang (1978), 110–11; *Yiwen leiju*, 94.1638.
[34] *Taiping yulan*, 905.7a; *Yiwen leiju*, 94.1638.

until their sick parents do.[35] The modern scholar Fu Kaijing notes that it was precisely during the early medieval period that dogs were credited with noble humanlike actions that manifested Confucian morality.[36] Why were these dogs willing to sacrifice themselves for their masters? It would be easy to think that the authors of these tales are depicting the dogs as embodying the value of *zhong* 忠 ('loyalty') rather than filiality. Obviously, human masters and their dogs are not kin. However, a dog's relationship to its owner is like that of a servant to his master: as a household member. As China's early law codes attest, if a servant testified against or harmed their master, they would be guilty of *bu xiao* 不孝 'unfiliality'.[37] Hence, acts of devotion that servants display towards their master are manifestations of filiality. For example, the authors of *Xiaozi zhuan* praised the slave Li Shan 李善, who protected and raised his orphaned infant master, as an exemplar of filiality, not loyalty.[38] Indeed, *zhong* was only applicable to voluntary rather than involuntary relationships. Much like a slave or servant, a dog was its master's possession and therefore in an involuntary relationship.

A dog owes filial loyalty to its master based on the love and care that the master has bestowed upon it. Often these narratives underscore the care the master has shown his canine servant. Li Xinchun 'loved [Black Dragon] very much. No matter what his master was doing, [the dog] followed him. Whenever the master ate or drank something, the dog would get a share.' Likewise, 'Yang Sheng 楊生 raised a dog. He loved it exceedingly and cherished it. No matter what [Yang] was doing, they were always together.'[39] The idea that dogs understood the obligation of reciprocity is made explicit in the tale of Zhang Ran 張然. When his wife's slave paramour threatened to kill Zhang with a bow and arrow, Zhang looked at his dog, Crow Dragon (Wulong 烏龍), and said, 'I have looked after you for many years, can you save me now?' Zhang expected his dog's help because of the care lavished on him. Crow Dragon did not disappoint. He attacked the slave, giving Zhang the opportunity to stab the lover with a knife.[40] Thus, even though dogs were not related to their masters, the devotion they showed towards them was filial in nature because it was based on the genuine affection that dogs felt for their masters who had raised them. Masters, in turn, sometimes treated their dogs like members of the family. After the dog True Tail saved his master, Hua Long 華隆 'cherished and loved him even more, in the same manner he would love a relative.'[41] When a passer-by threatens to leave Yang Sheng in a well which he has fallen into unless Yang gives up his loyal dog, Yang states, 'This dog has saved my life once, I cannot give him to you, but as for

[35] For example, when his mother was ill and would not eat, Ru Yu 汝郁 also refused to eat. See *Wu xiao zhuan* 五孝傳, 320–1.
[36] Fu Kaijing (2012), 251. [37] Jia Liying (2010), 70–89. [38] Knapp (2012), 124–5.
[39] Wang Guoliang (1978), 110. [40] Wang Guoliang (1978), 109.
[41] *Taiping guangji*, 437.920.

everything else I have there is nothing that I cherish.'[42] In other words, the only thing Yang Sheng holds dear is his dog.

As for whether these events actually happened, it is difficult to say. All the dog tales discussed here come from *zhiguai* texts. Works of this genre contain tales that feature the unusual, fantastic and supernatural. Although the contents of the dog stories are all unusual, these events all seem plausible. Dogs and humans have had a special relationship for over ten thousand years. Dogs excel at reading human emotions and responding to them. Accounts of the steadfast devotion of dogs and their willingness to risk life and limb to save their masters abound.[43]

The Difference between Moral Humans and Animals

What becomes apparent from the stories about crows, monkeys and dogs is that animals can be filial and righteous, even to the extent that they can serve as exemplars to humans. Nevertheless, animal filiality differs from its human counterpart in two important respects. First, animal filiality is always directed towards the mother. Why are fathers absent? This is a key difference because it indicates one way in which early Confucians believed people were distinct from animals. A passage from the first-century CE *Baihutong* 白虎通 (Comprehensive Discussions in the White Tiger Hall) suggests that, in a state of nature, humans lived like animals: they were not completely clothed, ate all parts of a creature, did not store food and – most importantly – knew only their mother, not their father. Fu Xi 伏羲, the mythical cultural hero, remedied this chaos, when he established the husband–wife relationship and also the way of humans.[44] But what is the way of humans? Lu Jia's 陸賈 (c. 228–c. 140 BCE) *Xinyu* 新語 (New Discourse) explains that the way of humans means teaching people 'to know the intimacy of father and son, the righteousness shared between lord and retainer, the way of husband and wife, and the order that obtains between seniors and juniors'.[45] Thus, it is the knowledge of social relationships that structures human society and distinguishes people from animals. Hence, Mencius said, 'To have neither a father nor a lord is to be the same as a bird or beast.'[46] The libertine poet Ruan Ji 阮籍 (210–263 CE)

[42] Wang Guoliang (1978), 110.
[43] For a brief introduction to recent research on the emotional lives of dogs and their relationship to humans, see Bekoff (2013), 69–106.
[44] *Baihutong zhuzi suoyin* 白虎通逐字索引, 2, p. 6.
[45] *Xinyu zhuzi suoyin* 新語逐字索引, 1, p. 1.
[46] *Mencius* 3B.9. No wonder then that Mencius thought the primary purpose of elementary education was to teach people about human relationships and that lacking this kind of education would mean people were no better than animals (*Mencius* 3A.3 and 3A.4). Derk Bodde has pointed out that it was not until the Tang that Chinese thinkers noted the similarities between human and animal social organizations. See Bodde (1991), 311.

made this same point when he startled the court by saying that he could understand how a man might kill his father, but he could never identify with someone who killed his mother. When pressed for an explanation, he stated, 'Animals know their mother but not their father. A man who kills his father is in the same class as the animals, but a man who kills his mother is inferior to even an animal.'[47]

When Confucian writers expounded on human relationships (*renlun* 人倫), they focused on the tie of father–child (*fuzi* 父子), instead of the mother–child (*muzi* 母子) bond. The only social group that animals could form – in their view – was the equalitarian one of the uterine family, which is centred on the mother. Since animals did not know their fathers, they could not form groups based on more abstract and unequal ties, such as lineages, communities or states, which depend on networks of male superiors and inferiors. Acknowledging the father–child tie, which allows people to form larger social units, is one aspect of social behaviour that makes people human.

An Eastern Han court case illustrates this point well. Three men all took the same woman as their wife. They produced four children. Later, the men wanted to split up the wealth of their common household and divide the sons. Being unable to agree how to do this, they appealed to the county magistrate, who was not able to act judiciously. When it was brought to the attention of Fan Yanshou 范延壽, the Chamberlain for Law Enforcement, he petitioned the throne, saying, '[These men] have betrayed and violated proper human relationships and have put themselves on the level of birds and beasts.' In another version of this account, his memorial reads, 'This is not the behaviour of humankind. This is acting like birds and animals that follow their mother, but not their father. Please execute these three males and give the children to the mother.'[48] Because all three of these men had willingly produced offspring in a manner that rendered paternal lines impossible to identify, they were accused of animal-like behaviour and thus deserved death.

The second difference is that animal filiality puts a much greater stress on reciprocity. Stories about birds feeding each other obviously emphasize this principle. Other filial animal tales indirectly reiterate this point by making the tale's exemplar a mother rather than an offspring. As we have already seen, stories about monkeys displaying profound grief at the capture or murder of their kin can feature either a mother or her child. Of course, one could argue that a mother pining for her captured offspring exemplifies the virtue of *ci* 慈 'parental kindness', rather than filiality. Nevertheless, since such narratives were included in *Xiaozi zhuan*, there is no doubt that the authors viewed such

[47] Holzman (1976), 76.
[48] Yue Qingping (1997), 36. The first statement is in the *Xie Cheng Hou Hanshu* 謝承後漢書 as quoted in *Taiping yulan*, 231.4a. The second is in the *Soushen ji*, no. 131.

parental concern as a manifestation of filiality or saw parental kindness (*ci*) and filial piety (*xiao*) as complementary virtues. Children should show filial piety, which would produce kindness in parents; likewise, parents should be kind, which would induce filiality in their offspring. Interestingly, human filial piety tales rarely concern parental kindness; instead, they largely concentrate on the devotion of sons and daughters. Hence, tales about animal exemplars stress the reciprocal basis of filiality, while those about human exemplars stress its hierarchical aspects.[49]

This equalitarian stress on reciprocity likewise manifests itself in the numerous tales in which animals repay human acts of kindness.[50] In these narratives, a virtuous human aids an animal in distress. Acknowledging the debt owed to the human, the animal rewards him with either meat or precious goods. A hermit and filial son named Guo Wen 郭文 (or Guo Wenju 郭文舉) was once approached by a fierce tiger which opened its mouth at him. Guo saw that he had a bone stuck in his throat and pulled it out. The next morning the beast left a deer in front of his hut. Stressing the reciprocity that could exist between man and beast, when Guo was later asked why fierce animals do not attack him, he replied, 'If people do not harm the heart-minds of beasts, then beasts will not harm people.'[51] In another tale about the filial son Guai Shen 噲參, a black crane was shot by an arrow and sought Guai's help. He nursed the bird and healed its wound. One night, after the bird regained its health and flew away, it returned with its mate: each one holding a pearl in its beak to repay Guai.[52] An account about the filial son Zhang Yuan 張元 even provides a rationale for why he helps an animal in danger. When he was a child, Zhang found an abandoned puppy and cared for it, which incurred his uncle's wrath. Zhang explained his actions by saying:

> 'Everything that lives esteems its life. Heaven gives life and takes it away, this is the principle of nature. Now if a person abandons this puppy and it dies, this is not the way of nature. If I see this happening and do nothing, then I do not have a benevolent heart (*renxin* 仁心). That is the reason why I am caring for it.' This speech moved his uncle, he thereupon approved [Zhang's action]. Not long afterwards, the dog's mother came, carrying a dead rabbit in her mouth. She put it in front of Zhang and then left.[53]

Zhang adopts the pup and cares for it because another human has done it harm. Because Zhang has saved her offspring from starvation, the dog's mother

[49] On the hierarchical nature of filiality among humans, see Knapp (2005), chapter 5.
[50] I use the word 'equalitarian' because these tales involve social interactions between strangers who are, theoretically, equals. Unlike the tales of devoted canines, humans and animals in these tales have no prior relationship to each other. The human chooses to do the animal a good turn and the animal reciprocates in kind.
[51] *Jin shu* 晉書, 94.2440–1; *Taiping yulan*, 892.1b.
[52] *Soushen ji*, no. 451; for a translation, see DeWoskin and Crump (1996), 238.
[53] *Zhou shu* 周書, 46.832–3.

repays him with a gift of meat. This story thus shows the mother dog's ability to repay a stranger's kindness and her love for her child. In other words, she was capable of being both parentally kind/filial to her family members and righteous towards strangers. The many stories of this type indicate that animals were capable of recognizing and repaying acts done on their behalf.

So, why then did some early medieval Confucians view animals as capable of being virtuous? The first possible explanation is that, since the late Warring States period, some Confucians began to see animals and humans as belonging to the same category of being. Sterckx has pointed out that early Chinese believed that, since both animals and humans had *qi* and blood, they all were creatures that possessed intelligence, awareness, emotions, desires and even filial yearnings.[54] The *Liji* states:

> In general all creatures that live between heaven and earth and have 'blood and *qi*' are certain to possess awareness (*zhi*). Among those having awareness, there is none which does not love its kind (*lei* 類). Consider the case of large birds and beasts: when they lose a mate or are separated from their group, then even after a month or a season has passed, they are certain to circle around their old home and fly about there. They are crying and calling, moving to and fro, gazing about uncertainly and hesitantly, before they are able to leave the place. Even small birds like swallows and sparrows chatter and cry for a while before they are able to leave.[55]

Already in the early Western Han, some Confucian thinkers believed that, like humans, animals were also conscious beings who felt a deep affinity for and emotional attachment to members of their own group. The quotation above notes that in particular large birds and mammals have memory and suffer from the sorrows of parting. A passage in the *Liezi* 列子 (Master Lie) amplifies the notion that humans and animals are similar in nature:

> There are ways in which the intelligence of beasts and birds is by nature similar to man's. They wish as much as we do to preserve their lives, and do not have to borrow from man's wisdom to do so. Buck and doe mate together; mother and child keep close together; they shun the plains and seek inaccessible places, avoid cold and seek out warmth; they live in herds and travel in formations with young ones on the inside and the fully grown on the outside; they lead each other to water and call out to each other when they find food. In the most ancient times, men and animals walked side by side.[56]

The author of this passage views animals as nearly equal to humans. They have the same concerns: to preserve their lives, avoid danger, seek warmth and protect their young. Since animals have similar concerns, intelligence and emotions to people, then it stands to reason that they should also be capable of moral acts. Their concern for kin already indicates their possession of a basic

[54] Sterckx (2002), 73–6.
[55] *Liji jijie*, 55.1373 ('San nian wen' 三年問); trans. Sterckx (2002), 75.
[56] *Liezi zhuzi suoyin* 列子逐字索引, 2.15 ('Huangdi' 黃帝); trans. Graham (1990), 54–5.

form of filiality. One of the earliest Confucian apocrypha tells us that, before the primordial *qi* (*yuanqi* 元氣) divided and formed the universe, filial piety resided within it.[57] This implies that the ten thousand things, i.e. every being in the universe, should have received a measure of this virtue.

The authors of collections of *Xiaozi zhuan* were convinced that filial piety was part of each person's natural endowment. In the introduction to the chapter on the filial and righteous in the *Nan Qi shu* 南齊書 (History of the Southern Qi), the historian Xiao Zixian 蕭子顯 (489–537 CE) tells us that

> The master [Confucius] said, 'The way of father and offspring is based on heavenly endowment, as is the duty of lord and retainer'. The filiality and righteousness that people partake of is the same as that produced by Heaven. Whether it is thick or thin depends on one's heart; it is not something achieved by study.[58]

As the passage implies, the amount of filiality and loyalty one possesses depends on the cultivation of that which inherently resides within – it is not a quality that is externally acquired. Knowledge and acceptance of the father–son and lord–retainer relationships are already part of our natural endowment. Since humans and animals are both components of the ten thousand things, if filial piety is natural to humans rather than learned behaviour, then it should also be inherent in animals. In the preface to the sixth-century CE *Yōmei bunko Xiaozi zhuan* 陽明文庫孝子傳 (The Yōmei Library Accounts of Filial Offspring), one of the two complete *Xiaozi zhuan* preserved in Kyoto, the compiler tells us that:

> Mothers and fathers love their children because it is natural and within their heavenly nature. As their children come and go, they feel lonely and depressed; their anxious heart feels as though it has been chopped up . . . As for the kindness one's parents have shown you, how could anyone but you pay it back? In regard to filial care, how could anyone substitute for you? Crows understand the need to return regurgitation (*fanbu*); a goose recognizes that it needs to bring food [for its parents]. If birds and beasts can do this, how much more should humans![59]

Whether you are a human or an animal, loving one's children and being loved by them is an integral part of one's nature. It is precisely for this reason that animals, such as crows and geese, can serve as exemplars.

Perhaps it is because of their inborn latent virtue that animals could become moral by the power of perfect goodness. As Sterckx has amply documented, creatures were just as subject to the transformative power of exemplary virtue as people.[60] In filial piety tales, animals become tame or exhibit filial behaviour

[57] *Weishu jicheng* 緯書集成, vol. 2, 971.
[58] *Nan Qi shu*, 55.955. The filial son Yu Chun 庾純 expressed a similar sentiment, exclaiming, 'I have heard that the relationship between father and child stems from the heavenly endowment and that their love comes from the self-so (*ziran* 自然).' See *Jin shu*, 50.1400.
[59] *Kōshiden chūkai*, 17–18. [60] Sterckx (2002), 137–53.

themselves after exposure to filiality in its perfect form. Upon the death of his father, Wu Xi 伍襲 resided in a hut at his father's graveside. Every time he wailed, a deer would squat near the tumulus and issue mournful cries.[61] In this case, the deer was stirred by Wu Xi's sincere grief to mimic his behaviour. Animals could also be moved by a son's perfect sincerity to help a human fulfil a filial task. For example, after his mother's death, Li Tao 李陶 lived by the side of her grave. He wanted to build her tumulus himself and refused help from his neighbours. A murder of crows carried dirt in their beaks and helped him complete the tumulus.[62] Exemplary filiality could even influence ferocious animals. The filial son Wei Jun 韋俊 was travelling with his father. One night a group of tigers surrounded the inn in which they were staying. Wei Jun courageously blocked the inn's entrance to prevent them from entering. When they saw him, the tigers immediately lowered their ears and dropped to their knees. They cowered and would not move. Wei kneeled and said, 'If you are hungry you can eat me, but please don't frighten my elderly parent.' The tigers shrank back and retreated.[63] Since Chinese correlative thinking assumes that similar kinds of things affect each other, the tigers could only react as they did to Wei Jun if they had an inherent capacity and respect for this virtue themselves.[64]

Another possible explanation for this belief that virtue was part of the endowment of all living creatures is the influence of Buddhism, particularly the notion of Buddha nature (*foxing* 佛性). In Buddhism all creatures are sentient beings that are caught in the endless cycle of life, death and rebirth and subject to the laws of *karma*. Just as through the accumulation of good *karma* animals can be reborn as humans, through bad deeds humans can be reborn as animals. Thus, Buddhists viewed animals as capable of thought and engaging in moral behaviour. Animals appear frequently in popular *Jātaka* tales as previous incarnations of the Buddha. Indeed, there is always the possibility that a given animal is an incarnation of a former relative.[65] By the early fifth century, due to Daosheng's 道生 (c. 360–434 CE) translation of the *Nirvāna sūtra*, the notion of Buddha nature had already become a topic of debate among southern literati. Daosheng maintained that, since all sentient beings have Buddha nature, they all have the potential to reach Buddhahood.[66] In other words, Buddhahood resides within each sentient being. Robert Campany reminds us that, in reading *zhiguai* tales of animals that react to either human kindness or malice, we should always keep in mind that contemporary debates about Buddha nature and *karma* probably informed them.[67] Pu Chengzhong, on the other hand, notes that tales of animals who repay human kindness existed

[61] *Taiping yulan*, 906.7b. [62] *Yiwen leiju*, 92.1592. [63] *Taiping yulan*, 411.7a–b.
[64] On correlative thinking in filial piety tales, see Knapp (2005), chapter 4.
[65] For Buddhist views of animals, see McDermott (1989) and Harris (2006).
[66] Kim (1990), 35–6. [67] Campany (1996), 389–93.

long before Buddhist equivalents were translated into Chinese.[68] In other words, stories of animals that repay kindness were not necessarily inspired by Buddhism.

An important reason why Confucian authors were viewing animals as moral exemplars was their somewhat keener awareness of the natural world. The early medieval period witnessed a number of scientific advances in astronomy, mathematics, calendrics, cosmology, medicine and agriculture. Many of the men who made these discoveries were famous Confucian scholars.[69] These advances, no doubt, were based on an enhanced understanding of the natural world. Moreover, educated men often travelled, whether for their studies, carrying out official duties or serving in military campaigns. They also spent a lot of time in their urban gardens and country estates.[70] John Major suggests that the ruling urban classes during the Han probably had a good knowledge of both domestic and wild animals through time spent on their estates, travelling by horse and cart through the countryside and hunting.[71] This was equally true – if not more so – of the early medieval elite who lived in a tumultuous age that frequently witnessed regime change and dislocation. As previously mentioned, *Xiaozi zhuan*'s observations about filial animals are often a description of an entire species' behaviour, rather than a narrative about a particular creature. Moreover, one of the tales about a gibbon is told in the first person. Importantly, unlike many filial piety stories concerning humans, tales about filial and righteous animals do not include miracles such as an old man growing new teeth, or bamboo shoots sprouting in the middle of winter. Animals in these tales do not assume human form, speak to humans or wear human clothing.

The idea that these accounts might have stemmed from direct observation is supported by some modern scientists' belief that animals also have a sense of morality. Some biologists maintain that a wide array of animals have emotions and moral awareness. They believe that moral behaviour has evolved as a means for animals to co-operate with others to maximize security and food attainment. As a consequence, many animals live in complex social structures that are regulated by rules and held together with trust and compassion. Marc Bekoff and Jessica Pierce note that:

> Mammals living in tight social groups appear to live according to codes of conduct, including prohibitions against certain kinds of behaviour and expectations for other kinds of behaviour. They live by a set of rules that fosters relatively harmonious and peaceful coexistence. They are naturally cooperative, will offer aid to their fellows, sometimes in return for like aid, sometimes with no expectation of immediate reward. They build relationships of trust. What's more, they appear to feel for other members of

[68] Pu (2014), 176–7. [69] Zhang Qizhi (1996), 285–326. [70] Lewis (2009), 94–102.
[71] Major (2008), 150.

their communities, especially relatives, but also neighbours and even strangers – often showing signs of what looks very much like compassion and empathy.[72]

In other words, mammals living in small groups display many of the behaviours that closely resemble human methods for maintaining social solidarity. Frans de Waal emphasizes that a number of animals have a sense of empathy, reciprocity, fairness and even self-recognition.[73] Bekoff and Pierce believe the animals that most clearly manifest moral behaviour are primates (humans, apes and some types of monkeys), social carnivores (wolves, coyotes, dogs), cetaceans (dolphins and whales), elephants, and even some rodents.[74] Bernd Heinrich has observed ravens' enforcement of moral standards and keen recognition and punishment of violators.[75] It is pertinent to acknowledge that, in the filial piety stories, the animals which are particularly identified as virtuous – monkeys, dogs and crows – are those that biologists view as among those who most clearly follow moral codes. Aided by this scientific knowledge, it may well be that the early medieval emphasis on animal exemplars stemmed from close observation of animal conduct, rather than anthropomorphizing convenient subjects.

Conclusion

Although some Confucian theorists since the Warring States have asserted that what makes people exceptional is their ability to act virtuously, this chapter has shown that the authors of *Xiaozi zhuan* genuinely believed that animals were capable of possessing virtue, which was a sentiment rooted in a contemporary philosophical belief that filial piety was inherent in every living being's natural endowment from Heaven. So much so, in fact, that they used filial animals as exemplars for people. Animals were believed to be capable of exactly the same virtuous acts as their human counterparts: they could repay the kindness of strangers, and materially support, steadfastly protect and grievously mourn their parents or offspring. Hence, even though some Confucian theoreticians wanted to give humans a privileged place among the ten thousand things, the moral distance between humans and animals was too close for the authors of filial piety tales to heed this distinction consistently. As Campany has astutely outlined, the authors of anomaly accounts viewed humans and animals as belonging to the same moral community.[76] The same could also be said of the writers of filial piety accounts.

Even though animals could be filial and righteous, their virtuous behaviour was still distinct from, and less exalted than, that of people. Most importantly, only people recognize the father–child relationship, whereas animals do not.

[72] Bekoff and Pierce (2009), 5. [73] de Waal (2009). [74] Bekoff and Pierce (2009), 9.
[75] Heinrich (2000), 269–79. [76] Campany (1996), 384.

What this means is that people are cognizant of much more abstract relations, whereas animals only recognize concrete and intimate connections that provide food and protection. A dog might die for its master, but not for its country. Since animals only recognize the most fundamental social relationships, tales about them tend to emphasize the most basic aspects of filiality. As a result, animal tales stress reciprocity more frequently than narratives about filial people.

Why did early medieval Confucian authors think that animals could also be virtuous? A simple answer might be the influence of Buddhism, since Buddhists believed that all sentient beings were subject to the laws of death and rebirth, as well as *karma*. However, stories about filial animals pre-date the time when Buddhism began to have a substantial impact on Chinese society. The authors of *Xiaozi zhuan* instead subscribed to the idea that virtue was inherent within the cosmos and within every creature, as part of its heavenly endowment. Thus, animals could be capable of virtuous acts, just like humans. Early medieval Confucian authors came to this conclusion because they were keen observers of nature. They noticed that specific animals manifested certain types of virtuous behaviour. This is why their accounts of animals as filial exemplars are descriptive of their general behaviour and lack any supernatural elements. In other words, although early Confucian authors anthropomorphized animals to some degree, they also recognized that many animals have a sense of morality within their social groupings.

4 Walking by Itself
The Singular History of the Chinese Cat

Timothy H. Barrett and Mark Strange

In today's urbanized world, the domestic animals most familiar to the majority of us tend to be those small enough to share a living space with human beings. They may range in size from fairly large dogs through various smaller mammals down to tropical fish, and even smaller pets. The cat, towards the top end of this spectrum, vies with the dog as one of the most interactive animals and, hence, one of the most popular to be found in ordinary homes.[1] Yet, unlike the dog, which has lived with humans for thousands of years, the cat – even if associated with people for almost as long – has only been brought inside the house in historical times, and is well known for still retaining a measure of aloofness, as our chapter title suggests. We have the sources to hand to trace cat histories in several ancient and modern societies and, though a detailed sequential history for China has yet to be written, the provisional narrative outlined here should be sufficient to suggest that cat histories have not all unfolded in the same way or at the same pace.[2]

Early Cats

Since this narrative is primarily built on textual sources, the focus is on the type of cat most likely to be encountered in such sources, that is, the domestic cat that is born and lives in the company of humans, sharing the same space and producing its young in that space. Yet cats are not necessarily domestic cats: they may become feral, falling out of company with humans; or they may

[1] On size as a factor in the success of cats and dogs, see Serpell (1996), 127, though many other factors are admittedly important.

[2] This narrative draws frequently on two essays on cats written in the context of the study of religion: Barrett (1998) looks at the persistent association of the cat with Buddhism in China; Barrett (2010) considers the transfer of Buddhist monastic cat culture from China to Japan. The reader should be warned that the use of these materials may foreground somewhat the treatment of cats given here in relation to religion.

maintain or be maintained at a certain distance, even if their proximity is recognized as beneficial for rodent (and in some places snake and scorpion) control and is tolerated or even encouraged, as with farm or village cats. So it is difficult to tell from archaeological sources whether incidents of collaboration that have bequeathed cat remains to us in human settlements actually bear witness to continued cohabitation. Although archaeologists are quite certain that a cat from 6000 BCE discovered on the island of Cyprus can only have reached there with human assistance, not until consistent depictions of Egyptian domestic scenes from 1950 BCE showing cats under chairs can we be sure that true domestication in its etymological sense had taken place.[3]

Similar considerations apply in China. The analysis of cat bones from the middle or late Yangshao period (4000–3000 BCE) may show commensalism: their diet seems to have been affected by a link with humans. But this probably did not amount to domestication, even if a certain relationship of mutuality may have emerged by this point.[4]

Even the earliest textual sources on cats in China are complicated by linguistic factors. A *mao* 貓 may signify a domestic cat nowadays, but since in the rare occurrences of this word in the Chinese Classics it is an animal that is paired with a tiger, the possibility is that some form of wild cat or even larger feline is indicated. As a killer of rodents, sometimes in association with humans, an animal named a *li* 狸 appears more frequently, but there is no sign that this creature had any regular and continuing status as a pet. Though it may signify some variety (or varieties) of small feline, in some instances the term seems to refer to the raccoon dog, the Chinese equivalent of the Japanese *tanuki*.[5] The domestic cat of later times inherited both these names, with the result that not all scholars of late imperial China were able to resist the temptation of reading the Chinese Classics as though cats were part of ancient Chinese family life. But one strong indication that cats were not breeding in domestic spaces is provided by the complete absence of any data on the feline gestation period in texts up to the Six Dynasties, which are generally well informed on this matter in relation to dogs, pigs, gibbons, deer, oxen, horses and so forth; only for tigers is inaccurate information given.[6]

[3] See Engels (1999), 49 for the Cyprus cat, and for the Egypt examples, 21–2.

[4] Increasing scientific evidence suggests that the rat catchers of early China – and no doubt sporadically of later China too, especially when kittens caught in the wild could be raised for this purpose – were Chinese varieties of the Bengal cat (*Prionailurus bengalensis*). But it has been found that any genetic admixture from such sources produces an animal ultimately unsuitable for family life, leaving them on the fringes of cat history. As a result, the ancestor of the modern domestic cat in China is the wildcat (*Felis silvestris*). See, for example, Bradshaw (2013), 267–8. On commensalism, rather than true domestication, see Bar-Oz, Weissbrod and Tsahar (2014); Hu and Marshall (2014).

[5] These problems are outlined in Barrett (1998), 16–17, 25–6. See also Müller (2009), 53–9, which provides copious additional references on this question.

[6] Guo Fu, Joseph Needham and Cheng Qingtai (1999), 198.

It is perhaps significant, therefore, that the earliest reference in the Chinese language to the domestic cat, explicitly as a *jiamao* 家猫 'family cat', is in fact in a South Asian work, a Buddhist text rendered into Chinese in the mid-second century CE by the earliest known translator of such materials, An Shigao 安世高 (fl. c. 140–180 CE).[7] The use of the epithet is interesting: was it perhaps the case that a 'family cat' was a novelty in China at the time, and that most cats were not tame? There were certainly non-family cats – varieties of wild cat – in India, and they occur in Buddhist stories of the Aesopian sort.[8] Within a century after An Shigao, we find scattered references to domestication in non-Buddhist texts, though there is little sign of a larger trend.[9] And, from the start of the fifth century on, the Chinese were presented with at least one Indian source depicting the cat as a house-dweller, or at least as having access to houses, in a tale revealing how a kitten learns which human foods are tasty to cats.[10]

The rise of the domestic cat in India is hard to trace, but the consensus is that it must have been the result of trade with Egypt, which was in full flow by Roman times. Egyptian ship's cats – a special case of the indoor cat – have been depicted in art since over a millennium BCE. The mummified remains of more than one rather robust cat have been found at a Roman Red Sea port trading with India, even if these particular individuals may have guarded port granaries rather than travelled themselves.[11] A further voyage from India to China in Han times is not impossible, following the same route that some Buddhist pioneers themselves took, and this would explain the strong association between domestic cats and Buddhism that was sustained in the Chinese imagination in later times.

The trajectory of cat history in Western Europe starts, if not with worship in the Egyptian fashion, then at least with respect. With the rise in the strength of Christianity, however, the association of the cat with older religions resulted in an eventual shift to outright persecution in medieval times. There was a return to acceptance in the early modern period, precisely when the arrival of the Norwegian rat meant that the cat had to retire from its former occupation in favour of new breeds of dogs that were trained to attack this more formidable enemy.[12]

The trajectory in China has been different. In many respects, it is a tale of much smoother progress towards greater and greater appreciation. Certainly outright

[7] Vetter (2012), 190, citing T. no. 607, a work firmly attributed to An.
[8] Cowell (1995), 168–9, no. 383; Chinese version discussed in Imamura (1986), 90–6.
[9] For example, a reference in the third-century CE dictionary, *Guang ya* 廣雅, to the capture and domestication of a 'jade-faced *li*' for the purposes of rodent control (though some explicitly rejected identification of this animal as a *mao*), ap. *Bencao gangmu* 本草綱目, 51.44.
[10] Imamura (1986), 97–8. Translation in Barrett (1998), 18.
[11] Engels (1999), 46; Hamilton-Dyer (2013).
[12] Delort (1984), 442.

persecution never occurred, though it is fair to say that in the late sixth, seventh and early eighth centuries a degree of suspicion fell upon the cat, possibly because it was at that point still a newcomer inside human dwellings.[13] Unlike the dog, which does not hunt by stealth, the cat has a way of appearing and disappearing that can be disconcerting, making it uncanny as much as sacred. Whatever the cause, the cat was for a while associated in China with a specific form of black magic. This was mentioned a number of times in medical works, in Buddhist treatises composed in China, and indeed in one celebrated account in the official histories of the Sui dynasty, which had already attracted the attention of J.J.M. De Groot (1854–1921).[14] As so often in the instances of black magic that find their way into official history, the case involved females related to the emperor through marriage. But it may also be significant that the woman actually depicted as summoning the cat by tapping on its food bowl and calling to it, using a colloquial term still current in north China over a millennium later, was a maidservant.[15] This will not be the last we hear of maidservants and cats. A form of possession seems to have been envisaged in this black magic, which in the medieval Chinese view fell within the competence of the medical profession. So it is no surprise to find remedies against cat demons prescribed in medical works of the period – indeed, to be on the safe side these remedies are sometimes included in much later works, even after suspicion about the role of cats in black magic had eventually died down.[16] Needless to say, the supposed practice of employing demon cats was strictly forbidden under the seventh-century Tang code on pain of death.[17]

Cats and Buddhism

Even Buddhist precepts of roughly the same period felt obliged to mention that cat demon magic was forbidden to Buddhists.[18] Buddhist sources, evidently composed in China, also propose incantations suitable for warding off cat demons.[19] But Buddhist texts go even further: regulations for monks in the seventh century and for lay people from at least a century earlier both forbid the keeping of any cats.[20] The concern in these regulations seems to have been

[13] One of the medical works that describes this phenomenon (see below) is the *Zhouhou beiji fang* 肘後備急方 (Emergency Recipes Kept Up One's Sleeve), the origins of which are said to go back to the fourth century CE, but since it is agreed that it contains later material, the timespan given probably cannot be extended too far backwards.

[14] *Suishu*, 79.1790–1; *Beishi*, 61.2172–3; De Groot (1967), 610–2. Doran (2015) sheds further light on the cat demon beliefs of this period.

[15] *Rizhi lu jishi*, 32.26a. [16] E.g. *Qianjin yifang*, 20.232b. [17] *Tang lü shuyi*, 18.337.

[18] *Fanwang jing pusa jieben shu*, 6.648a27.

[19] These materials are discussed by Mollier (2008), 85 (mentioning the cat demon explicitly), 94, 199; cf. 95 for secular medicine. Mollier's second reference, *Qi fo ba pusa suoshuo da tuoluoni shen zhou jing* 七佛八菩薩所說大陀羅尼神咒經, T.21 no.1332, 4.560c26, may take the cat demon back to fourth-century China, if the date given holds good for all the contents of this text.

[20] See Barrett (2010), 124n.99.

cats' propensity for violence, a concern that also affected the keeping of monastery dogs. Yet feline violence was also recognized as economically beneficial when directed towards rodents that might otherwise spoil large quantities of grain. As a result, in the early twentieth century at least, it was conveniently assumed that the mere presence of cats would discourage rats from entering monastic granaries, with any killing supposedly taking place beyond monastic premises.[21] We do not know how Buddhists in earlier periods squared their consciences in this matter – perhaps cats were deemed to be independent operators, so their killing was not the monastery's responsibility.

The occasional remark by a Buddhist monk from the seventh century suggests that cats were perfectly familiar to monastics: Xuanzang 玄奘 (602–664 CE) describes an ash-smeared ascetic who opposes him in debate in India as looking like a cat that has sat too close to the fireplace.[22] But it is possible that this reflects the famous pilgrim's knowledge of non-Chinese domestic arrangements, for in 636 an envoy from the state of Gaochang 高昌, through which Xuanzang passed in 629 on his way west, declared that cats are happiest indoors, establishing the presence of the domestic cat beyond the contemporaneous limits of Chinese territory.[23] So we later find cats identified as foreign creatures, their origins in China closely connected with Xuanzang:

> It seems that [cats] are not a genus native to the Central States. They emerged from the state of Tianzhu [i.e. India] in the west and were not born from the vital forces of the Central States. … Adherents of Śākyamuni [raised cats] because mice were nibbling through and destroying Buddhist *sūtras*. When Xuanzang of the Tang went to the Western Regions to collect *sūtras*, he brought back cats and raised them. These were the animals from which the genus [in the Central States] descended.[24]

Cats were used to safeguard more than just monastic storehouses, however. For many Tang scholars, cats had a 'duty' (*zhi* 職) to catch mice and they were often used to protect supplies of grain.[25] The poet Yuan Zhen 元稹 (779–831

[21] Prip-Møller (1967), 128. [22] Beale (1911), 162.

[23] *Tongdian*, 191.5205; *Tang hui yao*, 95.1701; see also Imamura (1986), 192–3. In the fifteenth century, Ma Huan 馬歡 (1380–1460), who accompanied Zheng He 鄭和 (1371–1433) on three of his famous sea voyages, included cats among the apparently domesticated animals that he found in Cochin, Dhofar, Aden, Bengal and Mecca. See Mills (1970), 137, 153, 157, 162, 176.

[24] *Qunshu kaosuo gujin shiwen yuxie*, 24.33b; cf. *Mao sheng*, 5.1a. The ultimate source of this excerpt is not known, though Isobe Akira tentatively dates it to the late Tang based on its place in the development of the story of Xuanzang's pilgrimage. See Isobe (1983), 215. But Isobe also notes the scepticism expressed by the *Chosŏn* official I Su-kwang 李睟光 (1563–1628) over Xuanzang's role in transposing cats to China; see *ibid*., 232n.30.

[25] *Wenyuan yinghua*, 369.2a (by Chen An 陳黯), 372.5a (by Niu Sengru 牛僧孺), 770.3b–4a (by Cui Youfu 崔祐甫). Cui Youfu's essay also appears in *Jiu Tangshu*, 119.3438 and *Tang hui yao*, 44.793. As we will see in what follows, representations of cats grew less emphatically utilitarian during Song times; the reference to a cat's 'duty' by Hong Shi 洪適 (1117–84) was a relative rarity. See *Panzhou wenji*, 29.6b.

CE), for example, presented in one of his poems a martial image of cats at war with mice for control of granaries, though this also served as a sign of decline at that time, when official residences were too poorly built to withstand rodent infestations. Written at a time of general nostalgia for a declining imperial order after the great uprisings of 755 onward, the political comment implied by Yuan's observation is clear.[26] Other scholars were even more explicit: when cats failed in their basic duty or, even more extremely, ran counter to it by eating alongside mice, it was taken as an inauspicious omen and a reflection of a broader inversion of moral and natural order.[27]

Cats were also valued for other practical purposes at this time. We have already seen their connection to the medical practices that sought to ward off cat demons. More broadly, various species of cats were killed for their meat, head, bones, fat, liver, fur, urine, faeces, brains and penises, which were used for a wide range of medical purposes.[28] Cat meat was eaten – it was described as having a sweet flavour – though it is not clear how widespread this was.[29] Fur from wild cats (but apparently not domesticated species) was used to manufacture writing brushes.[30] Methods developed for telling the time from the size of a cat's pupils, which dilated and contracted as the sun ran its course.[31] Cats were given a role in divining the future, too.[32] In the early eighth century, for example, the low-ranking scholar-official Zhang Zhuo 張鷟 (c. 658–c. 730 CE) preserved this anecdote in his *Chaoye qianzai* 朝野僉載 (Record of the Court and Beyond):

[26] *Quan Tang shi*, 408.4536. This rhetoric was not restricted to the late Tang: in 1079, for example, Huang Tingjian 黃庭堅 also drew on martial imagery in a poem thanking a contemporary for the gift of a cat. See *Shangu waiji shi zhu* 山谷外集詩注, in *Huang Tingjian shi jizhu*, vol. 3, 7.976. But the martial metaphor does not seem to have been taken up in any extensive way by later poets and its scattered use in medieval times contrasts with the recurring, developed image of a war between cats and mice both in later Chinese popular literature, as well as in a range of European, Middle Eastern, Indian and Tibetan texts and images. We are grateful to Wilt Idema for drawing this contrast to our attention.

[27] See, for example, an occurrence in 742, *Xin Tangshu*, 34.882; Cui Youfu's protest to Emperor Daizong in 778: *Jiu Tangshu*, 11.314, 37.1370, 119.3438 (cf. *Tang hui yao*, 44.793, and *Wenyuan yinghua*, 770.3b–4a); and the imagery of 'Dulu ge' 獨漉歌 ('The Song of Dulu') by Wang Jian 王建 (767–830 CE), *Quan Tang shi*, 22.287 and 298.3384, which drew the notice of Qian Zhongshu (1979), vol. 2, 601–2.

[28] A convenient sample of references to the medical uses of cats appears in *Mao sheng*, 5.3b–5a. Li Shizhen 李時珍 (1518–93) offers a more systematic outline in *Bencao gangmu*, 51.42–4 (domesticated cats) and 44–6 (wild cats).

[29] *Chaoye qianzai*, 6.4b; *Youyang zazu, xuji* 續集, 1.202.

[30] *Beihu lu*, 9a. For the suggestion that this was not a domesticated animal, see the use of the epithet wild (*ye* 野) by the Ming scholar Huang Yizheng 黃一正 (fl. c. 1591) to refer to the species whose fur was used for writing brushes. Though the entry appears under a section on *mao* 貓, which are collectively identified as domestic animals, Huang set this particular species in comparison with (and therefore implied distinction from) family cats (*jiamao*) and claimed that they were hard to tame. See *Shiwu ganzhi* 事務紺珠, 28.13b.

[31] *Youyang zazu, xuji*, 8.277; cf. *Pi ya* 埤雅, 4.10a.

[32] *Youyang zazu, xuji*, 8.277.

When Xue Jichang 薛季昶 [d.706] was serving as senior aide in Jingzhou 荊州, he dreamt that a cat was lying on the threshold of the hall, its head facing towards the outside. He asked a diviner, Zhang You 張猷, about it. Zhang You said: 'The cat represents the claws and fangs [of military force]. It is lying at the threshold of the hall: there will be business in the outermost regions. You are sure to take up an important post in the military.' Just as predicted, Xue was appointed Commander-in-chief of Guizhou 桂州 and Commissioner for Suppressing Rebellion in Lingnan 嶺南.[33]

The corollary to this portentous symbolism was the use of cats in allegorical comment. Madeline K. Spring has shown how several of the essays on cats written during this period were allegorical in nature.[34] Allegory was possible because of the basic idea that, as Feng Shan 馮山 (1031–94) would later put it in the eleventh century, 'cats approximate humans in their natures' and are different from other domesticated animals such as dogs or horses.[35] But it is hard as a result of such perceived parallels to assess the status of these essays as historical evidence; they often reflect more on other concerns of the time than on the cats about which they were purportedly written.

The first allegorical use of cats was a political one. In the mid-seventh century, for example, the Empress Wu (Wu Zetian 武則天) was said to have been cursed by a defeated rival, who threatened to reincarnate herself as a cat and chase the Empress in a future life like a mouse. In response, the Empress blurred the lines between allegory and policy by banning all cats from her palace.[36] It may be that a fear of demon cats was involved here, but this is not explicit. In any case, the ban did not long outlive the Empress Wu's own reign: there is already mention of a cat in a humorous palace lyric written within half a decade of her death.[37] Unfortunately, it is not clear whether palace cats at this time were pets, or simply confederates in the business of rodent control.

The late eighth and ninth centuries in China are seen as ushering in new social developments, in the wake of a slackening of the grip of central government from the mid-eighth century on. The suspicion sometimes directed at the cat in earlier times had faded. But writings discussing the extent to which cats might be considered truly domesticated contributed to a wider discourse on social change and unrest. So in 778, in response to discussion of an anomaly in which a cat was found suckling mice, Cui Youfu 崔祐甫 (721–780 CE) used an image in which cats-as-officials were exhorted to dedicate themselves to catching mice, which in turn represented restive forces in society and a general threat to the common good. Abandoning this control – Cui uses the

[33] *Chaoye qianzai*, 3.2a. [34] Spring (1993), 49–65. [35] *Yongle dadian*, vol. 9, 19866.22b.
[36] *Taiping yulan*, 912.6a (citing *Jiu Tangshu*, though this episode no longer appears in the extant versions of that text); *Zizhi tongjian*, 200.6294. The thirteenth-century scholar Luo Dajing 羅大經 (1196–1252) attributed to this episode the later coining of a new term for cats, 'Consorts to the Son of Heaven' (*tianzi fei* 天子妃). See *Helin yulu* 4.196 ('Yi' 乙). See also Imamura (1986), 35–6.
[37] Jia (1999), 233, translating Cui Riyong 崔日用 (673–731 CE).

recurring term 'duty' here – would mean being diverted from one's innate purpose.[38] Similarly, in an account explicitly recognized by tenth-century readers as allegorical, Shu Yuanyu 舒元輿 (d. 835 CE) noted the importance to political order of understanding how to employ men of moral quality (*junzi* 君子), to put right any pernicious corruption – just as Shu had used a *li* to control a rodent infestation in his home.[39] This image of the political value of encouraging predatory, cat-like behaviour among officials often came with a warning. In the ninth century, for example, the eminent statesman Niu Sengru 牛僧孺 (780–848 CE) recognized the potential value of cats in keeping control of 'those that rebel'. But he also noted that cats are naturally slothful and, once they grew lax in their mice-catching duties, they risked causing greater harm than good.[40] For Niu, this suggested parallels with disorderly rulers and ministers of the past and so he ended his memorial by urging caution when 'inviting in' the allegorical cat to suppress those who might do harm to the state – a pointed warning at a time of heightened factionalism at court.[41] A similar note of caution echoed through the political allegories on cats that scholars frequently used to address the theme of the domestication, or 'sinification', of 'bestial' barbarians in the late ninth century, at a time when the power of the Shatuo 沙陀 Turks was on the rise.[42]

The eighth and ninth centuries were also a period of considerable discussion about human nature, and cats also appear as figures in moral allegory, to represent such values as courage and filial affection.[43] Above all, cats were used to explore the quality of kindness (*ren* 仁). On the one hand, in 778 Cui Youfu suggested that cats had the capacity for kindness, which was most evident when they refused to eat mice.[44] On the other hand, as early as the turn of the eighth century, we hear the opposing argument that 'cats are unkind beasts'. The pre-eminent statements of this view appeared later in the century. In an essay on cats suckling one another's kittens – an image that subsequently became common in explorations of feline nature – the famous prose stylist

[38] *Jiu Tangshu*, 119.3438; *Tang hui yao*, 44.793; *Wenyuan yinghua* 770.3b–4a.
[39] *Wenyuan yinghua* 373.5a–6b; Spring (1993), 58–9.
[40] For a similar implication, see *Jiu Tangshu*, 82.2767.
[41] *Wenyuan yinghua* 372.5a–6a; Spring (1993), 59–61.
[42] See, for example: Lai Hu 來鵠 (fl. c. 861–874 CE) in *Tang wen cui*, 47.5b, and Spring (1993), 61–3; Chen An (fl. late ninth century) in *Wenyuan yinghua* 369.1b–2b and Spring (1993), 53–6; Yang Kui (fl. c. 900 CE) in *Wenyuan yinghua* 372.10a–b and Spring (1993), 56–8.
[43] Shu Yuanyu 舒元輿 (d. 835 CE) suggested that the *li* 'comes close to being true and courageous', and is of potential benefit to humans, though it remains a wild animal, *Wenyuan yinghua*, 373.5a–6b. Elsewhere, in a tale most likely set in the seventh century, another wild *li* comes to seek food, 'completely tame and fearless', from a son in mourning at his father's graveside. This act was interpreted at the time as an expression of filial sentiment, cf. *Tangshu*, ap. *Taiping yulan*, 912.4172. In 1093, Fan Zuyu 范祖禹 (1041–98) reported a similar episode. See *Fan Taishi ji*, 25.14a (cf. *Song hui yao jigao*, 61.4a ['Li' 禮]).
[44] *Jiu Tangshu*, 119.3438; *Tang hui yao*, 44.793; *Wenyuan yinghua* 770.3b–4a.

Han Yu 韓愈 (768–824 CE) offered circumstantial but unambiguous evidence of kittens born in a Chinese household, but his main point was a discussion of nature and nurture. He claimed emphatically that cats 'do not tend by nature towards kindness or propriety', but that they might respond to, and be shaped by, their owners' conduct. This is precisely what had happened with a cat owned by Han Yu's high-ranking patron, Ma Sui 馬燧 (726–795 CE), which had taken into her own bed and suckled the kittens of a dead companion. For Han Yu, this demonstrated Ma Sui's exemplary moral power. As Han Yu's intellectual influence grew from the eleventh century on, this essay became a standard point of reference for later writers who took cats as a focus for moral comment and, at the very least, made the discussion of cats an acceptable literary topic for later authors. Given the ulterior purposes of these allegories, they cannot be accepted as unvarnished depictions of zoological fact. Yet they do hint at a growing domestication of cats: presumably such allegories would have fallen flat if people of the time were not reasonably familiar with general feline behaviour.

There are other indications in late Tang sources that cats had joined dogs as common domestic animals. It is recorded in a tale of karmic retribution from the ninth century, for example, that a street person living in the capital of Chang'an had done away with 460 cats and dogs. Whatever the historicity of the tale itself, for this number to be plausible domestic cats and dogs must have been fairly commonly encountered in the urban environment.[45] By this time, too, Buddhist monastic communities may well have relented in their opposition to keeping useful small carnivores on their establishments. A work of the mid-eighth century reveals that it had already been discovered that a vegetarian diet causes developmental problems in kittens and puppies, so monastics of the age would have known that attempting to convert such animals to their own life-style was not an option.[46] As for their lay followers, at least one hermit from the ninth century at the latest – and possibly two centuries earlier – the Buddhist recluse Hanshan 寒山, records in one of his poems that he kept a tabby cat to ward off rats.[47]

Hanshan's verses were soon taken up by monks of the Chan tradition and may have contributed to the abundance of references to cats that appeared in the sayings of the great masters of that tradition. But we should bear in mind that the versions of these sayings that are best known to us date not to the lifetimes of these masters in the late eighth, ninth and tenth centuries, but rather to later compilations of the Song period. Though these sayings, with their strong oral flavour, represent themselves as based on reportage, we should be aware of the possible literary reshaping of older tales by creative editors. The prime example of this may be

[45] *Youyang zazu, xuji* 1.202; Reed (2001), 115–16. [46] Barrett (2010), 109, and 122n.11.
[47] Barrett (2010), 110–11.

found in a story that has been seen as one of the most famous of the age in Chan circles.[48] In this, the great Tang master Nanquan Puyuan 南泉普願 (748–835 CE) is said to have seized a kitten over which two groups of monks were squabbling and challenged them to save its life. On getting no response he cut it in half. Only when his best student Zhaozhou Congshen 趙州從諗 (778–897 CE) returned and, in response to being told the story, put his sandals on his head and walked out, did Nanquan declare that this action would have saved the cat. Were any cats harmed in the making of this celebrated case? We hear of sayings involving cats in the earliest accounts of Nanquan, but nothing at all of this rather memorable incident.[49] There are more frequently mentioned accounts of masters bisecting earthworms and snakes, though even these alleged actions may have more to do with dramatizing the Buddhist doctrine of non-duality than with preserving any morsel of monastic reportage.[50]

Though the kitten in the story above appears as a pet and a possession, cats were generally tolerated only as independent operators on the fringes of monastic life, for the reasons given above. Even so, Nanquan's actions were clearly antinomian by any standard, Buddhist or non-Buddhist, suggesting that dogs and cats appeared in the cut and thrust of Chan philosophical debate simply as representatives of animate reality, rather than real creatures.[51] In the Southern Song we even find Buddhist masters who inveighed against the keeping of pets as not conducive to enlightenment.[52] And some poems about cats by Song monastics explicitly cast them solely in the role of vermin exterminators.[53] But others explicitly reject this as the only possible reason for keeping cats: we are told that even a monk too poor to attract rats might enjoy seeing a cat at play.[54] Were monks in such cases taking their cue from secular values? For all the moralizing about cats' duty to defend humans from the nuisance of mice that may be found in late Tang texts, it is evident from one poem from around the end of the Tang dynasty that cats were by that point considered fun to play with, at least (one may infer) for children.[55]

Cats and Song Ethical Debates

Sources from Song times reveal more of ordinary domestic circumstances and here we find recurring references to cats being kept and fed within the home. In the eleventh century, for example, Feng Shan noted that 'cats and dogs are

[48] On the popularity of this story, and a brief synopsis, see Heine (2014), 23–5.
[49] Barrett (1998), 15. [50] Barrett (2010), 109–10.
[51] For another example where cats intrude into what was originally a purely canine conundrum, see Heine (2014), 116–17.
[52] Barrett (2010), 111. [53] Heine (2014), 104, and 227n.50, citing Miriam Levering.
[54] Barrett (2010), 112.
[55] Imamura (1986), 134, citing a poem by Lu Deyan 路德延, a *jinshi* of 898.

creatures that many people raise and nurture'.[56] One might picture cats lounging around in kitchens and ingratiating themselves with maidservants who tended to inhabit the same space, for as early as the ninth century a well-known wit had quipped that 'maidservants are like cats – they always keep to the warmest parts of the house'.[57] Such an environment for the cat would perhaps have been similar to that observed by a Swedish visitor to Japan in 1776, Carl Peter Thunberg (1743–1828), who remarked on the prevalence of cats – not in the country in general, but in the world of women.[58]

Yet Song sources reveal that the cat also provided companionship for men, including the very highest in the land. As in Tang times, they were taken to serve a range of practical purposes. Various parts of their bodies continued to be used in medicine. They provided a source of food and, at least by the thirteenth century, there is evidence of a specialist trade in cat meat, including domestic cats, though at least some of this relied on stealing cats from local homes to sustain their business.[59] Variations in the size of a cat's pupils continued to be associated with diurnal rhythms by such leading statesmen and scholars of the time as Wu Yu 吴育 (1004–58) and Su Shi 蘇軾 (1037–1101).[60] Cats were still invested with a portentous symbolism, in support of divination.[61] And, of course, they were kept to catch mice, to protect not only food in storage but also the books and studios of eminent scholars, as they had purportedly done for Xuanzang in the seventh century, though some complained that their cats made a mess of their papers.[62] In one highly regarded verse of 1079, shot through with comic undertones, Huang Tingjian 黃庭堅 (1045–1105) sought out a cat simply to ensure a good night's sleep as mice ran riot in his house at night.[63] But in this strongly utilitarian view, a cat's apparent failure to catch mice could also become a source of concern for its owner.[64]

Song scholars' utilitarian view of cats made itself felt, too, in their allegorical accounts of feline behaviour. Their 'duty' to catch mice suggested a familiar parallel with officials' need to remain alert to pernicious influences in the imperial bureaucracy. In the late eleventh century, Su Shi therefore wrote

[56] *Yongle dadian*, vol. 9, 19866.22b. [57] Barrett (1998), 20. See also Davis (2001), 91.
[58] Delort (1984), 74. [59] *Ting shi*, 12.6b–7b.
[60] *Mengxi bitan jiaozheng*, vol. 1, 17.541; *Wu lei xiang gan zhi*, 10b. For a twelfth-century note about a similar association, see *Erya yi*, 21.225.
[61] *Songchao shishi leiyuan*, 68.905; *Wudeng huiyuan*, 20.418a21.
[62] On food protection, see *Chashan ji*, 8.18b. On the protection of books and studios, see *Mei Yaochen ji biannian jiaozhu*, 26.874, trans. Watson (1984), 342–3; *Liangxi ji*, 157.9a; *Lu You ji*, 15.429; *Qiuxiao xiansheng Fubu ji*, 3.17a. On a complaint against a careless cat, see *Wenguo Wenzheng Sima gong wenji*, 67.10a.
[63] *Shangu waiji shi zhu*, 7.975. See also the responses to Huang's poem in *Houshan shihua*, 10a; *Chashan ji*, 8.18b and *Lao xue an biji*, 8.107.
[64] See, for example, *Zhizhai xiansheng wenji*, 42.2b or, also in the twelfth century, an inscription for a cat painting by Ye Shaoweng 葉紹翁 (*jinshi* 1115), in which the cat is depicted neglecting its mice-catching duties. See *Suiyin manlu* 3.30.

a letter to Emperor Shenzong (1048–85) in which he stressed the importance of those in power paying attention to remonstrance and, as a corollary, of 'nipping treacherous ministers in the bud'. 'One raises cats to rid oneself of mice,' he went on. 'One should not raise a cat which does not catch mice simply because it happens that there are no mice around.' Though Su praised the current emperor's governance, the implication of this image was that a threat of treachery would always exist, so there was a constant need to maintain a cat-like vigilance.[65] Early in the following century, Li Gang 李綱 (1083–1140) similarly identified the need for a ruler to employ capable ministers to keep sedition in check, a function 'no different from a cat keeping mice under control'.[66] Also in the twelfth century, Hong Shi 洪適 (1117–84) echoed the likes of Niu Sengru three hundred years earlier when he noted the danger that might result should a cat grow lax in its mice-catching duties; like Niu, he drew an explicit political parallel. But Hong Shi differed from Niu when, instead of urging caution about 'inviting in' a cat, he urged a more pragmatic approach in which one should replace cats (or officials) that failed as vermin exterminators.[67]

When Song discussions turned to cats' moral nature, and particularly their capacity for kindness, Han Yu emerged as a central influence. In 1142, for example, Sun Di 孫覿 (1081–1169) observed a female cat that was no good at catching mice but, 'in its filial feeling and maternal love, was of a type with humans', and even surpassed some humans in its moral qualities. Like Han Yu, Sun focused on the cat's habit of suckling other cats' kittens and allowing other cats to eat first, which Sun identified as unusual behaviour among cats and rare even among humans. With direct reference to Han Yu's essay – there was also an allusion to Han Yu in his title – Sun attributed the cat's honourable behaviour to the influence of the household in which she lived. He went on to suggest that such moral transformation might also bring peace and tranquillity to the common people at large.[68] Other scholars in the twelfth century subscribed to the same idea that cats' moral qualities were shaped by the environment in which they lived.[69]

As far back as the eleventh century, however, there was some scepticism about this belief. Feng Shan, for example, urged against attributing extraordinary qualities to cats that suckled others' kittens. As we have seen, Feng argued that 'cats approximate humans in their natures'. Though he did not go so far as to extend this to claim that they are just as capable as humans of acts of

[65] *Song shi*, 338.10807–8. [66] *Liangxi ji*, 157.8b–10a.
[67] *Panzhou wenji*, 29.6a–7b. But see also Lin Jizhong 林季仲 (b. 1088) who, writing in early 1138 after the Song court had been forced south by Jurchen invasion, echoed earlier associations between wild cats and barbarian predation made by ninth-century scholars such as Niu Sengru. See *Jianyan yilai xinian yaolu*, 118.2202.
[68] *Hongqing jushi wenji*, 21.19b. [69] See, for example, *Jianghu changweng ji*, 29.7a–b.

goodness, he still stressed that such behaviour was simply 'in the ordinary nature of things'. It neither 'merited treatment as something unusual' nor suggested itself as a product of external influence. Feng therefore berated others for identifying in this feline behaviour any auspicious omen or indication of the moral worth of a cat's owner.[70]

In November 1084, Sima Guang 司馬光 (1019–86) offered an even more direct riposte to Han Yu. He wrote a 'biography' of two of his family cats, in which he argued that kindness and righteousness were qualities that Heaven bestowed on 'all things with an innate nature and consciousness'. Sima demonstrated this sententious principle with particular reference to his own cat, Shu 黍, a creature that was clearly domesticated. In a well-worn image, Shu was seen allowing other cats to eat before her and suckling others' kittens as if they were her own. She did not even protest when she was mistakenly punished by members of her household after another cat had eaten her kittens (though, to absolve her of any suspicion of a lack of maternal responsibility, we are also told that she fought a dog, almost to the death, to protect her kittens). At this point in his essay, Sima Guang refuted Han Yu's claim that a cat's nature – its innate lack of kindness – is susceptible to being shaped and re-formed under the influence of its owner's moral power. Han's claim had been intended to flatter his patron, Sima suggested. In opposition to Han, he cited a second-century BCE authority to argue that all creatures have both good and wicked individuals among their genera. Sima Guang stated that there was no moral hierarchy between animals and humans, as Han's essay had implied, and even suggested that his own cat's behaviour would put some humans to shame. Nature here is allowed to triumph over nurture.[71]

Against these broadly practical uses and views of cats, inherited with few changes from the late Tang, a new significance had also been invested in them by the Song. We find a number of letters and poems of thanks sent between scholars in response to gifts of cats, suggesting the cat's growing role as a cultural commodity.[72] But the biggest shift was the rise of cat painting at that time. Evidence for cat painting may be traced back tentatively to the Eastern Jin and more firmly to the mid-Tang. In the tenth century, however, specialist cat painters emerged and surviving examples going back to the Song clearly depict cats in

[70] *Yongle dadian*, vol. 9, 19866.22b.

[71] *Wenguo Wenzheng Sima gong wenji*, 67.9a–10a. This was also a view propounded by Sima Guang's contemporary Lu Dian 陸佃 (1042–1102) in his discussion of other feline behaviour. See *Pi ya*, 4.10a.

[72] For a sample of occasional compositions from throughout the Song dynasty, written either to request or to offer thanks for the gift of a cat, see *Shangu waiji shi zhu*, 7.975–6; *Chashan ji*, 8.18b; Li Huang 李璜 in *Mozhuang manlu*, 7.211; *Lu You ji*, 15.429; *Qiuxiao xiansheng Fubu ji*, 3.17a.

domestic situations, for example with children.[73] The tenth century also seems to have seen the appearance of dedicated cat fanciers, who began to evolve a specialist vocabulary for describing the different colour patterns of feline fur coats that they were able to produce by careful breeding.[74] By the eleventh century, other physical feline characteristics also contributed to a whole connoisseurship that had come to surround cats, as so much else. Of particular interest is the recording of long-haired cats, known as lion cats (*shimao* 狮猫), as a fancy variety explicitly bred for their aesthetic appeal, rather than for catching rats. As a result, a trade in cats (among other pets) seems to have been lively at the time.[75] One way to construe these developments would be to see them as marking the commodification of cats, as they became not just adjuncts to the protection of grain in storage or books, but also symbols of conspicuous consumption.

Cat Connoisseurship

Though the Mongol conquest of China in the course of the thirteenth century undoubtedly had profound consequences, the course of cat appreciation seems to have run on regardless, since it is to the period of Mongol domination that we must assign the first funerary commemoration of a cat to have made an impact on Chinese literature. The piece was written by Wuqiu Yan 吾邱衍 (1272–1311) for his cat, which 'he loved like a human being'. Although the text of the commemoration does not seem to have survived by itself, it evidently impressed another contemporary writer, Ren Shilin 任士林 (1253–1309), enough to write a further comment of his own, from which we now know the degree of Wuqiu's affection.[76] To the fourteenth century belongs another first, the earliest surviving monograph on the Chinese cat, though in fact this short composition, the *Namao jing* 納猫經 (Classic of Cat Acquisition), is more of a practical manual on how to settle a new cat in your home – 'like a new bride' – by a writer of horticultural and other handbooks, Yu Zongben 俞宗本 (late fourteenth century). His advice is reproduced in late Ming encyclopaedias, and also in Edo period Japan.[77]

[73] For reference to an Eastern Jin cat painting, attributed to Gu Kaizhi 顧愷之 (c. 344–406 CE), see *Zhi yue lu*, 1.405c24–406a07. For later cat paintings, see Müller (2009), 72–3; Cahill (1980), 74, 126, 161–2, 174, 231.

[74] Imamura (1986), 250–60. But Hong Mai 洪邁 (1123–1202) describes a case in Lin'an, modern Hangzhou, in which a cat's fur was dyed to increase its market value, *Yijian zhi* 夷堅志, 'Yijian sanzhi ji' 夷堅三志己, 9.1372 (we are grateful to Wilt Idema for this reference). And Zhou Mi 周密 (1232–98) refers to the practice among ethnically Hui women of dying the fur of cats and dogs, though for amusement rather than for financial gain, *Guixin zashi* 癸辛雜識, *xuji* 續集, A.135.

[75] Müller (2009), 72; Imamura (1986), 16–20. Long-haired breeds do not seem to have reached Europe prior to the Renaissance.

[76] *Songxiang ji*, 7.10b–11a ('Ti Wu Zixing mao yi wen hou' 題吾子行貓瘞文後). This corrects a couple of errors in Barrett (1998), 32n.42.

[77] Imamura (1986), 222–6.

This manual is very much in the tradition of Ming publishing seen as the diffusion of useful knowledge. It is rather different from three other monographs on the cat produced in Qing times, which offer encyclopaedic compilations of classified quotations: Wang Chutong's 王初桐 *Mao sheng* 貓乘 (The Cat's Progress), completed in 1798; *Xianchan xiaolu* 銜蟬小錄 (preface 1799) by Sun Sunyi 孫蓀意; and the nineteenth-century *Mao yuan* 貓苑 (The Garden of Cats) by Huang Han 黃漢 (preface 1853).[78] The tendency to gather accumulated materials relating to cat culture can already be seen in the sixteenth century, when the Ming writer Tian Rucheng 田汝成 collected and discussed three cat-related poems dating from the Song and one from earlier in his own dynasty, in a retrospective account of the culture of the Southern Song capital.[79] Examining the wealth of materials provided by the three Qing works demonstrates both the ease with which it would be possible to assemble a substantial modern monograph on cats in China covering aspects not treated here, such as folk beliefs about cats, and also the apparently firm establishment of the domestic cat as not just a utilitarian aid to pest control, but rather a companion in a multitude of Chinese homes. This impression is further reinforced by European visitors' swift recognition of the place held by the Chinese cat. The first British drawing of a Chinese cat, for instance, dates to the Macartney mission of 1793.[80]

But to assume that the cat's position had become unassailable by the mid-nineteenth century would be to underestimate the strength of those forces in China conducive to change by that point. It was perhaps unfortunate that the domestic cat mixed in ordinary homes with animals that were not considered domestic in the same sense in the West. 'Clean the dirt in your homes! Keep the cats and dogs and chickens and pigs outside, where they belong!', said the Christian pastor Li Yu-ni from the Methodist Episcopal Mission, Fuzhou, in 1875.[81] How many Chinese Christians did this in the name of hygiene is unclear, but it does show that the status of the cat as an indoor animal was still up for reconsideration in late imperial times, even after the thousand or more years of history outlined above. The twentieth century in China, of course, was to see actual pet purges even well after the Cultural Revolution, though cats appear to have fared better than dogs and are under no obvious threat in the twenty-first century, an era in which the internet – in Chinese and other languages – seems set to swamp us with a surfeit of feline imagery.[82] But here, too, even if the modern history of the Chinese cat remains entirely unwritten, we cannot assume that the Western story of the cat is the only one.

[78] For Sun Sunyi's work, see Hu (1985), 464; and Yang (2017), 65–7. For *Mao yuan*, see Pasquet (1993). Both *Mao sheng* and *Mao yuan* are currently available in online versions.
[79] *Xihu youlan yuzhi*, 24.440.
[80] Legouix (1980), 27 – a sketch by William Alexander (1767–1816).
[81] Austin (2007), 260.
[82] Serpell (1996), 45.

5 Bees in China
A Brief Cultural History

David Pattinson

Although we know that honey was being consumed in China by the seventh millennium BCE, and that honey hunting and beekeeping were common throughout China during the imperial period, bees are not as prominent in Chinese history and culture as they were in some other parts of the world.[1] Bees do not begin to emerge clearly from the broader category of *feng* 蜂, which includes wasps, until the second century CE, and the first literary meditation upon them is a rhapsody composed in the early fourth century CE. While numerous texts mention bees, few elaborate on them, either descriptively or imaginatively. The pictorial record of bees is poor, and there are hardly any images in which bees or their hives are used symbolically. No 'royal beekeeper' is mentioned in the Western Han (206 BCE–25 CE) *Zhouli* 周禮 (Rites of Zhou) or other texts relating to governance, and there seems to have been little government interest in beekeeping; it was not until the Yuan dynasty that beekeeping was added to agricultural manuals, and its place in such manuals was not assured even after that.[2]

Despite their marginal place in cultural representations of animals in China, a lore about them did emerge during the pre-Qin period, which became more elaborate over time. This chapter traces the broad contours of this process, which has, as yet, not been systematically described in existing scholarship.[3] It will first examine some early descriptions of *feng* and the negative characteristics normally associated with them. It then traces the emergence of honeybees (*mifeng* 蜜蜂) in texts from the Six Dynasties period, before focusing on the

[1] McGovern et al. (2004). Numerous local gazetteers list honey as a local product, but rarely describe it. Li Shixiong's 李世熊 *Ninghua xianzhi* 寧化縣志 (Ninghua County Gazetteer) (1684) is the most detailed account seen by this author. See *Ninghua xianzhi*, 2.134b–136a.

[2] See *Nongsang jiyao yi zhu*, 377–8. For a further discussion of beekeeping in agricultural manuals, see Pattinson (2012).

[3] Eva Crane noted some examples of representations of bees in Chinese culture, but it was not the focus of her work and she did not have direct access to Chinese sources. See Crane (1999), 609–12.

Song dynasty and beyond, for which there is a stronger textual record. It will show that the negative associations of the *feng* in early texts as stinging, swarming and generally inauspicious creatures mostly gave way to a view of bees as an orderly imperial court. Worker bees came to be viewed as officials assiduously serving their 'king' (*fengwang* 蜂王), and the arrival of a swarm near a farmer's home was thought to augur prosperity.

Bees in Early Lexicons

Since both bees and wasps are called *feng* in early texts, it is usually difficult to tell which creatures a text is referring to, unless there is contextual information. Even then, there is not always enough for precise identification.[4] For instance, in the 'Shi chong' 釋蟲 (Explaining Insects) chapter of the third-century BCE lexicon known as the *Erya* 爾雅 (Approaching Refinement), there are two entries that mention *feng*. The first simply comments that there are 'earth-*feng*' (土蜂 *tufeng*) and 'tree-*feng*' (*mufeng* 木蜂). The earliest extant annotations, by the Western Jin scholar Guo Pu 郭璞 (276–324 CE), defined these as follows: 'Earth-*feng*: nowadays south of the Yangtze River large *feng* which make their nests in the ground are called "earth-*feng*"; they eat their children; also called "horse-*feng*" (*mafeng* 馬蜂) . . . Tree-*feng*: similar to earth *feng* but smaller. They make their nests in trees. In the region south of the Yangtze River they are called "tree-*feng*"; they also eat their children.'[5] The second *Erya* entry states that '*feng* lower their abdomens'.[6] The Qing commentator Hao Yixing 郝懿行 (1755–1825) understood this to mean that they did this to rest, not to sting, but it is not clear why the *Erya* compilers would record this unremarkable fact. Indeed, the Song commentator Luo Yuan 羅願 (1136–84) asserts that they lower their abdomens to sting.[7]

The first-century CE dictionary *Shuowen jiezi* 說文解字 (Explaining Graphs and Analysing Characters) is more forthright, defining *feng* simply as 'flying insects that sting people'. The entry for honey, which follows it, describes the liquid as the 'sweet maltose of *feng*', thereby noting the association between *feng* and honey, but not the fact that only certain types of *feng* produced it.[8] The *Fangyan* 方言 (Dialect Words), compiled by Yang Xiong 揚雄 (53 BCE–19 CE), also records several different names for types of *feng*, including a reference to *hufeng* 胡蜂, 'which are large and produce honey'. *Hufeng* seems to have referred to a range of honey-producing Vespinae.[9]

[4] Therefore I will use the term *feng* unless it is reasonably clear that it refers to bees.
[5] *Erya zhushu*, 9.14b–15a. These are probably references to various types of wasps which paralyse the larvae of other insects to feed to their own.
[6] *Erya zhushu*, 9.16a. [7] *Fengya xiaoji*, 4b; *Erya yi*, 268. [8] *Shuowen jiezi*, 13B.2b.
[9] *Fangyan*, 11.2b.

The character *feng* also appears in the *Shuowen jiezi* entry for the character *guo* 蜾, or *guoluo* 蜾蠃 'the potter wasp'. This became relevant to bees because, in the absence of any other explanation, later writers suggested that bees reproduced using the same process as *guo*. The entry reads: '*Guo: guoluo, pulu* 蒲盧, a narrow-waisted earth-*feng*. According to its nature given by Heaven and Earth, it has a narrow waist, is entirely male, and does not bear children. The *Shijing* 詩經 (Odes) say, "The *mingling* 螟蛉 has offspring, and the potter wasp carries them away on its back."'[10] Their appearance in the *Shijing* meant that the potter wasp and *mingling*, which is probably the snout moth, were bound to attract scholarly attention. In fact, Yang Xiong had already written about them a few years earlier in his *Fayan* 法言(Exemplary Figures): 'When the snout moth's larvae are about to die, they come across the potter wasp which will chant over them: "Be like me, be like me". After a while they do indeed resemble the potter wasp.'[11] These texts are almost certainly describing the potter wasps paralysing the snout moth's larvae and taking them to feed to their own larvae. Yet the ancients thought that the prey became new potter wasps; indeed *minglingzi* 螟蛉子 – 'a snout moth's offspring' – became another word for an adopted child. However, none of these early dictionaries, or their commentaries, or any other taxonomies written before the Song, discuss honeybees separately, probably because they are not mentioned in the *Shijing* or any other Confucian classics.

Cruel Bees

Before beekeeping was first mentioned in two late third-century CE texts, *feng* were always represented as something to be feared or a bad omen. The most common references were to their sting and venom. In an account (for the year corresponding to 638 BCE) in the *Zuozhuan* 左傳 (Zuo Commentary), the idea that *feng* are small but dangerous is repeated in a warning which Zang Wenzhong 臧文仲 gave to Duke Xi 僖. Zang asserted that the state of Lu should not underestimate the small state of Zhu because '*feng* and scorpions have venom – how much more is this true of states!' – the *chai* 薑 'scorpion' being the insect most commonly paired with *feng*.[12] In the *Guoyu* 國語 (Discourses of the States), a text also compiled during the Warring States period, we learn that, when the senior minister of the state of Jin, Zhi Yao 知瑤 (d. 453 BCE), made fun of two rival senior ministers during dinner, another powerful member of his clan cautioned him not to be complacent. He ended his warning by saying, 'Mosquitoes, ants, *feng* and scorpions can all

[10] *Shuowen jiezi*, 13A.48b. The *Shijing* quote comes from 'Diminutive' (*Xiao wan* 小宛; Mao 196).
[11] *Yangzi Fayan*, 1.5. For a full commentary see Nylan (2013), 7.
[12] *Chunqiu Zuozhuan zhu*, 395 (Duke Xi, year 22).

harm people – how much more is this true of rulers and ministers!'[13] In a rare reference to the image of *feng* being used symbolically, the *Zuozhuan* records how soldiers from the state of Zheng wounded the Jin minister Zhao Yang 趙鞅 (d. 476 BCE) and captured his '*feng* banner'. This was probably a standard with a *feng* image on it, perhaps meant to represent Zhao Yang's fearsomeness.[14] In another *Zuozhuan* passage, the eyes of the *feng* become a symbol of cruelty. When King Cheng 成 of Chu 楚 (in 626 BCE) intended to make his eldest son heir to the throne, his prime minister advised against it, saying that the tradition in Chu was to make the youngest son Crown Prince. In any case, his eldest son 'has the eyes of a *feng* and the howl of a jackal; he is a cruel person who must not be made heir'.[15] This story was included, with only minor changes, in Sima Qian's 司馬遷 first-century BCE *Shiji* 史記 (Records of the Grand Historian), thereby consolidating its role as a standard image to portray a cruel person.[16]

In other texts, the sting of the *feng* becomes a simile for a very sharp weapon. According to the fourth-century BCE *Shangjun shu* 商君書 (Book of Lord Shang), 'The people of the state of Chu are alert, well-balanced and as fast as a whirlwind. They have iron lances made of the steel from Yuan, as sharp as a *feng*'s sting.'[17] Writing just slightly later, Xunzi 荀子 (c. 335–c. 238 BCE) notes that: 'The soldiers of Chu . . . use steel spears that are as nasty as [the sting of] *feng* and scorpions.'[18] A passage in the broadly contemporaneous Daoist classic *Laozi* 老子 (*Daodejing* 道德經) also represents *feng* as stinging insects, but for a different reason: 'If one has a great store of charismatic energy (*de* 德), one will be like a newborn baby. *Feng*, scorpions and poisonous snakes will not sting or bite, ferocious animals will not attack and birds of prey will not swoop.'[19] So, while a sufficiently cultivated practitioner of the Way might be able to stop *feng* from stinging, the nature of the *feng* remains the same. A similar idea appears in the Western Han *Da Dai Liji* 大戴禮記 (Record of Rites of Dai the Elder), which notes that, when a sage is in charge of a state, 'Dragons arrive and are not locked up, phoenixes descend and forget how to fly; stinging animals forget to pounce, birds with talons forget to attack; *feng* and scorpions do not sting children.'[20]

The negative associations of *feng* continue into the Han period. Sima Qian seems to have introduced the term *fengqi* 蜂起 'to arise like *feng*', or less literally, 'to swarm like *feng*'. This image of swarming *feng* is used to describe local strongmen, so seems neutral, but when taken in the context of the collapse of imperial authority after the death of the First Emperor of the Qin, Sima is

[13] *Guoyu*, 15.503 (Jin yu, 9). [14] *Chunqiu Zuozhuan zhu*, 1617 (Duke Ai, year 2).
[15] *Chunqiu Zuozhuan zhu*, 514 (Duke Wen, year 2). [16] *Shiji*, 40.1698.
[17] *Shangjun shu*, 5: 21.127 ('Ruomin' 弱民). Translation adapted from J.J.L. Duyvendak.
[18] *Xunzi jijie*, 10: 15.281–2 ('Yi bing' 議兵). [19] *Laozi zhushi ji pingjie*, 276.
[20] *Da Dai Liji jiegu*, 71.185.

clearly describing the violent anarchy which resulted as a multitude of local strongmen tried to increase their own power. This term is thereafter commonly used in historical writing to describe uprisings, banditry and successions of natural disasters. In another passage from the biography of the King of Qin (later the First Emperor), he is described as 'having the nose of a *feng* and long eyes, a powerful chest like a hawk and a voice like that of a jackal'.[21] Although 'the nose of a *feng*' seems to have been a way to explain that the king had a high nose, the intention was to describe how formidable he was, drawing on the fear in which *feng* were generally held.

In the *Lunheng* 論衡 (Discourses Weighed in the Balance), the first-century CE philosopher Wang Chong 王充 (27–c. 97 CE) discusses the characteristics of *feng* in several places, including which animals they resemble and how. Wang lists *feng* as one of the creatures that harm humans, along with tigers, wolves, vipers, snakes and scorpions. In his chapter 'On Poison' (*Yan du* 言毒), Wang explains that poison is a product of *yang*, which comes from the hot *qi* from the sun and, therefore, if someone is poisoned, it is like being burnt. Wang adds, 'Everything in the world that is born with this sun *qi* has poison. Of those things which are particularly poisonous, amongst insects there are vipers, snakes, *feng* and scorpions',[22] and 'If creatures are born in high, dry places, they are closer to that which is *yang*, and things which are *yang* hang down, so *feng* and scorpions have stings in their tails.'[23] Even honey, which is depicted positively in later texts, is treated with caution in the *Lunheng*: 'If one eats delicious foods, it does no harm. But if one eats just a bit too much honey, one is poisoned. Honey is a liquid from *feng*, and so *feng* are *yang*.'[24] But, apart from these passages in the *Lunheng*, the few other texts from this period which mention *feng* repeat the tropes discussed above.

The earliest extant story in which bees were portrayed as a bad omen is preserved in a fragment from the now lost *Hou Hanshu* 後漢書 (History of Later Han) compiled in the early third century by Xie Cheng 謝承 (182–254 CE). When a local governor, Jia Meng 賈萌, raised troops to attack Wang Mang 王莽, *feng* flew close to the yoke on Jia's chariot. A magistrate remonstrated with Jia that this was a bad omen and that he should not proceed. Jia ignored the prediction and was subsequently killed.[25]

The Emergence of Honeybees in Literature

The term *mifeng* 'honeybee' first appears in a Chinese translation of a Buddhist sūtra dating from 251 CE, where it appears as part of the longer compound *mifeng wang* 蜜蜂王 or 'honeybee-king' (in one place shortened

[21] *Shiji*, 6.230. [22] *Lunheng*, 23.2b. The word for poison and venom is the same in Chinese, *du*.
[23] *Lunheng*, 23.3b. [24] *Lunheng*, 23.1b–2a. [25] *Taiping yulan*, 950.3a.

to *fengwang* 蜂王). The latter became the usual word for the queen (understood to be a king) in later times.[26] However, we cannot know whether the translator, Kang Senghui 康僧會 (d. 280 CE), was using existing words, or if he made them up to translate the Sanskrit. The earliest extant text composed in Chinese which contains the term *mifeng* is the early fourth-century 'Mifeng fu' 蜜蜂賦 (Rhapsody on Honeybees) by Guo Pu. This is also the earliest example where *feng* are represented more positively. Although some of the tropes discussed above appear in this work, it depicts the bees very differently in most respects. Guo begins by exalting the status of bees among flying insects:

> Oh among the restlessly swirling myriad creatures, they are the aristocracy among the chaste insects.
> And there are the diverse small bees – they too take their place among the winged ones.

The idea that bees were 'chaste insects' (*zhen chong* 貞蟲) seems to derive from the second-century BCE *Huainanzi*, although it is probably linked to traditions around the potter wasp. A *Huainanzi* passage states: 'The movement of chaste insects enables them to sting with their venom.'[27] Although it does not specify which insects it is referring to, it is evident from later texts that they were understood to be *feng*. So, while Guo is clearly writing about honeybees, he seems to be borrowing from a broader tradition. He continues by admiring their flight:

> Near they float among flourishing gardens; afar they soar among the forests and valleys.
> Now soaring, now gathering;
> A restless mass in the breeze,
> Swirling like snowflakes,
> An indivisible mass.

Here swarming bees are not portrayed as something ominous or dangerous; instead their massed flight is seen as a thing of wonder. Guo goes on to describe the bees extracting nectar from flowers, to extol the mystery of honey production and its virtues, including its use in medicine, before turning his attention to the colony itself:

> Their banners are bright among the winged ones,
> And their palace gates count among the most solidly locked.
> Their punishments are more severe than those inflicted with battle axes,
> And their summons are quicker than an imperial call-to-arms.
> Their comings-together are not planned yet they all arrive at the same time,

[26] *Liudu jijing*, T.152 03.0034b12–c17.
[27] *Huainan honglie jijie* 淮南鴻烈集解, 16.553 ('Shui shan' 說山).

Their movements are restless yet they come together at the appointed time.
Their great king leads the people,
And all work together to produce the honey.[28]

Whereas in earlier texts *feng* were mainly described in regard to their harmful effect upon humans, or their traits were applied to humans in negative ways, in this text they are described positively as they appear in nature, with no interaction between bees and humans. Guo also introduces what was to become the predominant metaphorical understanding of bee colonies: as imperial courts. The stings are still there, but they now function as punishments to maintain order. They now have a king, which Guo calls *da jun* 大君 'great ruler' and, although Guo does not draw out moral lessons in the more specific way that later texts would, he clearly admires the order and industriousness of the bee colony.

So, by the early medieval period, the Chinese knew that bees had a 'ruler', even if they did not realize that this 'king' was in fact female. This suggests that some people had been observing bee nests quite closely. As honey-hunting had been practised in China for several millennia, presumably the hunters would sooner or later have noticed that there was a larger bee which had a different role, and indeed a different cell, from the others. So it seems odd that no earlier text mentions this. Intriguingly, Guo's poem was written within a few years of the first two texts to mention beekeeping, Huangfu Mi's 皇甫謐 (214–282 CE) biography of Jiang Qi 姜岐 (fl. 158–166 CE) in *Gaoshi zhuan* 高士傳 (Biographies of Men of Noble Character) and an entry in Zhang Hua's 張華 (232–300 CE) *Bowu zhi* 博物志 (Record of a Myriad Things).[29] Neither text says anything about the social structure of the colony itself – Huangfu only notes that Jiang kept bees, while Zhang describes a process of bee-baiting – but, since beekeeping was being practised by this time, it implies both that farmers would have had the opportunity to observe bees close up in a relatively controlled environment, and that they must have had some knowledge of the importance of the 'king', because that is crucial to the beekeeping process. Guo almost certainly had some knowledge of this; fragments of prose-poems he wrote about bull-ants and tortoises also survive, which suggests that he had an interest in the world of small animals.[30] So, although Guo's poem is about bees in the wild, and the chronological proximity of these three surviving texts is probably coincidental, there is likely to be some connection between the

[28] *Quan shanggu sandai Qin Han Sanguo Liuchao wen*, 120.6a–b. There are some missing lines in the transmitted text.
[29] *Gaoshi zhuan*, B.17a–b; *Bowu zhi*, 10.2a–b. For a discussion of the history of beekeeping in China, see Pattinson (2012).
[30] See *Quan shanggu sandai Qin Han Sanguo Liuchao wen*, 120.6b–7a ('Pifu fu' 蚍浮賦 and 'Gui fu' 龜賦).

spread of beekeeping and the emergence of texts which describe bees in more detail, and in a more positive vein.

At the same time, the belief that *feng* should be feared as stinging creatures persisted. This is illustrated by a well-known story in the *Shenxian zhuan* 神仙傳 (Biographies of Immortals), a text attributed to Guo's Daoist contemporary Ge Hong 葛洪 (284–343 CE). Ge tells how his great uncle, Ge Xuan 葛玄 (164–244 CE), once performed a trick at a dinner party to demonstrate transfiguration. First he ate a mouthful of rice, which turned into hundreds of large *feng* who flew over and alighted on a guest, but did not sting him. After eating for a while longer, Ge Xuan opened his mouth and all the *feng* flew back into it. He chewed on them, and they turned back into rice.[31] Ge's magic powers were impressive precisely because *feng* were seen as swarming, stinging insects that could not easily be controlled.[32]

Guo's 'Mifeng fu' does not seem to have directly inspired any further literary interest in bees, although there are a few more positive references to them in poems from the late fifth and sixth centuries. Bees are inevitably associated with flowers and spring, as in the poem 'Yong yuanhua shi' 詠園花詩 (In Praise of Flowers in the Garden) by the period's major poet, Yu Xin 庾信 (513–581 CE): 'The swallows return [carrying flowers] to the caltrop rafters, bees carry them in their mouths to the honey-house.'[33] However, for all the Tang's literary prolificacy, the poetry and prose from that period seems to have added little to the knowledge of bees or, indeed, *feng* in general. In the *Quan Tang wen* 全唐文 (Complete Prose of the Tang Dynasty), only the 'Ben feng dui' 奔蜂對 (Response to the Ruler on Potter Wasps) by Lu Guimeng 陸龜蒙 (d. 881 CE) makes an extensive reference to *feng* of any sort, in an imaginary account of music master Shi Kuang's 師曠 response to Duke Dao 悼 of Jin 晉 (586–558 BCE) after the latter saw a potter wasp building its nest.[34]

There are more references to *feng*, particularly honeybees, in Tang period poetry. Some poems expand upon the themes first seen in poetry from the Six Dynasties, situating bees with flowers in spring, now often accompanied by butterflies, or they repeat some of the negative images discussed earlier. A late Tang exchange between the poets Bai Juyi 白居易 (772–846 CE) and Liu Yuxi 劉禹錫 (772–842 CE) demonstrates how allusions to early *feng* texts would be used in later references to bees, and to the literary metaphor of a bee colony comprising a ruler and his officials. Liu's poem 'Zhou ju chishangting du yin' 晝居池上亭獨吟 (Reciting Alone during the Day in the Pavilion by the Pond) pursues the idea that *feng* educate their offspring: 'The sun at its zenith, the

[31] Quoted in *Yiwen leiju*, 78.1328–9.

[32] Although Ge Hong certainly wrote a book with this title, scholars doubt that the transmitted version is the same one. See Pregadio (2008), 887–8.

[33] *Yu Zishan jizhu*, 303–4. [34] *Quan Tang wen*, 801.16b–17b.

trees' shadows are straight; alone I recite poems in the pavilion by the pond. Quietly I watch the bees (*feng*) as they teach; at leisure, I think of the upright bearing of the crane.'[35] The phrase translated here as 'bees as they teach' (*feng jiaohui* 蜂教誨) is an allusion to the *Shijing* song discussed above about the potter wasp raising snout moth larvae as its own. The next couplet in that *Shijing* song is, 'Teach your son, so that he will be a worthy successor [to the throne].'[36] Although nothing in Liu's poem proves that the *feng* he was watching were specifically bees, this seems more likely than him watching potter wasps with snout moths. If this supposition is correct, it illustrates how the characteristics of another type of *feng* could be attributed to bees, further instances of which I will discuss below. The idea that bees teach their children does not appear much in subsequent texts, but this image fits well with later depictions of bee colonies as imperial courts ruled by Confucian virtue.

Bai Juyi's response includes the couplet: 'Seeing pairs of butterflies one knows they are a faithful couple; when bees swarm one sees the king and his officials (*jun chen* 君臣).'[37] This is an early example of the phrase *jun chen* being used in association with bees; it would become more common later on. Bai uses it again in a characteristically light-hearted poem composed at a spring banquet held in the prefectural *yamen* (probably after his demotion to lowly posts in Jiangxi or Sichuan between 815 and 820 CE): 'Do not mock our crude customs and don't be deceived by the poverty of these offices. Even the nests of bees and ants, by nature have a ruler and officials.'[38]

By the Northern Song period, printing was widespread in China, and a far greater number of works from this period have survived. These include more texts about bees, although they only represent a tiny proportion of a small number of texts about animals. The most significant early Song writing is an essay by Wang Yucheng 王禹偁 (954–1001), 'Ji feng' 紀蜂 (On Bees), which recounts a conversation that Wang had with a monk at Yuanhe Temple 元和寺 in Shangzhou 商州, in what is now southern Shaanxi province. There were many bees around the temple, and the monk described the 'king', its 'princes' and its cell in some detail; the monk also asserted that the 'king' had no venom, and that the bees would not sting when near their ruler. He further mentioned that swarming bees were a nuisance for local farmers, so they would poke thorns into the king's cells to kill the princes and stop the colony from swarming. However, the most significant passage is Wang's response to the monk, as he projects Confucian virtues onto the bees:

> I like the fact that the king has no venom, so it seems that he rules by virtue. I also like that all the king's sons themselves become kings: it seems that there is a single surname and a single ruler [in each colony], each with its set place in the hierarchy. I also like that

[35] *Liu Yuxi ji jianzheng*, 22.629. [36] *Mao shi zhengyi*, 12C.2a ('Xiao wan' 小宛; Mao 196).
[37] *Bai Juyi ji*, 730. [38] *Bai Juyi ji*, 217.

when the bees are near the king, they do not dare sting; it seems that the laws are clear. I also like that there is a balance in how much honey is taken; it is like a tithe. However, the practice of poking thorns into the king's cell and killing his children is extremely cruel.[39]

Although short, Wang's reflections are the earliest to elaborate upon the ruler–official idea in Confucian terms. There was a hint of this in Guo Pu's rhapsody, but Wang is the first to ascribe specific governmental virtues to bee colonies. Although not stated explicitly, Wang also seems to suggest that the bees offer a model of imperial rule which humans rarely attain; certainly the bees behave better than humans killing the bee 'princes', which foreshadows some later interpretations of bee colonies.

Categorizing *Feng* and Bees

By the second half of the eleventh century, these ideas had become integral to more scholarly discourse. In his *Pi Ya* 埤雅 (Augmenting the *Erya*), Lu Dian's 陸佃 (1042–1102) commentary on the *feng* entry for the *Erya* is more expansive than its predecessors:

Feng have two audiences [per day], at which time they stream to where their lord is. All the *feng* hover around [him] like a bodyguard. Their punishments and orders are strictly enforced, and they have a proper sense of the relationship between the ruler and his officials. The *Hua shu* 化書 [Book of Transformations] states, '*Feng* have a ruler, which is in accordance with the rites.'[40]

The ideals and practices of officials serving their ruler are elaborated upon in the section of the tenth-century *Hua shu* which Lu is quoting from. Its Daoist author Tan Qiao 譚峭 asks whether there is any essential difference between animals and humans, since some animals have characteristics normally associated with humans.[41]

Although Lu does not clearly state that he is referring to honeybees, the patterns he describes suggest that he is. Later in this entry, he refers to them collecting nectar from flowers to make honey, calls their combs honey-spleens (*mipi* 蜜脾), and comments that they are also called wax-*feng* (*lafeng* 蠟蜂). He notes that, while honey is the sweetest food on earth, beeswax is flavourless, even though it was made by treading honey. But Lu also quotes the *Shijing* and *Erya* passages about the *feng*'s sting, explaining that 'its venom is in its tail and it lowers its tail like a sharp weapon (*feng* 鋒), which is why it is called a *feng*'.[42] As a whole, Lu Dian's entry for *feng* does not significantly challenge the old categories, although of course he was bound by the structure of the

[39] *Xiaoxu ji*, 14.6b–7a. A full translation of the monk's description can be found in Pattinson (2012), 242.
[40] *Pi ya*, 21.4a. [41] *Hua shu*, 4.41–2 ('Ren hua' 仁化). [42] *Pi ya*, 21.4b–5a.

Erya. However, without making an explicit change, he spends more time describing the honeybee than earlier such texts, and he draws attention to their supposed virtues, which indicates that such understandings had taken hold by this time.

In the *Erya yi* 爾雅翼 (Wings of the *Erya*), another commentary on the *Erya* written about a century later, the scholar Luo Yuan gives honeybees a category of their own. His preceding general section on *feng* begins by asserting that all *feng* are male and chaste. After noting that yellow, narrow-waisted (*xi yao* 細腰) *feng* are called *zhifeng* 稚蜂 'young-*feng*', he first quotes the *Liezi* 列子: 'The entirely female ones are called "large-waisted" (*da yao* 大腰); the entirely male ones are called *zhifeng*', explaining that 'this means they have no male or female, but metamorphose (from larvae into *zhifeng*) themselves'.[43] Luo then refers to the *Huainanzi*, which he says maintains that *feng* are 'chaste insects, which is to say they have no desires', and the assertion in Zhang Hua's *Bowu zhi* that *feng* take the larvae of certain other insects and make them their own sons.[44] While the *Huainanzi* passage only mentions venomous creatures, and the *Bowu zhi* text only refers to *feng* in general, it would seem that Luo believed these characteristics to be true of all *feng*, including honeybees.[45]

After describing the *feng*'s nests and stings, Luo inserts his entry for honeybees. He begins, 'Honey-*feng* are like *feng* but smaller and are good at making honey.' He repeats what earlier texts said about tree- and earth-*feng*, then continues, '[The bees] people keep these days are smaller and slightly yellow, and their waists and abdomens are about the same size, like flies and cicadas. Those who like to keep bees use a hollowed-out log big enough to hold several bushels, put the *feng* in it and nurture them, making a small hole just big enough for them to go in and out.'[46] Next he quotes an account of bee-baiting in the fifth-century *Yongjia diji* 永嘉地記 (Record of Yongjia Commandery), a text similar to Zhang Hua's, and supplements it with a more detailed description of contemporary knowledge and practice, similar to Lu Dian's description of the bees supporting their king and not daring to return to the hive without pollen.[47]

Although, in the section on *feng*, Luo had mentioned a kind of wasp whose sting could kill people, most of his account about stings appears in the honeybee section. As noted earlier, Luo defines 'lowering the abdomen', as specifically meaning 'to lower the abdomen to sting with its venom'. He goes on to note that: 'Nowadays when the narrow-waisted ones sting people, they pull out their stings and fly away. When honey-*feng* sting people and the sting

[43] *Erya yi*, 267. Just before this, Luo explains that the 'entirely female' species refers to tortoises and the like.
[44] *Erya yi*, 267. [45] *Erya yi*, 267. [46] *Erya yi*, 267–8.
[47] For the *Yongjia diji* account, see *Taiping yulan*, 950.3b.

goes into their flesh, they cannot take it out again and the *feng* soon dies.'[48] Luo ends this section by recounting some of the early stories about *feng* swarms being inauspicious, which suggests that he thought honeybees were also the culprit of these stories.

His entry for honeybees is followed by one on the potter wasp, which Luo describes as a 'narrow-waisted black *feng*'.[49] After repeating the tradition that potter wasps could turn snout moth larvae into its own children through incantation, he quotes Tao Hongjing's 陶弘景 (456–536 CE) criticism that these traditions were 'absurd' (*miu* 謬) and that, in reality, the potter wasp was feeding its own larvae with small green spiders and other insects. Although Luo is reluctant to accept that the *Shijing* could be wrong, he admits that Tao's view is more 'in accordance with the nature of things'.[50]

Luo provides the most detailed account of bees, expanding more than Lu, or even challenging, some of the earlier understandings of *feng*. Significantly, he creates a new category for honeybees that is separate from wasps and other *feng*, even though the text of the *Erya* itself does not provide any basis for this. Nonetheless, he still mixes old folklore with empirically observable phenomena and, from a modern point of view, appears to slip between these categories. However, neither this text nor any of the other texts which differentiate between several types of *feng* were trying to establish a proto-scientific taxonomy of *feng*; they were recording inherited or observed phenomena, with a view to explaining the classics, as in the case of the *Erya* commentaries, or they were simply recording things that interested them.[51]

Nevertheless, by the twelfth century, Chinese scholars had built up a more sophisticated taxonomy for *feng* and the honeybee had gained greater prominence as a category in its own right. The defining characteristic of honeybees seemed to be that it was possible to capture and keep them for their honey and beeswax, although some physical features, such as their wider waist and barbed sting, were considered important too. However, although these commentaries sometimes mentioned the imperial nature of bee colonies, they did not generally attribute particular moral values to them in the way that more literary texts did.

Bees and Politics

In response to the turmoil witnessed by the Song dynasty, as it lost the northern half of its empire to the Jurchen in 1125, and later, after it had collapsed

[48] All the quotes above are from *Erya yi*, 268.
[49] *Erya yi*, 268.
[50] *Erya yi*, 269. For the Tao Hongjing passage, see *Bencao jing jizhu* 本草經集注, B.276 ('Chong shou' 蟲獸).
[51] For a detailed discussion of the question of taxonomies in early Chinese texts, see Sterckx (2002), chapter 3.

completely in the face of the Mongol invasion, literary works emerged which used bees to make statements about current or recent political events, a practice that was much rarer in China than in Europe.[52] Notwithstanding the leading Neo-Confucian philosopher Zhu Xi's 朱熹 (1130–1200) dismissive view that 'bees and ants only understand the relationship between ruler and official and little else', Song and Yuan texts presented bees as a model of ideal service and order, against which human society was judged.[53]

An early Southern Song example is a rhapsody entitled 'Fengya fu' 蜂衙賦 (Rhapsody on the Bee Colony) by the poet and official Zhou Zizhi 周紫芝 (1083–1155). At some point after the Song court resettled in the south, Zhou composed this rhapsody in which he used the bee colony as metaphor for the loyalty of officials to their ruler, attacking those who had not remained loyal to the Song. After ascribing the values of wisdom and dutifulness to bees – the latter because they allegedly kill those bees that are insufficiently assiduous in their duties – and praising their skill in producing sweet honey and honeycombs, he continues:

> If their residence is not secure,
> The king moves to another location;
> Seeing where the king has gone,
> The crowd of winged ones soar up,
> And hasten towards Him,
> Concerned that He has suffered disaster or injury.
> Where the king has stopped,
> They do not fly up in great displays,
> But gather at the capital and build the state,
> Until they again sit in the Hall of Brightness (Mingtang 明堂),
> As Lord and officials.
> The rituals and ceremonies are performed with rhythm and grace,
> Living in peace without incident,
> The officials' rites are favourable,
> And they are loyal, not abandoning their ruler,
> Even in tumultuous times.

Zhou does not mention the bees again after concluding that it is inauspicious for officials to turn their back on their ruler and abandon the state, but his poem has taken the bee analogy further than the earlier examples we have seen, now ascribing to bees more specific virtues associated with the imperial court.[54] Guo Pu described swarms of bees settling and building a palace and Lu Dian had touched upon some governmental ideals, but Zhou is specifically emphasizing the need for discipline and loyalty on the part of the bee officials.

[52] See, for example, Wilson (2004), 106–39; Preston (2006), 53–92. [53] *Zhuzi yulei*, 4.33a.
[54] *Taicang timi ji*, 41.9a–10a.

Writing after the Song dynasty had been defeated and replaced by the Yuan, Dai Biaoyuan 戴表元 (1244–1310) used the behaviour of bees to suggest that it was better to work for the new regime than to dream about reviving one that no longer existed. Dai, who seems to have kept bees himself, begins his long poem 'Yi feng xing' 義蜂行 (Ballad of the Dutiful Bees) by recounting how an old man living in the mountains loves bees just as he loves flowers, protecting the hive when the bees go out, while 'borrowing' *jie* 藉 some of the honey to help him make a living. Dai describes the bees travelling far and wide over the countryside to find sweet nectar, which they then haul back and present to the king, without taking any for themselves first. However, one day the 'great bee' *dafeng* 大蜂, i.e. the king, goes out, carelessly showing off his finery, whereupon he is attacked by a dragonfly and eaten by a toad. At first the other bees fly around frantically but, unable to find their king, they eventually settle down. Dai says that he saw all this when he visited the old man, who told him that bees reproduce very quickly and will come together to perform their duty. After the old man reminds Dai of stories of kingdoms that only existed in dreams and could never be found again, and further stresses the bees' ability to look ahead and work together in unity, Dai decides that people should not dwell on the past. He ends the poem saying, 'The new house just established, the bees not yet strong/ The old house abandoned, it has fallen into the mud.'[55] While the bees respond differently in each poem – the king in Zhou's poem survives, while that in Dai's is killed, probably reflecting the fate of the respective Song emperors – in both cases the worker bees' commitment to rebuilding the state is paramount. Both poems project a sense of duty, rank and ritual order onto bees, even if Zhou's vision seems more severe than Dai's.

The longest single poetic work on *feng* from the imperial period was the 'Feng fu' 蜂賦 (Rhapsody on Bees) written in the early Yuan by Liu Shen 劉詵 (1269–1351), a native of Ji'an 吉安 in Jiangxi. Liu was only a child when the Song fell, but he knew some of the Song loyalists' ideas, and was possibly drawing on these when he wrote his rhapsody. Liu's piece is notable both for the level of detail in which it describes the supposed characteristics of bees, and for suggesting that bees are superior to humans in certain ways. In his brief preface he states that he is compelled to record the nature of bees because they know that attending court is the foremost obligation that officials owe their ruler, and that to die in the service of one's ruler is a cardinal moral principle.

He begins the poem by explaining that people and all other living things were equal when the world was created, and they became branches of a tree with the same root. One only came to rule over the world because of a difference in degree of natural endowment. Liu suggests that the reason humans have not

[55] *Shanyuan wenji*, 28.8a–9a.

realized how similar bees are to humans is either because bees are so small that people have not bothered to look closely at them, or because people are afraid of being stung, so dare not approach them. Next, he describes how bees build their nests on cliffs in the spring and then, after divining a suitable site and time, move to set up a new capital, which Liu compares to a new branch of a family moving to its residence, or a wise ruler granting a fief to his sons. The new palace is built by the bees working side by side and, as the bees carry pollen back to the nest between their thighs, the 'government stores' become filled to overflowing. Liu describes the bees in military terms several times: they fly in ranks like an army, set up sentry posts around the nest and 'tiger troops dressed in black' defend the many gates; again, lazy bees are killed. Twice a day all the bees attend court, showing appropriate decorum and reverence. Then, on a day of leisure, the king will go out on an inspection tour across the hills and mountains, overseeing his subjects. But, when the king's rule weakens, the mass of bees 'vow not to desert him', but leave their garden of floral paradise and, in dejection, either starve themselves to death like the Shang dynasty adherents Bo Yi 伯夷 and Shu Qi 叔齊, or kill themselves, which the five hundred soldiers loyal to the general Tian Heng 田衡 chose to do rather than serve the new Han dynasty, when they heard that Tian had killed himself.[56] Then Liu mentions the ancient idea of *feng* as venomous insects to be avoided, contrasting this with the more recent view that they are a model of moral order:

> Alas! Getting stung by the venom,
> Is the concern of the Zhou *Odes*;
> That they had venom like the scorpion,
> Was what the *Spring and Autumn* texts warned against.
> Who would have known that such small animals
> Would observe the Five Constant Relationships in full.[57]

A few lines later, Liu lists the ways in which bees' behaviour reflects some cardinal Confucian moral values:

> Their attending court on a regular basis,
> Is like being trustworthy and observing the rites;
> Thinking carefully about what they do,
> Is being ingenious and clever;
> Single-mindedly willing to die to repay their ruler's kindness,
> This is to resolve to be dutiful;
> Cutting from the comb and giving it out,
> This is kindness born of benevolence.

[56] For the story of Bo Yi and Shu Qi, see *Shiji*, chapter 61; for Tian Heng, see *Shiji*, 94.2646–9.
[57] The Five Constant Relationships refer to humaneness, right action, ritual decorum, wisdom and trustworthiness.

After again emphasizing how important it is to be willing to die from loyalty to one's ruler, Liu concludes by stating that he wrote this rhapsody to exhort future generations, by illustrating how bees are superior to humans.[58]

Dutiful and Auspicious Bees

During the Ming and Qing periods, there were very few significant texts about bees or *feng*, and they were depicted in broadly similar ways to that of Song times. Bee colonies were nearly always understood as imperial courts and the bees' dutiful service to their monarch was their most admired trait. The *Dantu xianzhi* 丹徒縣志 (Dantu County Gazetteer) recounts an episode from the end of the Zhengde reign period (c. 1520) in which a swarm of bees was escorting its king by Mount Beigu in Zhenjiang when a bird of prey swooped and killed the king. The rest of the bees remained beside the dead king and all died within a matter of days. When the scholar-official Yang Yiqing 楊一清 (1454–1530) heard about this, he ordered his servants to bury them, and he wrote on the tombstone: 'Tomb of the Dutiful Bees'. He also wrote a funerary oration for the event.[59]

The Ming loyalist scholar Chen Hongxu 陳弘緒 (1597–1666) wrote an essay on beekeeping in the late 1640s while hiding out in his mountain estate to the west of Nanchang, in which he saw bees as the epitome of order in disordered times. He notes, factually but probably with the fall of the Ming in mind, that if the king is lost the bees will fly around aimlessly. He then turns to the theme of discipline in the colony, here in relation to the bees' stings: 'If the sting goes in deeply the bee will lose its sting. The king watches the bees come back in and, if a bee has lost its sting, the king knows that it has wantonly injected all its venom into a person, whereupon he will order the other bees to bite that bee to death.'[60] He follows this with an unacknowledged quote from the beekeeping section in his friend Song Yingxing's 宋應星 (1587–1666?) *Tiangong kaiwu* 天工開物 (Works of Heaven and the Inception of Things), describing what we now know to be the queen's mating flight as a royal excursion in which the king is escorted by attendants.[61] Chen concludes his essay by reflecting how there is such admirable order amongst the bees compared to humans: 'When I think about how so many people are dying in war, flood and drought, with the bones of the dead everywhere, I just wish to rest amongst the bees, day and night watching them come and go, gather and disperse, so I can examine the order of things. But how can I achieve this?'[62]

[58] *Guiyin wenji*, 1.5b–7b. [59] Quoted in *Gujin tushu jicheng*, 170.46.
[60] 'Yangfeng ji' 養蜂記, in *Dunsutang liushu*, 2.34b. [61] *Dunsutang liushu*, 2.34b–35a.
[62] *Dunsutang liushu*, 2.35a–b.

Chen's essay reflects what seems to have been the widespread view at this time – that bees are auspicious. He begins, 'Whenever bees come to someone's home that family will certainly prosper. The family will burn incense and cut coloured ribbons to welcome them, and they will report it to the ancestors and pray that the family will flourish.'[63] Later he reports that people in the mountain regions who do not have almanacs to refer to, for divining appropriate dates, observe the direction in which the bees swarm to decide when to hold weddings, construct buildings and plant crops.[64] The fact that such beliefs were common is confirmed by Hao Yixing in his *Fengya xiaoji* 蜂衙小記 (Short Record of the Bee Colony): 'Families which keep bees say that the day upon which bees swarm is certainly an auspicious day.' Hao remarks that he has tested this and found it to be true.[65]

Finally, an earlier story in the *Yongjia xianzhi* 永嘉縣志 (Yongjia County Gazetteer) recounts that, in the spring of 1433, while the local Prefect was teaching at the Confucian school, a swarm of bees flew in escorting a larger bee, and settled on the rafters. The Prefect pronounced that this was an omen that one of the students would come first in the next Metropolitan Examinations, which duly happened.[66] Such accounts stand in stark contrast to stories from the early period, in which the appearance of bees usually portended death.

Conclusion: Changing Perceptions

The texts discussed in this chapter trace a clear transformation in the way bees were viewed in China over the centuries. In early texts it is usually difficult to tell which kind of *feng* was being described and there were only limited taxonomies of *feng* and similar insects. *Feng* were almost always associated with violence, cruelty and bad luck. They were most commonly mentioned together with scorpions. Human characteristics do not seem to have been projected onto *feng*, but certain physiological and other features of *feng* were projected disparagingly onto humans. From the time of Guo Pu's 'Rhapsody on Honeybees' onwards, more positive associations, including straightforward associations with spring and flowers, began to emerge, although the number of significant references to *feng* remained small. Very gradually then bees gained a clearer identity of their own and, by the Song period, there were more detailed taxonomies of *feng*, including bees. By this period, the idea that a bee colony is like an imperial court with a ruler and officials was clearly established, and the most sophisticated meditations on bee colonies appeared from the Song through the Yuan. In these, human characteristics – especially

[63] *Dunsutang liushu*, 2.34a. [64] *Dunsutang liushu*, 2.35a. [65] *Fengya xiaoji*, 3b–4a.
[66] Quoted in *Gujin tushu jicheng*, 170.46.

Confucian values of duty, order and ritual – were projected onto bees, either as ideals to emulate, or to criticize the political choices made by others. These remained the dominant themes associated with bees.

Why did these changes in the representation of bees and clearer differentiation of *feng* take place? Without saying much about pre-Song representations of *feng*, some scholars have suggested that there is a link between the development of the beekeeping industry during the Song and increased literary output about bees. If beekeeping was more widespread, more people were probably observing bees more closely, which might have resulted in a better understanding of bee behaviour and more writing about them.[67] But, while this is almost certainly part of the answer, it is also problematic. Li Lu suggests that the invention of printing meant that more texts on beekeeping were published, which in turn led to improvements in beekeeping techniques.[68] What is more likely, however, is that the spread of printing enabled more texts about bees to be preserved; we cannot be certain that there were no earlier texts about bees which might have revealed similar themes. Indeed, while we cannot establish any definite link between the emergence of more positive representations of bees in the fourth century and the spread of beekeeping, it is clear that both strands had been evolving in parallel well before the Song. Moreover, there is little specific evidence for significant advances in beekeeping technology during the Song, or for beekeeping becoming more widespread. Li cites a poem by the eminent writer Su Zhe 蘇轍 (1039–1112), which describes how an old man captured a swarm using a combination of smoke and honey-bait to coax the bees first into a bag and then into a hive, as evidence of developments in beekeeping practices at that time.[69] However, we know that smoke was also being used at least a century earlier to make it possible to gather larvae for food from wild nests, and it is likely that the technique had been known for some time before that; we have also seen that bee-baiting was known by the late third century.[70] Furthermore, most honey and bee larvae were still gathered from the wild, rather than from bees kept in hives. While extracting honey and larvae from the wild requires knowledge about bee colonies and mastery of certain techniques – not least to avoid being stung – it is not a skill in which significant technological advances are likely to take place.[71]

The projection of more Confucian virtues onto bees from the Song onwards coincides with the rise of Neo-Confucianism, suggesting another explanation

[67] See, for example, Li Lu (2013), 150; Gao Lieguo (2011), 55. [68] See Li Lu (2013), 150.
[69] Li Lu (2013), 150. [70] *Lingbiao luyi* (*xia*), 7a–b.
[71] Describing honey sources in the late Ming, Song Yingxing notes that 80 per cent still came from the wild. It seems unlikely that the situation during the Song would have been markedly different. See *Tiangong kaiwu*, 66.

for why bees started being represented more positively. Yet, these Confucian values affirmed in the Song and later literary texts about bees are, in fact, standard ones associated with Chinese imperial courts: loyalty, ritual decorum, dutifulness, discipline, working together for the good of the 'kingdom' and industriousness (unlike in Europe, bees' industriousness was always portrayed as in the service of the king, not as an economic good in its own right). We have also seen that Zhu Xi remained unimpressed by bees despite their observance of the ruler–official relationship. However, these Song and Yuan works are interesting as moral responses to the political crises of the times they were written and because, in them, bees became associated with a perfect social order that humans could not achieve.

The fact that the appearance of bee swarms came to be viewed as auspicious rather than a bad omen is another major change from earlier times, which seems to have begun during the Song. Again, the relative scarcity of texts from the pre-Song period makes it difficult to be sure when and why this change occurred, but it seems likely that it was based on economic reasons: if a farming family knew how to keep bees, the arrival of a swarm meant increased income from the sale of honey and beeswax. If people had learnt how to control bees, this would have reduced their fear of them – at least to some extent.

Nevertheless, it is true that long experience of honey and bee larvae hunting, as well as beekeeping, would have led both to a more sophisticated understanding of bees, including being able to distinguish between bees and other *feng*, and to bees being viewed with less fear. So, while it is problematic to ascribe changes in the representation of bees to conditions specific to the Song, a greater familiarity with these insects probably provided the environment in which richer and more positive representations of bees in literature could emerge. At the same time, however, we have seen how a writer's political and social circumstances, within broader social and ideological changes, could be as much a factor in describing animal behaviour as direct observation.

6 Where Did the Animals Go?

Presence and Absence of Livestock in Chinese Agricultural Treatises

Francesca Bray

It has been widely argued that animals – both wild and domestic – began to vanish from the landscape very early in Chinese history.[1] From the Han dynasty onward, as the Chinese imperium expanded, so too the intensive, crop-centred farming methods initially developed in the heartlands of the Central States spread into new territories. The land around newly sinicized population centres was cleared and reclaimed until every inch of cultivable soil had been turned over to intensive crop production, leaving no place for pastures or woodlands where animals could graze. Landless peasants would migrate to under-populated regions, beginning anew the process of intensification. Indigenous groups who had hitherto raised cattle or lived by hunting were either driven up into the mountains, or 'civilized' and converted to Han Chinese intensive farming practices. In consequence, according to the prevailing view, livestock have long played only a minor role in Chinese farming systems. Chinese farmers relied on plant manure and crop rotation as much as dung; in place of animal fats and meats they consumed plant oils, vegetables and beancurd. Only in borderland zones, or in mountainous regions, marshlands, steppes or deserts that were considered unsuitable for arable farming, did livestock raising remain a significant economic activity over the centuries.

This is a narrative that, until recently, I too had accepted without question.[2] My primary evidence was the long and voluminous tradition of Chinese treatises on farming, *nongshu* 農書, which – at least at first reading – appears to offer unequivocal support for this view. In stark contrast to the European tradition of agricultural writing, where written texts from classical antiquity through to the modern era faithfully reflect the ubiquity and economic importance of mixed arable and animal farming, only one Chinese *nongshu*, the sixth-century CE *Qimin yaoshu* 齊民要術 (Essential Techniques for the Common People), features livestock as an integral and essential element of

[1] E.g. Cartier (1993); Elvin (2004). [2] Bray (1984), 3–5.

a mixed-farming system, containing long, detailed chapters devoted to each of the common domesticated animals. In later works, apart from the ubiquitous silkworm, most types of livestock are typically treated cursorily, or referred to only in passing.[3]

But how closely does this apparent neglect of livestock in Chinese *nongshu* correspond to the realities of diet, clothing, commerce and rural livelihoods in pre-modern China? And does the *nongshu* evidence, if viewed in a broader context, really demonstrate a steady decline in the importance of animals? Even if they devoted little space to the details of raising cattle, pigs or sheep, almost every *nongshu* writer found room to quote Lord Tao Zhu 陶朱公: 'If you want to get rich quickly, you should raise the five kinds of breeding stock.'[4] Yet, with the exception of the *Qimin yaoshu*, the typical *nongshu* chapter on 'raising livestock' (*yang chu* 養畜) was brief, composed principally of quotations from earlier works, with a few additional lines of newer information and advice. But we also typically find references to livestock scattered through other sections: in discussions of tillage, illustrations of animal-powered equipment, remarks on using crops like taro, sweet potato or purslane, or manufacturing by-products like soy-cake or brewing-mash to fatten animals up for the table or for sale. So, reading between the lines, we can discern a continuing role for livestock within crop-centred farming, even in late imperial *nongshu*.

While other Chinese historical sources support the general view that animals occupied less and less of the rural landscape over time, they too yield evidence suggesting that the role of livestock, while minor compared to Europe, remained essential right into the modern era. The importance of animals in Chinese rituals and diet, economy, culture and science is currently undergoing an interesting reassessment. Several chapters in this volume address animals in state policy. Elsewhere, Vincent Goossaert, in a discussion of the moral dialectics of different Chinese vegetarianisms, links the aversion to eating beef that first became evident during the Song dynasty not only to religious injunctions but also to the increasing predominance of small family farms, where draught animals were considered part of the family. Tracing how Jinhua ham rose to fame and fortune during the Ming and Qing dynasty, Chunghao Pio Kuo collates information on the stock-raising, preservation and distribution practices that developed from Song times on, to supply steadily expanding markets

[3] This chapter will not address silkworms, which figure prominently in most Chinese agricultural works, or fish, which appear in many.

[4] See this remark as quoted in *Qimin yaoshu*, 2; *[Wang Zhen] Nongshu*, 58; and *Nongzheng quanshu*, 1139, respectively. Lord Tao Zhu was the name taken after retirement by Fan Li 范蠡 (sixth century BCE), the famous statesman and entrepreneur of the Warring States period; today he is celebrated as an expert on profitable business management (the breeding of capital).

for regional meat delicacies. Although the *nongshu* are largely silent on this theme, Kuo is able to glean materials from poetry, gazetteers, recipe collections and works on *yangsheng* (養生) 'life-nourishing'.[5] Françoise Sabban depends on a similar spectrum of sources to trace the historical evolution of milk consumption by Chinese elites, from the yoghurts and goat cheeses in the *Qimin yaoshu* to recipes for cow's milk puddings in eighteenth-century compendia on health and diet.[6]

It is in the context of this more nuanced scholarship on the place of farm animals in Chinese livelihood, diet and culture that I offer the following reflections upon what the authors of *nongshu* did and did not write about livestock, what may have shaped their choices, and how they represented different animals. I examine four landmark works spanning the period from the sixth to the eighteenth century, the *Qimin yaoshu* (c. 540) by Jia Sixie 賈思勰, the *Nongshu* 農書 (Agricultural Treatise) of 1149 by Chen Fu 陳旉 (1076–1154), the *Nongshu* 農書 (Agricultural Treatise) of 1313 by Wang Zhen 王禎 (fl. 1290–1333) and the *Binfeng guangyi* 豳風廣義 (Explanation of the Customs of Bin) of 1741 by Yang Shen 楊屾 (1699–1794). Rather than simply taking absence or presence in the text to reflect absence or presence on the farm, I ask how the authors of these *nongshu* decided which animals to include in their treatises, and what they considered useful to say about them.

Husbandry in Chinese Farming: A Brief Historical Survey

In accepting that livestock progressively disappeared from Chinese farming landscapes, perhaps I – like other historians and agricultural economists – was led to exaggerate the unimportance of livestock in late imperial Chinese farming systems because of the striking contrast with the landscapes and histories that surrounded me in Britain or France where I grew up. In traditional European mixed-farming systems, animals and crops were symbiotic. People's basic diet included cheese, bacon and lard, as well as bread or porridge. Fields of waving corn depended not just on horses or oxen to pull the ploughs, but also on flocks of cattle or sheep grazing on the stubble to manure the land. The structural complementarity of crops and livestock was omnipresent. Improvements in cereal farming were almost invariably understood as being interdependent with better livestock management techniques. Townshend's famous turnips, for instance, allowed farmers to raise more sheep and, thus, increase their yields of wheat and barley – thereby launching the eighteenth-century 'agricultural revolution' in Britain.[7] It is only very recently that mixed

[5] Goossaert (2005a), (2005b); Kuo (2013). See also Xu Wangsheng (2009), 108–17, 152–5.
[6] Sabban (1986). [7] Kerridge (1967).

farming has come to be viewed as less effective than specialization across Europe.[8]

In China, however, practice, preference and principle were apparently quite different. The preference for crops over animals dates back a long time: we can trace the basic principles of crop-focused, cereal-intensive farming at least back to the Warring States. There was, however, an interlude of several centuries, at least in northern China, which Michel Cartier dubs 'the Golden Age of animals'.[9] From some time during the Han dynasty until after the Tang, Chinese incursions into Central Asia and successive waves of invasion by nomadic peoples, many of whom settled and intermarried with Chinese families, led to what we might call a 'pastoral turn' in northern China. The *Qimin yaoshu* provides valuable insights into the importance of flocks of sheep and goats, as well as the dairy products, mutton and goat that featured prominently in the diet of that period. It seems that, by the early sixth century, when the *Qimin yaoshu* was composed, Han and Tuoba tastes and practices were thoroughly intermixed, from the elite to the peasantry.[10] This hybridization of taste, diet and farming systems apparently did not recur under Khitan, Jurchen or Mongol rule. In those later periods of nomadic conquest, it seems that the occupiers were anxious to restore classic Chinese farming patterns in regions which had been devastated by war or by attempts to use the land for pastoral herding.[11] Certainly, the large estates which predominated in north China through much of the medieval period, when the *Qimin yaoshu* was composed, offered unique and unrepeated scope for mixed farming including rearing and using an uncharacteristic abundance of livestock. As the large estates were finally suppressed, and smallholding confirmed as the approved norm, the huge flocks of sheep and teams of oxen characteristic of manorial farming likewise disappeared from the scene.[12]

Generally speaking, 'sedentary Han Chinese abhorred barren land that produced no grain. In their view rangeland was no more than "wasteland" (*huangdi* 荒地) that needed to be reclaimed and cultivated'.[13] Pastoral and agrarian livelihoods and patterns of land use were typically seen by officials as categorically distinct, incompatible rather than mutually sustaining.[14] At least on their borderlands, Han Chinese officials tended to view pastoral practices as inherently destructive and wasteful.

[8] Hartung (2013), 28–32. [9] Cartier (1993), 12–13. [10] Dien (2007); Sabban (1986).

[11] E.g. Kubilai's establishment of agricultural bureaux and commissioning an official handbook to improve farming, the *Nongsang jiyao* 農桑輯要 (Compiled Essentials of Agriculture and Sericulture).

[12] Bray (1984), 587–97; Xu Wangsheng (2009), 126–9. [13] Ho (2000), 348.

[14] One reason for this view may be that Chinese governments organized the breeding of essential animals, whether it be the warhorses needed for defence, or the oxen needed by peasants as draught animals, as large-scale state enterprises; farming, on the other hand, was officially understood and managed as a small-scale peasant activity.

But there are, in fact, three basic types of livestock management, and we should be wary of conflating nomadic pastoralism with mixed farming, or with raising livestock in stables or pens. The herds of pastoralists are constantly on the move, ranging over large swathes of territory – much of which would not support arable farming; but nomadic circuits often include regular passage through farm settlements, exchanging manure and other animal products for pasture and grain. Mixed farming operates within a locality: animals are attached to a specific farm or community. Sometimes the beasts may be sent up to summer pastures, otherwise they will graze locally in pastures or meadows belonging to the farm, or in commonly held woods and heaths. They are turned out onto harvested fields or fallows to manure the land, but have to be stabled and given fodder in the winter. Where fodder is in limited supply, many animals will be slaughtered rather than fed through the winter, and their meat preserved for long-term use. In the third form of livestock management, animals are kept in stables or pens all year round and only turned out to forage or graze on rare occasions, if at all. Though pigs and poultry thrive when allowed to roam, they also do well when kept in sties or farmyards. Cattle can also be reared in stalls, but sheep and goats need access to pasture to thrive. There is obviously considerable overlap between these three systems, but I think the distinctions are helpful to bear in mind as we consider changes in livestock management in China over time.

Certainly, by the end of the imperial era, there was little room left in the main arable regions for pasturing livestock. Like other early twentieth-century studies, the monumental survey of farming and land utilization in China which John Lossing Buck and his colleagues at the University of Nanking undertook in the late 1920s and early 1930s found that 27 per cent of the total heartland area was cultivated land, 8.7 per cent was forest and 4.6 per cent pastures (a vast 60 per cent was unused or unusable); 90 per cent of the farmland was arable and only 1 per cent was meadow or pasture.[15]

This was not a new phenomenon. In northern China, both the size of farms and capital resources steadily decreased after the medieval period. Goossaert suggests that large-scale herding dwindled steadily and meat-eating declined, along with the disintegration of the northern aristocratic manorial system.[16] From the mid-Tang on, successive governments clamped down on large estates that could afford teams of draught animals and mixed farming. In consequence, after its medieval heyday, what Philip Huang calls 'managerial farming' – that is, farming on a larger scale and with more opportunities for combining animal husbandry with cropping, permitting the rationalization and investment of capital and other resources considered fundamental to northwestern Europe's 'agricultural revolution' with its

[15] Buck (1938), 5–6. [16] Goossaert (2005b), 241.

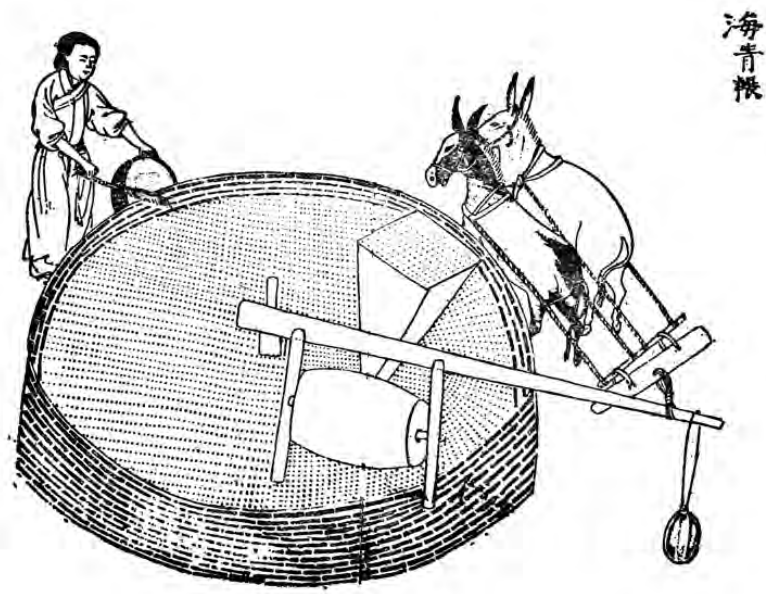

Figure 6.1 Grain-mill powered by two mules. Illustration from [*Wang Zhen*] *Nongshu*, 'Nongqi tupu' 9, 284.

notorious enclosures – never took off in northern China.[17] Similarly, in the rice regions of southern China, the diffusion of highly intensive 'skill-oriented' cropping systems ensured a historical trend towards small-scale farming.[18] Nevertheless, it seems that farmers in most regions of China managed to keep a pig and some chickens in their yard, along with a draught animal or two, whose diet consisted of rough grazing scantily supplemented with beans or mash, and with fodder that children cut from verges or ditches. Oxen, mules and donkeys, often used in pairs, were the common draught animals of the north; in the south, a single water buffalo was typical.

Sometimes there were just not enough draught animals to work the fields and turn the mills: a whole region might be struck by drought or pestilence, while in every community there would be poor families that could not afford to keep their own oxen. Substituting human labour for draught animals was viewed by the state as a desperate measure, but not everyone agreed. By the late Ming, in a highly productive region like Huzhou 湖州 in Zhejiang province, which was

[17] Huang (1985). [18] Bray (1986), 113–23; Li Bozhong (1998), 39–42.

famous for its high-quality silk, ten *mu* (about 0.6 ha) of rice land was considered the optimal farm size. Writing probably in the 1650s, the farming specialist Zhang Lüxiang 張履祥 (1611–74) compared farming techniques in two adjacent counties, Gui'an 歸安 and Tongxiang 桐鄉 just outside Huzhou. In Gui'an, farmers worked the soil with buffalo-drawn ploughs and harrows but, although Tongxiang was only a few miles away, farmers there worked the fields with hoes because the land was low-lying and damp.[19]

A few years earlier Song Yingxing 宋應星 (1587–1666) wrote that 'the peasants of Suzhou Prefecture do not use buffalo but use hoes instead of ploughs. I reckon that for poor farmers, the expenses involved in buying and feeding the beasts, without mentioning the risk of theft, sickness or death, amply justify their preference for using human traction.'[20] Song does not discuss hiring animals but Perkins notes that, in the 1930s, this was a resource – and a valuable service – for landless households: 'Oxen and water buffaloes were expensive and poorer farmers often did not own them. But they could rent them.'[21] Raising draught animals for hire was not a very secure source of income, however, since it depended on neighbouring farmers having money to spare. In times of stress, poorer households in such villages 'were forced to abandon animal husbandry altogether, whereas others switched to rearing smaller animals'.[22]

In addition to local, private markets for draught animals, throughout imperial history we find records of official projects (whether local or large-scale) which were intended to ensure adequate supplies. On state agricultural colonies – an institution that lasted from the Han dynasty to the nineteenth century – the government usually aimed to provide one draught animal for every two households.[23] But where were the animals distributed by the state raised? While Mongols, Tibetans and other Central Asian border groups were well known as pastoralists, let us not forget that many non-Han groups across southern China shared the characteristic Southeast Asian cattle culture, in which livestock rearing and crop production formed an integrated mixed farming system. A typical example is described by the seventeenth-century observer Qu Dajun 屈大均 (1630–96), who tells us that the inhabitants of Lingnan 嶺南 and Annam 安南 'devote themselves to agriculture and stock raising, and reckon their wealth according to the fruitfulness of their cattle'.[24]

The central provinces practised a crop-intensive form of agriculture from which herds of animals had largely disappeared, yet within this ecosystem most households could usually support the one or two draught animals upon which their livelihoods as crop-farmers depended. Meanwhile, in response to animal

[19] *Bu nongshu*, 101. [20] *Tiangong kaiwu*, 20. [21] Perkins (1969), 188.
[22] Brandt and Sands (1992), 192. [23] Cartier (1993), 13.
[24] *Guangdong xinyu* 廣東新語 (New Accounts of Guangdong), quoted in Bray (1984), 509. For other examples drawn from sources including the Miao Albums, see Hostetler (2007).

epidemics, draught animals could be brought in from fringe regions which practised either pastoralism or integrated herding and arable systems. The latter, like European mixed-farming regimes, were settled farming systems, with an animal–crop synergy that might well have appealed to the author of *Qimin yaoshu* as good practice. By late imperial times, however, orthodox Han officials – who evaluated the benefits of a farming system primarily in terms of the staple grains produced – dismissed these mixed-farming systems as woefully underproductive.[25]

Let us turn now to the question of diet. The *Qimin yaoshu* was unique among *nongshu* in giving prominence to milch animals and dairy products. In later *nongshu* milk disappears. Bovines and equines figure only as working animals. The entries on sheep and goats are typically reduced to a few columns of text, suggesting that they were of little importance beyond providing occasional meat for family use or sale. Pigs, likewise, typically garner just a few lines, as do poultry. 'Chinese peasants', writes Philip Huang, 'have long been vegetarians, not by choice, but by the dictates of the Chinese agrarian system.'[26]

No doubt Chinese peasants, like peasants or farm-labourers the world over, considered themselves fortunate if they could afford a few chunks of meat at festivals. But what about producing meat for sale? When well-off families wanted meat or milk, how freely was it available? Although Song and later *nongshu* would seem to support the view that meat-eating, along with raising livestock, declined after a medieval heyday, a multitude of sources dealing with consumption – whether of medical or religious dietetics, celebrations of elegant or lavish lifestyles, recipe books or works on connoisseurship – indicate that, for well-off families and urban populations, vegetarianism was a choice, not a necessity.

Beef disappeared from most people's diets as early as the Song for a complex tangle of reasons: changes in farm size and management techniques; the disappearance of herding from arable regions; an increasingly close bond between small farmers and their draught animals; moral injunctions (Confucian and Daoist as much as Buddhist) against devouring the animals upon which rural livelihoods depended; and a shift in sacrificial practices.[27]

Citing literary works and recipe collections from Song through to Qing, Kuo suggests that mutton or goat were originally, and remained, typical of northern China's cuisine. As the south outstripped the north in population size and wealth, these meats dwindled in importance compared to pork, poultry and fish. Yet, it is clear from the list of local breeds or types cited in the *Binfeng guangyi* that sheep were still bred for meat, and sometimes also for wool, in almost every region of eighteenth-century China.[28]

[25] Bray (1984), 509–10. [26] Huang (1985), 61. [27] Goossaert (2005a).
[28] Kuo (2013), *passim; Binfeng guangyi*, 3.25–6.

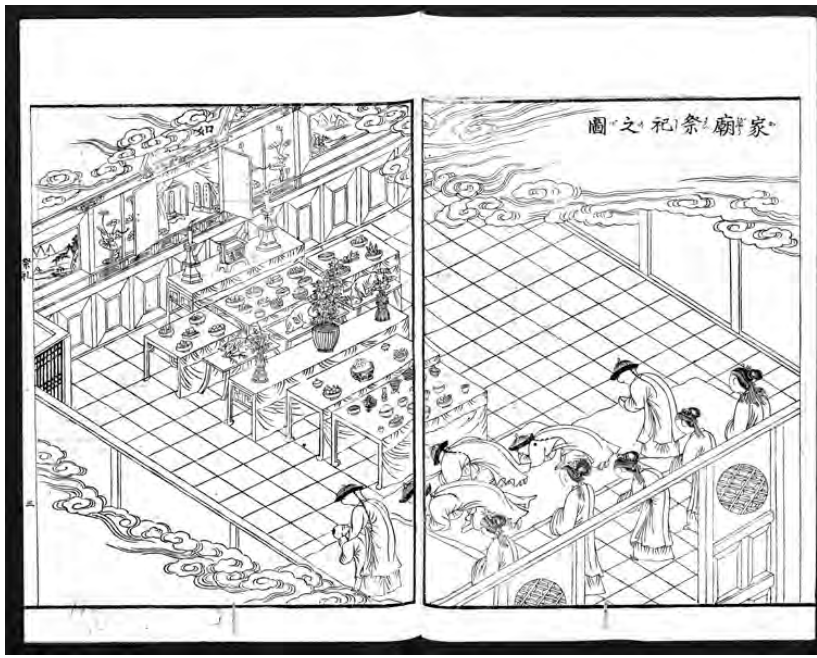

Figure 6.2 Grand ancestral sacrifice, with a pig and a chicken as offerings. Nakagawa Shundai (ed.), *Shinzoku kibun* [*Recorded Accounts of Qing Customs*], Tōto [Edo], Nishimiya Tasuke, Kansei 11 [1799] shinsen, 12.2a–3b. Online resource, *Staatsbibliothek zu Berlin – PK*, http://resolver.staatsbibliothek-berlin.de/SBB0000B38700000000

One marked difference between the early and late imperial diet was a rise in the popularity of pork. Pork had always featured in every Chinese region's cuisine, but Kuo argues that late imperial urbanization favoured its consumption because, unlike range-animals, pigs could be conveniently raised in suburban settings. Indeed, they were often fed by-products of urban or suburban manufacturing such as oil-seed, soy-cake or the mash left over from brewing. As early as the Southern Song, the Hangzhou meat market already had 'countless meat stores', slaughterers killed hundreds of pigs every day, and their meat – raw, cooked or processed – flew off the shelves. The expansion of peri-urban pig farming accompanied a rapid rise in demand for both raw meat and processed pork (from pickled tripe to ham), accompanied by a steady increase in both popular and refined recipes for pork or pork-flavoured dishes. It was not only the living who enjoyed this abundance of pork: cattle and sheep disappeared from sacrifices during the Ming and Qing, to be replaced by pigs and poultry.[29]

[29] Kuo (2013), especially 218–20; Goossaert (2005b).

While pork's popularity increased so much that the word became synonymous with meat, beef vanished from most tables. Yet – though it never became a staple source of protein for the poor as it did in Europe – cow's milk apparently retained favour among late imperial gourmets and hypochondriacs. Sabban suggests that there was a shift in tastes for dairy products around the Song dynasty: sheep and goat's milk came to be considered rank, but imperial courts from the Song to the Qing kept small dairies, and late Ming dietetic-medicinal works from southern China warmly recommend 'nourishing custards', which were delicate dishes prepared from cow's milk, eggs and sugar. Sabban suggests that elite families might keep a single cow in a stall inside their mansion, much like a pet cat.[30] More generally, Sabban suggests that livestock may have become invisible in the landscape without being absent from the farm: instead of foraging or grazing outside in the warmer months, pigs, sheep and even milch cows were kept permanently penned, stied or stalled, bringing welcome income to the farmer and culinary delights to consumers.

Livestock in *Nongshu*

Having outlined the historical context within which *nongshu* were embedded, I now turn to the works themselves, to reassess what we might learn from them about the significance of husbandry and the importance of animals.

In his meticulous historical bibliography of agricultural writings, Wang Yuhu lists the titles of eighty-one works devoted specifically to livestock, their care and their diseases.[31] Of these, only thirteen remain extant, though passages from several others survive in quotations; the titles and/or surviving texts indicate that the principal theme of these specialized works was assessment or physiognomy (*xiang* 相) – that is, gauging an animal's qualities or state of health by outward signs – as well as diagnosing and treating diseases. The genre seems to have been very popular in early times, and to have undergone something of a revival in the late imperial period (related, no doubt, to print culture and to the expansion of the meat industry). Of the eighty-one titles Wang lists, forty-five deal with horses and twenty-one with bovines; only two (one very early and long lost, another from late Qing) deal with pigs and six discuss sheep and goats. I offer some explanations for the bias towards horses later. We might have expected to find some works devoted to livestock among late imperial specialist monographs, *pulu* 譜錄, but Siebert's analysis indicates that, by that time, even horses were not considered sufficiently glamorous or exotic to warrant such attention.[32] For pragmatic instructions on how to breed, feed and care for livestock, we need to turn to the general *nongshu*.

[30] Sabban (1986), 49, 54. [31] Wang Yuhu (1979), 319–22. [32] See Chapter 7 in this volume.

Qimin yaoshu: Northern Herds and Estate Management

The classic example is the *Qimin yaoshu* by Jia Sixie, already mentioned several times. This sixth-century work was composed at the height of the 'Golden Age of animals', during the heyday of the manorial enterprises that typically raised large numbers of livestock for both profit and pleasure.[33] Like other literary or technical works of the period, by the beginning of the print era in the Song, large chunks on tillage techniques, specific crops or processes were quoted verbatim, or paraphrased, in almost every work claiming agronomic authority. The sections on livestock were no exception: faithfully reproduced or sliced and diced, selected passages from these chapters reappear as the backbone of the livestock sections in almost all later *nongshu*. Since no later work offered such a comprehensive treatment, what is included and omitted merits reflection.

The *Qimin yaoshu* is a vast work, totalling 10 *juan*. *Juan* 6 (chapters 56–61) is devoted exclusively to livestock, their care and the processing of their products. Chapter 56 addresses cattle, horses, donkeys and mules (working animals). Chapter 57 covers sheep and goats (*yang* 羊), dairy products and breeding livestock. Chapters 58 to 61 deal respectively with pigs, chickens, geese and ducks, and fish. Although he quotes extensively from earlier literature, including numerous works on physiognomy, many of the materials included in Jia's treatment apparently come from his own experiences of keeping livestock.

The *Qimin yaoshu* is unique among *nongshu* in its concern with milch animals. It features an extensive range of dairy products, and it has attracted much scholarly attention as almost our only source of information on what is often treated as a dietary interlude in Chinese history.[34] Jia Sixie was writing at a time when the Tuoba Wei 拓跋魏 had ruled northern China for over a century, and foodstuffs derived from the milk of ewes and goats, mares and cows were very popular. Jia describes the preparation of many dairy products that disappeared from the Chinese diet in later dynasties, including forms of fresh and smoked yoghurt and curd, cheese and fresh or clarified butter. While some dairy products were eaten fresh, others kept for months and could be enjoyed through the winter or carried on long journeys.

The sections on herding sheep in the *Qimin yaoshu* suggest that shepherds drove their flocks through large swathes of woodland or heath, continually on the move to avoid over-grazing or contaminating streams. In winter the flocks were penned in on the estate, and a wise manager laid in plenty of fodder for them. This, then, was not nomadic pastoralism but mixed farming, necessitating calculations for balancing numbers of livestock against the land available to

[33] Bray (2013), chapter 2; (forthcoming). [34] Sabban (1986); Huang (2000); Harper (2002).

grow fodder. Jia Sixie confesses that, before he understood their needs, he had a flock of two hundred sheep which, to his dismay, all gradually starved or fell sick; he later realized this was for want of sufficient beans to feed them over the winter. Jia advocates sowing one *qing* (roughly 6 ha) of soybeans for every thousand head of sheep, which indicates the scale that he envisaged as manageable.[35]

The chapter is full of pragmatic advice.

> As a general rule, two out of every ten sheep should be rams (if there are fewer rams not all the ewes will become pregnant, and if there are more the flock will be unruly) … Sheep intended for the table should be castrated. (When they are ten days old or so, wrap [the testicles] in a cloth [tightly enough] to cut through the blood-vessels and crush [the testicles])[36] … Inside the pen make palisades of vertical bundles of brushwood right round the walls. (If the sheep can't brush directly against the earth walls of the pen, then their coats will keep naturally clean)[37] … When milking you must have someone measure the milk: one part in three should be set aside and given to the lamb or calf. If you take the milk too early or do not leave a third for the lamb it will grow thin and die[38] … The setting of yoghurt depends on maintaining the right degree of warmth: if you keep it just warm, slightly higher than body temperature, this is exactly right. If the yoghurt is kept too hot it will become acid, and if it is too cold it will not be firm.[39]

Jia Sixie is describing an enterprise where all kinds of products and produce are bought and sold.[40] Some of the sheep were raised for the table and some of the dairy products (produced fresh in large quantities when the milk supply was at its height and then processed into products that would last for weeks or even months) would have been consumed on the estate, and others sent to market. Following Lord Tao Zhu's precept, quoted earlier, that raising animals is a source of wealth, Jia treats sheep as capital on the hoof: 'At the beginning of the harvest in the eighth month often there are no workers left with free time, so one should sell some sheep to hire some men.'[41]

I do not know what symbolism, if any, sheep might have carried at the time the *Qimin yaoshu* was composed. Overall, as the quotations above indicate, the chapter on sheep is straightforwardly factual. Yet, although we are far from the heavy symbolic load of sheep, shepherds and flocks characteristic of the Judeo-Christian tradition, I find it interesting that Jia Sixie emphasizes the ideal character traits of a shepherd: 'The shepherd should be an old man, tractable by nature, able to judge properly when to lead his flock on and when to remain – no different from "shepherding the people" (*mu min* 牧民).'[42] 'Shepherding the people' was, of course, the duty of officials – so were they also supposed to be

[35] *Qimin yaoshu*, 313–14. [36] *Qimin yaoshu*, 312. [37] *Qimin yaoshu*, 313.
[38] *Qimin yaoshu*, 315. [39] *Qimin yaoshu*, 316. [40] Bray (forthcoming).
[41] *Qimin yaoshu*, 314. [42] *Qimin yaoshu*, 312.

strong but biddable, as well as good judges of a situation, just like a good shepherd?

As well as raising animals for milk, wool and meat, an estate like Jia's also relied heavily on draught animals – mules and donkeys, as well as oxen. Horses too figure prominently in the *Qimin yaoshu*: it was written at a time when the elite liked to ride horses for pleasure or everyday travel, as well as needing them for military purposes. Most of the long chapter that is supposedly devoted to 'cattle, horses, donkeys and mules' consists of advice for evaluating a horse – by its teeth, its proportions, its markings or the colour of the inside of its mouth, and of prescriptions for curing the many illnesses that horses are prone to suffer. Delicate and unreliable, in times of peace horses were likely as much an indulgence for the northern elite of the period as they were for devotees of fox-hunting in Victorian England. Jia notes that mules are much better than horses for farm work, because they are larger and stronger animals.[43] Nevertheless, mules and oxen are hardly mentioned in comparison to horses.

Where horses are concerned, Jia Sixie offers his readers a cornucopia of special terms to roll around the tongue, and body parts to visualize – traits that an expert needed to identify, scrutinize and evaluate before purchasing or selling an animal. We are two-thirds into the chapter before Jia – an author who normally crams each chapter with precise and practical technical instructions – gets round to telling us how to feed the beasts, and after just a couple of paragraphs he moves on to cures for common problems. Donkeys, Jia tells us (and, by inference, mules too), 'are just like horses, so I shall not write a separate section on them'.[44] The final section of the chapter goes through the same topics, but much more briefly, for oxen/cattle.

Paintings and bas-reliefs of the period show that oxen and mules were the animals upon which efficient estate farming depended, and overall the *Qimin yaoshu* is a pragmatic work that prioritizes productive methods and the effective use of resources. So how can we explain the chapter on cattle and horses? It is almost a romance of the horse, rather than a handbook for keeping healthy draught animals. Discussing the recipes included in the *Qimin yaoshu*, Donald Harper suggests that reading a recipe may often have evoked as much pleasure as consuming the dish.[45] Similarly, perhaps we may infer that Jia Sixie structured his chapter on 'cattle, horses, donkeys and mules' to appeal to the literary imagination and elite tastes of the time.

I will not go into any further detail here on how livestock are treated in the *Qimin yaoshu*, except to note that the chapter on pigs is very short, consisting of

[43] *Qimin yaoshu*, 285. [44] *Qimin yaoshu*, 286.
[45] Harper (2002). Hundreds of southern or central Asian grains, fruits, vegetables and spices are listed in Book 10.

about one-quarter of quotations from other works, and three-quarters of practical instructions by Jia Sixie. Perhaps pork was less important than mutton in diets – or, at any rate, elite diets – of that era. Yet it is curious that in later *nongshu*, in periods when pork was synonymous with meat for most Chinese and when pig manure was as valuable as pork meat on smallholdings, pigs nevertheless receive quite cursory treatment compared to other animals – in fact, most authors simply paraphrase excerpts from the *Qimin yaoshu*. Did elite writers consider pigs beneath their dignity?[46]

Southern Song Agronomy: The Peasant, His Rice-fields and His Ox

Let me now turn to the Southern Song dynasty, and Chen Fu's *Nongshu* of 1149, the first *nongshu* to describe the technically sophisticated and highly intensive rice and sericulture farming system of Jiangnan. Since Han times, northern Chinese had referred enviously to the southern regions as 'lands of fish and rice' (*yumi zhi xiang* 魚米之鄉), lands of natural bounty where it seemed that food could be grown and gathered without effort. In fact, various advanced agricultural techniques, including large- and small-scale irrigation methods and rice transplanting, were evident in parts of southern China well before the Song dynasty, and as early as the mid-Tang the amount of tax grain recorded for the southern provinces nearly equalled that from the northern heartlands.[47] It was not until the fall of the Northern Song, however, that the ruling elite finally acknowledged the south as being more than just a place of exile in which to wait until returning to the true cultural heartlands,[48] but also as a land that embodied the spirit and potential of true Chinese identity. Although many *nongshu* were produced in the six centuries after the *Qimin yaoshu* was completed, the first great works celebrating and explaining Jiangnan's highly productive farming systems did not appear until just after the fall of the north in 1127 and the establishment of a new capital at Lin'an 臨安 (modern Hangzhou, in the heart of the Jiangnan rice and silk region).

Chen Fu's *Nongshu* was completed just twenty years after the loss of the north. It is a short, pithy work, rich in technical detail, and Chen (of whom we know nothing beyond his authorship of this treatise) tells us that one aim of writing it was to refute the 'empty words' of Jia Sixie (who – as a northerner – was not, it is true, a great expert on rice). The work is divided into three *juan*, the first of which describes the technical procedures of rice farming, the second

[46] Here it is instructive to compare the archaeological evidence (animal bones, figurines, etc.) with the surviving written documents of the period. Xu Wangsheng (2009) shows a significant imbalance: from the Han onwards it seems that written documents significantly underrepresented the importance of pigs (and presumably of pork) in every region of China.

[47] Li Bozhong (1990), 248–67; Bray (2013), chapter 2. [48] Dien (1991).

is devoted to *niu* 牛 (which in this case refers to water buffalo), and the third to sericulture. Chen depicts a landscape of small farms co-produced, as the STS (Science and Technology Studies) scholars would say, by men, buffalo and silkworms:

> On high land identify the places where water accumulates and dig out ponds. Out of 10 *mu* of land [approx. 0.6 ha] you must be prepared to set aside 2 or 3 *mu* for water storage. At the end of the spring when the rainy season comes, heighten the banks and deepen and widen the interior. Strengthen the banks by planting mulberry or *zhe* 柘 trees,[49] to which buffalo may be tethered in the shade as their nature requires. By trampling the banks the buffalo will strengthen them, the mulberries will be well watered and grow into fine trees, and even in the dry season there will be sufficient water for irrigation, yet in heavy rains the tank will not overflow and harm the crops.[50]

Introducing the second *juan* of his treatise, Chen Fu attacks what he sees as the elite's unjustified idolization of horses at the expense of the truly useful animal, the water buffalo, on whose labours society and human survival depend:

> Some ask: which makes the greater contribution to society, the horse or the buffalo (*niu*)? Which is the faster? Which is the more important? Why is it that the horse is so highly valued, and the buffalo despised?
>
> I would reply: both help humans in their endeavours. But if horses are considered several times, or even a hundred or a thousand times more valuable than buffalo, it is because men of high rank ride them, the imperial armies use them, they are given fine grains as feed, they are carefully trained and meticulously bred. They are used by nobles and there are a whole series of official positions dedicated to horses. This is why horses are so highly valued.
>
> As for buffalo, apart from pulling carts, they are used only for farm work. They are let out to graze in the brush, and they are used in the fields. When they are toiling they are sometimes heeded, but when they are idle nobody pays any attention to them. Nobody notices when they are hungry or thirsty, nobody shelters them from heat or cold, nobody treats them when they are sick, nobody pities their distress. Yet farming is the great foundation of our society (*tianxia* 天下), the source of all clothing, food, wealth and utility – and without buffalo none of this could be achieved! Nothing can outweigh this when we assess which is more valuable, the horse or the buffalo.[51]

Chen Fu goes on to argue that the educated elite must take on responsibility for persuading the ignorant peasants to treat their draught animals well and to understand and respect their needs. This will slowly result in a change of attitude; the animals will thrive and there will be no danger of arable land reverting to the wild, or of shortages of food or textiles.

[49] The silkworm thorn, *Cudrania tricuspidata*, a close relative of the mulberry whose leaves are also used to feed silkworms.
[50] *Nongshu*, 2. [51] *Nongshu*, 15.

After this moral lesson with its allegorical echoes of good governance, Chen reverts to his persona of a practical, no-nonsense farm manager for a few columns. He provides details of how buffalo should be cared for in the different seasons, when grass should be cut for hay, what mixtures of bran or beans they should be given – raw or as a mash, depending on the weather and the time of day. He reminds us that buffalo should not be put to work on a full stomach, and that they need plenty of rest if they are to work at full strength and to live long and useful lives. But then Chen's discussion once more takes a moral turn: he underlines the physiological similarities between buffalo and humans, arguing that this should help us to understand their physical needs. In the old days, Chen says, people covered their buffalo with a blanket when they were cold, made up specially nourishing feeds to keep them sleek, and set aside part of their fields for pasture, being fully aware that they depended upon their animals for their own welfare. Alas, says Chen, this is no longer so and that is why everything is in such a sorry state.

A brief section on treating buffalo sicknesses follows, which again underlines their similarities with humans. At one level this illustrates the point made by Francine Fèvre and Georges Métailié that, 'in the Chinese tradition, veterinary medicine hardly differs from human medicine, and so remedies for animals appear in the earliest treatises on human medicine'.[52] But does this merely signify a belief that physiological principles are shared between animal species, just as in modern biomedicine scientists use rats as near proxies for humans in tests of aggressiveness, or pigs as creatures close enough immunologically to provide transplant organs? Is there also a moral dimension to the parallels proposed between humans and some – but not all – animals?[53]

Just before Chen Fu completed his treatise, Lou Shu 樓璹 (1090–1164), the magistrate of Yuqian 于潛 county near Lin'an, produced a magnificent set of painted scrolls depicting all the technical stages of rice farming and silk production (the tasks of men and of women, respectively), entitled *Gengzhi tu* 耕織圖 (Pictures of Tilling and Weaving).[54] Lou Shu inscribed each of his paintings with a poem. The scenes of ploughing, harrowing and rolling the rice-paddies show man and buffalo toiling, suffering and enduring together. The buffalo receives (at least from Lou Shu, if not perhaps always from the farmers themselves) the sympathy and, indeed, the empathy that Chen Fu advocates: 'the black bullock labors, making his shoulder raw[55] . . . Deep in the mud, the four hooves are heavy, at dusk the two legs are aching. I urge the

[52] Fèvre and Métailié (1993), 102, my translation from the French.
[53] See Chapter 3 in this volume. [54] Bray (2007); Hammers (2011).
[55] 'Tilling', trans. Hammers (2011), 167. Lou Shu uses a single term, *niu*, which Hammers variously translates as bullock, ox or cow, but in every case a water buffalo of indeterminate sex is shown in the paintings.

Figure 6.3 *Gengzhi tu* ploughing scene. This is a rubbing of the stone carvings commissioned by the Qianlong Emperor in 1769, based on the Yuan dynasty copies of Lou Shu's originals by Cheng Qi. The complete set of rubbings was published in Pelliot (1913).

man behind the ox, carry a whip, but don't use it harshly[56] … At dusk [I] accompany the ox, together we bathe in the stream in front of our home.'[57]

At around the time that Chen Fu and Lou Shu were writing, the Chan Buddhist Guo'an Shiyuan 廓庵師遠 (n.d.) produced a guide to enlightenment entitled 'Ten Ox-herding Pictures and Poems' (*Shi niu tu yong* 十牛圖詠). In this work the herdsman hunts for, finds, captures and tames a *niu* (shown in the pictures as a buffalo, though usually translated as ox or bull), rides the animal home to the village, and then forgets first the buffalo and then himself. The buffalo, who stands for one's character or mind, is huge and powerful: the herdsman must use a whip and ropes to capture, subdue and discipline the beast. 'If he does not keep the whip and rope near at hand / the Ox will soon seek out the nearest mud and wallow. / But care for it properly, and it becomes gentle, clean; / it will follow the oxherd willingly, the rope gone slack.'[58] The Buddhist adept tames his own soul just as the herdsman tames the ox; the Confucian local magistrate is 'the herdsman / shepherd of the people' (*mu min*). In the Confucian order, properly conducted farming, the foundation of society, depends on disciplined human and bovine bodies and minds working in

[56] 'Harrowing', trans. Hammers (2011), 168. [57] 'Levelling', trans. Hammers (2011), 169.
[58] As translated by the American poet Lewis Hyde (n.d.), 5.

harmony. As Chen Fu and Lou Shu both suggest, when peasants fail to treat their animals with consideration, the problem is at once material, moral and symptomatic of a failure of governance.

Wang Zhen's *Nongshu*: Working the Land in North and South

Another great milestone in the Chinese agronomic tradition was the *Nongshu* by Wang Zhen, completed in 1313. Wang Zhen was an official who had served in various regions of China, in both north and south. Distressed by the devastation wrought by decades of war and disaster that still affected much of China two decades after the Yuan dynasty was established, Wang wrote his treatise hoping to provide a handbook of best practice, culled not only from previous treatises but from his own observations, which would help officials to restore or improve farming in their district. On northern dryland farming methods and crops, Wang quotes extensively from the *Qimin yaoshu*; for the south, Chen Fu is a primary source. Wang's great innovation was to compose an 'Illustrated Register of Farm Implements' ('Nongqi tupu' 農器圖譜), a full inventory of the tools and machinery used in farming and textile production, pairing a technical drawing of each item with an explanation of its construction and use.[59]

Wang Zhen begins his treatise with a brief account of the legendary origins of agriculture, beginning with the divine birth of the Heavenly Husbandman, the first farmer, who had the body of a man and the head of a bull, going on to the origins of ox ploughing and silkworm domestication.[60] Wang repeatedly insists upon the fundamental importance of the ox or buffalo, *niu*. His illustrated register takes inspiration from Chen Fu, inserting an entry on 'plough oxen' (*geng niu* 耕牛) right between the plough and the harrow, in his initial entry in the section on 'ploughing instruments'.[61] Just as the passage on the plough traces its legendary origins and its moral and economic significance before launching into details of its construction, so the entry on *geng niu* begins with a history of taming *niu* and their uses from antiquity, the start of ox-drawn ploughing in the Spring and Autumn period, and the place of *niu* in annual rituals. It goes on to provide some instructions for their care, but the bulk of that information is provided elsewhere, in the animal husbandry section in the first part of the book, 'General Advice on Agriculture and Sericulture' ('Nongsang tongjue' 農桑通訣).

Following the model of the *Qimin yaoshu*, Wang Zhen's section on animal husbandry (*chu yang* 畜養) contains entries on horses, *niu* (including both northern cattle and oxen and southern water buffalo), sheep, pigs, chickens,

[59] Bray (2007). [60] *[Wang Zhen] Nongshu*, 'Nongsang tongjue' 1, 3–5.
[61] *[Wang Zhen] Nongshu*, 'Nongqi tupu' 2, 202–4. There are two accompanying illustrations, one obviously a water buffalo, the other possibly an ox.

swans and geese, and fish. Wang Zhen has absorbed Chen Fu's message: the entry on equines is only three columns long. Since *niu* are more important for farmers, Wang remarks that there is no need to say more.[62] The entry on *niu* – much more substantial at over two pages long – is essentially an edited version of Chen Fu's text.[63] The eight-column entry on sheep consists largely of quotes from the *Qimin yaoshu*, and concludes by saying that wool and dairy products can be marketed and bring good profits.[64] Like those on poultry and sheep, the short entry on pigs once again consists essentially of quotes from the *Qimin yaoshu*.[65]

There is not much to be read between the lines of Wang Zhen's husbandry section. Yet, in gauging the relative significance of animals in the rural economy and the moral culture of the time, we should also consider the various entries in the *Nongqi tupu* that describe mules working machinery, reflecting the indispensable role of these strong and hardy animals in the northern provinces, and belying the brevity of Wang Zhen's entry on equines in the husbandry section.[66] There are also brief, illustrated accounts of how to lay out a farmyard and build a south-facing byre,[67] as well as an entry on 'the herdboy's flute' (*mudi* 牧笛), depicted as an essential piece of equipment for anybody herding animals.[68] Wang Zhen's illustration shows a lad riding on a water buffalo's back; boy and beast look serene and content as they move through the empty landscape with the moon overhead, a vision that closely matches 'Riding Home' in the 'Ten Ox-herding Pictures and Poems'.[69]

A Local Treatise: Pork Comes into its Own

Finally, let us consider how livestock feature in a well-known and widely anthologized *nongshu* from the high Qing period, the *Binfeng guangyi* of 1741.[70] The author, Yang Shen, represented himself in the preface as a modest scholar-farmer who had never moved far from his Shaanxi home, though, in fact, he worked closely with the eminent statesman Chen Hongmou 陳宏謀 (1696–1791) on projects to revive the local economy.

The *Binfeng guangyi* is one of our most important sources for sericultural history; it is also notable for the unusual attention it devotes to livestock.

[62] *[Wang Zhen] Nongshu*, 'Nongsang tongjue' 5, 58.
[63] *[Wang Zhen] Nongshu*, 'Nongsang tongjue' 5, 58–60.
[64] *[Wang Zhen] Nongshu*, 'Nongsang tongjue' 5, 61.
[65] *[Wang Zhen] Nongshu*, 'Nongsang tongjue' 5, 61–2.
[66] Including four different types of grain mill; cf. *[Wang Zhen] Nongshu*, 'Nongqi tupu' 9, 282–4, 286.
[67] *[Wang Zhen] Nongshu*, 'Nongqi tupu' 12, 317, 319.
[68] *[Wang Zhen] Nongshu*, 'Nongqi tupu' 7, 262–3. [69] Hyde (n.d.), 6.
[70] Wang Yuhu (1979), 221.

Typically, Yang Shen links technical and moral excellence in his short *nongshu*, 'valoriz[ing] the small-producer patriarchal household as optimal for reasons both of ritual propriety and economic efficiency'.[71] Yang recognizes that households need a source of cash income and, in addition to sericulture, he proposes market gardening and raising animals for sale.

Yang Shen starts, naturally, with Lord Tao Zhu, but goes on to say that not all five types of livestock do well in his region: he has therefore chosen to discuss only pigs, sheep and goats, and poultry.[72] Cattle and horses are omitted entirely and though sheep feature in the *Binfeng guangyi* as key livestock that have maintained their traditional importance in the harsh and barren environment of the northwestern loess-lands, pigs precede sheep in Yang's livestock section, perhaps in response to the proximity of Xi'an and other urban markets. Sheep are a valuable source of wool as well as meat: the local breed can be sheared three times a year (in the third, sixth and eighth months), and should be carefully washed and combed before each shearing. In deciding whether to farm pigs or poultry, sheep or vegetables, a family should consider its labour resources and, above all, whether it can afford to feed and graze livestock. Yang suggests that both sheep and pigs in his region can be put out to graze or forage for much of the year, but pregnant and lactating animals, as well as newly born and unweaned animals, need special feeding, and all of them must be housed in stalls and fed in the winter, so land has to be set aside to grow clover or beans for their fodder.

The *Binfeng guangyi*, like late imperial *materia medica* writings (*bencao* 本草), dietetic manuals and works of gastronomy, insists that good, tasty meat depends upon suitable feed, and devotes close attention to a wide range of food and fodder, both for routine feeding and for fattening animals for sale. By the eighteenth century, pigs raised in Jinhua which were destined to become the famous Jinhua ham, were being fed a diet of fruit and vegetables in summer, and hot dishes of rice or brewing-mash in the winter.[73] This was by no means novel: the *Qimin yaoshu* specifies the different kinds of food suitable for suckling lambs, young sheep and piglets, and for young castrated animals being fattened for market. Indeed, on close inspection we find that much of the text on livestock care in the *Binfeng guangyi* is borrowed and adapted from the *Qimin yaoshu*, albeit supplemented and updated in sections like those on feeding pigs.[74] Yang Shen provides some useful new material at the beginning of each section, listing regional breeds and their characteristics (with a perceptible local bias: he says southern breeds of both pigs and sheep tend to be sour and indigestible, while northern animals have sweet and nourishing flesh), and from his material he condenses a snappy and convenient list of

[71] Rowe (2002), 237. [72] *Binfeng guangyi*, 3.21a. [73] Kuo (2013), 181.
[74] *Binfeng guangyi*, 3.24a–b.

'seven do's and eight don'ts' for pig-farmers.[75] But, considering how much Yang Shen takes directly from the *Qimin yaoshu* – from how to choose a shepherd to when to let animals out to graze – it is difficult to decide how accurately his text reflects local practice. Was the rural landscape of eighteenth-century Shaanxi still dotted with flocks during the spring and summer months? Were pigs let out to forage, or were they kept penned year-round, as they apparently were in Jinhua?

What is most significant about the livestock sections of *Binfeng guangyi* is probably not the technical advice they contain, but rather the fact that here we have a learned Confucian, one of many who composed a *nongshu* to portray the occupations suitable for a virtuous household, recognizing for the first time the moral and economic value of that humble beast, the common pig.

Concluding Remarks

Depictions of livestock in the *nongshu* are certainly much more than simple reflections of stock-rearing practices of the period. Politics, morality and elite *mœurs* were closely entangled in the composition of such texts. To gauge the significance of what an author decided to talk about, and how, one also has to take into account what was *not* included in the *nongshu*.

The early and quasi-canonical *Qimin yaoshu* was unique in the degree to which it integrated livestock with arable farming. In this, it reflected not just the farming landscape of the period, but also elite attitudes about which animals counted, and why. Hence, horses and sheep figured prominently, while cattle and pigs were dealt with more cursorily. Later works reflect a political vision in which livestock play only a minor role in agriculture, with the exception of the ox or buffalo, which are represented as the moral and physical partner in the farmer's toils. During this time, however, evidence from other sources indicates that pigs and other small livestock were kept in increasing numbers, to meet expanding demand not just from the elite, but also from ordinary urban families. While works composed by officials like Wang Zhen and Lou Shu still gave precedence to bovines, emphasizing the moral symbiosis between farmer and ox and – by extension – between peasant and ruler, in actively promoting the breeding of such humble animals as pigs and sheep as an appropriate activity for respectable families, the *Binfeng guangyi* reminds us that that the Confucian morality which imbued late imperial *nongshu* was by no means incompatible with sensitivity to market forces.

[75] *Binfeng guangyi*, 3.23b–24a.

7 Animals as Text

Producing and Consuming 'Text-Animals'

Martina Siebert

In her reconstruction of the different enactments or 'versions' of cow's milk and mother's milk in early eighteenth-century discourse, Kristin Asdal called working with archival texts 'the historian's version of field work', because 'objects are enacted in written materials too'.[1] To their readers and writers, objects acquire an existence and reality through texts, which can be questioned or taken as fact and – after passing through another's mind – might be quoted verbatim or adjusted and written down in a different author's own words. Texts do not establish a neutral signifier:signified relationship but produce or 'enact' a version, an identity and reality of the thing they are describing. In this chapter, I consider reading and writing about animals in historical China from and into a textual form as comprising an active, 'praxeological' relation between the scholar and the animal.[2] This means that the animal in a text, which I call the 'text-animal', represents one actual instance, reality and ontology of an animal to the scholar reading it, which he then interacts with.

This chapter juxtaposes texts written from an unbridgeable distance between the author and the animal – and therewith seemingly also a distance between text-animal and physical animal – with texts that document close, hands-on encounters with animals in the real world. The first group of texts consider their animals as 'remote', approachable through philology and anecdote. Although most of these texts deal with wild animals such as tigers, snakes or crabs, there are also examples concerned with horses and cats, i.e. species with which the author had probably experienced multiple physical encounters. In contrast, the second type includes texts about breeding, caring for and training animals used in competitions, such as goldfish, fighting crickets and quails. The authors of these texts were literally 'close' to their animals, for example staring into

[1] Asdal (2014), 311.

[2] This idea of a praxeological relation between animal and text/author, both as actors and as acted upon in a web of mutual relations, draws on the concepts of 'material semiotics' outlined by Law and Mol (2008) and Law (2009). See also Schlünder (2012) on the use of the term 'praxeology'.

a goldfish bowl to find new morphological features or tickling a cricket with a rat whisker. From our contemporary perspective, we might ask what happened when the words on a page differed from what readers were seeing in real life. This raises several questions: did these discrepancies actually matter to Chinese scholars?[3] Was it possible for contrasting 'versions' of an animal to co-exist peacefully? What was considered all-encompassing knowledge about 'close' or 'remote' animal species? How was it possible to write about animals at all?

To explore these points, this chapter begins by providing some reflections on 'animal texts' in historical China. This includes the genre of specialized monographs on natural studies and material culture labelled *pulu* 譜錄 'treatises and lists', and the way that animals developed into one of their main subjects over time. The chapter then examines a selection of *pulu* topics as case studies to explore how scholars produced and consumed animals as texts – either by collecting stories and narratives which circumscribed the species from a distanced, 'remote' philological perspective, or by trying to identify ever-new phenotypic variations from their own personal interactions with animals. The chapter concludes with some general reflections on 'text-animals'.

Animal Texts

As the chapters in this volume illustrate, text-animals or reflections/reproductions of animals in texts inhabit many Chinese genres: from poetry to scholarly anecdotes, from philosophical and religious writings to historical and agricultural treatises, from encyclopaedic entries to administrative regulations.[4] *Pulu*, however, created a node or hub where knowledge about one specific animal or group of animals extracted from other genres of literature was accumulated and interacted with the author's own practical or scholarly experience. Moreover, *pulu* constitute stand-alone monographs. Whereas in the other genres animals are embedded into larger writing projects, such as a collection of an author's brush notes or poems, provide just one aspect in an all-encompassing compendium of agricultural or encyclopaedic knowledge, or are considered from the expert viewpoint of veterinary medicine or administration, each *pulu* focuses on one 'thing' – which could comprise an animal or animal species. In short, only the monographic genre of *pulu* writes exclusively about animals per se.

[3] In Chapter 11 of this volume Zheng Xinxian discusses an outstanding example of this – the discrepancy between the canonical 'Monthly Ordinances' and the practical knowledge of the Qianlong emperor.

[4] Two other genres which are often scoured for examples of Chinese natural studies are works in the tradition of the early second-century glossary *Erya* 爾雅 (e.g. the *Piya* 埤雅 by Song dynasty Lu Dian 陸佃), or works such as Lu Ji's 陸璣 third-century *Commentaries about Flora and Fauna in the Mao version of the Book of Songs* (*Mao shi caomu niaoshou chongyu shu* 毛詩草木鳥獸蟲魚疏). These have influenced the tradition of *pulu* writing to some degree, but had different agendas.

The definition of *pulu* as a genre stems from both their format and subject matter: they form a 'treatise' with topical chapters, a 'list' arranged into categories, or a combination of both. Their topic is a defined 'thing' or group of 'things' from the artificial or the natural world: for example, there are *pulu* on bronze objects, ink stones and tea; on cats, snakes, goldfish, birds and quails; and on animals as a whole. *Pulu* on animal species are similar in structure and approach to those on orchids and bronze objects. Whereas writing a poem about an animal species, including it in a pharmaceutical, culinary or agricultural treatise, or providing a description and calligraphy in an animal painting were readily deemed worthwhile scholarly undertakings, *pulu*, by contrast, needed time to develop into a genre that scholars wrote with self-confidence. *Pulu* authors mutually referred to each other in their prefaces, to justify the notion that collecting knowledge about just one species or one group of species was a worthwhile endeavour. As *pulu* developed into a specialized genre and framework of scholarly inquiry, Chinese bibliographical classification schemes were amended to make room for the new genre. In the late twelfth century the bibliophile You Mao 尤袤 (1127–94) was the first to adapt the traditional classification scheme to accommodate *pulu* in a new bibliographical slot exclusively dedicated to them. After the late eighteenth-century *Complete Library of the Four Branches* (*Siku quanshu* 四庫全書) stated that 'We cannot but establish a class for *pulu*' (*pulu zhi lei, bu ke bu li* 譜錄之類，不可不立),[5] *pulu* became integral to catalogues and bibliographies, and still remain so in Chinese rare book collections today.

Pulu became a popular scholarly genre in the Song dynasty due to a number of developments: a growing awareness of the empire's southern parts with its flora and fauna, a flourishing trans-regional and international market offering new species and products, and the ever higher esteem given to encyclopaedic knowledge. Scholars have also suggested that the growing urbanization of Chinese scholarly lives led to Song garden and Ming leisure culture which, in turn, produced several *pulu* authors.[6] In the wake of all this progression, an urgent demand to capture and fix objects in a textual form emerged, via nomenclature, descriptions of whatever was known about them, etc. But the development of *pulu* writing also drew on famous precedents that pre-dated the formative stages of the genre by some centuries, namely Dai Kaizhi's 戴凱之 *Zhu pu* 竹譜 (Book on Bamboo) from the fifth century and the Tang dynasty *Cha jing* 茶經 (Classic of Tea) written by Lu Yu 陸羽 (733–804 CE).

In their quest for historical precedents, animal authors went back even further into the past. Thus, Table 7.1 lists a number of texts from before the Song, including the famous *Qin jing* 禽經 (Classic on Birds), which is believed to date

[5] *Siku quanshu zongmu tiyao*, 115.988. [6] Ko (1994); Clunas (1991).

as far back as the Zhou. However, most of these pre-Song titles either are lost or only exist in fragments with apocryphal authorship. None of these texts survives in a version that pre-dates the thirteenth century – at least not in the form of an independent monograph. For example, the *Yang yu jing* 養魚經 (Classic on Raising Fish) ascribed to Fan Li 范蠡 (fifth century BCE) is quoted in full in the sixth-century *Qimin yaoshu* 齊民要術 (Essential Techniques for the Common People), even though it may have been intended as a collection of metaphors on good rulership rather than a technical tract. But, since these early titles were included in bibliographies from the Tang onwards,[7] they became accepted as apposite bibliographical entities. This ensured that scholars in general became aware of books on animals and enabled *pulu* scholars to refer to them to justify their own repertoires. Works like the *Classic on Birds* became exemplars which served as reference points for writing monographic texts specializing in animals.

By the eleventh century, *pulu* was an established genre known and accepted by scholars, especially on topics such as bamboo, chrysanthemums, peonies, tea and wine, as well as ink slabs, ink and bronze objects. At the same time, *pulu* on animals started to appear. Nevertheless, the high number of animal titles in the column for the Song dynasty in Table 7.1 is rather misleading, as it consists largely of undated titles listed in state and private Song bibliographies.[8]

Among the first full-blown and still extant treatises on animals from the Song era, three titles stand out. These are Fu Gong's 傅肱 (Song) *Xie pu* 蟹譜

[7] The *Classic on Raising Fish* is said to have been mentioned in the lost sixth-century bibliography *Qi lu* 七錄 (Seven Registers). The bibliographic treatise of the *Jiu Tangshu* 舊唐書 (Old History of the Tang) lists it under 'Agricultural writings'; see *Jiu Tangshu*, 47.2035. The *Classic on Birds*, attributed to Shi Kuang 師曠 (sixth century BCE), a music master of Zhou era kingdom Jin 晉, is shown in two halves in Table 7.1 since there does not appear to be any version of the text which omits Zhang Hua's 張華 (232–300 CE) third-century CE commentary. The transmitted versions of these early titles mostly rely on the Song collection *Baichuan xuehai* 百川學海 compiled by Zuo Gui 左圭 (fl. thirteenth century) in 1273. The *Xiang niu jing* 相牛經 (Classic on Ox Physiognomy), also of supposedly Zhou ancestry, was listed as lost in the *Suishu* bibliography (fifth century CE), but reappeared in the *Baichuan xuehai* collection. Most of the titles in the pre-Song columns in Table 7.1 are *xiang shu* 相書, 'books on evaluations according to appearance' or books on 'raising and care' (*yang* 養), which both focus on horses and oxen. These titles can be called *pulu* 'avant la lettre' but, since Song times, they only existed as authorless entries in bibliographies. On *xiang shu*, see e.g. Li Ling (2001), 84–7.

[8] *Pulu* are mentioned in two Song dynasty bibliographies – the comprehensive private library catalogues *Zhizhai shulu jieti* 直齋書錄解題 (Commentated Book List of the Zhizhai studio) and You Mao's *Suichutang shumu* 遂初堂書目 (Library Catalogue of the Suichu Hall), the 'originator' of the bibliographical category '*pulu*'. The large number of *pulu* in the bibliography of the *Dynastic History of the Song* (*Songshu* 宋書) derives from the compilers indiscriminately copying all titles from diverse official palace catalogues without actually seeing the books, identifying duplicates or more thoroughly searching for authors or dates. See Li Ruiliang (1993), 174; Siebert (2006), 60–1.

(Book on Crabs), written in 1059, and its 'expansion and correction' compiled in 1211 by Gao Sisun 高似孫 (1154–1212) under the name *Xie lüe* 蟹略 (Crab Survey), and the *Cuzhi jing* 促織經 (Classic on Crickets) attributed to Jia Sidao 賈似道 (1213–75). The latter probably dates to Ming times but is traditionally labelled as Song.[9] These examples proved that the structure of *pulu* could also be used without any modification to write about animal species. Whereas the *Xie pu* adopted the 'list' style of Dai Kaizhi's *Zhu pu* (Book on Bamboo), i.e. assembling pieces of knowledge in an encyclopaedic manner from a wide range of literature and hearsay, the *Cuzhi jing* was supposedly written by an aficionado of cricket culture in close contact with the creatures and with hands-on, practical knowledge, following the *Classic of Tea*'s chapter format. This tension between 'remote' and 'close' topics runs through the whole genre of *pulu* writing, in particular those about animals, which include fewer examples of 'close' animal species. This latter type of text documents a fascination with variety and variation that only becomes apparent from close examination. I will explore this point in more detail in the 'Animals in Variation' section, and explore *pulu* dealing with 'remote' animals or describing animals in a 'distanced', narrative style in the 'Animals in Narration' section below.

The total number of *pulu* texts about animals increased by half between the Song and the Ming, and almost doubled between the Ming and Qing. As the genre took shape and began to flourish in the Song, most *pulu* texts were written on topics such as chrysanthemums and bamboo, with animals only comprising one-eighth of all *pulu* titles in the Song and Ming. This figure rose slightly to between one-seventh and one-sixth during the Qing.

Three developments can be identified when reviewing these numbers: firstly, *pulu* on 'all animals' and on 'fish and sea animals' increased in popularity; secondly, 'aficionado' animals used in gambling fights or competitions of beauty and exceptionality such as crickets, quails and goldfish, became more popular; and thirdly, an increasingly greater spectrum of species attracted the interest of *pulu* authors. While this last group mostly consists of short texts – some of which started life as stand-alone texts not until collated by

[9] No bibliography before the Ming lists the *Classic on Crickets*; the earliest imprint bearing the title *Chongkan dingzheng Qiuchong pu* 重刊訂正秋蟲譜 (New and Corrected Imprint of the Book on the 'Autumn Insect') dates from 1546. See *Xuxiu siku quanshu* 續修四庫全書, vol. 1120, 239–56. With the inclusion of Jia's cricket book in the *Yimen guangdu* 夷門廣牘 collection, edited by Zhou Lüjing 周履靖 (1549–1640) at the turn of the seventeenth century, the title became more widely known. History mainly remembers Jia Sidao as one of the Song dynasty's treacherous officials, who only cared about his own pleasures and entertainment, including his personal favourite, cricket fights. Ascribing this title to Jia might be a case of *yituo* 依托 'assignment in support', rather than *weituo* 偽托 'false assignment' which, according to Li Ling's definition, means writing and producing a compilation in the tradition of, and in support of, the assigned historic author – not a form of deception. See Li Ling (2001), 28–30.

Table 7.1 Pulu *about animals through time*

All animals		Zhou	Han	San Guo	Jin	Liang	Sui	Tang	Song	Yuan	Ming	Qing	
											4	**9**	**13**
Quadrupeds	quadrupeds (*shou*)								1		1	3	5
	horses	1					1	2	8	1	6	2	21
	oxen	1		1					1		3	4	10
	camels								1		1	1	3
	cats											3	3
	tigers										2	1	3
	other quadrupeds		2[a]		1[a]				4[b]			2[c]	9
Quadrupeds total:		**2**	**2**	**1**	**1**		**1**	**2**	**14**	**1**	**14**	**16**	**54**
Birds	birds (*qin*)	½[d]			½[d]				1		2	4	8
	birds of prey							1	2		1	2	6
	cranes							1			2		3
	quails											8	8
	other birds								3[e]		1[f]	9[g]	13
Birds total:		**½**			**½**			**2**	**6**		**6**	**23**	**38**
Fish	fish & sea animals	1							2		11	8	22
	goldfish										2	6	8
	crabs								2		1	2	5
	mussels		1						2				3
	snakes											2	2

Fish total:		**1**	**1**						**6**		**14**	**18**	**40**
Insects	insects										2	1	3
	crickets								2		2	11	15
	bees										2	3	5
	butterflies											1	1
Insects total:									**2**		**6**	**16**	**24**
Pulu on animals in total:		3	3	1	2	0	1	4	28	1	44	82	169
Pulu in total:		**3**	**3**	**2**	**6**	**4**	**3**	**28**	**224**	**22**	**352**	**542**	**1189**

a: pig, sheep; tortoise
b: tortoise, *qilin*, 猩猩 (chimpanzee?), dog
c: dragon, lion
d: *Qin jing* by Shi Kuang, commentary by Zhang Hua
e: dove, duck, chicken, goose
f: phoenix
g: thrush (2), martin (2), cock(fight), sparrow, dove

a collectanea (*congshu* 叢書)[10] editor – books on 'all animals' were often voluminous and provided an extensive selection from the whole spectrum of Chinese animal classes, i.e. from 'beasts' (*shou* 獸) and 'birds' (*niao* 鳥) to 'fish' (*yu* 魚) and 'insects' (*chong* 蟲).[11] The most noteworthy examples of this include: 1. *Yinshi ji* 蟫史集 (Collection from the History of a Bookworm; preface dated 1586), consisting of over 280 entries; 2. *Rufan* 蠕範 (Master Plan of the Wriggling and Winding; written in 1791, printed in 1844) with 420 entries; 3. *Chong hui* 蟲薈 (Animal Florilegia; preface dated 1898) comprising quotations on 1,148 species; and 4. *Niaoshou chongyu bianlüe* 鳥獸蟲魚編略 (Arranged Summary of All Animals; an undated manuscript kept at the Chinese Academy of Science library), filling 110 *juan*. With nine *juan* missing, over 1,300 entries are still extant today – 383 on birds, 364 on quadrupeds, 377 on fishes and 188 in the fragmented chapter on insects. The title of the *Sichong beilan* 四蟲備覽 (Complete View of All Four [Types of] Beasts; printed in 1848) suggests that it should also belong to this list. But the copy housed today in the old branch of the Chinese National Library in Beijing only covers one type of animals, namely birds.[12] Titles focusing on the group of 'fish and sea animals' show a great awareness of the wealth of unknown species that might live in the obscure world beneath the sea – a darkness that Li Diaoyuan 李調元 (1734–1803) wanted to illuminate in his *Ranxi zhi* 然犀志 (Account of the Burning Rhinoceros [Horn]; preface dated 1779), by using a rhinoceros horn which was believed could burn underwater. Guo Bocang 郭柏蒼 (1815–90) assumed that the creatures in the sea's abyss were the same as those on land. His *Haicuo baiyi lu* 海錯百一錄 (All Sea Animals in One Register; printed in 1886) therefore portrays sea-tigers, sea-horses, sea-humans, etc., which are all similar in shape to those on land but are 'bigger, or with a different name or different use'.[13] In addition, authors compiled extensive anthologies of quotations and stories about horses, cats and tigers, which each strove to provide an abundance of stories about one particular species, instead of multiple species or morphological

[10] Collections such as the *Shuofu* 說郛 and *Zhaodai congshu* 昭代叢書 were particularly adept at turning essays into monographs. For instance, the *Buji* 哺記 (Notes on Hatching) by Huang Baijia 黃百家 (1643–1709) was originally an essay in Huang's anthology *Xueji chugao* 學箕初稿 (First Drafts from the Winnowing Basket of Learning). See the facsimile in *Sibu congkan, ji bu*, vol. 341, 263–4. But it later appeared as a separate title in *Zhaodai congshu*, 3253. On the *Buji*, see Siebert (2006).

[11] See Siebert (2012) on the different ways of grouping animals into morphological classes and hierarchies, and according to topics of scholarly interest.

[12] This title, written by Ni Tingying 倪廷瑛 (n.d.), is listed in the bibliographies of the *Qingshi gao* 清史稿, 205 ('Yiwen zhi' 藝文誌) and the *Baqianjuan lou shumu* 八千卷樓書目, 12.12a.

[13] *Haicuo bai yi lu*, preface, 1a.

varieties.[14] The stories provided different perspectives on these animals and depicted the different contexts in which they played a role. Ming and Qing titles about horses (see below) confirm the growing popularity of this type of comprehensive *pulu*.

Animals in Narration

Many *pulu* authors combed through earlier works in search of relevant passages and exemplary stories to depict animals and existing knowledge about them. Some provided scraps of information in a disjointed manner as separate and apparently unconnected paragraphs; others included topical chapters to orientate their readers. While the use of quotations enabled an author to include knowledge that had already been attested by other texts (thereby acquiring some legitimacy as well as devolving full responsibility for its contents), this approach meant that the animals were depicted as not being directly approachable.

This chapter now considers horses, cats and tigers as subjects which exemplify different kinds of 'remote' animals and illustrate the different strategies which *pulu* authors adopted to approach them, using assemblages of quotations and stories. It seems appropriate to call some of these works 'animal *leishu*' 類書, i.e. the Chinese term for an encyclopaedic collection of quotations grouped into 'categories' (*lei*), although traditional Chinese bibliographies rarely classified these texts in this way. The genre of *pulu* overall does not fit the class of *leishu* because its focus is too narrow and its subject matter too marginal.[15]

Horses

The multi-valence and importance of horses becomes particularly evident by comparing *pulu* on horses dating from Ming and Qing times with the

[14] The *problematique* of what counts as a species and what as only a variation was not a central concern for historical Chinese scholars. A 'name' was the anchor for identification to which in turn a number of descriptions of morphological features and narrative characterizations were attached. Of course, *materia medica* needed to be correctly identified and no one wanted to pay a high price for fake sable. But, in the textualized world of animals in historical China under study here, different levels of individualizations – i.e. what today's zoology would consider a species, variety or individuum – appear next to each other. Some aspects of this are dealt with in their relation to the classification and grouping of animals in Siebert (2012); a look into the 'achievements' and uses of knowledge about heredity is provided by, for example, Wang Zichun (1989).

[15] There are two examples of *pulu* on 'all animals' that were occasionally classified by bibliographies as *leishu* or 'encyclopaedias'. The *Siku quanshu* grouped the *Yinshi ji* by Mu Xiwen 穆希文 (preface 1586) into its *leishu* category (*Siku quanshu zongmu tiyao*, 138.1174); the *Baqianjuan lou shumu* listed the *Jian wu* 見物 (Seeing Things; preface 1581) by Li Su 李蘇 (Ming) under *leishu* (13.24a).

administrative and epidemic concerns outlined by Schäfer and Han (see Chapter 8) and the horse as icon of both orderly state and free steppe, in a multicultural, multilingual Qing, as described by Aricanli (see Chapter 10). The Song and pre-Song era monographs on horses listed in Table 7.1 are nearly all called *Xiang ma jing* 相馬經 (Classic on Evaluating Horses According to Appearance), with no author cited, making it difficult today to distinguish the works from each other.[16] The title suggests that these texts were guides to evaluating horses' good health and character by examining their fur whorls, colouring, body proportions, etc. After the *xiang* 相 'evaluation' genre disappeared or, perhaps more accurately, was integrated into the government's medical and managerial concerns, works on horses classified as *pulu* became more akin to other *pulu* titles.[17]

Two comprehensive *pulu* on horses were compiled in the late sixteenth to early seventeenth century. Both investigate horses from a philological-historical angle by collating quotations about individual horses or horse-related events through history. They treat horses as individuals from China's historical past, i.e. animals not observable by the author himself, thus constituting one form of 'remote' animal. The first text, Guo Zizhang's 郭子章 (1543–1618) *Pinyisheng Ma ji* 蠙衣生馬記 (Pinyisheng's Notes on Horses), contains eighty-eight entries on 'famous horses of kings and lords from antiquity [i.e. including mythological figures such as Fuxi 伏羲] to contemporary times [i.e. the Ming dynasty]', and seventeen entries with 'anecdotes and other writings about ordinary horses and horse terminology'.[18] Chen Jiru 陳繼儒 (1558–1639) combined Guo's entries with the eighty-two entries from Li Chengxun's 李承勛 (Ming) sequel to Guo's work into one work for his late sixteenth-century collection *Baoyantang miji* 寶顏堂秘笈, omitting Li's name.[19] Hu Shi'an 胡世安 (1593–1663) took a similar, but even more comprehensive, approach to horses in his *Long sheng* 龍乘 (History of the [Two Kinds of] Dragons [i.e. Swords and Horses]; preface dated 1624) in sixteen *juan*. Hu dedicated five *juan* (*juan* 2–6) to the 'dragons of the scabbard' (*xia long* 匣龍), i.e. swords, and ten *juan* (*juan* 7–16) to the 'dragons of the shed' (*jiu long* 廄龍) – as he called his section on horses. One of his chapters lists and

[16] Whereas most *Xiang ma jing* had only one *juan, Jiu Tangshu*, 47.2035 and *Xin Tangshu*, 59.1538 record a lost *Xiang ma jing* with sixty *juan* that was attributed to Zhuge Ying 諸葛穎 (fl. late sixth century).

[17] The *Mazheng ji* 馬政紀 (Records on Horse Administration) in twelve *juan* compiled by Yang Shiqiao 楊時喬 (d. 1609), for instance, appears in the bibliographical class of *zhengshu* 政書 'books on administration' (see *Siku quanshu zongmu tiyao*, 82.711).

[18] *Ming ma ji xu* 名馬記序, preface (n.d.) by Guo Zizhang, in *Xuxiu siku quanshu*, vol. 1119, 319.

[19] The numbers given here are those mentioned in Guo's preface and Li Chengxun's epilogue (*Ming ma ji* 名馬記, in *Xuxiu siku quanshu*, vol. 1119, 319–24, 337–8). The *Baoyantang miji* edition adjusted the numbers in Guo's preface to 160 for the first and forty for the second part, leaving thirteen entries that seem to have been added by Chen Jiru himself.

explains the names and stories of individual historical horses (*kao ming* 攷名). Other chapters are concerned with 'mimicry' (*xingsi* 形似) and simulacra (such as horses made from clay that could run 1,000 miles per day after being brought to life by magic), provide rhyming couplets (*li ju* 儷句), or explanations of terminology grouped into categories (*lei gu* 類詁).[20] Three *juan* are dedicated to quotations from 'ancient scriptures' (*dian ji* 典籍).[21] Interestingly, Guo Zizhang and Hu Shi'an both compiled a matching piece of writing on swords, which Hu made into the first part of his work. Both authors approached horses and swords using similar methods and framed them as remembered objects or actors with individual names and relationships comparable to a historically known person or place.[22]

Cats

The three *pulu* on cats were written close together, in 1798, 1799 and 1852, although their authors – one a woman – did not know about or quote from each other. Nevertheless, all three used the same methodology, collecting quotations from a wide range of works, arranging them into thematic chapters and citing their sources. However, they also differ in certain ways. Whereas the *Mao sheng* 貓乘 (History of the Cat) by Wang Chutong 王初桐 (c. 1730–1810) consists only of quotations, authoress Sun Sunyi's 孫蓀意 (1783–1820) *Xianchan xiaolu* 銜蟬小錄 (Short Account of Cicada-in-the-Mouth [the Cat]) and Huang Han's 黃漢 (d. 1853) *Mao yuan* 貓苑 (Cat Garden) go slightly further. Sun Sunyi occasionally includes her own short commentaries as footnotes, while Huang Han and his friends contribute additional stories and information relating to a fact (or factoid, i.e. an accepted 'truth' constructed by prestigious authors of the past) established by the quotation.[23] These are appended as indented paragraphs, starting with 'Han comments' (Han *an* 漢按) or '(so-and-so) says' (*yun* 云 or *yue* 曰), and thus are clearly distinguishable and separate from what is presented as the 'main' text.[24] These comments open up another level of discourse, not only optically by indentation, but also by

[20] *Long sheng*, 8.1a–8a, 9.10a–b, 9.17a–18b. [21] *Long sheng*, 11–13.

[22] A famous example is Zhui 騅, the warhorse whose owner, Xiang Yu 項羽 (232–202 BCE), sent him home before killing himself after being defeated by the Han army. The iconic *pulu* on swords, the *Gujin daojian lu* 古今刀劍錄 (Register of Swords Old and New), was compiled by Tao Hongjing 陶宏景 (456–536 CE), and also lists only historical swords, which Tao himself had never seen.

[23] Huang Han gives a full list of all his aides and contributors in the 'Instructions' (*Fan li* 凡例) to the book. *Mao yuan*, 2 ('Fanli').

[24] This structure of a 'main text with commentary' is also found in the *Rufan* (see above) and the *Yiyu tuzan* 異魚圖贊 (Illustrated Eulogies on Remarkable Fish; preface 1544) by Yang Shen 楊慎 (1488–1559) and its sequels by Hu Shi'an, i.e. *Yiyu tuzan bu* 異魚圖贊補, *~runji* 閏集 and *~jian* 箋 dated 1618 and 1630. Here 'main text' and 'commentary' were actually written by the same authors.

reflecting on the cat as a pet of which the author and his friends have personal knowledge. Thus, their remarks occasionally reflect on the 'remote' or 'textual' idea of a cat presented in the quotation. For example, Huang Han and his friends add some practical advice to a quotation concerning the time dependency of a cat's eating habits. Whereas the quote draws some cosmological parallels, stressing that cats prefer different body parts of a rat at certain parts of the month (in the first part they only eat the head, in the second the stomach, and in the third the legs), the comment comes from an experienced cat owner, who advises against disturbing a cat while it is eating a rat on top of one's clothes or seating mats. One should wait until the cat has cleaned everything up. Otherwise, a bloody mess would be left behind. But the same entry also adds some hearsay, such as, if you watch a cat when it is eating a rat, its teeth will grow soft so it will never be able to kill another rat.[25] Often information given in the comments does not differ substantially from the main text quotations. But as they are presented in the personal voice of Huang Han or one of his friends, the comments draw the textual distanced, 'remote', factoid-based accounts of cats into the authors' present, real world.

Tigers

A similar web of quotations is constructed in textual assemblages around tigers. This animal's actual spatial 'remoteness' has resulted in an even stronger reliance on 'hearsay stories'. There are three extant monographs on tigers which – like the texts about cats – were published relatively close to one another. In contrast though, the authors clearly refer to each other, even citing their predecessor's work as the incentive for compiling their own tiger *pulu*. The sequence starts with the *Hu yuan* 虎苑 (Tiger Garden) by Wang Zhideng 王稚登 (1535–1612), which dates from 1553 (the year that Wang states he decided to edit a book on tigers in his preface). In that year Wang had the rare opportunity to interview some professional tiger hunters who came to his town to chase a man-eating tiger. Chen Jiru's *Hu hui* 虎薈 (Tiger Florilegia) followed in 1594/5. Chen's inspiration to compile this weighty volume of 363 entries[26] in six *juan* came directly from Wang Zhideng. Wang had personally given Chen a copy of his *Hu yuan* when he was suffering from malaria. The terror and excitement he experienced reading stories about this impressive, mysterious and dangerous animal brought his fever-struck senses back to normal, so he decided to produce an even more comprehensive book on the subject. The third author is Zhao Biaozhao 趙彪詔 (Qing), who mentions both Wang's and Chen's books as predecessors to his *Tan hu* 談虎 (Talking about Tigers; preface

[25] *Mao yuan,* 1.24b.
[26] This is the number counted by Huang Dahong and Zhang Tianli (1999).

dated 1716).[27] Whereas the *Hu yuan* and *Tan hu* structure their content in thematically organized chapters, Chen's *Hu hui* provides his stories without any obvious order. Zhao's *Tan hu* sorts his stories into three loosely framed chapters: 'Controlling and Subduing a Tiger' (*Zhi hu* 制虎), 'Encounters with Tigers' (*Hu shi* 虎事) and 'Miscellaneous Notes' (*Za ji* 雜記). Wang constructs and frames the tiger from a more varied set of perspectives. In the first of his fourteen chapters, called 'Virtuous Government' ('De zheng' 德政), the stories depict tigers terrorizing the region, to indicate governmental mismanagement. The animals leave the country – often by swimming across a river – as soon as a virtuous official takes on leadership. These accounts stress that resources spent on hunting and trapping are wasted because only good government can bring permanent relief from a tiger invasion. The second chapter shows that tigers are capable of acting with a 'Sense of Piety' ('Xiao gan' 孝感). When a tiger sinks its teeth into the leg of a boy collecting firewood, the boy's sister convinces the tiger not to eat him, by screaming and pulling its tail, explaining that she and her aged mother rely on the boy to survive. In the fifth and sixth chapters, tigers appear as prominent actors in events which show either their ability to 'Repay Kindness' ('Dai yi' 戴義) – for example bringing a deer to a human who had removed a thorn from a tiger's foot – or their instinct to 'Punish Cruelty' ('Ji bao' 殛暴), by killing a man who planned to leave his old mother behind to improve the chances for himself and his wife to survive on the little money he had. The chapters 'Strangeness' ('Ling guai' 靈怪), 'Taming and Training' ('Huan rao' 豢擾), 'Seizing and Shooting' ('Bo she' 搏射), 'Assistance to the Spirits' ('Shen she' 神攝), 'Human Transformation' ('Ren hua' 人化) and 'Providing Metaphors' ('Pang yu'旁喻) all follow the same format, collating short anecdotes or tales to convey ideas about specific aspects of the tiger. Each story states the place and name of the main actors as well as, occasionally, the era of the event. The chapters 'Strangeness' and 'Seizing and Shooting' deviate from the others, containing more stories of a longer length. The latter chapter shifts the focus onto humans' courage and great skills in weaponry that enables them to defeat tigers. The chapters 'Auspicious Signs' ('Zhen fu' 貞符), 'Omens' ('Zhan hou' 占候) and 'Fierceness' ('Wei meng' 威猛) have a different tone. Their information is not embedded in a narrative but is provided as factual/factoid statements such as 'Tigers reach the high age of 1000 years; after 500 years they turn white',[28]

[27] While the most recent story in the book dates from 1699, the preface mentions the year 1716. See *Tan hu*, 1149.3. This text, together with a parallel text on snakes written by Zhao – the *Shuo she* 說蛇 (On Snakes) – was included in the *Zhaodai congshu* in 1783. See *Zhaodai congshu*, 1147–55. Zhao's book has some overlaps with the *Hu hui*; for instance, both include the story about a man from Jingzhou 荊州 who was captured and transformed into a tiger by the 'rude ghost' of someone eaten by a tiger (*chang gui* 倀鬼). See *Tan hu*, 1151.3; *Hu hui*, 1.2b–3a.

[28] *Hu yuan*, 1.5a ('Zhen fu').

and 'Tigers do not eat children, as they are foolish and without fear and thus cannot be eaten; they also do not eat men while drunk, but have to wait until they are sober. What they wait for is not their soberness but their fear.'[29]

The last chapter of the *Hu hui*, 'Miscellaneous Notes' ('Za zhi' 襍志), contains a mixture of stories and quotations from books such as the *Shijing, Erya* and *Han Feizi* 韓非子.[30] It refers to tigers as one of the 'four spirit [animals]' (*si ling* 四靈), being traditionally called the 'righteous beast' (*ren shou* 仁獸 or *yi shou* 義獸).

The texts focusing on tigers almost exclusively describe the animal in relation to their encounters with humans. Only a few passages provide facts or factoids, such as, 'Tigers get drunk when eating dogs, because dogs are the wine of tigers.'[31] These writings about tigers are a typical example of *pulu*, which relied on stories and anecdotes to enable readers to extract and abstract factual knowledge by themselves – sometimes with the help of a chapter heading. In his study of tiger lore in the *Hu hui* and elsewhere, Charles E. Hammond concludes: 'Chinese beliefs concerning the tiger, like Western attitudes toward the tiger, are shot through with contradictions . . . [which in sum] demonstrates the pervasiveness of faith in an impartial divine power.'[32] I would argue that these contradictions do more than just point to a common explanatory node beyond human perceptions. Texts such as the *Hu hui* present discrepancies in the form of a monograph, portraying tigers as multifaceted animals with many realities, instead of one single entity of 'the tiger'. Multiple versions of tigers exist side by side and neither one invalidates any other. This function of *pulu* stands in contrast to Chinese encyclopaedias, in which the keyword 'tiger', first, is one among many other keywords and, second, the material listed lays out a spectrum of quotations in order to provide a repertoire for scholars to draw from.

In all of these examples knowledge about horses, cats and tigers was wrapped inside a narrative. Hayden White (following Barthes) characterizes narratives as being situated in time and place with a sequence of events having a beginning and an end, which therefore – in contrast to discourses – lack an ego presenting a subjective perspective. Without a narrator, 'the events seem to tell themselves'.[33] Information or knowledge that is embedded into a narrative can thus move between different time periods and social strata more easily. Yet,

[29] *Hu yuan*, 1.9b ('Wei meng').

[30] A certain overlap can be detected between the stories in the three tiger books and the eighty stories and historical anecdotes that constitute *juan* 82 of the *Taiping guangji* 太平廣記 (Extensive Records of the Taiping Era), an imperially sponsored encyclopaedic project from the tenth century. But, as the overlap is not exact and the sequence of the entries differs, it is likely that the *pulu* authors did not simply copy their information from the *Taiping guangji* but drew directly on the original sources and stories they claim were personal hearsay.

[31] *Hu yuan*, 1.9b ('Wei meng').

[32] Hammond (1991), (1996); quoted in Hammond (1996), 211.

[33] White (1980), 5–7.

different readers might focus on different aspects of the tales and make diverse connections to their own contemporary reality. From this perspective, narratives like those in the *pulu* examples above can be seen as unprocessed, 'raw' samples which allowed readers to extract information by different means, from diverse perspectives and for different aims throughout time.

Animals in Variation

The closer one looks, the more differences can be detected amongst things which appear similar at first sight. In the case of decorative garden flowers, difference, variation and nomenclature were features of great interest to Chinese authors. Many *pulu* about flowers such as chrysanthemums, orchids and peonies merely consist of lists, with names and descriptions of varieties sorted into categories according to their blossom colour, beauty or region. The animal species Chinese authors observed most closely were crickets, quails and goldfish. Apart from Jia Sidao's Song period work on crickets (see above), all *pulu* on hobby animals date from the late Ming and Qing and remained popular during the Republican period. They focus on differentiating between varieties (*zhong* 種) and evaluating qualities or grades (*pin* 品). These works include chapters on practical issues such as feeding and treating illnesses, as well as duties and taboos in caring for these species, along with rhyming verses to aid in memorizing the essentials. In addition, the books on crickets and quails contain chapters explaining how to train the animals for fighting. Training, feeding and care established an intimacy and communication between a cricket and its master, who spurred on or calmed down the insect's fighting spirit by tickling and stroking it using a rat's whisker. Goldfish manuals claimed that the fish could recognize their master's voice or knocking as signs to come and beg for food.[34] Books about crickets and quails provide guidance on how to evaluate their morphology in order to predict their fighting spirit and chances of winning tournaments. In the case of goldfish, breeding new and exceptional phenotypes was considered an end in itself, so the 'evaluation' (*xiang*) sections aimed to define which name a fish with certain attributes deserved (or, conversely, what features a goldfish with a specific name should have). Nevertheless, both types of hobby animals – those for fighting and those for beauty – were textualized using strategies that were similar to each other and to the *pulu* on decorative flowers, i.e. fixing the sometimes ephemeral existence of a variety by giving it a name and description. These thereby could be reused by others who might not have seen that actual variety. The names attached to these evaluations may have also determined prices on the market.

[34] See *Jinyu tupu*, 8a ('Shi xing' 識性).

The word 'variety' used here appears in the Chinese texts as *zhong*, or *pin*, and does not imply any Linnean or proto-Linnean meaning. Aficionados of goldfish (or chrysanthemums) were sometimes keen to create new varieties through breeding and, at other times, they were trying to preserve a variety. They were well aware that varieties of chrysanthemum and exceptional shapes in goldfish were products of human intervention[35] and that, if people stopped controlling breeding, their descendants might deteriorate and revert to an unornate, 'original' shape.

Goldfish

In Chinese literature, the history of goldfish is usually traced back to a Song poem by Su Shunqin 蘇舜欽 (1009–49). In the poem, the author describes looking for 'gold carp' (*jinji* 金鯽) – probably a mutation of the crucian carp – from a bridge near the Liuhe 六和 pagoda in Hangzhou. As early as 1548, the brush note collection *Qixiu leigao* 七修類稿 (Draft Arranged in Seven Categories) reported the enthusiasm with which people in Hangzhou reared 'fire fish' (*huoyu* 火魚), 'competing for colour [variation] and striving for profit'.[36] What had once been an ordinary type of crucian carp had, over time, been developed by goldfish aficionados into a dazzling array of varieties in shape and colour. The transfer from harsh natural conditions to well-tended fish bowls in devoted hobbyists' luxurious homes unlocked the species' potential for diversification.

When the author of the *Jinyu tupu* 金魚圖譜 (Illustrated Treatise on Goldfish), the self-styled 'peasant from Juqu 句曲 Mountain (in Jiangsu)' (n.d.) compiled his work, he claimed to be the first person to produce a monograph on goldfish. He was only aware of one previous work, containing fifty-four illustrations of goldfish varieties by a Mr Xue 薛, which he felt lacked sufficient explanations. Thus, the author decided to scour Li Shizhen's 李時珍 (1518–93) *Bencao gangmu* 本草綱目 (Compendium of Materia Medica), the *Hua jing* 花鏡 (Flower Mirror)[37] and other texts to gather the relevant information. The multicoloured print edition of the *Jinyu tupu* dated 1848 has two parts,

[35] Centuries of breeding new varieties made goldfish the ideal experimental organism for China's emerging genetic research in the 1920s. Chen Zhen 陳楨 (1894–1957), one of the main figures, included historical texts and accounts of visits to markets and professional breeders in his investigations of the genetic history and current state of goldfish variances. See Jiang Lijing (2016).

[36] See, for example, the *Jinyu tupu*, 1b.

[37] Some passages from the *Hua jing* section on goldfish are found verbatim in the *Jinyu tupu*. A significant difference between these books is that the latter's author, Chen Haozi 陳昊子 (fl. late seventeenth century), depicts goldfish as just one species among many other decorative garden animals. See *Hua jing*, 6.17b–19a, in *Gugong zhenben congkan*, vol. 473.

each of which has a different decorative frame around the text.[38] The first part contains eleven short chapters on different practical aspects; the second part appends Mr Xue's fifty-four names and illustrations. The first and last chapters, on 'Origin' ('Yuan shi' 原始) and 'Usage' ('Zheng yong' 徵用) discuss the history of the goldfish and its uses, namely as an emetic against opium poisoning and in fire prevention (by providing an additional use for firewater basins). The author dedicates the other chapters to detailed hands-on advice and explanations, such as how to control the 'Biting of the Seed' ('Yao zi' 咬子), i.e. the impregnation of females, how to identify and treat the fish 'Sprouts' ('Miao' 苗), how to feed and medicate fish, and how to evaluate their potential to develop a good colour and shape. He writes from the perspective of a professional.

Some 150 years before the *Jinyu tupu*, Jiang Zaiyong 蔣在雍 (fl. Qing period) had already written his *Zhuyu pu* 朱魚譜 (Treatise on Cinnabar Fish; preface dated 1699). Jiang names and describes fifty-six varieties or shapes of goldfish, some of which have identical names to those described in the *Jinyu putu*. Jiang also added some information about care and general guidelines on evaluation, but the main part of his manuscript was concerned with their varieties.[39] The first variety he describes is the 'Buddha-head pearl' (*foding zhu* 佛頂珠), which should be 'completely white . . . without a single dot of red or other blend . . . where on top of the brain one red spot sticks out, round as a pearl, protruding and thick'. Where this 'pearl' was slanted or too small, the fish would not 'meet the standard' (*bu ru ge* 不入格). If there was a big, round, non-protruding spot instead of a 'pearl', the fish was called a 'Buddha-head red' (*foding hong* 佛頂紅), while those with a large but elongated spot were called 'Number One Examinee's red' (*zhuangyuan hong* 狀元紅). Neither of these varieties was as valuable as a 'Buddha-head pearl' (for the original text, see Figure 7.2).

The illustration of a 'Buddha-head pearl' from Mr Xue's earlier work that was reproduced in the second part of the *Jinyu tupu* nicely matches the description in Jiang's *Zhuyu pu*, showing a goldfish with a prominent round 'pearl' on its head (see Figure 7.1).

Like the *pulu* on goldfish, those concerned with crickets and quails also focus on evaluating and precisely naming a 'variety' or 'grade', alongside practical information and advice. But there is a substantial difference between these books. Crickets and quails had to be caught from the wild, because those bred and raised by humans lacked fighting spirit. While their morphology when

[38] While the first part has a floral decorative frame around the text (carved with the ascription 'drawn by Yangzhi' (*Yangzhi xie* 仰止寫), the list of names and images is bordered by a more maritime motif. *Xuxiu siku quanshu*, vol. 1120, 601–34.

[39] *Xuxiu siku quanshu*, vol. 1120, 587–600. Jiang's preface to this manuscript is dated 1699. The work appears never to have been printed.

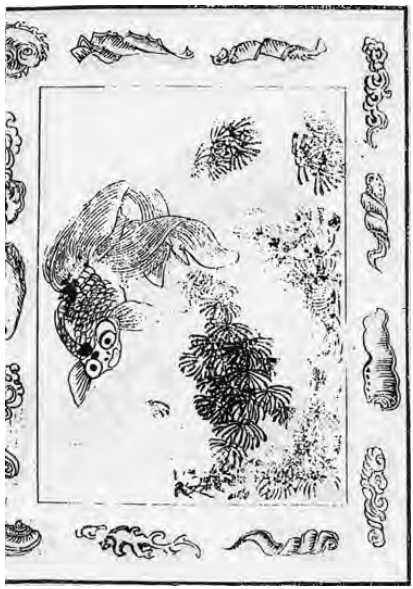

Figure 7.1 'Buddha-head pearl' (*Jinyu tupu*, 626).

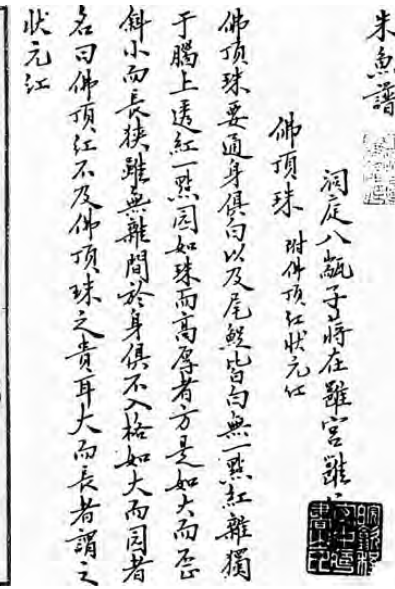

Figure 7.2 Description of a 'Buddha-head pearl' (*Zhuyu pu*, 588).

caught made them eligible for a certain name that indicated potential for being a victorious fighter, it was only by training and care that these insects or birds were transformed into an object of connoisseurship and gambling. In goldfish – as with chrysanthemums or orchids – the morphology was an aim in itself and was achieved by extensive care within the scholar's own home.

In contrast to the many goldfish varieties or cricket qualities named in *pulu* writings, from the perspective of the pharmacopoeia *Bencao gangmu* they were each just 'one' form of *materia medica* that was of interest for their therapeutic value, for instance using goldfish as an emetic. Li Shizhen also mentions the history of goldfish and notes that there are also white, black and spotted types as well as those of a standard golden colour, observing that this variety in colouring does not give them any different therapeutic attributes. The '*materia medica* goldfish' is framed much more loosely. Only from the close-up view of the collector-specialist and *pulu* author could fifty or more varieties be identified and portrayed in writing. Thus, these literary and praxeological contexts constructed vastly divergent versions of goldfish.

Text-animals

This chapter has explored *pulu* writing on animals, noting the division between 'remote' animals, which were constructed from other texts and hearsay, and 'close' animals, where a more direct translation took place – from actual observations of animals into textual portrayals of them. It has shown how both types of animals were created differently in writing and became established as different types of 'text-animals'. Whereas the first was approached and represented mainly through narratives and from a safe, philological distance, scholars established a personal approach to, and intimate engagement with, the latter. As a consequence, each produced different kinds of enumerations or varieties. 'Varieties' such as 'tigers showing piety', 'cruel and castigatory tigers' and 'tigers that are hexed humans' were depicted in stories about human–tiger encounters; while 'varieties' of goldfish were designated by exploring and describing their diverse morphologies. Moreover, the latter texts paired their enumeration of varieties with hands-on knowledge gained from their authors' own practical experience. This contrasts strongly with the accounts of tigers crossing paths with humans, which arose as lucky, ominous or blood-curdling stories but rarely provided any insights into real tigers' habits.

In *pulu* about horses, the animals constructed from historical narratives had a slightly different twist from the texts on tigers. Hu's *Long sheng* used excerpts from a variety of literature in order to, on the one hand, examine horses from several different perspectives (etymology, poetry, etc.) whilst, on the other hand, also trying to reconstruct individual horses, their 'names' and their roles in history – just as he did with swords.[40] Similar to the works on tigers, identifying and profiling an animal were achieved from textual narratives, not from its morphological features, habitat or biological needs. Yet, unlike horses, tigers were not individualized in these narratives but presented generically as 'a' tiger, as if each creature represented their whole species. Xiang Yu 項羽 (232–203 BCE) had 'one' individual horse named Zhui 騅. 'Names' of goldfish and quails had a different function: a goldfish called a 'Buddha-head pearl' or a quail named 'Phoenix from the cinnabar mountain' (*danshan feng* 丹山鳳) does not represent one individual creature, but many individuals of a similar type.

[40] The *Long sheng* does intersperse its lists of names with terms that designate certain types of horses and labels for particularly capable horses, but it mostly consists of the names of individual horses. This mixture also alludes to the idea that the most refined variant of a species is an exemplary individual. This blurred line between variety and individual is especially striking in the famous Song dynasty *pulu* on lychee, in which fruits from individual trees growing in a specific courtyard, such as 'Chen's purple' (*Chen zi* 陳紫), and varieties of litchi, such as 'tiger-fur' (*hupi* 虎皮), are listed next to each other. See Cai Xiang 蔡襄, *Lizhi pu* 荔枝譜 (Book on Lychees; preface 1059), in *Siku quanshu*, vol. 844, 627–9.

In compilations about animals that do not address one species but cover larger groups such as birds, sea animals or all animals, the entry for each species is generally limited to those features considered to be basic characteristics. In some works, only these 'features' were deemed important, not the 'whole' animal. This approach of bringing together characteristics from different species into contrasting or sequencing couplets was already evident in the *Qin jing*: 'Birds that eat meat have pointed beaks; birds that eat grain have blunt beaks.'[41] Yuan Da 袁達 (*juren* 1513) made full use of this method in his *Qinchong shu* 禽蟲述 (Elaborations about Animals), composed around the mid-sixteenth century. As Yuan Da explains in his preface, his aim was not to provide a complete account of all animal species, because there are too many of them. He does not express his own views either, but merely 'elaborates' (*shu* 述) on those of others. He asserts that his contribution as an author is to 'select them according to their categories to [allow] comparison'.[42] The section relating to animal eyes exemplifies the style of Yuan Da's text:

> Those [animals] born from the womb close their eyelid from the top, those born from eggs from below, those born from moist have no eyelid and those born by transformation have no eye-socket; the [fantastic] *yu* 蜮 has no eyes at all, the python's (*mang* 蟒) eyes are round, those of the quail are turning . . . ; the heron copulates with its eyes, snakes listen with their eyes . . . ; dragons do not see stones, fish do not see water.[43]

Here, Yuan Da shows how one common bodily feature exists differently in diverse species. With the focus moved from any particular species to one peculiar facet of different species, the animals are dis-assembled and reduced to certain properties and characteristics.

In the preface to Li Su's *Jian wu* (Seeing Things), Lü Kun 呂坤 (1536–1618) wrote: 'Animals are the "small selves" of humans' (*wu xiao wo ye* 物小我也).[44] He explained that humans and animals had originally been connected, but human self-awareness had built a wall between them which broke the direct bond between human and animal. He claimed that they still touch at their 'hub' (*ji* 機), which is why an emotional echo can be triggered by pigeons in flight and why common characteristics can be detected in both humans and animals.

'Writing the animal' was a challenge. In his analysis of Greek authors writing on animals, von Staden identified three main difficulties. One of these

[41] *Qin jing*, 17a–b. [42] *Qinchong shu*, preface, 1a, in *Xuxiu siku quanshu*, vol. 1120.
[43] *Qinchong shu*, 7a–b.
[44] The title of Li Su's book echoes Shao Yong's 'Observing Things' (*Guan wu* 觀物), which is also mentioned in Lü Kun's preface. The play on the word *wo* 我 would remind educated Chinese readers of Shao Yong's request to observe things not from the perspective of the 'self' (*bu yi wo guan wu* 不以我觀物) but from the viewpoint of being a thing oneself (*yi wu guan wu* 以物觀物), or seeing them as being another 'self'. This approach aims to copy the 'reverse observation' (*fan guan* 反觀) performed by the saints. See *Huangji jingshi shu*, 12.18a.

was the choice and management of literary form, that is, deciding whether a scientifically distanced text or an expressive narrative seems more suitable.[45] Von Staden took Aristotle and Pliny the Elder as icons of these two contrasting approaches. Whereas Aristotle chose to present his texts with an 'authorial distance combined with systematicity', Pliny the Elder's monumental *Natural History* is a highly personalized construction, in which the author guarantees his originality and scholarly soundness. Pliny quantified the scholarly achievement of this work by noting the number of books read and facts collected,[46] something that appears very similar to the Chinese *pulu* on horses, cats and tigers discussed above.[47]

Animals were reconstructed from texts and hearsay and then regenerated into a new text, rejuvenating their existence as text-animals. Likewise, the works on goldfish still portrayed text-animals, despite their authors working from personal, practical interactions with them. In all cases, textual versions of the animals were constructed: either as a fixed form with a set name, such as 'Buddha-head pearl' with specific requisite features, or as a blurred, complex shape such as 'the' tigers which had – among other facets – a 'sense of filial piety' and were defined by a plethora of quotations and agendas.

[45] von Staden (2013), 111–13, 120. [46] von Staden (2013), 130–1.

[47] The other two obstacles von Staden (2013) identified were, firstly, an epistemological one, because human and non-human animals seem to have incommensurable cognitive structures, and, secondly, the hurdle of language, because animals cannot understand or respond to an author's interrogation and human languages often lack terms to describe animals adequately.

8 Great Plans

Song Dynastic (960–1279) Institutions for Human and Veterinary Healthcare

Dagmar Schäfer and Han Yi

In 1317, looking back at the Southern Song reign, Ma Duanlin 馬端臨 (1245–1322) criticized the removal of responsibility for horses and cattle from the local and regional Herds Offices (*Qunmu si* 群牧司) to top-echelon administrative agencies, such as the Bureau of Military Affairs (*Sansheng shumiyuan* 三省樞密院).[1] This chapter examines this shift from the local level to the central state and discusses its impact on farming, managing and knowing large livestock during the Song. Using the example of animals, the chapter considers the relation between living organisms and statecraft, drawing attention to the role of the animal in literati thoughts about systems, function, infrastructure, organization and process.

Animals have played varying roles in Chinese historical approaches to knowledge and state systems.[2] During the Song dynasty, large livestock signified a challenge to political power, an artistic object, an economic and agricultural resource, environmental indicator and moral metaphor. Historians of military and political history have repeatedly blamed the Song reign's failure to unify all the constituent parts of its territory on its inability to breed oxen and horses or acquire them from elsewhere for its military campaigns and to cultivate new lands.[3] Conversely, historians studying animal knowledge noted the huge impact of politics. In her overview of Chinese hippology, Ruth I. Meserve, for instance, emphasized the incredibly complex Song era systems, suggesting that, 'to really understand the place of the horse in Chinese civilization, one must turn to political administration'.[4] In fact, horses feature particularly prominently in Song elite thought and political life. In this chapter, we suggest that the relation

[1] *Wenxian tongkao*, 160.1393.

[2] Birds and beasts constituted a special category in Chinese painting. For animal symbolism see Sung (2009); see Ptak (2010) for animals other than horses, and Guerrini (2015), who suggests that animals are standard historical actors.

[3] See Lorge (2015), 257.

[4] Meserve (1998), 278.

between power and knowledge reached much further into conceptual realms than such a positioning of power and knowledge in terms of administration and horses may suggest. Managing horses greatly affected human ideas about systems and knowledge: shaping when, why and how humans planned, and contributing to the developing notions of predictability, chance and change. By analysing veterinary care, and ideas about animal diseases and contagion, as well as when, why and how institutional structures were built, we examine the relation between practices and knowledge, in particular how thinking about animals impacted the thinking of scholar-officials and their ideas about social and state-institutional designs.

Veterinary Care and the Song State

In the tenth to thirteenth centuries the Northern and Southern Song strategically invested in large livestock farming, including cows (*huangniu* 黃牛), water buffaloes (*shuiniu* 水牛), horses (*ma* 馬), donkeys (*lü* 驢) and camels (*luotuo* 駱駝). Both governments regulated their use in agriculture and civil and military transport through administrative regulations, and built up a cross-regional institutional network to move and care for them. Historians of the horse trade such as H. G. Creel or Paul J. Smith have rightly revealed this investment in the form of institutionalization as part of political attempts to fulfil the growing demand for horses for military activities in a situation when the imperial state progressively lost control over suitable areas for livestock breeding (e.g. extensive Central Asian grasslands, Hexi corridor, north and south of the Tianshan Mountains, and along the Great Wall). The Liao and the Jin dynasties, testing Song rulers' legitimacy, competed fiercely for tributary exchange relationships with Central Asian states and tribes along the coastal regions – which the Song had traditionally relied upon to replenish their bloodstock.[5] Song territory diminished even further in 1127 with the retreat south of the Yangtze following the Jurchen invasion, while the population continued to grow. In this situation, the Song had no option but to adapt cattle and horses to new climates and environments while at the same time facing dilemmas about human population and animal habitat management: less land had to be made available to provide for human and animal migrants alike.[6]

[5] Deng (1997), 258, notes the importance of livestock in tributary exchange. On horse trade see Schafer (1963), esp. 59. Creel (1965) suggests that cultural and natural implications created significant difficulties for cattle and horse farming in coastal regions. Later studies such as Rossabi (1970), Beckwith (1991) and Smith (1991) confirm this view.

[6] The move to the south led to changes in land usage; Jiang Tianjian (1995), 85. In due course, rearing methods such as forest pasture, fenced grazing and stable rearing were also widely applied. *Song huiyao jigao*, 7182 ('Bing 兵 24, 8'); Han Qi (1986), 267.

Figure 8.1 Herdsman on the back of an ox, *Mu niu tu juan* 牧牛圖卷, by Mao Yi 毛益 (12th century). Photo by Hu Chui 胡錘. Courtesy of the Palace Museum, Beijing.

As well as being used for military and civil purposes, horses and cows were also depicted as symbols of moral values, and indicators of social order in elite and folk culture, state ritual and the arts and crafts.[7] In paintings, poetry or private writing (*biji* 筆記), Song rulers, spiritual leaders and intellectual elites praised large livestock as a source of energy and an emblem of pride and morality.[8]

Scholar-officials in charge of political and social life in the meritocratic Song state considered the formation of knowledge and socio-political structures (and in fact all structures) to be closely linked.[9] In their service for the state, such scholars were furthermore often assigned multiple, highly diverse tasks. This caused them to consider how the things they wanted to understand interacted with other constituents of the entire system and to emphasize relationships and patterns. Although this cannot be discussed in detail here, we know that classics such as the *Liji* 禮記 (Book of Rites), the 'Xici' 繫辭 (Appendices) chapter of the *Yijing* 易經 (Book of Changes) and the 'Hongfan' 洪範 (Great Plan) chapter of the *Shangshu* 尚書 (Book of Documents) functioned like conceptual guides. They acted as types of Foucauldian *dispositifs* (devices) that explained how ideally to align institutional, physical and administrative mechanisms and knowledge structures to enhance and maintain power within society and the state.[10] More specifically, scholar-officials justified their approach by retrieving diverse aspects of livestock – ritual procedure

[7] McKnight and Liu (1999), 354, outline Song literati discourses on filial piety. Because oxen were important, auspicious sacrificial animals, their disease and death were seen as a threat to rulers. Sterckx (2002), 49, stresses that horses symbolized luck and oxen decay. See Spring (1988), 180, on horses and cattle in art and folk culture. See also Xie Chengxia (1985), 1–224; (1959), 1–284; Zhongguo xumu yixuehui (1992), 1–158. Sun Yang 孫陽, nicknamed Bole 伯樂, was an expert on horse physiognomy and treatment. See Harrist (1997), 136.

[8] Jang (1992). For novelistic approaches see Idema (2006), esp. 64, 70. Such trends are even more prominent in Japan.

[9] Allen (2015), 184.

[10] Foucault (1980).

(*li* 禮), notions of customs and habits (*fengsu* 風俗), institutional structures (*guanshu* 官署), notions of products (*wuchan* 物產) or more profanely benefits and costs (*liyi* 利益) – from previous dynasties such as the Han, Tang or, in the case of horses, also the Northern Qin.

Institutionally, the state distinguished between equine (horses and donkeys) husbandry for the military sector and bovine, ovine and all other animal farming for agricultural use. Horse breeding provided the standard for high-end *materia medica* and healthcare discussions (only specifying other animals when deemed necessary).[11] Trade and tax controls were imposed on horses as well as cattle, camels and sheep, even though we can assume that pigs and poultry may have habitually been treated along the same lines. Strategic state interventions were planned centrally, amassing extensive expertise in livestock care and epidemic control to create a comprehensive system of veterinary – and human – healthcare. Many rulings, though generic, were applicable to more than one animal and aimed at a healthy environment.

Epidemic Statistics

Just like the modern view, pre-modern state approaches to veterinary medicine were strongly influenced by the risk they believed humans faced from animal diseases. Historians have shown that notions about the origins of illness have had a substantial impact on the measures taken to prevent illness or deal with its consequences. For example, early medieval European Christians considered epidemics to be Acts of God – forms of moral punishment that had to be endured.[12] In contrast, eighteenth- and nineteenth-century science categorized epidemics as physical (bacterial, viral or parasitic) phenomena that were external to society and could be overcome with improved hygienic standards and new medicinal methods such as vaccinations.[13]

Song literati discussed veterinary diseases within complex frameworks of natural disasters and misguided human behaviour, debating how human ecology, moral weakness or lack of understanding of natural principles led people to act carelessly and resulted in epidemics and disasters along the lines of the

[11] Buell, May and Ramey (2010); Creel (1965), 648–9.

[12] Giovanni Boccaccio's (1313–75) *Decameron* [1935], 6 identifies different causes for plagues and disasters. He notes that many contemporaries in 1348 abandoned morality for pleasure, believing that humans could not stop plagues. See Stark (1996), chapter 2 on the influence of diseases on religious life.

[13] European development of a smallpox vaccination features prominently in medical history, cf. Henderson (1997). See Smith and Petley (1992), 9–11, 211–16, for a historical overview of disasters and epidemics. They highlight Gilbert White (1945), who introduced the 'behavioural paradigm' – questioning genuine 'natural disasters', and re-framing them as man-made or technological instead.

Book of Changes or the *Book of Rites*.[14] Illnesses could be prevented by moral behaviour and their spread prevented by appropriate human action, such as regional containment. As a matter of fact, twenty veterinary diseases are reported – i.e. one major veterinary epidemic every five to ten years – during the three centuries of Song rule.

This number seems high, but, in comparison to those of the later Ming era, Song records report more regional events.[15] It thus seems as if state intervention during the Song did help to constrain veterinary diseases within regional limits, and the increase in reported epidemics is above all indicative of a functioning dynastic system of monitoring and prevention strategies rather than verifying an actual increase in epidemics.

The state system struggled to balance incentives for humans to pay attention to livestock diseases and measures to contain the misuse of such incentives. Prospective tax relief and financial aid for cases that threatened to spread across regions caused local officials occasionally to exaggerate cases. At the same time, misreporting or the failure to contain a reported epidemic was strictly penalized. Central scholar-officials also frequently exploited large-scale epidemics rhetorically in their political campaigns, accusing the state and emperor of neglecting their duties and acting immorally.

Epidemic: A Complex Medical-political Event

Song medicinal theories explained illnesses in animals, as in humans, as complex events, comprising ideas of flowing *qi* 氣 and *yin–yang* 陰陽 interchange as well as morality. Contemporary terminology emphasized the character of a disease, e.g. whether it was hot or cold, and evaluated the risk that each outbreak posed to individuals, society and the state.[16] Pharmaceutical and spiritual healing practices were frequently combined. In state and elite records, which make up the majority of documents that have survived to the present day, an 'epidemic', however, mainly comprised a politically defined event requiring dynastic and literati attention, and not primarily a case defined on the basis of medical or biological considerations.

In statecraft and veterinary literature alike, Song scholars identified two main causes for the spread of animal epidemics: moving livestock to new regions and ill-informed treatment. The source of these insights was, quite

[14] For an overview of intellectual trends during this period in relation to disasters and chaos, see Tucker and Berthrong (1998).

[15] Wu Hualin (1999), 307 notes diverse approaches to natural disasters and the common people's ability to cope with them.

[16] This terminology was also used in human medicine – see Goldschmidt (2009), 75–7. Terms indicating infectious veterinary diseases are *cuo* 瘥, *ji* 疾 or *yi* 疫 (all translated as epidemic), as well as *li* 癘 (contagious illness), *wen* 瘟 (illness) and *shi* 時 (seasonal illness).

evidently, experience with long-distance transfers of horses and cattle for military, agricultural or other purposes, as well as the increasingly necessary relocation of breeding and agricultural activity from the northern steppe to southern subtropical climates. A report of 1169 on Hanyang claimed that 'the [new] horses could not get accustomed to the local circumstances and hence sickened, contaminating others'.[17] Scholars of this era, however, seem to have agreed that horses and cattle could in principle adapt to different seasonal changes in temperature or humidity by modifications in feeding and nurturing measures. Knowing how to treat the horse could mitigate any adverse effect of weather events. If the animals fell ill, scholars then moralized that is was because humans were careless, ignorant, egotistic or greedy. A common trope in memorials was that veterinary epidemics followed droughts, floods or unusual weather conditions such as unseasonal rainfall, or very warm or very cold weather.[18] Secondary factors such as nutritional deficiencies or inadequate hygiene practices then prolonged the crises.

One early example of such reasoning relates to a cattle epidemic that broke out in the prefectures of Songzhou 宋州 (modern Shangqiu, Henan) and Bozhou 亳州 (modern Bozhou, Anhui), spreading to Jingxi 京西 circuit (*lu* 路) (modern Huaiyang, Henan), Chenzhou 陳州 (modern Huaiyang, Henan) and Yingzhou 潁州 (modern Fuyang, Henan) in the year 994. In all these districts, 'more than half of the sick cattle died'.[19] But, as the central record also notes, for the previous three years, local officials had already forewarned the central government that droughts had substantially reduced those regions' yields.[20] In another case, during the early summer of 1009, almost all the cattle in Tanzhou 潭州 prefecture, Henan superior prefecture (*fu* 府), Xingzhou 邢州 prefecture and Shanxi 陝西 circuit died from disease (*niuyi* 牛疫) within eight months after a severe drought. More oxen died the next year in Hebei, Jingdong 京東 and Jingxi circuits. The epidemic peaked in 1014, and cases were still being reported in the eighth month of 1015.[21] Both the historiographic records and involved individuals took a comprehensive, *longue durée* view, analysing the illness's causes and dispersal, concluding that people had failed to notice the incipient problem or react to it properly.

This form of reasoning continued. In the 1180 case of an open epidemic in Nankang 南康 military prefecture (*jun* 軍) and Jiangnan 江南 Eastern circuit (*dong lu* 東) (modern Xingzi, Jiangxi) the scholar-official and philosopher Zhu

[17] *Song hui yao jigao*, 7211 ('Bing 25, 22').

[18] For how scholarly discourse started to relate the emperor's morality and legitimacy of rulership to flood occurrences, see Hok-lam Chan (1985), chapter 2. As the Song capital Kaifeng was situated in the Yellow River's alluvial plains, where four rivers met, floods constantly threatened the city, raising elite interest in flood control. See Lamouroux (1989); Han Maoli (1993), 11; Zhang Ling (2009).

[19] *Song shi*, 173.4159. [20] *Song shi*, 66.1439. [21] *Song shi*, 66.1440.

Xi 朱熹 (1130–1200) emphasized the discrepancy between people's knowledge and action: 'In the regions I am supervising a drought reduced last year's harvest. During last winter an earthquake occurred. In both cases I sent reports. After that not enough rain fell and the oxen again died from disease. Now it has finally started to rain, but I fear it is too late. The decline of the oxen can no longer be stopped.'[22]

Even if oxen did not die in droughts or floods, catastrophes reduced fodder supplies, leading to nutritional deficiencies which again allowed diseases to spread.[23] The Vice Military Commander and Veterinary Doctor (*Shouyi fuzhi junshi* 獸醫副指揮使) Zhu Qiao 朱峭 (n.d.) explained the relationship between nutritional diet and illnesses in the case of horses as a question of rations: 'a horse needs seven *fen* 分 of grass and seven *sheng* 勝 of fodder in the form of cooked food daily. If the grass and fodder is raw, the horse needs seven *fen* of grass and six *sheng* of fodder. By the end of the year more of those fed with cooked fodder will have died.'[24] This assertion was based on causalities deduced by others. The Palace Attendant and eunuch (*neishi* 內侍) Yan Chenghan 閻承翰 (947–1014) had reached the same conclusion after supervising a delivery of horses from the eunuch Wang Shouwen 王守文 (n.d.): 'On the road the horses were fed with the usual quantity of cooked and raw fodder. On arrival, the horses were kept apart and fed the same quantity as during the journey. That is how we know that raw fodder is advantageous.' Yan also noticed that only the well-fed horses could resist illness: 'I fear six *sheng* of fodder is not enough. All horses should receive seven *fensheng* 分升.'[25] Another treatise claimed that horses would adjust to new locations more easily if they were fed native grass and recommended adding bran to their food, cautioning: 'Do not add too much water . . . Do not feed horses with old grass. It causes illness. During the winter months do not let them drink water. Take care that no sand or dung contaminates the water as this causes illnesses of the lungs, intestines or stomach. Ride them slowly at first and do not force them to make any sudden movements as this causes pneumatic illnesses.'[26]

In his comprehensive *Nongshu* 農書 (Agricultural Treatise), written around 1149, the scholar and farmer Chen Fu 陳旉 (1076–1154) recommended controlling animal-rearing conditions, stating that all incidences of illness were *only* harmful if people reacted inappropriately to their circumstances:

[22] *Zhuzi yulei* (vol. 11 of 'Hui'an xiansheng Zhuwengong wenji' 晦庵先生朱文公文集), 20.580–8 ('Gengzi yingzhao fengshi' 庚子應召風勢), 226.165–8.

[23] *Song shi*, 66.1440. Wang Yinglin (1223–96) refers to this incident in 'Xining taichang ciji zongyao' 熙寧太常祠祭總要 in his encyclopaedia *Yu hai* 玉海, 178.3276–7.

[24] *Song hui yao jigao*, 7182 ('Bing 24, 7'). Zhu Qiao edited (*ding* 定), rather than compiled, the Six Horses Policies.

[25] *Song hui yao jigao*, 7182 ('Bing 24, 12').

[26] *Song hui yao jigao*, 7181 ('Bing 24, 5').

Cattle diseases are diverse. Some are caused by bloat inducing grass (*cao zhang* 草脹 i.e. flatulence).[27] Others are caused by ingesting diverse worms (*za chong* 雜蟲), as their poison contaminates the fodder, or because the vapours combine and cause constipation. One should understand the difference between cold and hot diseases. Medicine can be applied following human treatment but increase the dose and administer it as a potion. This will invariably help. If blood shows in the faeces and urine, it is hot damage. Use the medicine for blood passed in stools, increase the dose and administer it as a potion. If cold combines with a dry nose and a lack of breathing, apply powder recipes (*san yao* 散藥) dispersing internal heat. If [symptoms such as a] dry nose and lack of breathing combine with an accumulation of heat, medicine with a laxative function (*li yao* 利藥) has to be applied. Approach swelling by dredging the poison and by relieving and obtrusive measures. If you examine each principle in its appropriate conjunction, what illness would you continue to worry about?[28]

Chen described diseases ranging from the most common to the most dangerous, classifying them within the traditional Chinese agrarian calendar of cyclical change.[29] He suggested that oxen should be acclimatized to new weather conditions by adjusting their diet and hygiene and explained that disease could only be contained by a combination of ritual and routine cleansing:[30] 'Once an ox becomes sick the disease is transferred via the *qi*. All oxen will be infected. This is called an epidemic. A first countermeasure is to sacrifice to the heavens. If this is without effect, hope vanishes. Corpses, transported via villages, can spread the infection by their vapour.'[31]

About a century later, the literatus Zhou Mi 周密 (1232–1308) also used *qi* to describe how meat from donkeys or horses that had died of hunger could endanger humans and that one should not eat it.[32]

All these observations were making the point that malpractice – ignorance about common causes or failure to act promptly – could prove fatal, and that only coordinated governmental action could stop an epidemic. In 1139 Emperor Gaozong (r. 1127–62) and the Minister of Rites (*Libu shangshu* 禮部尚書) Qin Hui 秦檜 (1091–1155) signed a peace treaty with the Jin dynasty, agreeing to pay taxes to the Jurchen Jin to remain in power. Following this disputed event, officials in charge of Jing lu 靖虜 circuit (in Hubei) reported

[27] *Cao zhang* refers to illnesses leading to swellings or 'gatherings of *qi*' in veins or organs. See *Huangdi neijing suwen*, 5.98.
[28] *Chen Fu nongshu jiaozhu*, vol. 2, chapter 2, 50.
[29] On spatio-temporal variety in Chinese medicine, see Hanson (2011), especially 12–14.
[30] In contrast to earlier concepts of disease that were independent from the body and rituals. See Kiple (1993), 5.
[31] *Chen Fu nongshu jiaozhu*, vol. 2, chapter 2, 50.
[32] *Guixin zashi*, 197 (Xuji, xia, 'Sima sha ren' 司馬傻人). His main point though was that any dead animal was dangerous: 'Whenever one is skinning/cutting up a donkey or horse, one should also not come near. Its *qi* engulfs man and can produce illnesses. One cannot be cautious enough!'

that disease had wiped out 80 to 90 per cent of all cattle, then cross-infected the region's water deer, deer, boars, tigers and wolves.

The doctor Zhuang Chuo 莊綽 (c. 1079–1149) suggested in his *Jilei bian* 雞肋編 (Chicken Rib Chronicles) that the danger of the disease was shown in the fact that it had affected both immoral reptiles and loyal dogs.[33] The fact that the disease was oblivious to a creature's moral capacity, meant that the ruler in charge of watching the balance between Heaven and Earth had acted in an extremely immoral way.

That animals dying from diseases threatened not only the military power of the dynasty but also its inherent legitimacy can be seen as the primary reason that the Song government focused significant attention on veterinary advances from the beginning of its reign. Emperor Zhenzong (r. 997–1022) and Prime Minister (*canzhi zhengshi* 參知政事, rank 1) and household regent (*liushou* 留守) Wang Dan 王旦 (957–1017) had already enforced Xing Bing's 邢昺 (931–1010) theory that ranked the death of livestock as one of the 'Four Disasters' (*zaihuan* 災患) besides epidemic disease (*yi*), drought (*han* 旱) and flood (*shui* 水): 'Every year, one of these inevitably occurs, whether minor or severe.'[34]

Institutional Structures: Farming

Zhang Xianyun, studying various forms of husbandry during the Song, shows that, as animal numbers increased, access to land declined and environments and climates changed, and private and state farms experimented with new methods of breeding, feeding and rearing. We do not know much about fields such as honey or raw silk production, that remained in private hands and were mostly pursued in the form of household agriculture.[35] State institutional veterinary care in fact concentrated on large livestock. It is interesting that the state separated units for cattle, horses, sheep and poultry. Each office employed its own managerial and veterinary staff, although local practitioners probably worked across the offices.

Medical institutions and staff structures for human and animal health were similar, but there are no signs of institutional cooperation. Most of the literature of this period focuses on pharmaceutical organization (irrespective of species, although it is clear that humans were the focus). Writings that focus on one animal species, as well as human pharmacopoeia, indicate cross-species usages

[33] *Jilei bian*, xia, 113.

[34] *Song shi*, 431.12799; *Xu Zizhi tongjian changbian*, 67.1507. Xing Bing held several posts, including Minister of Rites (rank 2a). He was a devoted scholar of the classics and had a place in the Hanlin 翰林 Academy.

[35] See Zhang Xianyun (2007), (2009), (2014). Song scholars compiled specialist tracts on different animals – Chapter 7 discusses their importance for Ming and Qing scholars.

of medication and treatment (animal–animal and human–animal), or occasionally include general remarks about their compatibility.

While the state reared various animals throughout the Song eras, the raising of horses and cattle constituted the origin of ideas and ideals about veterinary care over the entire empire. The central unit was the Herds Office, originally a stable for imperial horses, which soon developed into a model institution for veterinary care and the controlling centre for an empire-wide network designed to facilitate the cross-regional transport of horses and the breeding and rearing of cattle for agricultural and military purposes. In 980, it still consisted of a left and right courtyard and six stud farms (*liu fang jian* 六坊監) tending two thousand horses at a time. In 1000 the emperor ordered the office to take over 'the administration of horse stables inside and outside the court. All institutions from the level of the Mounts Service (*Qiji yuan* 騎驥院, rank 7a) have to follow its orders.'[36] Its 'assistants visit and inspect the prefectures annually to control bloodstock and husbandry conditions'.[37] This personnel was also put in charge of prosecuting offences by officials and veterinarians across the empire. After the first decades of the Song, when the Herds Office mainly dispatched personnel and medicine to tend to cases of disease, and sent memos, it succeeded in setting up local branches with resident staff.

Documents from the twelfth century show that the state was unwilling to relinquish its horses and cattle, despite its gradual loss of natural breeding areas in the northern territories. Instead, literati and state continuously promoted enhanced veterinary care and new breeding methods to regulate centrally its livestock and increase reproduction. They looked for precedents in laws inaugurated by the Tang,[38] although Tang breeding discourses had centred mainly around aesthetic considerations whereas Song officials, focused on military utility, had measured horses in terms of quantity since the first Song ruler had set up a quota system to increase numbers.[39]

Breeding efforts aimed to produce horses that could travel long distances, adapt to different climates, and serve effectively in warfare.[40] Southern Song scholars increasingly discussed environmental conditions in the main regions

[36] *Xu Zizhi tongjian changbian*, 47.1025; *Song hui yao jigao*, 2885 ('Zhiguan 职官 23, 5').
[37] *Song shi*, 164.3895.
[38] Song veterinary arrangements were modelled after the Northern Qi Cattle and Sheep Department (*Niuyang si* 牛羊司) according to Ma Duanlin. See *Wenxian tongkao*, 160.1393; Zhang Xianyun (2007), especially 24. The Northern Song expanded this into an institution which supervised farming throughout the empire; *Song hui yao jigao*, 2857 ('Zhiguan 21, 10').
[39] According to Dou Yi's 竇儀 (924–967 CE) 'Muxu sishi ji ke buchong' 牧畜死失及課不充 Song legal regulations mainly related to carelessness and delayed action. See *Song xing tong*, 231. Dou Yi was one of Emperor Taizu's inner advisers who consolidated the Song state system. See Zhao Junping (2007), 668.
[40] Tang emperor Xuanzong (685–762 CE) personally controlled horse breeding. During this era the Office of Herds (*Dian mushu* 典牧暑) was in charge of farming, especially sheep and cattle reared for the emperor's food and court sacrifices. See Spring (1988), 10; Harrist (1997), 136.

where they wanted to relocate horses and cattle – Raozhou 饒州 prefecture, Jiangnan dong circuit (modern Poyang, Jiangxi), Lin'an 臨安 in Liangzhe circuit (modern Hangzhou, Zhejiang) and Yingcheng 應城 in Jinghu Northern circuit (modern Yingcheng in Hubei) – realizing that their hot and humid climates made them unsuitable for traditional northern farming and breeding methods or for cultivation as pasture.

Specialists in 'horse physiognomy' from this period referred to Tang literature but, instead of aesthetics, constantly stressed that in-breeding weakened horses and cattle and probably increased horses' susceptibility to sudden death from 'paralysing strokes of the pancreas' (*pi zhongfeng* 脾中風), an illness that was also widely diagnosed in humans.[41] In any case, there was less access to purebreds, as Assistant Magistrate (*Zhubu* 主簿, rank 8b) Xue Xiang 薛向 (1016–81) complained in 1060: 'The state only receives ill horses. They are short, some less than four *chi* 尺 and two *cun* 寸, and their bones are weak. They are mixed breeds, but we cannot acquire purebreds. There are not enough horses for court and imperial use or for the delivery of imperial letters, that is the imperial postal system, and the supply of military horses is low.'[42]

Some emperors actively participated in these debates, mainly by commenting on rearing methods. In an edict from 1071, Emperor Shenzong (r. 1067–85) and his central court criticized local officials because

> they had jammed too many horses together in too small a space. The horses are rarely allowed to graze on open ground. Often they go hungry, as there is not enough grass. Even when they are allowed to enter a pasture they are tied to a stake and can neither move nor lie down nor rest comfortably.[43] Then they are allowed to graze at night, but when there is a thunderstorm they run and disappear, stampeding by the hundred, never to be seen again.

Xue Xiang advocated more investment in selective horse breeding, to achieve higher fertility, robustness and resistance to disease:

> Fuzhou 福州 breeds are best. Horses raised around the middle Yellow River with its multiple branches are also good. Breeds from Huanzhou 環州 and Qingzhou 慶州 are second best, those from the Qin and Wei river regions have a huge skeleton, but their hooves are thin and light. Wenzhou 文州 and Yazhou 雅州 breeds are minor and hence only local troops and postal services use them. Horses from Khitan have a bad skeleton. The horses bred in Hebei are now considered native (*ben qun* 本群) as they have adapted to the region and are robust. Horses are also bred on the islands of Quanzhou 泉州,

[41] See *Ren zhai zhizhi fanglun*, 42. Such 'paralysing strokes' could hit any organ.

[42] *Song hui yao jigao*, 7145 ('Bing 22, 4'). Xue also helped finance hydraulic projects and supported Shen Kuo's 沈括 (1031–95) attempts to drain swamps in northwestern Hebei for agricultural use. Shen Kuo proposed protecting cattle and horses from mosquito bites by covering them with mud. See Zhang Ling (2011), 33, 38.

[43] Horses do not usually lie down to rest. The author was probably stressing how unsuitable the method was.

Fuzhou and Xinghua 興華 military prefecture. They are all small and cannot carry armour. The native militia and postal service in Jiangzhe 江浙 use them.[44]

His opinion that horses from Khitan were lower quality was probably clouded by political ideals, since Song rulers had been challenged by people there. Quantity was just as important as quality, so the government ordered officials to:

herd together female and male horses, camels, cattle, donkeys, sheep and goats during the third month each year, so that the horses, camels (and other) stallions can approach the mares in heat. Those which are supposed to conceive (*shousi* 收飼) shall be allowed to receive them until the winter. If, by that time, no [obvious] conception has taken place, investigate whether they have conceived, and if they have not, the law forbids punishment. (Commentary (*zhuyun* 注云)[45]: if the cattle lose their offspring after having been freed to roam (*youmu* 遊牧), prosecute the person responsible.)[46]

The state imposed annual reproduction quotas for horses, camels and cattle of seventy offspring per hundred animals and eighty per hundred for sheep and goats.[47] Yet Zhang Xianyun shows that these quotas were rarely filled; the maximum achieved was 60 per cent. In 1085, for example, the average birth rate was fourteen colts per hundred studs and, during the Qiandao reign (1165–73) of Emperor Xiaozong (r. 1162–89), regions such as Yingzhou 郢州 and Ezhou 鄂州 prefectures recorded just four or six births per hundred studs.[48] This continual shortage of equine livestock impacted agriculture and the military, trade and transportation. Thus, any additional loss of horses through disease represented a real threat to the state's survival, possibly leading to crop shortfalls, famine, social unrest, weakened military strength and slower communications. Even so, horses continued to be kept in overcrowded herds.

In contrast, cattle farming was a much more successful big business. By the Northern Song era, districts like Shanxi, Hebei and Xihe 熙河 were centres of ox husbandry. During the Southern Song, Zhejiang, Fujian, Huainan,[49]

[44] *Song hui yao jigao*, 7180 ('Bing 24, 3').
[45] The remark is added in smaller script which indicates it is a comment. The source or author is unclear.
[46] Song xing tong, 232.
[47] Zhang Xianyun (2007), 48. Tang numbers are taken from Yue Shi's 樂史 (930–1007) survey *Taiping huanyu ji* 太平寰宇記 (Universal Geography of the Taiping Era [976–983]), 151.1b–2a (vol. 47, 423). This text was compiled in the Song, but claims to use Tang data.
[48] *Song hui yao jigao*, 7214–15 ('Bing 25, 28–31').
[49] Meng Yuanlao 孟元老 (fl. c. twelfth century) reports that even the small village of Zhengzhuang produced 70,000 to 80,000 oxen annually. See *Dong jing menghua lu*, 47. Wen Yanbo 文彥博 (1006–97) was fascinated by this region's productive farming. See *Lu gong wenji*, 712. See also Han Qi (1986), 267; *Xu Zizhi tongjian changbian*, 489.11607.

Liangzhe, Fujian, Guangnan and Sichuan took over.[50] Records indicate that, when disease broke out in a district such as Changzhou, the state could easily buy two thousand replacement cattle from Fujian and Zhedong provinces.[51] Private traders purchased herds of thousands at a single market, and smuggled them almost unimpeded across the country to avoid sales taxes. Local customers at the Zhengzhuang 鄭莊 ferry crossing estimated that 70,000 to 80,000 cattle were illegally transported over the prefecture border every year.[52] These large herds were, at least partly, a side effect of the state's intervention, because it leased out cattle herds, so the number of herds grew continuously.[53] Official state historiography notes an imbalance in regions such as Ganzhou 贛州 and Jizhou 吉州, where 'farmers in the slack seasons mutually agreed to travel to the south to trade oxen. This was called "winter work" (*zuo dong* 作冬).'[54]

The government restricted the number of animals that it was permitted to keep together, aiming to keep herds large enough for effective reproduction but small enough to avoid losses through epidemics. The law defined a number of 120 cattle as an ideal herd, which went up to 630 for smaller animals such as sheep or goats.[55] Convoys (*gangma* 綱馬) were generally restricted to 200 horses (*pi* 匹) in the Northern Song (compared to 900 previously), which was reduced to a hundred in the early Southern Song and fifty after 1164.[56] Any animal movement had to be preceded by a health examination, which reduced financial risk by removing any ill or weak livestock before the long, arduous and expensive journeys from the southern and Sichuan regions to the capital.[57] The Herds Office was ordered to limit its overall stock to fewer than two thousand horses.[58]

Institutionalized Prevention

The Song state controlled animal epidemics through five mechanisms: (1) They institutionalized an early warning system, obliging all officials to report epidemics, and (2) centralized medical treatment and bloodstock control. (3) Care-taking stations (hospitals) were set up, veterinarians appointed and medication allocated to enhance medical care throughout the country, and the state promoted the publication of prescriptions for self-treatment. (4) Laws on

[50] Lianghu and Jianghuai mainly produced cattle for self-sufficiency until the Southern Song. See *Song hui yao jigao*, 6034 ('Shihuo 食货 63, 96') and 6065 ('Shihuo 63, 140').
[51] *Song hui yao jigao*, 6034 ('Shihuo 63, 96').
[52] *Jianyan yilai xinian yaolu*, 164.2681 (Shaoxing 23, month 3, *guichou*).
[53] Zhang Xianyun (2007), 115, states this is also true for other animals. For silkworms, see Bray (1984), 76; and Kuhn (1988).
[54] *Song hui yao jigao*, 5110 ('Shihuo 18, 18'). [55] *Zhiguan fenji*, 19.451.
[56] Han Yi (2015), 322–5. [57] *Song hui yao jigao*, 7179 ('Bing 24, 1').
[58] *Song hui yao jigao*, 7188 ('Bing 24, 20').

the sale, trade and transportation of oxen and horses were reformed. (5) Officials propagated technical solutions to substitute ox or horse labour, exempted taxes and fees, or gave financial support to reduce the impact of losses. This system was designed to respond rapidly to outbreaks, with government personnel analysing the source of epidemics and initiating measures to limit their damage. Meanwhile, the unit supervising bloodstock and breeding worked towards long-term improvement, using selective reproduction to increase resistance to infection.

The Song built veterinary institutions step-by-step and seemingly driven by a growing demand (or awareness thereof), similar to how, one after another, it installed institutions in the human medical sector.[59] Structures were founded in the early days of dynastic rule, conceptualized during the Qingli 慶歷 reforms of the 1040s and finalized towards the end of Emperor Shenzong's reign. The Song state's approach to veterinary medicine after 1076 must be viewed in the context of the economic and socio-political transformation initiated by Grand Councillor Wang Anshi 王安石 (1021–86).[60] The Northern Song state underwent continuous reform and refinement of institutional structures, with scholars urging that the veterinary system should be expanded throughout the empire to secure horse and cattle supplies. There was an upsurge of natural disasters and epidemics following the retreat to the south, including cases that contemporary actors considered unusual, unexpected or unprecedented.[61] As veterinary epidemics – like natural disasters – became a signifier of the dynastic state's moral ability to rule, scholars responded with more control and monitoring. Senior ministers set staff to animal ratios to deal with horses and cattle. As knowing livestock hence became crucial to knowing how to rule society and state, politicians took charge of livestock management and made sure expertise was generated and available for animal health.

Staff: Animal Experts and Expertise in Animal Care

As in all other bureaucratic units, senior Herds Office staff were literati-officials who had passed the civil service examination. For most of the Song, the Vice Director of the Ministry of War (*Bingbu shilang* 兵部侍郎, rank 3b) or the Vice Commissioner of the Bureau of Military Affairs (*Shumi fushi* 樞密副使, rank 6a) headed the Herds Office officially. Records assign various levels of

[59] Goldschmidt (2009), 14–20, 42–5, stresses that scholarly interests helped implant medicinal knowledge and public hygiene into broader common culture. Some, like Fan Zhongyan 范仲淹 (989–1052), Su Shi 蘇軾 (1037–1101) and Shen Kuo also worked to cure veterinary epidemics.
[60] Goldschmidt (2009), 47–8. The Pharmacy Service for Humans was established in 1076.
[61] Kang Hong (1994), 125, counted 1,279 centrally acknowledged natural disasters, including 40 plagues, 465 floods, 383 droughts and 108 plagues of locusts.

responsibility and expertise to different staff. Grooms carried out the daily tasks. Concurrent to the continuous move towards the south, the state expanded its web of veterinary expertise over its territory. At all times, generalists and politicians controlled the state structures of animal care, keeping an eye on the wider view.

Grooms needed, as Emperor Zhenzong decreed in 1003, to be well trained and experienced. Because stable work was physically demanding, only 'healthy men aged around twenty, strong and muscular' with an interest in farming should be appointed,[62] according to guidelines published in 1011. The focus of politics, however, lay on veterinary doctors which the state required in increasing numbers. Recruiting from candidates for the civil service exam, such veterinary doctors were trained in a unique unit of the Imperial Herds Office, the Inner and Outer Service for Skinning Horses (*Nei wai baoma wu* 內外剝馬務, *pibao suo* 皮包所).

Initially located in the Jiaqing 嘉慶 city workshop (*fang* 坊), the Service for Skinning Horses was first run by the Court of the Imperial Stud (*Taipu si* 太僕寺). With its relocation to the Yanxi 延禧 city workshop (both located in the capital Kaifeng), from 1072 the Bureau of Equipment (*Jiabu* 駕部) took over supervision, before in 1127 the Bureau of Military Affairs (*Shumi yuan* 樞密院) was put in charge. After the retreat in 1167, the Southern Song reconfigured the Service for Skinning into a court institution in its new capital Hangzhou. Politics caused administrative relocations: geographic relocation also reflects the state's ambiguous relation to an institution that produced important resources, allowed its elite to learn important skills and yet was in fact a filthy, stinking place of work.

The staff, comprising the directorate's craftsmen (*gongjiang* 工匠), palace auxiliary officials (*qin cong guan* 親從官) and officials from the Imperial Coachmen and Guardsmen (*Qimazhi junshi* 騎馬直軍士), made sure that the skins of horses, oxen, camel and donkeys (and probably also pigs and other animals) were turned into leather, and sinews and bones used for bows and arrows, armaments and utensils. This same staff then 'recomposed the bones' (*xiang bu suojiao* 相補所角) – the expression suggests from many bodies – to be 'studied by the herding officials' (*muguan xuexi* 牧官學習). Office regulations explicitly required investigators to report meticulously on all these procedures, including providing diagrams or illustrations (*tu* 圖) 'for later inspection' (*yigong biyong* 以供備用, literally: 'to be kept in reserve').[63] These dissections were a major source of the detailed horse physiognomy diagrams preserved from the Song era.

[62] *Song hui yao jigao*, 2857 ('Zhiguan 21, 10').
[63] *Song hui yao jigao*, 2514–15 ('Zhiguan 6, 35–8').

Corpses of animals that had died from disease or old age were delivered to the Knackery as well, to help its staff improve their general understanding of animal physiognomy, illnesses and their effects. Aware of the health risks of infected meat, the officers also decided whether meat should be disposed of, or fed to the eagles and hounds of the Five Corrals (*Wu fang* 五坊) kept for hunting.

The Song government used these officially ordered scholarly investigations to identify suitable candidates for appointment in the veterinary sector, illustrating that the field was institutionalized and, in due course, also professionalized. Successful candidates had to complete specialized training and then pass a state-regulated examination in order to obtain an official rank and position.[64] Sources variously use the terms *shouyi* 獸醫 and *yishou* 醫獸, assigning 'veterinarians' the tasks of treating livestock, preparing medication and devising new remedies and treatment methods.[65] Veterinarians were appointed permanently to horse stables, breeding stations and military units during both Song dynasties.[66]

Every three years, the administration evaluated directors' and veterinarians' work and determined their salaries and benefits by comparing the number of ill and healthy horses. Hence, the horses' health, which was a source of pride, energy and strength for the empire, relied upon an individual system of reward and punishment, like that used for astronomical officials.[67] The guidelines also specified procedures:

> The Herds Office must ensure that the veterinarians separate horses when they are ill into two courtyards, with one group consisting of infected and the other of healthy horses, registered and marked (*jihao* 記號) accordingly. The Herds Office has to verify this grouping and then hand over the ill horses to the breeding station for treatment. If required, recruit additional personnel from the stud farms. The veterinarians must scrutinize the deaths. The breeding station has to verify this number and reward or punish accordingly. At the end of each year the number of horse deaths and ill horses has to be compared. Evaluations of the staff's achievements occur bi-annually. We require the initial number of horse deaths to be reduced by one third. Hand over 50 *guan* 貫 (strings of cash) as reward; where the losses exceed 30%, pay 16 *guan*. If losses go up to 40 or 50% no payment is given. Prosecute a loss above 60% by fining a month's salary; for losses of 70%, charge one quarter of an annual salary. Losses of around 80% have to be taken to court. Both stud farms should only feed good breeds. The number of horses who fall ill and have to be disposed of is only counted once a year. If it is below the average of other stud farms, convey rewards. In cases where it is higher, prosecute the officials according to their rank.[68]

Requests for mobile veterinarians increased in the Southern Song. In 1133 Gaozong commanded that every horse sale station should have a veterinary

[64] *Zhiguan fenji*, 24.513. [65] *Zhiguan fenji*, 24.530.
[66] *Song hui yao jigao*, 7039 ('Bing 18, 8'). [67] Sun Xiaochun and Han Yi (2015).
[68] *Song hui yao jigao*, 7125 ('Bing 21, 2').

specialist, insisting that a delegation of officials should accompany horse transfers:

> For each delivery of 100 horses appoint two officials for supervision. An official of a higher rank (*jiangxiao* 將校), two officials of a lower rank (*jieji* 節級), fifty military soldiers or main soldiers (*xiangjun* 廂軍 or *jinjun* 禁軍) have to be employed to guide the horses. One veterinarian and a secretary (*jundian* 軍典) is allowed. The veterinarian is allowed to hire help on the way.[69]

Thus, staff became a substantial cost factor in the Song horse trade.[70] There were not always sufficient veterinarians available to accompany every journey and manage local stables.[71] In certain cases, the court dispatched additional personnel to afflicted regions to assist and report back, equipping them with the necessary tools and ordering them to ensure standards of hygiene and to distribute medication, state-financed books and medicinal treatises.[72]

Around 1043, when Fan Zhongyan 范仲淹 (989–1052) and Ouyang Xiu 歐陽修 (1007–72) tried to streamline bureaucracy, and in the Wang Anshi era, at the end of the eleventh century, various parties utilized veterinary medicine in political discourse. For political reasons, officials stopped reporting epidemics. Experts objected in vain to the government that equine managers should not be reassigned every three years, because this was often too fast for them to gain a thorough understanding of the sector or bring about any lasting change. When Shenzong installed a regulatory system of retribution, 'Mazheng guanli keji shouzhao' 馬政官吏課績手詔 (Edicts on the Assessment of Achievements in Horse Administration) in 1068, he noted that officials in the capital often held superfluous posts, yet there was a lack of veterinarians in the countryside.[73] This was the same for human doctors, who would rather remain unemployed in the capital than accept a role in a prefecture (in 1122 Huizong (r. 1100–26) fired all redundant doctors).

Some inconsistencies in the regulations of the responsibilities and duties in veterinary care impeded the control of epidemics. Since salaries depended on the number of healthy livestock an institution produced at the end of each year, military and civil servants were afraid to do anything that might affect their quota,[74] such as looking after ill horses awaiting delivery to the capital. Fearing the lack of compensation for a dead animal, many sold their horses before an

[69] *Song hui yao jigao*, 7195 ('Bing 25, 33–4').
[70] *Song hui yao jigao*, 7214–15 ('Bing 25, 28–31').
[71] During the Southern Song, most horses were bred in Chuan 川 (modern Sichuan), Qin 秦 (modern Gansu and Qinghai) and Guang 廣 (modern Guangxi and Yunnan). The distance from Sichuan to the Southern Song capital Lin'an was about 1,900 km. They probably travelled 15 to 20 km per day, carrying water for the animals.
[72] *Song shi*, 173.4159.
[73] *Song shi*, 198.4939.
[74] *Song hui yao jigao*, 3327 ('Zhiguan 43, 107'); 3331 ('Zhiguan 43, 116'); 7219 ('Bing 25, 38–9'); 7132 ('Bing 21, 15').

incipient illness could be detected.[75] In 1206 the state, in response to such practices, ordered experts to be dispatched to investigate the horses' health along every step of their journey.[76]

Although the Herds Office was considered vital for military affairs, its own leader was not highly ranked, rather achieving authority through the assigned directors' other appointments. The principle of multiple appointments applied by the Song meant that major protagonists such as Chen Yaosou 陳堯叟 (961–1017), Zhao Anren 趙安仁 (958–1018), Xue Ying 薛映 (951–1024), Bao Zheng 包拯 (999–1062), Ouyang Xiu, Wu Yuncheng 武允成 (fl. 918), Wang Anshi and Sima Guang 司馬光 (1019–86) presided over the institution of equine husbandry, and thus shaped the development of veterinary medicine.[77] Many of these men, though highly educated polymaths, had humble origins and we can thus assume that they may have experienced agriculture as part of their daily life, even if they may not have cultivated the lands themselves. So this field was led by engaged, informed generalists who were first and foremost concerned about peace and well-being and thus looked at animal populations as part of larger considerations on human well-being and the state's health.

Considering the combination of tasks carried out by one person and the fact that Song agricultural tracts repeatedly compare the efficiency of human and animal labour for land cultivation or transportation, a question arises about the relation between concepts of human and animal bodies. Were both fields influencing each other, or did one occasionally take the lead? What was considered the same or different, and in what ways? Sources about two institutions – the Knackery and the Imperial Pharmacy for livestock – suggest that the volume of animals spurred the professionalization of veterinary care, occasionally pre-empting conceptual approaches in human medicine.

Remedies for Invalids

Noting that human negligence caused many illnesses, Chen Fu indicates that the literati assumed that bodily processes worked along similar principles in both humans and animals, advising that 'medicine can be applied following human treatment but increase the dose and administer it as a potion'.[78] As veterinary prescriptions coincided with human medical care, no specialist

[75] *Song hui yao jigao*, 7211 ('Bing 25, 22').
[76] *Song hui yao jigao*, 7172 ('Bing 23, 25'). Bol (1992), 73 notes the strong ties of loyalty between local officials and the central state, which kept central state officials well informed.
[77] *Wenguo Wenzheng Sima gong wenji*, 6.127; *Yiwen leiju*, 57.818; *Wu lei xiang gan zhi*, 52.1536. See Schäfer (1995), 79, on Song multiple appointments.
[78] *Chen Fu nongshu jiaozhu*, vol. 2, chapter 2, 50. Quoted in full on 230.

veterinary pharmaceutical literature emerged. Yet, according to the records, veterinary care took the chronological lead over human medicine in its practical application and institutionalization.

Emperor Taizong (r. 976–997) established a specialist veterinary institution for collecting, preparing and storing herbs – the Magazine for Medicines and Honey (*Yaomi ku* 藥蜜庫)[79] – which used prescribed formulae much earlier than the Pharmacy Service (*heji ju* 和劑局), established in 1076.[80] The sources are inconclusive about distribution infrastructures, yet Yaozhou 耀州 was clearly a major supplier for both horse and human medicine. The veterinary pharmacy had fewer sections than its human counterpart, which included a pharmacy and factory. Nonetheless, the mass production and distribution of drugs and remedies was first institutionally anchored within veterinary care.[81]

The Magazine was low status and Emperor Zhenzong used appointments there for probation or punishment: 'If they then behave well and do not run up debts, they can return to their original post.'[82] Despite Zhenzong's low esteem for its directors, the office was allocated substantial finances and considered an important state duty. Institutionally and conceptually, the Northern Song thus established a solid basis for monitoring and preventing epidemics.

Officials in the Storehouse had to control the quality of the deliveries, weighing all incoming and outgoing ingredients and ensuring that containers were correctly sealed and opened to prevent contamination. Standardized prescriptions were distributed throughout institutions and to state-employed veterinarians, who adjusted the medicine to suit local needs.[83] In 1011 the Herds Office Director-in-Chief (*qunmu dujian* 群牧都監, rank 9) Zhang Jineng 張繼能 (957–1021) reported that:

> the horse stables to the left and right, the six stables and the stud farms and others constantly use medicine. They mainly follow the ten guiding ways of the *Yima yaofang* 醫馬藥方 (Recipe Collection for the Medicinal Treatment of Horses) compiled by the Veterinarian and Military Commander Zhu Qiao 朱峭 (fl. c. eleventh century). Two of these methods (*dao* 道) are used continuously. They are concocted and put in storage. The collection is constantly refilled. The eight other methods are not used very often and they are produced upon request as assessed by the stables and the studs and then stored.

[79] The literal translation here illustrates that the institution may have had storage functions for multiple purposes. Charles Hucker (1985), 577 (entry 7899), uses the generic 'Medical Storehouse', staffed by non-official experts.

[80] The *Song hui yao jigao*, 5705 ('Shihuo 52, 13') suggests the office was named after the Tang institution for horse medicine, the Xuanyi 宣義 workshop, which probably also treated the emperors' pet horses.

[81] Goldschmidt (2009), 126–8.

[82] *Song hui yao jigao*, 5705 ('Shihuo 52, 13').

[83] See *Zhiguan fenji*, 19.458 ('Muyang shang xia jian' 牧羊上下鑒); *Song hui yao jigao*, 7125 ('Bing 21, 2'). A Jingde reign (1007) edict suggests it mainly handled military issues. See *Song hui yao jigao*, 5705 ('Shihuo 52, 13').

I suggest that these medicines only be prepared upon request . . . The 68,889 medications noted in the original calculation could be reduced by 70%. The reduction was approved.[84]

Chronologically, veterinary care promoted the use of prescriptive formulae and recipes before such methods were introduced to Song human healthcare.

Conclusion

Central state concerns shaped the development of cattle and horse farming, advancing a quantitative increase and a qualitative reorientation. It combined monitoring strategies with educational campaigns, which ultimately evolved into an infrastructure for pharmaceutical, medicinal and hygiene practices in the veterinary sector. State structures for both veterinary and human medicine had elaborate bureaucracies and some similarities in their medicinal concepts and approaches.[85] Although written records suggest that human medicine provided the theoretical template, practical implementation of methods such as prescribed medicines chronologically first occurred in the treatment of animals.[86] Further research is needed to ascertain how views on animal care relate to the Song's substantial changes in medical methods and healthcare institutionalization.

Tang dynasty literature often viewed horses as exceptional and exotic, providing information about breeds, reproduction and specialist treatments.[87] In contrast, Song actors understood veterinary care within a wider context, acknowledging horses as an integral part of the entirety of existence, having manifold functions for society and state. Complex policies were implemented to ensure animal health: trade, ritual, and moral behaviour were all discussed, alongside nutrition and physiognomy. Literature on veterinary topics increasingly delineated general principles of veterinary care and medicine within its complex relationships to other factors such as climate, human behaviour and resource management. Sources also illustrate how Song scholars placed horses at one end of a continuum in which all diseases, treatment and reproduction followed the same rules. Guidelines for good farming practice were applied to horses and other livestock, such as sheep or goats, as well as humans.

For the scholar-literati of the Song, a well-organized institutional framework was a key element of the ensuing policies which were intended to prevent and

[84] *Song hui yao jigao*, 7182 ('Bing 24, 12').
[85] Buell et al. (2010), 33 note the increasing application of human medical theory to animals. See Hanson (2011) on epidemics more generally; Goldschmidt (2009) and Yuan Dongmei (2008), 83–6 on Song human medicine.
[86] Goldschmidt (2009) suggests prescribed medicine was a Song innovation. Buell et al. (2010), 35 observe that most theory was about humans, and was referred to for animals.
[87] Goodrich (1984), 295–6.

control epidemics, train veterinarians and provide standardized remedies, medicines and hygiene practices. This was supported by a political system of incentives, rewards and punishments which was inspired by classics such as the *Book of Rites* and the *Book of Changes*. At the same time, scholar-officials at court closely scrutinized livestock to develop further strategies of intervention and care. An elaborate network of veterinary doctors and reference materials on animals and their health emerged.

Although uncertainties about procedures arose in veterinary care as a consequence of factional disturbances between conservative and liberal circles during the Qingli reforms, the critique of Ma Duanlin about a centralized veterinary care system cannot be confirmed. As a matter of fact, the Southern Song stripped the Herds Office and directorates of their duties and eventually abolished them. The Southern Song then continued to invest in horse and cattle care and in animal disease control and prevention throughout this period.[88] The growing expertise of veterinary caretakers in military posts meant that animals were taken care of across various areas and by diverse means. How this relates to the disappearance of livestock from genres such as the *nongshu*, shifting attention to species in statecraft or their uses in daily life, is worth further research.

[88] *Wenxian tongkao*, 160.1393.

9 Animals in Nineteenth-Century Eschatological Discourse

Vincent Goossaert

The apocalypse might not seem the most obvious topic to feature in a volume devoted to animals in China, or indeed any society. Yet, during the nineteenth century, a significant number of books, presented as the result of divine inspiration, exhorted humans to stop killing animals because they claimed that this behaviour would bring about the end of the world. This particular moment in the history of Chinese religious writing about moral norms and human–animal relationships deserves attention in its own right. But it is also worth studying because it sheds light on how early modern Chinese elites (who produced and consumed such books) thought about life, as well as the intimately intertwined destinies of the animal realm and humanity.

I will explore this topic from a perspective of religious and social history. Following my earlier work on the history of the taboo on beef (*niujie* 牛戒) in China,[1] I have recently resumed studying the production of moral norms in Chinese history. Specifically, I have been examining the production of morality books (*shanshu* 善書) and other scriptures that were created through spirit-writing, from the Song period to the present day.[2] In this chapter, I will explore how the large corpus of late imperial morality books discussed looking after animals and placed this within a larger normative construction of moral behaviour. I begin by studying the place that animals have held in the long tradition of morality books since the twelfth century, before focusing on a particular turn that this tradition took during the nineteenth century. I will draw attention to a series of little-studied texts produced by late Qing elites which attempted to articulate a renewed vision of moral order and love of life in the face of disorder, notably in the context of the Taiping war.

[1] Goossaert (2005a), (2005b). [2] Goossaert (2012), (2015).

The Discourse on Animals in the Tradition of Morality Books

Morality books constitute a vast genre, with mutable boundaries. They include essays and tracts written by humans, along with texts revealed by gods through the technique of spirit-writing (*fuji* 扶乩, *fuluan* 扶鸞, *jiangbi* 降筆, *feiluan* 飛鸞).[3] Texts received from the gods carry more authority, and thus occupy the central place in the wider genre of morality books. Some of these gained the status of a classic, due both to the authority of the revealing gods and to their success with readers. Such classics were commented upon, illustrated, reprinted and anthologized in thousands of editions and canonized in various forms; they also served as inspiration for later revelations. The cumulative nature of morality books explains that, while the genre was ever-expanding and open-ended, it is a coherent entity, so it is possible to attempt to write a history of the ideas conveyed through this corpus of texts. Spirit-writing was also used to produce other types of texts, including hagiographies, liturgies, self-cultivation manuals and fully fledged scriptures – all of which often also contained discourses on moral norms. Historians generally agree that both morality books and spirit-writing appeared first in the Song period (tenth to thirteenth centuries CE), even though they have antecedents dating from earlier periods.[4]

From the genre's earliest days, respect for life was always a major injunction of morality books, along with social and familial relationships, care for the poor and the weak, honesty in business, and respect for the gods. This encompasses respect for all forms of life, from tiny insects right up to humans, in a graduated way; all lives are considered precious, but not to the same degree. Thus, morality books often propose vegetarianism as an ideal and not an obligation, but insist on protecting those animals closest to humans, notably bovines, equines and dogs, who are people's working companions.[5]

I have identified six themes related to animals in the tradition of morality books over the long term that will help to contextualize the nineteenth-century texts I discuss. These themes are not distinctly separated in the actual texts, but overlap and combine in all sorts of ways: they follow different logics, and are usually juxtaposed rather than seamlessly combined into a single unified thesis. Many elements in these arguments derive from either Confucian, Buddhist or Daoist moral teachings but, in the context of morality books, they are recycled and presented within a universal moral discourse that encompasses the Three Teachings. The main themes, from the most general to the most specific, are:

[3] In spirit-writing, one or two spirit mediums are possessed by a deity and write with an implement (often called *luan* 鸞 'phoenix') on sand, ashes or other material; this is noted down by an assistant and verified by the deity. Texts thus revealed range from simple answers to specific questions from devotees, to poetry and complex, long doctrinal works.

[4] Boltz (2009); Brokaw (1991). [5] Goossaert (2005a).

1. Respect for the natural cycles of life and the environment. This includes injunctions against killing young animals, disturbing hibernating animals, polluting rivers and starting fires in mountainous areas. These prescriptions derive from a very ancient tradition, documented in Han texts such as the *Yueling* 月令 (Monthly Ordinances)[6] and in the earliest Daoist precepts, such as the *Taishang laojun yibaibashi jie* 太上老君一百八十戒 (Hundred and Eighty Precepts of the Lord on High; probably second century CE).

2. Injunctions against direct involvement in killing animals for food or for fun (*jiesha* 戒殺). While scholars tend to associate this precept with Buddhism, morality books consistently support it with Confucian and Daoist, as well as Buddhist, references. Permanent vegetarianism is often described as very difficult to achieve, but morality book readers are enjoined to refrain from killing animals themselves, or ordering their servants to do so (i.e. buying a chunk of pork on the market is a lesser sin). Consuming meat (and thus directly or indirectly causing an animal to be killed) is tolerated for sacrifices to ancestors and deities, for nourishing aged or ill parents and, according to some texts (and within reasonable limits), for treating honoured guests. Killing (or causing others to kill) animals can be tolerated in certain cases (such as defending oneself against dangerous animals). The real crime is defined as killing, or obtaining meat 'without a proper reason' (*wu gu* 無故).

3. Exhortations to release live animals (*fangsheng* 放生). The practice of *fangsheng* consists of buying live animals at food markets and releasing them – either in the wild or in managed reserves (often within temples).[7] Once again, references are made to all Three Teachings to justify this meritorious practice that can, to some extent, offset the sin incurred by eating meat.

4. Taboos against killing or eating bovines and dogs (*jie niu quan* 戒牛犬). As I have argued elsewhere, this taboo formed gradually during the early Song period and quickly became a major element of a moral discourse that only partially disappeared during the twentieth century. The origins of this taboo are multifaceted, including changes in the ecology and pastoral economy (the disappearance of great estates with herds of bovines), changes in sacrificial practices, and the role of new deities that imposed precise taboos.

5. Other specific taboos (serpents, turtles, eels, wild geese, frogs, etc.). Whereas some of these taboos existed from medieval times on, none acquired the same level of significance as the taboo on bovines and dogs. Many of these developed as the discourse on useful animals (*yougong* 有功) and, thus, taboo-versus-edible animals gained ever more currency. By the late imperial period, dozens of items of meat were listed as taboo, with acceptable meat increasingly

[6] For more on the genre of Monthly Ordinances, see Chapter 11. [7] Handlin Smith (1999).

becoming limited to pork, poultry and fish (which became the new, modern *sansheng* 三牲 'three sacrificial victims').[8]

6. Injunctions to love and care for living animals, especially draught and other domestic animals. The question of animal welfare is also present in the morality books tradition, with numerous accounts of divine punishments being incurred by those who mistreat their animals. One of the early classics of the genre, the *Taiwei xianjun gongguoge* 太微仙君功過格 (Ledger of Merits and Demerits Revealed by the Immortal Lord of the Taiwei Star; revealed around 1120),[9] lists divine punishments for those who treat their animals brutally or cruelly, as well as rewards for those who take care of sick or wounded animals. This text also instructs people to bury dead animals, just as they would do humans. Some morality books even tell readers not to keep animals, whether as pets or for other purposes. This, again, follows rules found in early Daoist texts such as the aforementioned *Hundred and Eighty Precepts*, which discouraged animal keeping for reasons that were not stated explicitly but were probably related to both valuing austere lifestyles and condemning the practice of subordinating animals to human will.

These six themes are deployed in morality books in all sorts of ways, with more than one of them featuring in many of the genre's classics. Consider, for instance, the *Taishang ganyingpian* 太上感應篇 (Verses on Action and Consequence Revealed by the Lord on High; probably revealed during the twelfth century), the most influential, commented upon and reprinted morality book. This short, dense tract includes injunctions relevant to themes 1, 2 and 5 set out above:

> [Evil people] hunt all animals that fly or walk; they unearth hibernating animals and take fledglings from their nest; they fill up burrows and destroy nests, catch pregnant females and destroy eggs (射飛逐走, 發蟄驚棲; 填穴覆巢, 傷胎破卵).
>
> They slaughter and cook animals in circumstances other than those where this is a ritual prescription (非禮烹宰).
>
> During spring, they hunt by setting the woods on fire; they curse facing the north, and they kill turtles and serpents without a good reason (春月燎獵, 對北惡罵, 無故殺龜打蛇).

The fourth theme identified above – the taboo on beef and dog meat – first appears in slightly later morality books, the most influential being the *Wudangshan*

[8] In classical texts, and in practice until Song times, the three victims were a bovine, an ovine and a pig. See also Chapter 2 in this volume.

[9] This morality book was revealed through a dream rather than spirit-writing; the preface by its human editor clearly explains the circumstances and dates it reliably to the period around 1120. It later became the model for a major subgenre of the morality books, the so-called ledgers of merits and demerits that flourished from the sixteenth century onward.

Xuantian shangdi chuixunwen 武當山玄天上帝垂訓文 (Instructions Handed Down to Humans by the Supreme Emperor of Dark Heaven, on Wudangshan; revealed in 1302). Even later texts, such as the *Wenchang dijun yinzhiwen* 文昌帝君陰騭文 (Tract on Hidden Retribution, by the Imperial Lord Wenchang; shortly after 1600) and the *Guansheng dijun jueshi zhenjing* 關聖帝君覺世真經 (True Scripture to Awaken Humanity, by the Imperial Lord Saint Guan; c. 1660s), also begin urging readers to release living beings (my third theme). So, all six themes were abundantly present in the ever-growing corpus of morality books by the Qing period. A good overview of various sinners being punished in the dreary realms of the underworld is provided by the *Yuli baochao* 玉歷寶鈔 (Precious Manuscript of the Jade Calendar; most probably compiled in the early nineteenth century). This text's extremely popular description of hells portrays people who had killed animals, including children who tormented insects (and their parents who let them indulge in such cruel games); those who kept donkeys and horses without a good reason (that is, without any genuine need for transport or work in the fields); people who had poisoned rivers and fished with nets; those who ploughed their fields in winter (when insects are hibernating); people who had used animal parts to make drugs and, naturally, those who had eaten beef or dog meat.

Animals and Eschatology

The production of spirit-written texts accelerated during the late Qing. Huge compendiums were edited and repeatedly republished. Both the spirit-writing techniques and the ideas conveyed through such revelations became mainstream in elite society and, over the course of the nineteenth century, were adopted by all sorts of popular religious groups. Animal life remains a prevalent preoccupation of these revealed texts; the six themes outlined above are developed further, while new ideas are explored. The most important of these new ideas is the connection of animal life to eschatology. This suggests not only that taking animal life has dire consequences for the individual concerned, but that the collective behaviour of humanity towards animals plays a crucial role in the destiny of the world at large. The connection between killing animals and killing humans had existed for some time in Buddhist texts, morality books and literati writings, which stated that people who chose to kill animals for no reason would be killed themselves. Yet, by applying this logic to humanity as a whole, this eschatological discourse introduces the different concept that all (or the vast majority) of humans would have to be slaughtered – not just the most flagrant sinners – as a consequence of their general disrespect for animal life.

However, a closer review of these writings reveals that this was not a sudden innovation. One idea in morality books and other related spirit-written scriptures that endured throughout their history is the eschatological notion that

humankind is facing annihilation as a consequence of its sins and general moral failure. In this narrative, the focus is less on individual retribution, punishment and salvation (the habitual focus of morality books) than on the collective fate of humanity and, indeed, life in general, as humans and animals are ruled by the same non-negotiable rules of moral retribution.[10] This discourse became ever more articulate and dominant by the late eighteenth century and developed further during the nineteenth century. During this same period, people's lack of respect for animal life grew into a major cause of anxiety about the end of the world. A number of revealed texts from the nineteenth century explicitly express this anxiety, for instance the *Jieshawen* 戒殺文 (Tract on Non-Killing) revealed by Patriarch Lü (Lüzu 呂祖, i.e. Lü Dongbin 呂洞賓) sometime during the eighteenth century.[11] Lü was at the centre of one of the earliest and most important spirit-writing cults. In this tract, Patriarch Lü explains that killing animals is a direct cause of warfare and more general killing of humans so, if people stopped slaughtering animals, warfare would cease entirely:

> The killing *qi* 氣 and the radiance of spilled blood rise up and obscure the sun. Heaven loves lives but humans love killing. Such misery keeps accumulating and eventually causes people to be attacked, tortured, assaulted and killed by weapons. Humans get killed like trampled grass, collectively caught in this evil kalpa.[12]

Far more developed than this short text (and others similar to it) is a slightly later complete scripture entirely devoted to the topic. The *Jiuhuang Doumu jiesha yansheng zhenjing* 九皇斗姥戒殺延生真經 (True Scripture on Extending Life through Non-killing [preached by] Doumu, Mother of the Nine Emperors [of Ursa Major]) was revealed sometime between 1798 and 1804 at the Jueyuantan 覺源壇 spirit-writing altar, which was operated in Peking by high-ranking officials led by Jiang Yupu 蔣予蒲 (*zi* Yuanting 元庭, 1755–1819) – at that time, the Vice-minister of War. The text was eventually included in the major collection *Daozang jiyao* 道藏輯要 (Essentials of the Daoist Canon), published in 1806 by the Jueyuantuan group.[13] Although this is not the only eschatological text produced by this group, it articulates the discourses on animal life and the apocalypse in particularly explicit and striking ways, as well as providing a graphic description of the imminent annihilation of

[10] Goossaert (2014).

[11] This text is part of a larger set of moral tracts, *Xunshiwen* 訓世文 (Tracts to Exhort the World), revealed at an academy in Yuejun 越郡, i.e. modern-day Shaoxing, Zhejiang. It does not feature in the first edition (1743) of the *Lüzu quanshu* 全書 (Lüzu Canon) but was added as *juan* 25 of the 1774 enlarged Lüzu Canon. It was also included (as part of the *Lüdi wenji* 呂帝文集) in the *Daozang jiyao* 道藏輯要 (1806).

[12] Kalpa (*jie* 劫) originally meant a cosmic era, and can refer particularly to the cataclysmic changes between two such eras. In late imperial Chinese, it refers most often to the idea of an imminent apocalypse.

[13] An international project, created by Monica Esposito (1962–2011) and now led by Lai Chi-tim, is producing a detailed description and analysis of this canon. See Esposito (2014).

humanity that would be caused by the accumulated butchering of animals. Doumu asserts in this text that only a radical and immediate change of attitude towards life could bring humans back from the brink, and even calculates the most cost-efficient way to accumulate merits in the little time available, thereby maximizing the chances of avoiding obliteration. Although this text does not seem to have been widely diffused (before the *Daozang jiyao* was reprinted in 1906) and is not explicitly quoted by the later texts discussed below, it is nonetheless worth providing a detailed account of its contents here, as it constitutes a particularly well-developed, early illustration of the ideas that thrived during the nineteenth century and, as we will see, reverberated in many texts.

The scripture's narrative runs as follows. Section 1 (4a–6b): a description of Doumu as she lectures to assembled deities in her heavenly palace. A stellar deity asks about her vow to save humanity, and the current miserable conditions on earth. She replies by explaining that this misery is caused by human sins, chief of which is killing animals. She debunks the idea that humans and animals are different and states that taking any life has dire consequences for the whole universe. Section 2 (7a–9a): Doumu continues by detailing three reasons why humans are blind to the sin of taking life: their unrestrained appetite for meat (including exotic delicacies), tradition, and the erroneous notion that humans and animals are fundamentally different. Section 3 (10a–12a): Doumu explains that ordinary humans cannot give up eating meat in one go, and offers a 'gradual method' successively to reduce their sins related to meat-eating. For this, she classifies animals in a complicated grading scheme, using seven categories of animals which have different values, and several more subcategories. At the top of this hierarchy are mammals that have 'great merit', i.e. bovines (because they plough the fields) and dogs (because they guard houses). As these two are thousands of times more valuable than ordinary animals, saving them produces enough merit to avert disasters for the time being. Section 4 (13–15a): Doumu further elaborates on the importance of protecting bovines and dogs, details their contributions to humanity, and recounts the horrors that befall those who commit the heinous crime of butchering or eating them. Section 5 (16a–18a): as a second step in her gradual method, Doumu encourages humans not only to protect bovines and dogs, but also to extend this practice to other animals. She discusses the predicament of people who try, but lapse, because they do not see vegetarians being favoured by Heaven or meat-eaters being punished, and those who despair because they think one individual alone cannot make any difference. She then details her understanding of *jiesha* (non-killing) in five points. Section 6 (19a–21a): Doumu extols the practice of releasing animals (*fangsheng*) as the most efficient and powerful way of accumulating merit and averting disasters, again through a computation of merits accrued.

These six sections constitute a first round of elucidations. A second round begins with section 7 (22a–24b): after Doumu has finished her preaching, Heaven fills up with auspicious omens and assembled deities entreat her for more instructions. Doumu begins to expound on the virtue of compassion (*ren* 仁), which is the root of life, explaining that humans who kill animals lose their *ren* and, as a result, bring death upon themselves and their kin. Section 8 (25a–27a): Doumu expands on her sharp distinction between acceptable and prohibited meat (beef, dog, horse, etc.), and details how everyone – rich or poor – should enforce a prohibition, according to their individual circumstances. In Section 9 (28a–30b), Doumu lists various types of killing that should be resisted: by cruelty or teasing, because of an appetite for unusual fare, by wanton destruction of natural habitats, etc. Section 10 (31a–33a): Doumu explains how the retribution for humans who kill animals works, and asserts its ineluctability, even though this might not be immediately apparent to those concerned. Section 11 (34a–36a): Doumu expands on how killing animals causes disasters, using a Five Phases (*wuxing* 五行) scheme to explain the advent of various disasters such as fires, wars and epidemics, then returning to the importance of each person doing their part to avert collective disasters. Section 12 (37a–38b): all the assembled deities applaud, and Doumu solemnly restates her vow to assist everyone who promises to observe *jiesha* (non-killing), and the practice of *fangsheng* (releasing animals).

Several dominant themes emerge from this scripture. First, the idea of impending disaster (*jieyun* 劫運) permeates the whole text. Doumu repeatedly insists that calamities – from personal misfortunes to global tragedies (wars, epidemics, droughts, etc.) – are automatically brought about by acts of killing animals.

> If one man practises this [non-killing] he can avoid disasters for himself; if the whole of humanity practices this, it can avoid the end of the kalpa (20b).

> [Killing living beings] causes disasters to befall the culprits on an even larger scale, and the end of all mankind to arrive even sooner (28a).

Doumu develops a naturalistic theory whereby people who kill animals cause the world's *qi* to become imbalanced, attract disasters, and are eventually reborn as animals themselves. According to this concept, black *qi* (*heiqi* 黑氣) or killing *qi* (*shaqi* 殺氣), which emanates from humans killing animals or doing other bad deeds, accumulates through time and eventually clogs up the universe. This theory is also found in other texts from this period, as we have seen in the Lüzu tract.[14] Although it seems akin to Buddhist theories of *karma*

[14] It informs a scripture revealed in 1707 by Patriarch Lü, *Lüzu xingxin zhenjing* 呂祖醒心真經 (Authentic Classic on the Revelation of the Heart-mind by Ancestor Lü). See Goossaert (2012), 77–98. For mid-nineteenth-century examples, see *Guandi quanshu*, 23.463 and 24.688.

and retribution as natural phenomena (resonance, *ganying* 感應), and of violence automatically nurturing violence, it is embedded here (and in other nineteenth-century texts) in an eschatological framework. Doumu explains that she cannot help to avert disasters herself except by convincing people to repent and stop killing, and by supporting those who do so. Doumu presents herself as a model for her devotees, urging them 'to be like her healers of the world' (*rudeng tong wei tiandi zhi yi* 汝等同爲天地之醫).

The second overarching theme is the scripture's attempt to balance two contradictory positions – first, the principle that all lives are valuable and therefore all living beings must be protected and, second, the pragmatic concern for individuals to achieve maximum merit by focusing their efforts on the most valuable animals. As a result, the scripture is not entirely coherent – in fact, some passages actually contradict each other. While the consumption of pork, poultry and fish is at times described as a sin (less severe than the sin of butchering bovines and dogs but a sin nonetheless), other passages imply that eating such everyday meat (*changshi zhi wu* 常食之物, 29b) is natural and unavoidable. The second argument, as we have seen, directly echoes a discourse that was commonplace in Daoist texts and in society at large from the thirteenth to the late nineteenth century. As a result, certain meats (pork, poultry and most species of fish) were considered completely acceptable, while beef, dog meat, horse meat and a few others were prohibited by the gods. Along the same line of thinking, the Jueyuantan scripture (18a) also accepts the consumption of meat for social banquets and sacrifices as unavoidable and acceptable, since such consumption ultimately causes the death of only a few animals.

The scripture attempts to reconcile these divergent views by taking a highly quantitative approach to sin. It painstakingly counts the merits and demerits accrued by killing or saving various types of animals, exactly like the well-known 'ledgers' (*gongguoge* 功過格).[15] The text's quantification of differing lives' moral values proposes that one human life is worth ten lives of 'useful' animals. In brief, the scripture attempts to weave together various divergent pre-existing ethical discourses on meat eating and animal life, including Daoist prohibitions on beef and other meats, 'sectarian' full vegetarianism (*changzhai* 長齋), Buddhist and Confucian calls to compassion and measured abstinence, and the practice of *fangsheng*, by integrating them all in a theologically ambitious salvational scheme.

[15] The *Taiwei xianjun gongguoge* (twelfth century) discussed above classified animals into useful (those who work for humans) or useless and lesser animals (mostly insects). The *gongguoge* tradition gradually developed ever more complex systems for attributing moral value to animals. See in particular the early Qing *Huizuan gongguoge* 彙纂功過格 (Comprehensive Compilation of Ledgers of Merits and Demerits), where *juan* 8 is entirely devoted to counting merits and demerits in relation to animals.

The scripture of Doumu's preaching on non-killing was produced and edited by high-ranking officials in the Qing administration. Far from being the ideas on animal life of 'vegetarian millenarian sects' – as the devotional lay movements that practised comprehensive vegetarianism are often described in the scholarly literature – it represents elite ideas in reaction to such 'sects'. Indeed, one of the most fascinating aspects of this text is that it was produced and printed at the same time as, and thus within the larger political context of, the White Lotus rebellion (1796–1804), an uprising of people who were described as millenarian vegetarians.

Guandi's Teachings on Animal Life

The ideas expressed in Doumu's teachings of an elite version of eschatology and care for animal life had apparently already gained, or did rapidly gain, wide currency and were echoed in many early and mid-nineteenth-century revelations, notably those by Guandi 關帝 (Emperor Guan, the title of the divinized Guan Yu 關羽 since the early seventeenth century). Indeed, some of Guandi's teachings on the subject make their opposition to millenarian vegetarianism very clear. I will draw on the examples of two tracts revealed by him that discuss the history of spirit-writing, whilst simultaneously denouncing the 'sects' (*jiaofei* 教匪, *xiejiao* 邪教) explicitly described as vegetarian (with several mentions of the 1796–1804 White Lotus rebellion), which he believed deluded people and rejected spirit-writing.[16] They thus document how Guandi's spirit-writing groups saw their place in the broader religious landscape, contrasting their moral vision of life with that of the 'vegetarian millenarian sects'.

Guandi did not become a dominant deity in the world of spirit-writing until the turn of the nineteenth century, when his revelations multiplied and he assumed a leading role in elite spirit-writing circles.[17] He became one of the saviour deities who directed efforts to help humanity reform and avert the apocalypse. The *Taoyuan mingshengjing* 桃園明聖經 (Scripture on Illuminating Saintliness, from the Peach Garden), which was apparently revealed during the first years of the nineteenth century, had become the most revered and important Guandi scripture by the mid-nineteenth century. The process of textual canonization of Guandi's revelations reached its full maturity with the publication of the *Guandi quanshu* 關帝全書 in 1858, a massive canon of forty *juan*. This canon contained scriptures and litanies of

[16] *Guandi quanshu*, 22.402–5 ('Chu yiduan wen' 黜異端文); *Guandi quanshu*, 23.546–50 ('Bianduan wuji wen' 辨端誣乩文).

[17] Goossaert (2017). The *Guansheng dijun jueshi zhenjing* 關聖帝君覺世真經, an early Qing Guandi scripture, already instructed readers to observe the beef taboo and refrain from killing animals.

the Guandi cult, along with a remarkable number of shorter tracts on moral instructions (*xunwen* 訓文) which were produced in the first half of the nineteenth century. The 1858 *Guandi quanshu* features 144 such texts (*juan* 22–4), comprising some four hundred pages in the modern reprint.

One common feature of all these Guandi texts is the outright rejection of vegetarianism and vegetarian 'sects'. Guandi himself writes in the concluding lines of the *Taoyuan mingshengjing*, 'I am not a vegetarian 喫長齋' – and members of the Guandi spirit-writing groups also make similar statements about themselves. Nevertheless, Guandi's revelations (as included in *Taoyuan mingshengjing* and the *xunwen* tracts) consistently argue against killing animals, and strongly promote the beef and dog taboos.[18] Killing bovines and dogs is listed among the sins in most tracts;[19] in some cases, frogs are also included among the tabooed animals.[20] Several texts berate people who kill insects, collect eggs, set forests on fire and pollute rivers.[21] They claim that, when people eat beef or dog meat and poison the rivers, the killing *qi* rises up to Heaven and Shangdi 上帝, 'Lord of Heaven' or 'Jade Emperor', becomes so angry that he wants to destroy humanity.[22]

Many of the short tracts are devoted to the eschatological themes that became prominent in the Guandi texts of that period. In the most common scenario, the Jade Emperor or Lord of Heaven decides that humanity is too sinful to be redeemed and must be annihilated by demons bringing catastrophes (wars, floods, famines, epidemics, etc.), from which only a few virtuous people will be saved. Guandi then leads a group of gods to plead with the Jade Emperor and obtain a reprieve, during which they attempt to convert and save as many humans as possible through spirit-writing revelations. These tracts thus represent a continuation of the discourse of morality books in general, and the eschatological programme exposed in the Doumu scripture – even though the Doumu text describes the apocalypse as a natural phenomenon instigated by the workings of *qi*, rather than a bureaucratic decision, as in the Guandi texts. The historical context was also new, since the *Guandi quanshu* was compiled in Hunan in the middle of the Taiping war (1851–64).[23] Hunan was both a major battlefield during the first phase of the war and the cradle of the army that eventually defeated the Taiping; after 1853, large sections of the province were mobilized in the loyalist 'Hunan army' (Xiangjun 湘軍). Being the result of a well-established Guandi spirit-writing cult in central Hunan, the canon's compilation was given increased significance by the war, which several of its

[18] *Guandi quanshu*, 23.514–18.
[19] For instance, *Guandi quanshu*, 22.342–7, 22.415–17, 23.441–5, 24.568–71.
[20] *Guandi quanshu*, 24.565. [21] *Guandi quanshu*, 22.417–20.
[22] *Guandi quanshu*, 23.522–6 ('Ciyi chiyu wen' 慈邑敕論文).
[23] The *Guandi quanshu* merely states that its compiler, Huang Qishu 黃啟曙 (n.d.), hailed from Xiangtan 湘潭 in central Hunan.

texts clearly allude to as an apocalyptic disaster sent by the gods.[24] As we will see, the Guandi texts are far from an isolated case. In the context of the Taiping war, numerous elite loyalist groups throughout the empire (some with close connections to loyalist armies) produced revealed eschatological texts, with prominent animal themes. Again, many of these groups were situated in Hunan.

Revelations during the Taiping War

The Taiping war remains the bloodiest civil war in human history, with casualties estimated to number between 20 and 100 million people. This traumatic event was perceived by all actors as an apocalypse, with gods widely considered to be playing an active role in the battles. It is well known that the Taiping rebels were moved by a messianic vision of annihilating the Manchu demons in order to establish their Heavenly Kingdom, but historiography has so far underestimated the extent to which loyalist forces, and the vast majority of people who just wanted to save their own lives, also understood the events in eschatological terms.[25] Trying to make sense of the chaos around them, they expressed their ideas in essays, diaries, poetry and, most articulately, divine revelations.

Many loyalist elites understood the apocalyptic events and the descent of demon-kings (the Taiping generals) to earth as a heavenly reaction to humanity's moral decadence. When explaining precisely which sins had convinced the Jade Emperor to unleash the demons of apocalypse, these groups called upon classical themes from morality books. They believed that humans were being murdered because they lacked filial piety, loyalty to their lord, honesty in their trade, compassion towards the weak and the poor, respect for life and sexual morality. The last two points were given a particular emphasis in the flurry of apocalyptical texts produced in the context of the Taiping war.[26] Several morality books devoted entirely to either of these two themes were produced between 1850 and 1864, showing their special relevance to those literati who were caught up in the war situation.

Numerous texts revealed by the gods, or written and compiled during the Taiping war, posit a very explicit and direct link between the number of animal lives taken by humans and the advent of a savage war that was taking human lives on an unprecedented scale. This link was hinted at in the Guandi tracts discussed above; it was then clearly developed in a variety of texts. An illuminating example, brilliantly discussed by Tobie Meyer-Fong in her book on the Taiping war, is the *Pangong mianzai baojuan* 潘公免災寶卷

[24] Ter Haar (2013).
[25] This section on the Taiping period draws and expands on Goossaert (2016). For a more general history of the Taiping, see Platt (2012).
[26] On sexual morality in late imperial spirit-writing texts, see Goossaert (2013).

(Precious Scroll on Avoiding Catastrophes, Revealed by Mr Pan), which was published in 1855. This *baojuan* was certainly written by Yu Zhi 余治 (1809–74), a Jiangnan scholar famous for his activist philanthropism. Yu's brother committed suicide when their city of Wuxi 無錫 was conquered by the Taiping in 1860, after which Yu Zhi lived as a refugee, collecting funds for the loyalist armies and militia, organizing anti-Taiping propaganda, and relentlessly preaching in public that people must repent and engage in moral reform so that the gods would be appeased and peace could return to China.[27]

The protagonist of *Pangong mianzai baojuan*, Pan Zengyi 潘曾沂 (a historical figure linked to Yu Zhi, who died shortly before the Taiping invaded Nanjing in 1853), is described as a saint (and a vegetarian) beloved by the gods, who was promoted to general comptroller of the register of the living and the dead in the administration of the Eastern Peak immediately after his death. Pan then appears in a dream to his relatives, telling them that the Jade Emperor, furious at humanity's moral decadence, had sent down an apocalyptic disaster in the form of the Taiping, and planned the death of all Nanjing's inhabitants. But, thanks to Pan's negotiations, 30 per cent of them would be saved, on the condition that they swore a twelve-point oath of repentance. These twelve points included not killing baby girls (no. 5) and other interdictions related to human affairs, the familiar prohibition on killing animals (no. 9), and eating beef or dog meat (no. 12). Indeed, a substantial section of the *Pangong mianzai baojuan* narrative recounts how the gods helped those who swore to abstain from meat and stop killing animals to escape Nanjing as it fell to the Taiping army, while those who did not were massacred by the rebels. Each of these twelve points was discussed in great detail in *Pangong mianzai baojuan*, but they were also disseminated separately as part of a different scripture – the *Xinchu xianchuan liyuan baojuan* 新出仙傳立願寶卷 (Precious Scroll on Making a Vow, Newly Revealed by the Immortals) – which continued to circulate after the war and expanded this oath to contain fourteen points, including the same three discussed above.[28]

The idea that killing animals was one of the direct causes of the Taiping war seems to have been very widespread. For instance, it features in a large compilation of spirit-written revelations by one group in Sichuan that spans most of the war's duration – the *Jiushengchuan* 救生船 (the four *juan* have prefaces ranging from 1860 to 1863).[29] The title of this compilation – *The Boat*

[27] Meyer-Fong (2013), chapter 2. Yu Zhi also wrote a play about the beef taboo, telling the story of a butchered ox who takes revenge. See Goossaert (2005a), 201–3.

[28] We know the *Liyuan baojuan* from a 1913 reprint of an 1897 edition, but it contains a 1692 preface, so it is possible (if the 1692 preface is authentic) that Yu Zhi used an earlier text as a basis for his own set of vows.

[29] On this text, see Wang Chien-ch'uan (2015).

to Save Lives – primarily refers to saving the lives of people destined for an apocalyptic death, but it also includes discussions on saving animal lives, containing tracts on various taboos (including one on eels).[30] Sometimes, death by war is explained as a direct consequence of killing animals. Patriarch Lü says: 'If you want to understand the catastrophes of war and killing at the present, just listen to the sounds coming out of butchers' shops at night.'[31] This is actually a quotation from a poem by the Song dynasty Buddhist monk Yuanyun 願雲 (n.d.),[32] but the verse took on a new meaning from this reuse in a war context.

This idea was the driving theme of one volume, the *Haosheng jiujie bian* 好生救劫編 (An Anthology of Loving Life, and Averting the Apocalypse). Compiled in 1854 by the education commissioner for the province of Guizhou named Bao 鮑, the book is entirely devoted to respect for animal life.[33] The five-*juan* work is a compilation of quotes from earlier morality books, essays and anecdotes, amply documenting all the six themes discussed above. While excerpts from Buddhist and Daoist texts are included, the main thrust is essays by literati from the Song to the mid-Qing, who discuss both the rationale of non-killing and vegetarianism, and the practical compromises they entail in elite lives. Only one text broaches the eschatological discourse: the tract produced by Lüzu which was discussed earlier in this chapter.[34] In a later addition to the 1901 reprint of Bao's anthology, one text explains that previous bloody revolts and massacres in Chinese history, such as the fall of Chang'an and Luoyang during the Tang and Hangzhou during the Song, were all caused by the decadence of urbanites indulging in meat.[35] Yet, in his introduction, Bao graphically describes the massacres that were taking place at the time he was writing, explaining them as punishments from the gods for killing animals. So here an official, steeped in the long-standing literati discourse of compassion for living beings and utmost moderation in eating meat, recasts this tradition in the light of the immediate context of savage war. By adopting this eschatological reading, he was following many other officials already mentioned, including those who produced the Doumu scripture and those who participated in the Guandi cult.

[30] *Jiushengchuan*, 3.54b–55a. The eel taboo issues from the worship of Xuantian shangdi 玄天上帝.
[31] *Jiushengchuan*, 2.4b–5a.
[32] *Lianxiu qixinlu*, 6 ('Jiesha shi' 戒殺詩); see also www.sutrapearls.org/hushen/hs04.htm#sthash.pXnDLzXe.dpuf (accessed on 19 January 2016).
[33] I have seen three different versions of this work; only one (the 1892 edition) gives the author's identity as Education Commissioner Bao. But I have been unable to trace him in local gazetteers.
[34] Quoted *in toto* in *Haosheng jiujie bian*, 1.8a–9a.
[35] *Haosheng jiujie bian*, 6.9a ('Jieshashuo' 戒殺說).

The Divine Code

One of the most remarkable texts produced by spirit-writing during the war is the *Yuding jinke jiyao* 玉定金科輯要 (Compilation of the Golden Rules, on Order of the Jade Emperor), a huge divine law code that lists in excruciating detail the punishments (expressed in years of life and various disasters) for every imaginable sin, as well as rewards for do-gooders.[36] The thousand-odd pages of this penal code were revealed in Hunan between 1856 and 1859 by Wenchang, who was given authorization to reveal it to humans from the Jade Emperor. An introduction explains that the Jade Emperor had decided to inflict an apocalypse as early as 1816, then proceeded to ask the gods to compile a precise code so as to decide rationally who should die, when and how. This code was eventually promulgated in Heaven in 1848, but it took several supplications from Wenchang before the Jade Emperor allowed this information to be made available to humanity, so that at least some people could repent and save themselves. Numerous texts from this period (including the aforementioned *Pangong mianzai baojuan*) asserted that gods did not cause human deaths in the war randomly or arbitrarily but, in fact, were strictly enforcing a celestial law code (*tianlü* 天律). The revelation of the *Yuding jinke jiyao* is just the most developed expression of this idea. The very existence of this code, which binds gods as well as humans, provides a solution to the conundrum created by the idea that the war was a response to animal killing. It was a Chinese version of the theodicy problem: how can the gods who are supposed to 'love life' (*haosheng* 好生) engage in such mass slaughter? In a preface to the aforementioned *Jiushengchuan*, revealed in 1863, Zhang Fei 張飛 explains that, as a god in the Ministry of Thunder, he loves life and loathes having to kill humans, but he is bound by the code to punish sinners and dutifully does so.[37]

The *Yuding jinke jiyao* is organized around the eight virtues (*ba de* 八德), a framework for theorizing morality that had emerged during the first half of the nineteenth century and remained prevalent until the mid-twentieth century.[38] Animal life is discussed as part of the chapter on justice (*yi* 義), in the rewards section of the code. Surprisingly, it is not found in the section on punishments. Articles on animals do not form an individual sub-chapter but are intermixed with articles on helping the poor through charity. Animals were not treated as a separate issue but were included among those weak forms of life that people should take pity on, in a continuum with infants, the sick and the unfit. The section on rewards states that people will accrue precisely quantified merits

[36] This code, and several sequels revealed in subsequent decades, was adopted and widely diffused during the Republican period by a redemptive society, the Tongshanshe 同善社. On this society, see Goossaert and Palmer (2011), chapter 4.

[37] *Jiushengchuan*, 3.1a–b ('Huanhou dadi xu' 桓侯大帝序).

[38] Fan Chunwu (2015).

if they financially support butchers to change their trade, along with those who pay for *fangsheng*.[39] Another group of quantified merits lists those who constantly keep an eye open for animals in danger – however small – and save them; people who do not cause animals to be killed by ordering meat except in circumstances when ritual prescribes it, such as at sacrifices, their parents' birthdays, weddings and funerals, formal receptions for guests, and nourishing a sick parent; individuals who observe the beef and dog taboo and convince others to do so; people who do not kill tortoises and serpents; those who convince farmers not to sell their old oxen, dogs, horses and donkeys to butchers but keep them on the farm and bury them when they die; those who release live fish and birds; those who abstain from eating small fishes and fish roe because it saves countless lives from being cut short; people who bury dead mammals; those who do not engage in and prevent others from poisoning rivers, fishing with nets, setting woods and prairies on fire, hunting and filling up burrows; and people who feed wild animals during particularly harsh winters.[40]

After an article on the beef and dog taboo, the code contains a commentary that refers to the causal connection between animal killing and war. It reads: 'In the world, when wars or famines occur, this is caused by the fact that humans are unable to refrain from killing [animals]. The *qi* produced by such killing naturally causes such disasters.'[41]

Conclusion

All the texts discussed above draw a close connection between animal life and human death which is based on caring for and loving life – or failing to do so. This notion originates from a passage in the venerable *Shangshu* 尚書 (Book of Documents), one of the Five Confucian Classics, which refers primarily to humans and states that the sovereign cares for life and thus protects his subjects.[42] But, since the Han period, it was continuously used to refer to life in general. By the nineteenth century, the term 'the virtue of caring for life' (*haosheng zhi de* 好生之德) had come to characterize both gods and rulers – even though they were authorizing or even directly perpetrating massacres on a gigantic scale – and thus became accepted as a model that humans should emulate. This fixation on caring for life in an era of massacres reflects the deep ambiguities and anxieties of late imperial Chinese society, which reached their apex during the Taiping war, yet continued far beyond that time. Indeed, all the texts discussed above were reprinted and continued to circulate after the war and, in most cases, until the present day.

[39] *Yuding jinke jiyao*, 535. [40] *Yuding jinke jiyao*, 541–3. [41] *Yuding jinke jiyao*, 542.
[42] *Shangshu*, 'Dayu mo' 大禹謨.

I have shown that the lives gods and humans were expected to care for extended along a continuum from the worthiest humans to the tiniest insects, and the boundaries between humans and animals seem blurred and unfixed. While some animals – especially bovines – were endowed with quasi-human qualities and feelings,[43] certain humans were to be pitied just like animals. One major issue that attracted much attention in the same context was that of infanticide. The killing of infants, especially girls, developed into a key theme of Qing morality books in general, and of the revelations and tracts of the Taiping period in particular.[44] The practice of infanticide had existed before the nineteenth century and had, at times, resulted in severely imbalanced sex ratios, which fed violence and rebellions. It is difficult to prove whether it became more prevalent during the nineteenth century, but the discourse in morality books and other genres certainly grew. Some of the texts introduced above make an explicit connection between killing baby girls and killing animals,[45] quantifying the values of life that were already clearly listed in the *Jieshajing* revealed by Doumu and other texts. One of the tracts in the Guandi canon argues that the life of a baby girl is worth that of ten animals.[46]

Viewing the eschatological texts on animal life as reflecting an anxiety about the fragility of life, and the ease with which humans (and gods) could take it away, raises the question: what does it have to do with how real animals were treated? Are the animals in these texts not simply metaphors about human life and the way that war, and late imperial society in general, treated humans like livestock ready for slaughter? This is true to a certain extent. These are not texts by animal lovers as pet-keeping is discouraged. But animals in these revealed texts not only function as foils; they are also actual animals which require attention. Their detailed discussions about the sufferings of butchered oxen or mistreated dogs betray a real care for animals, not just a projection of human concern over a 'hypothetical creature' or paper animal.

If the late Qing eschatological discourse is indeed about actual animals, to what extent does it relate to changes in the larger ecological systems that affected human–animal relationships? This is hard to ascertain, as the texts' strong focus on moral reform and human agency leave other factors of change entirely in the background. Morality books have a lot to tell us about social, political and economic issues, but always from the perspective of what humans can do to improve themselves and the world. Earlier meat

[43] On bovines being treated like humans, see Goossaert (2005a), 186–90, 196–8.
[44] On the late imperial discourse on infanticide in general, see King (2014).
[45] *Haosheng jiujie bian*, 6.1a–2a ('Funü jiesha bian' 婦女戒殺編). This last *juan* of the book was likely added in the 1901 reprint.
[46] *Guandi quanshu*, 25.497–9 ('Yu yingnü' 育嬰女).

taboos were (albeit by no means solely) powered by mutations in the pastoral economy; similarly, the fast-paced demographic growth and attendant pressure on land and wildlife that characterized the three centuries preceding the Taiping war certainly contributed to the growing anxiety about human cohabitation with animals. On the other hand, as I have shown in this chapter, this discourse was also driven by its own religious logic regarding the value of life in general.

10 Reconsidering the Boundaries

Multicultural and Multilingual Perspectives on the Care and Management of the Emperors' Horses in the Qing

Sare Aricanli

The emperors of China had a large number of horses, as well as officials to look after them. Upholding good standards of equine care was a matter of importance for the court, as it concerned a range of issues such as transport, ceremonies, communication and military expansion (see Chapter 8). The Qing dynasty was a particularly interesting period, when the state drew upon its knowledge of different cultures within its lands and state practices were connected across a number of institutional, cultural, and linguistic boundaries. The inherent fluidity of boundaries (between categories of knowledge, disciplines, geographies, etc.) has already been established in a number of fields. This chapter explores the linkages between multiple institutional, linguistic, and cultural realms to reveal overlapping spheres (of human and animal care, central and steppe practices) and a diversity of cultural perspectives, in order to provide insights into the workings of Qing state structures. It examines equine care through the seemingly static bounds of languages and institutions, understanding that these were embedded within their own cultural spheres which were also fluid and, simultaneously, constructed and self-defined.[1]

The chapter has two main goals. First, it will reveal the multifaceted nature of equine care as embodied in the interconnections and overlapping spheres apparent in the fluid boundaries between institutions, and human and animal medicine, as well as practices in the centre and the steppe.[2] Second, it will show how linguistic and institutional studies can contribute to a multicultural understanding of equine care. This aspect draws attention to how knowledge and

[1] On the importance of the Manchu language in Qing history; on how cultural categories such as Manchu and Mongol were self-defined, constructed and changing; on the social history of Qing institutions; and on social and cultural histories of medicine within their political contexts, see Rawski (1996), (1998); Crossley (1997), (2006); Elliott (2001); Hanson (2003), (2011).

[2] Pastoral nomadism was one aspect of life on the steppe. On nomads more generally, and their interactions with sedentary societies and the state, see Khazanov (1984). For pastoral nomads and dynastic rule in Inner Asia, see Lattimore (1951).

practices incorporated into state structures showed different levels of attribution to a particular cultural context (e.g. Mongols). Moreover, this multilingual and institutional approach compels us to reconsider horses as singular beings. Horses were often part of a herd, and were conceptually and practically intertwined with other beings (animals and humans). So this approach demonstrates the value of considering multiple perspectives on their own terms,[3] providing a nuanced and multifaceted understanding of how horses were contextualized and cared for by the state.

The Qing was a conquest dynasty. The rulers were Manchus, people from the northeast who were skilled at horsemanship and archery, and organized as tribes that had practised hunting, fishing and farming before becoming rulers of China. The Manchus' success can be partly attributed to their having learned about Chinese institutions before establishing their dynasty. However, they were not only familiar with practices within their own cultural context and that of the Han Chinese; they were also highly conversant with others, such as the Mongols, and they used this knowledge to realize their political goals. It is particularly important to appreciate the existence of a variety of actors in a conquest dynasty. The Qing embodied central elements of the Chinese dynastic tradition, while also incorporating and managing an ever-expanding landscape and population. The variety of cultural practices represented at the centre of the Qing state was, therefore, a reflection of the rulers' versatility, as well as the diversity of those they ruled.

Scholars have shown that Qing leaders utilized a range of practices to establish and consolidate their rule. One way was creating patterns of resonance with forms of authority which were recognized by different populations in the realm. This aimed to establish a universalistic form of rule that went beyond continuing the Chinese dynastic line.[4] The Qing dynasty's ability to consolidate its rule in the seventeenth century and incorporate vast territory through the eighteenth century was by no means inevitable, and highly contingent in nature. Its success was due to a combination of diplomatic, military, institutional and cultural measures which managed the realm's changing political dynamics over several emperors' (and regents') reigns.

The Manchus' relationship with Mongols represents a significant aspect of Qing governance and culture. The dynamic between the Manchu rulers and some Mongol groups was realigned through the historical processes of state building, whereby Mongols who had been allies became subordinates.[5] As the physical frontiers of the empire expanded, the lands became populated by people of backgrounds different from the Han Chinese. As these new people became integrated, the balance of power between groups of subjects was also reconfigured. Mechanisms of consolidating rule also had the effect of limiting

[3] Elman (2005). [4] Crossley (1999), esp. chapter 5. [5] Di Cosmo (2012).

the Mongols' mobility across pastureland.[6] One of the ways the Qing dealt with these changing dynamics was by demarcating the Mongols (from the Manchus) and reifying them.[7] This chapter examines how the Qing handled their relations with Mongols while benefiting from their expertise, by incorporating the Mongols' knowledge and practices of equine care into state institutions and texts.

Horses were used in the Qing imperial realm for a range of purposes, such as the military, imperial tours and tribute trade. For example, imperial tours where the court travelled on horseback not only were rituals of rulership, but were similar in style to imperial hunts and military exercises.[8] Horses played an important role in the military, where the cavalry was deployed alongside the infantry. Mounted soldiers used bows and arrows, and were skilled at manoeuvres such as flanking and encircling in close-quarter combat. Riders travelling long distance on horseback could average about 30 *li* (Chinese miles), or about 15 kilometres, a day. Handling these animals on terrain that was unsuitable for them – such as mountainous areas or swamps – was a formidable task. As well as transporting people, horses could also be used to carry supplies.[9] Equine medicine was a matter of great importance throughout Chinese history.[10] This chapter elaborates on aspects of equine care in state practice.

It is not my aim to provide a comprehensive description of institutional structures of horse management, relations between central realms and the steppe, or the ways steppe knowledge of horses was practised in various environments. Rather, I will show the value of linguistic and institutional frames (which are themselves inherently changeable) to gain further insights into the connectivities, overlapping realms and cultural understandings of the Qing.

The chapter begins by considering horse management, showing the porousness of boundaries between human and equine medicine, as well as institutional contexts. Next, it discusses the knowledge associated with Mongols that was used in equine care. Some examples illustrate the multiple ways in which a particular cultural context (such as Mongols) could be referenced, while incorporating knowledge and practices attributed to them. For instance,

[6] For a history of managing Mongol relations through Qing expansion, see Di Cosmo (2016). For a history of Qing expansion, with discussions of the environment, see Perdue (2005). For environmental histories of China, see Elvin (2004) and Marks (2012). For more recent studies see Bello (2016) and Schlesinger (2017).

[7] For a discussion of the construction of Mongol identity, see Crossley (2006).

[8] See Chang (2007); Elliott and Chia (2004).

[9] Di Cosmo (2006), 31–9.

[10] See Chapter 8 in this volume on institutions for human and veterinary health in the Song. For equine medicine more generally, see Buell, May and Ramey (2010), (2018); Buell and Ramey (2001).

practitioners called 'Mongolian doctors' (*Menggu yisheng* 蒙古醫生 in Chinese and *coban* in Manchu) represent the overlapping realms of human and equine medicine, and show how the association to 'Mongols' was clearly articulated. On the other hand, textual knowledge of equine care in an imperially commissioned multilingual dictionary or practices from the steppe that were used in the management of the emperors' horses are examples where the expertise does not seem to have explicit reference to the particular cultural context. This study also indicates what we can learn about equine care by examining the meanings of terms within and across linguistic categories. The focus is first on the range of understandings that are depicted through Manchu vocabulary. The chapter concludes by examining terms in four languages inscribed on a painting, where each represents a different cultural register which becomes visible through the lens of a particular language within the Qing realm.

Horse Management and Shared Realms of Human and Equine Drugs

This section concentrates on horse management, which has long been part of the Chinese dynastic tradition. It begins by introducing the institutional actors who looked after the emperors' horses in the Qing, before moving on to shared realms of human and equine drugs. The multi-institutional connections show the importance of examining links beyond what seem to be clear organizational boundaries, to consider overlapping areas of human and equine care as illustrated through medicine. This multilingual approach also reveals more detailed information than may be accessible through the lens of one single language.

This study examines the organization that managed the emperors' horses – the Ministry of Imperial Stables, Herds and Carriages (Ch. *Shangsiyuan* 上駟院, Ma. *Dergi adun i jurgan*)[11] – and then reviews some of its connections with other institutions.[12] First, it is important to understand the wider context. The Ministry of Imperial Stables, Herds and Carriages was under the Imperial Household Department (Ch. *Neiwufu* 內務府, Ma. *Dorgi baita be uheri kadalara yamun*), an institution which was autonomous from the ministries, and served various

[11] This institution's name has traditionally been translated as Palace Stud, which does not reflect its historical context in the Qing. The Chinese term refers to carriages, the Manchu term describes an institution that manages herds. The institution also managed horses in stables. Therefore, while there was no overarching term encompassing these different meanings in the Qing, the 'translation' aims to reflect the functions of the institution at that time. See Aricanli (2016) for more information on this and related matters discussed in this chapter.

[12] For a detailed description of the organization of horses and other animals, including different stables and pastures in and near the palace and in local settings in the Qing, see Li (1998).

needs of the court.[13] The Imperial Household Department had a considerable amount of resources at its disposal, and was directly controlled by the Qing rulers. This organization provided the Qing with a structural basis from which to realize its enterprises in many areas, including the management and care of humans and horses.

The Imperial Household Department grew considerably and gained new functions during the Qing. Moreover, during the eighteenth century, it began to play an increasingly important role in medical affairs, gradually eclipsing the central managerial roles of the institution of imperial physicians, the Imperial Medical Bureau (Ch. *Taiyiyuan* 太醫院, Ma. *Oktosi be kadalara yamun*), with respect to bonesetting. The equine bonesetters, therefore, represent one aspect of the shift in the centre of medical control from the Imperial Medical Bureau and the Ministry of Rites (Ch. *Li Bu* 禮部; Ma. *Dorolon i jurgan*), towards the Imperial Household Department.[14]

The Ministry of Imperial Stables, Herds and Carriages was one of the largest units within the Imperial Household Department, and it changed significantly during the Qing. For example, it grew considerably from the mid-seventeenth to the late eighteenth century.[15] Its name and structure also changed after it was first established, as it was called Ch. *Adun yamen* 阿敦衙門 in 1661 and became Ch. *Shangsiyuan* in 1677. In 1694 two new departments were established within the organization – the First Department (Ch. *zuo si* 左司), which managed herds in the capital and outside, and the Second Department (Ch. *you si* 右司), which oversaw matters such as food and salaries.[16] The Ministry of Imperial Stables, Herds and Carriages carried out a wide range of functions, such as overseeing herds (of horses and camels) at various locations, tribute horses, rituals for imperial horses, as well as travel. Furthermore, the institution dealt with issues such as ageing animals, put the herds out to pasture seasonally and inspected them.

The overlapping realms of human and equine care are clear both from multi-institutional connections and from organizational practices around drugs and medical implements. The Ministry of Imperial Stables, Herds and Carriages – as other organizations under the Imperial Household Department – was interconnected with other structural units under the larger institution. It also worked with organizations that are usually understood to be responsible for human medicine. One of these was the Imperial Pharmacy, which we traditionally know as the institution that provided drugs for those such as the

[13] On the Ministry of Imperial Stables, Herds and Carriages in the Imperial Household Department, see Torbert (1977), esp. chapter 2; Qi (1998), 91–2.
[14] Aricanli (2016). [15] Torbert (1977), 30.
[16] *Qianlong huidian zeli* (*Qinding da Qing huidian zeli* 欽定大清會典則例), 166.1a.

emperor and members of the imperial family. Another was the institution of imperial physicians, the Imperial Medical Bureau.[17]

Medicines used on people were also employed in the treatment of horses. For example, pepper (Ch. *hujiao* 胡椒, Ma. *halhūri*), sulphur (Ch. *liuhuang* 硫磺, Ma. *hurku*) and alum (Ch. *baifan* 白礬, Ma. *fekšun*)[18] were drugs used for horses on an annual basis, where 160 *jin* 10 *liang* of each of these ingredients were included in the treatment of a skin disease (Ch. *lai* 癩, Ma. *hasan*) in horses. In 1767 it was memorialized that perilla oil (Ch. *suyou* 蘇油) should be used for this kind of equine skin ailment.[19]

Manchu terms for medicines could either resemble the Chinese meaning or be completely different. Sometimes words in one language can clarify descriptions that are unclear in another. Drugs for horses obtained from the Imperial Pharmacy included reed rhizome (Ch. *lugen* 蘆根), a drug with sweet and cold properties that quelled symptoms associated with Fire.[20] The Manchu term for reed rhizome was *ulhū i da*, meaning the root of reed. Another drug that was used for equine care and obtained from the Imperial Pharmacy was simply called *li* 藜 in Chinese. The term in Manchu, *ninggiya bula*, is more specific and shows that it was, in fact, puncture vine or *Tribulus terrestris* (Ch. *bai ji li* 白蒺藜), an acrid bitter and warm drug that extinguished (interior) pathogenic Wind and stopped tremors. *Ninggiya*, here, referred either to water caltrop, to horn chestnut (*Trapa natans*) or to the shape of an anchor or a weapon with sharp barbs, while *bula* (thorn) described its thorny quality.[21]

The organization of equine medicine – much like human medicine – was arranged in a pluralistic structure, with drugs, objects and expertise being distributed across different departments. Pepper, alum and sulphur, mentioned above, could be obtained from the Department of the Privy Purse (Ch. *Guangchusi* 廣儲司, Ma. *Ambula asarara fiyenten*), while a sieve could be found at the Department of Works (Ch. *Yingzaosi* 營造司, Ma. *Weilere arara fiyenten*). Someone needing a large basket tray, a straw or rush mat, a broom

[17] Aricanli (2016).

[18] *Qianlong huidian zeli* (*Qinding da Qing huidian zeli*), 166.31a; *Daicing gurun-i uheri kooli-i kooli hacin bithe*, 166.50b.

[19] See *Neiwufu xianxing zeli* (*Qinding zongguan Neiwufu xianxing zeli* 欽定縱觀內務府現行則例), 944 'Shangsiyuan'; *Qianlong huidian zeli*, 166.31a; *Daicing gurun-i uheri kooli-i kooli hacin bithe*, 166.50b. See also *Wuti Qingwen jian*, 4424. The Manchu term *fekšulembi* meant to treat with alum. Puttting pepper up a mule's nostrils was a remedy for colic. For this as well as equine illnesses, see Meserve (1992). The term *lai/lei* 癩 for humans is generally referred to as leprosy today. What similarities and divergences existed between *lai/lei* in humans and that in horses is a matter that can be further investigated. For an in-depth study of *lai/lei* and its changing meanings, see Leung (2009), 17–59.

[20] Terms which are categories in Chinese medicine, such as Fire and Wind, are capitalized. Fire in Chinese medicine, for example, refers to symptoms such as fever, irritability, thirst, delirium, etc.

[21] *Qianlong huidian zeli*, 166.31a; *Daicing gurun-i uheri kooli-i kooli hacin bithe*, 166.50b.

or sieve, a ladle, a willow bucket or a donkey for grinding medicines could head to the Overseer's Office (Ch. *Neiguanling shiwu chu* 內管領事務處). (The text clearly instructs that the donkey should be returned after use.)[22] Medicines to treat a skin disease (*lai*) in stables and herds (presumably referring to those of the palace), and drugs for herds under the Court of the Imperial Stud (Ch. *Taipusi* 太僕寺, Ma. *Adun be kadalara yamun*) were provided after submitting a notice of communication.[23]

Compound drugs revealing the overlapping realms between horse and human medicine included the human–equine pacifying powder (Ch. *renma ping'an san* 人馬平安散). A catalogue from the Tongren Tang 同仁堂 pharmacy, a commercial drugstore that supplied medicines to the Imperial Pharmacy, provides more information about this drug.[24] The Qianlong reprint of the Tongren Tang catalogue stated that this medicine could be used by both humans and horses, and that it treated sudden-onset diseases. The catalogue further explained that the usage should be adjusted according to the manifestation type (Ch. *zheng* 症),[25] and added that each bottle cost 2 silver *qian*, which was very expensive.[26] After the middle of the nineteenth century, the Tongren Tang catalogue listed a larger number of drugs[27] and included more detailed descriptions of individual medicines. A later edition stated that, in addition to treating sudden-onset diseases like *zhongfeng* 中風 – which was characterized by a loss of consciousness,[28] falling over, paralysis in half of the body, difficulty speaking etc. – the human–equine pacifying powder could also be used to treat the inability to adjust to the climatic conditions of the geography (Ch. *shuitu bufu* 水土不服).[29] The expanding eighteenth-century Qing world must have made this illness ever more relevant for the many people who were posted to distant locations.

Another compound drug used for the treatment of horses was *sihuang* powder (Ch. *sihuang san* 四黃散), transcribed from the Chinese as the Manchu term *sy hūwang san*. In the first year of the Qianlong Emperor's

[22] *Qianlong huidian zeli*, 166.31ab; *Daicing gurun-i uheri kooli-i kooli hacin bithe*, 166.51ab.
[23] *Neiwufu xianxing zeli*, 944, ('Shangsiyuan').
[24] On the history of the Tongren Tang pharmacy see, for example, Cochran (2006).
[25] On the question of recognizing patterns within the intellectual history of Chinese medicine, see Scheid (2007), chapter 2, esp. its section on scholarly medicine and the politics of identity.
[26] *Tongren Tang yaomu* 同仁堂藥目 (1764), *shushi men*, (document pages not numbered), *renma ping'an san*.
[27] A comparison of earlier and later editions of the Tongren Tang pharmacy catalogue suggests an increasing diversity of products in the later Qing. For example, the number of medicines listed under the category Wind-phlegm (Ch. *feng tan* 風痰) in the 1706 catalogue, which was reprinted in 1764, more than doubled in the edition published during the second half of the Tongzhi reign.
[28] Another meaning for *zhongfeng* is a pernicious external Wind influence that led to feeling hot, sweating, and wanting to keep out of the wind.
[29] *Tongren Tang yaomu* (1869–75), *shushimen*, 14a, *renma ping'an san*.

reign, 1736, *sihuang* powder was to be obtained from the Ministry of Rites, showing that matters related to horse medicine, as with humans, involved the Ministry of Rites as well as the Imperial Pharmacy. The fact that the passage referred to the medicine as *sihuang* powder for treating horses (Ch. *zhi ma sihuang san* 治馬四黃散, Ma. *morin dasara sy hūwang san*) raises the question of whether there may have been a particular formula of *sihuang* powder used specifically for equine care.[30]

The multi-institutional organization of equine care, as well as medicines overlapping with humans, confirms the value of considering linkages across seemingly defined boundaries. The entanglement and connectivities between the two realms can also be seen in central institutions and practices of the steppe.

Knowledge Associated with Mongols Integrated into Imperial Equine Care Practices

Mongolian methods of equine care were highly valued in the Ming and Qing dynasties, especially as they included useful practices for training military horses, such as emergency medicine, as well as looking after and training horse herds. This section discusses the Mongolian practices of equine care in central institutions that dealt with the care and management of horses, as well as those in a specific post for animal care who also treated humans. Moreover, this part also discusses how some of this knowledge was categorized in an imperially commissioned text.

Desirable qualities in horses included their ability to obey commands, the stability of their gait, and their health (including both emergency and preventative care). As a horse's refusal to follow orders could jeopardize the rider's safety, there was an understanding that only those which could be 'broken in' were reliable.[31] There were a number of other factors to consider as well, such as problems due to horses' lack of sure-footedness,[32] as well as the strength and resilience of the herd – which could be managed through proper preventative care.

The ability to maintain healthy herds over long-distance travel was vital for military campaigns. Practices that promoted their health and endurance

[30] *Qianlong huidian zeli*, 166.31ab; *Daicing gurun-i uheri kooli-i kooli hacin bithe*, 166.51ab.

[31] Manchu terminology also reveals how to establish authority over horses. For example, *yalume etembi* meant overcoming a horse's resistance by riding it (breaking it in). Horses that did not follow orders were called, for example, *angga cakahūn* meaning tight/hard-mouthed and hard to control, and *ušakū* meaning hard to control and rein in. For Manchu terms more generally, see Norman (2013).

[32] A horse's stability was a very important aspect of the rider's safety as well as the horse's overall performance. *Fusur seme* referred to the steadiness of a horse's gait, while *doli* denoted a horse with an unsteady pace. *Šoforo sain* meant sure-footed (of a horse) and *šoforo akū* a horse that was not sure-footed. Other desirable characteristics included *giluk*, a good horse that could travel a long distance in one day, and *ujen be etere morin*, a horse that could carry heavy loads.

included letting horses graze freely in the fields for some time before implementing a series of highly structured training exercises. A regimented programme of rest and exercise, alongside controlled food and water provision, was meant to regulate their muscle mass. These methods of conditioning reflected an important part of Mongolian culture, as well as Inner Asian nomadic civilization.[33]

The fact that Mongolian methods of equine care were valued in the Qing can be seen through the 1727 decree and instructions of the Yongzheng Emperor in a Mongolian manuscript on training horses and camels. The decree states that soldiers should use the Mongol way – rather than that of the Manchus – to get horses and camels into the right condition. Moreover, officers were asked to instruct the soldiers in looking after animals over the seasons and the text explained that, if proper care was not taken, then horses might end up limping, and camels could develop sores on their feet.[34]

The Mongols' methods of equine care varied according to the seasons. They fattened up military horses in the spring by grazing them in open fields, and did not exercise them until the autumn.[35] Horse management in the Qing Ministry of Imperial Stables, Herds and Carriages, in a source with dates into the mid-nineteenth century, also included letting the herds at Dalinghe 大凌河 (in today's Liaoning) graze freely on a seasonal basis. Every year from around early May to early November (Ch. *lixia* 立夏 until *lidong* 立冬), the horses were let out onto the pasture (Ch. *chu qing* 出青 lit. 'go out [onto] the green'). This process was referred to as '[letting] the animals go [free] by leaving an enclosed area' (Ch. *chujuan mufang* 出圈牧放) in the spring, and '[bringing the animals] back into an enclosed area, to feed and raise [them]' (Ch. *rujuan weiyang* 入圈餧養) in the autumn. The chief herder (Ch. *muzhang* 牧長), who accompanied the animals, received 4 *fen* of travel expenses per day, while lower-level officials received 2½ *fen*. They took drugs with them called inch-sized golden *dan* (Ch. *cunjindan* 寸金丹), which were obtained from the Imperial Pharmacy.[36]

Mongolian veterinary methods of preventative care specified certain practices. Ruth Meserve describes Mongolian practices such as the strict timing of tethering and unsaddling a horse and giving it access to food and water after it had been ridden hard and sweated greatly. It was believed that improper implementation of this kind of equine care throughout the seasons would lead

[33] Meserve (1993), 1–3, 9–10.
[34] Meserve (1993), 6–8. Meserve also shows that Mongolian practices of equine care needed to be reconciled with Manchu methods.
[35] Meserve (1993), 9–11, 13. There were differing ideas about when horses should be let out onto pasture, as well as how long they should spend in the fields.
[36] *Neiwufu xianxing zeli*, 939, 956–7 ('Shangsiyuan'). The term *dan* is transliterated rather than translated, as it could refer to a drug (often with mineral components) in either pill or powder form, which could be applied externally or ingested.

to a particular set of symptoms and behaviours, such as nose ailments, the horse lowering its head, and becoming ill. Training methods included observing the body of a horse that had just been exercised. If it was firm with good colour, there was no need to restrain the horse. On the other hand, if the body was weak and the colour was off, then the horse needed to be tethered.[37]

A number of terms relating to these horse training practices are found in the section on shepherding and rearing animals (Ch. *muyang* 牧養) in the *Yuzhi Wuti Qingwen jian* 御製五體清文鑑 (The Imperially Commissioned Five-Language Mirror of Manchu), from here referred to as *Wuti Qingwen jian*.[38] Beginning with the Manchu term *adun* 'herd' (Ch. *muqun* 牧群) it is followed by terms having to do with letting animals out onto pasture.[39] This section also includes entries to do with fattening animals and making them lose weight. Another term, *diaohan* 弔汗, concerns making animals sweat. The Chinese phrase *shi diaohan* 使弔汗 literally means 'to attempt or to force [a horse or animal] to sweat'. The corresponding Manchu terms are *soyombi* and *soyo*.[40] (This is the Manchu form of the Mongolian term *soi*, which was used to describe Mongolian training methods.)[41] In Manchu, *soyombi* referred to tying up livestock and allowing them to dry off after sweating from running, and also meant to train a riding horse. The Chinese language definition in the *Wuti Qingwen jian* therefore only notes a connection with one aspect of the process of training (sweating), and does not reflect the wider understanding of the term around training a horse that is seen in both Mongolian and Manchu. As is true with any large project, this example also shows that the imperial enterprise of the *Wuti Qingwen jian*, which brought together the languages (as well as understandings) of diverse people in the realm, had its own limitations.[42]

There are several ways in which the Mongolian text on horse management and the sections of the *Wuti Qingwen jian* show even greater conceptual similarities. The text on Mongolian horse training described illnesses and behaviours that could arise if these methods were not correctly implemented. The *Wuti Qingwen jian* also includes a section on horse injuries and ailments, the first term of which is *manggiyan*, which refers to a nose ailment (in horses

[37] Meserve (1993), 13.

[38] The *Wuti Qingwen jian* is representative of the apex of this series of multilingual dictionaries produced throughout the Qing. See *Wuti Qingwen jian*, appendix on historical information. For a historical study of the Manchu language and dictionaries in the Qing, see Söderblom Saarela (2015).

[39] *Wuti Qingwen jian*, 4409.

[40] *Wuti Qingwen jian*, 4417.

[41] Another meaning of *soyombi* is to draw in or shirk. For the Mongolian form of the word *soi* and related words regarding conditioning a horse by tying it up, letting it cool down, etc. see Meserve (1993), 10–11.

[42] For more on its limitations, see Meserve (1992), 341.

and cattle).[43] According to Mongolian manuscripts on veterinary medicine, nose ailments resulted from the improper care of horses (and camels) over the four seasons.[44]

Were the Mongolian preventative practices representative of the entirety of methods associated with Mongols in equine healthcare? In fact, expert bonesetters who could treat both horses and humans also had a connection to 'Mongols'. Horses could easily trip and fall, spraining their ankles or breaking their legs. Practitioners adept at solving such problems were referred to as 'Mongolian doctors' (*Menggu yisheng* 蒙古醫) in Chinese and *coban* in Manchu. These 'Mongolian doctors' were also renowned for their effectiveness in treating humans: they were skilled at setting bones and using animal parts to heal severe injuries to the head. They used manual manipulation to jolt bones back into place, using rope and wooden boards as well as their hands. Their methods also included throwing ice-cold water onto a patient. Their regimens comprised a combination of exercise, rest and a controlled diet. The patients of these specialist bonesetters included the emperor and officials, as well as Jesuits. The post of Mongolian doctor/*coban* was officially established in the Ministry of Stables, Herds and Carriages in the late seventeenth to early eighteenth century. The position was defined as one for soldiers from the banners who had an understanding of bonesetting practices.[45] According to the normative organization there were twenty posts for speciality bonesetters and, by the middle of the eighteenth century, they not only had hierarchical differentiation among themselves, but were at the top of the hierarchy of medical practitioners caring for animals at the institution. Further study of individual cases will show how their backgrounds related to their banner status, and the extent to which the qualifier 'Mongolian' referred to their practices. However, as Mongols did not represent a single group and the state had differing means of dealing with them, the establishment of a recognized post for these specialist bonesetters depicts one aspect of managing Mongols through reification.

While the name 'Mongolian doctor' suggests a connection between one particular group and institutional posts, the *Wuti Qingwen jian* provides an example where the steppe knowledge of equine care was categorized in terms related to shepherding and rearing animals, without a particular allusion to a cultural frame.

[43] *Wuti Qingwen jian*, 4420. See Meserve (1992), 340–1.

[44] For more on the list of equine diseases including nose ailments in the *Wuti Qingwen jian*, see Meserve (1992), esp. 349.

[45] See *Qingshi gao*, 502.13880–1. For the famous *coban* Yisang'a of the Jueluo clan, see Hanson (2011), 156. Official sources referred to this position in a number of ways: *Menggu yisheng, Menggu yishi, yishi Menggu*, etc. See Aricanli (2016). In this chapter these are all referred to as *Menggu yisheng*.

The list of terms in the dictionary section on shepherding and rearing animals and the seasonal approach to letting horse herds onto the fields are two examples where the association of knowledge with a particular cultural context (such as the steppe, or banner affiliation) was no longer of primary importance.

Equine Terms

Terminology provides another vantage point from which to consider equine care. It is important to note that the Manchu language itself was also fluid,[46] and that the vocabulary relating to horses in Manchu shows similarities to that in Mongolian. However, this chapter does not intend to consider which terms were found in more than one language, or what these may have meant at different times. The main purpose here is to show that cultural understandings can be exposed through a particular language (such as Manchu), as well as a multilingual perspective.

The vocabulary relating to horses concerns practical matters such as the names of illnesses, and issues of a more conceptual nature such as groupings of animals, as well as a wealth of knowledge about animals' colouring and markings. However, words did not carry equal weight in different languages, as the *Wuti Qingwen jian* seemed to suggest. In fact, many words were distinct from one another in Manchu and had no direct counterpart in Chinese. This problem was overcome in the *Wuti Qingwen jian* by writing descriptive phrases for the Chinese definitions. There were also certain entries where the editors stated that the same Chinese word (or phrase) could be used. One such example is *cangka* – meaning a white horse with red eyes, nose and lips – and *cara*, which can refer to a horse with red about its eyes, nose and lips. Both are described by the same phrase in Chinese.[47]

The Manchu terms pertaining to horses provide further information about equine illnesses. The *Wuti Qingwen jian* section on horse injuries and ailments lists illnesses such as *banilji* (a wart on a horse's leg), *doholon yoo* (a sore on a horse's hoof), *hadala yoo* (a sore on a horse's mouth caused by a bridle) and *ukuhe yoo* (small pustules on a horse's body).[48] If we look more generally, beyond the five-language dictionary, at Manchu terminology related to horse illnesses, these include *kabari* (a growth on a horse or donkey's nose), *funiyaha* (a parasitic worm that lived in the hair on the backs of horses and cattle) and *delihūn madambi* (to swell, referring to a horse's belly).[49] A number of terms describe equine ailments relating to legs and feet. For example, *doyoljombi* (to sprain a horse's or a mule's hind leg), *niyahašambi* (to limp, of a horse or cow

[46] Crossley and Rawski (1993), 82–3. [47] *Wuti Qingwen jian*, 4347.
[48] For Ma. *yoo*, as an example of a term with Altaic correspondence in the *Wuti Qingwen jian*, see Meserve (1992), 340–2.
[49] Note that *delihūn* technically means spleen.

with damaged hooves) and *sabtari wasika* (where a swelling of the area above the hoof makes a horse lame). An animal's physicality and the need to restrain it during medical procedures is suggested by *corboho tura*, a post or stump which animals were tied to while given medicine. The Manchu vocabulary on equine ailments therefore reveals a preoccupation with many practical problems such as sores, growths, worms, swellings, and sprains.

Horses had a shared world not only with humans, but also with a number of other animals. Evidence relating to animals' categorization can be found in a number of contexts. The administrative organization of horses at the Ministry of Imperial Stables, Herds and Carriages often grouped horses together with camels, and referred to them by one term, camel-horse (*matuo* 馬駝).[50] The vocabulary also points to references for horses with regard to other animals. Examples of a focus on horses and cows/oxen include *cikešembi* (to be slightly lame, of horses and cows/oxen) or *keleng kalang umesi sula* (limp, tired out, of horses and cows/oxen). More heterogeneous groups were, for instance, *ajirgan* (a male horse, donkey, camel or dog) and *bancan duha* (the rectum of horses, donkeys and mules).

The Manchu language points to new, or more detailed, ways of categorizing horses, or describing aspects of their physicality. For example, Manchu distinguished between a single horse and horses in groups.[51] There were also several different ways to refer to colts of varying ages.[52] Furthermore, specific terminology describing horses' bodies included *ilan jaifan* (the three bones that join together in a horse's croup) and *aidahan sika* (the short bristles on a horse's tail).

The increased level of detail in describing horses is also evidenced by the variety of terms for their colouring. Multicoloured horses included *kaltara* (a brown horse with white around its mouth and eyes), *boro seberi* (a black horse with white left hooves), *cabdara* (a brown horse with a white mane and tail), *urlu morin* (a black horse with white patches), etc. Terms for a grey horse were, for example, *comko morin* (dapple-grey horse), *boro fulan* (grey horse), *kara fulan* (iron-grey horse), *tolbotu* (a grey horse with circular markings on its side), *suiha fulan* (a light-grey horse), *temurtu kara* (an iron-coloured horse) and *sarla* (a grey-coloured horse). There was a similarly wide range of words for horses of other colours.

Horses could also be described by their markings, such as *kalja* (a white spot on a horse's nose),[53] *kalja seberi morin* (a horse with white feet and a white spot

[50] See, for example, *Neiwufu xianxing zeli*, 895, 969 ('Shangsiyuan').
[51] Examples include *kaidu* (a lone or single horse), *adun* (herd) and *šohan i morin* (a team of four horses).
[52] Terms for horses of different ages included *artu* (a three-year-old horse) and *sucutu* (a two-year-old horse).
[53] The term also refers to a white stripe or bare strip on the head of an animal, or a bald head.

on the forehead), *kiluk* (black-spotted horse) and others. A number of words delineated the shapes of these marks: for example, *eguletu alha* (a horse with cloud-like markings), *odontu kailun* (a horse with spots resembling stars) and *tobtoko* (a horse spotted like a panther). Other words focused on their stripes, their hoof colours or the hair on their body.[54]

These examples suggest that viewing horses through the lens of the Manchu language not only provides information about conceptual groupings, but also reveals the kind of visual attention they paid in distinguishing between horses' physical characteristics. The Manchu vocabulary provides various terms to describe horses' colouring, patches and markings on the body, and suggests a focus on details such as hoof colours and the hair on various parts of the body. The existence of such detail with respect to equine knowledge in Manchu may be an indication that understandings of horses probably varied across linguistic and cultural landscapes.

A Multilingual Understanding

Examining terms across a spectrum of languages suggests that words in different languages of the Qing were not always translations of an 'original' term, but rather culturally contextualized descriptions, thus demonstrating the value of the multilingual and multicultural approach. The *Wuti Qingwen jian* was not the only imperially commissioned work in the eighteenth century that depicted horses as part of a pluralistic realm. Horses were also part of the world of aesthetic appreciation, as we can see in the tribute horses in what are now famous works of art. The paintings of four Afghan horses by the Italian Jesuit Giuseppe Castiglione reveal what we can learn from a multilingual approach. While comparing the meanings of Manchu and Chinese translations is a productive line of inquiry, additional elements are revealed by examining one language in depth, or by looking at meanings across languages. Castiglione's paintings provide an opportunity to consider the 'translations' of a horse's name in different languages. The aim here is not to provide an analysis of translation theory and methods. The term 'translation' is perhaps inadequate here, as it assumes a certain hierarchy and directionality of knowledge, alongside the existence of one language as a starting point for translation. However, in this example, the horses are given names in four languages (Chinese, Manchu, Uighur and Mongolian) – each situated within a particular cultural context – which, together, encompass a spectrum of meanings. Even though it is important to recognize that the selection and

[54] *Seberi*, for example, was a horse or mule with white hooves, and *sobori* a horse or cow with one hoof of a different colour from the other three. Terms regarding hair included *forontu kara* (a black horse with curly hair on its belly), *cakilgatu kuluk* (a fine horse with whorls of hair on both hind legs), etc.

Figure 10.1 One of the 'Four Steeds of Aiwuhan [Afghan]' by Giuseppe Castiglione, 1762. (The Collection of the National Palace Museum, Taipei).

representation of languages was informed by political considerations, there is still much to be gained by examining the cultural understandings revealed by the terms.

At the top of the painting of the white horse (Figure 10.1), there is a caption in these four languages. Although, at first glance, they may seem to be simply definitions of terms, in fact, when taken together, they reflect a dynamic resonance across a gamut of meanings. The most familiar term is the Chinese *Yuekulai* 月蝝騋.[55] *Yueku* was used in classical Chinese texts to refer to the resting place of the moon or moonlight. *Lai* refers to a horse which is seven *chi* 尺 in height.[56] However, there are also Manchu, Uighur and Mongolian captions. The Manchu is written *argatu sirha* (pronounced *shirha*) where *argatu* meant male roe or roebuck and *sirha* is a variant of *sirga*, meaning reddish brown-bay horse and roe deer. This rather circular definition, which appears to signify deer, probably refers to the light colour of roe deer. Other examples of *sirga* include *hasrun sirga*, which meant a white horse with red spots around its nose and eyes, and *jahaltu sirga*, a horse with silver stripes on its neck. *Sirga* therefore seems to suggest a light-coloured horse. The following examples in

[55] 月蝝 is also written as 月窟.
[56] This would be more than 8 feet (2.5 metres) tall, where one *chi* is equivalent to about 14 inches, or 35.8 centimetres.

the other two languages help elucidate what may seem like arbitrarily different names for the horse in Chinese and Manchu. The Uighur name was *ay hilāli shīrgā*, where *ay hilāli* meant crescent moon and *shīrgā* was defined as a horse which was a creamy-white, *yinhe* horse (*yinhe ma* 銀合馬).[57] The Mongolian term is written *saratu sirkh-a*, pronounced *shirkh-a*, also seen as *sirgh-a*, where *sara* was moon, *saratu* meant like the moon, and *sirkh-a/sirgh-a* denoted a light bay colour.[58]

There is a reference to the moon in the Chinese, Uighur and Mongolian, and colour comes up in Manchu, Uighur and Mongolian as well as Chinese, if the moon is taken as a reference to the colour. Therefore, when examining these terms in all four languages, what appear to be divergent meanings in Chinese and Manchu can be understood within a spectrum of explanations around a light colour and that of the moon. Moreover, these languages may have culturally specific contexts for their references, even when describing a similar colour. This example suggests the value of recognizing ways of expressing a similar idea which are embedded in different cultural frames.

Conclusion

Historical sources present the past through seemingly bounded and static categories of institutions and languages, but this chapter has explained how these were themselves situated within particular cultural frames. While these defining lines were probably fluid, there is still much to be gained from considering the cultural understandings reflected through these lenses. This chapter has discussed the multifaceted nature of equine management through the connectivities and shared worlds that existed across institutional, cultural, linguistic and conceptual boundaries. These include the pluralistic nature of institutional organizations, the overlapping realms of horses and humans (as well as other animals), and the way that central imperial institutions were intertwined with practices from the steppe. Furthermore, this study also reveals the value that language offers in providing a window onto cultural conceptions embedded in imperially commissioned works.

The main institution analysed in this chapter has been the Qing Ministry of Imperial Stables, Herds and Carriages. This research has shown that it was highly interconnected with other organizations, and that its medicine and supplies for horses included those which could be obtained from the Imperial Pharmacy, the Department of the Privy Purse and the Ministry of Rites. Implements for medical use could be found at the Department of Works,

[57] *Yinhe ma* is found in a famous Ming dynasty tale of folklore and mythology by Xu Zhonglin 許仲琳 (Ming) entitled *Fengshen yanyi* 封神演義 (Investiture of the Gods).
[58] *Sirgh-a* is a light bay, according to Lessing (1973), 716.

while other supplies, such as a donkey to grind up medicine, could be borrowed from the Overseer's Office. Institutional connections, as well as shared practitioners and medicines, reflect the overlapping realms of horses and humans. Perhaps even more importantly, the Imperial Pharmacy provided medicine not only for the palace horses, but also for the animals who were let out onto the fields on a seasonal basis. Later on, in the nineteenth century, the hierarchies had shifted to such an extent that the chief Mongolian doctors at the institution of the emperors' horses were superimposed on the (human) department of bonesetting at the Imperial Medical Bureau.[59]

The meanings of terms in different languages provides a further insight into the varied cultural contexts within the Qing. Moreover, focusing on Manchu vocabulary associated with horses indicates illnesses and conceptual groupings, as well as a rich set of terms to describe horses' colouring and markings. Different perspectives can be observed through the topographies of one language and similarities (and tensions) between terms in multiple languages. Examples from Manchu and institutional organizations suggest that imagining a horse on its own would not be very representative of the worlds that the animal inhabited, which were conceptually and practically shared with fellow horses or other beings (human and/or animal).

The incorporated knowledge and practices are not always clearly linked to a particular cultural context in the sources. While the title 'Mongolian doctor' included an obvious reference to the 'Mongols', the imperially commissioned *Wuti Qingwen jian* placed terms relating to Mongolian practices in the category of shepherding and rearing. That is not to say that erasing elements of cultural attribution was the aim of this multilingual resource. This may rather be a reflection of the differing historical context of the late eighteenth century when the dictionary was compiled, from that of Manchu–Mongol relations and the consolidation of the Qing state when the post was established about a century earlier. At the time it was produced, the practical usefulness of the knowledge included may have overridden any need for reification. The multilingual dictionary also harnessed the knowledge within multiple linguistic frames in another manner: by signifying a united realm through the mutual resonance of terms in multiple languages.

The practices associated with Mongols from the steppe which were incorporated into imperial institutions (such as methods of herd management and preventative equine care) do not seem to have a direct reference to a particular cultural category. Utilizing Mongolian methods of equine care in central organizations suggests a conceptual and practical frame that straddled multiple realms. Moreover, it was taking place when Mongol groups' range of mobility

[59] For more detail, see Aricanli (2016), chapter 4.

and access to pastureland were also becoming more limited. The temporal frame, and the nature of the particular source (on internal regulations and practical matters of organization) may have taken precedence over articulating the cultural context.

An organization for equine management that combined caring for animals in confined spaces as well as free grazing in pastures was part of the mechanism to condition horses for greater endurance. The series of steps that a horse would have been subjected to during its training also sheds light on the value placed on these methods. The process by which a horse was transformed from one that was wild to one that was broken in and could be ridden necessitated ensuring that it would obey orders. However, maintaining the spirit of a horse also has inherent value with respect to what it can accomplish. The practice of setting horses free, as herds, for an extended period of time (which could be as long as six months of the year), would require the horses to largely fend for themselves to find suitable food and water. During that time, horses would also need to navigate the intricacies of living within a social group: the herd. Perhaps, a corollary effect of letting horse herds graze freely was the creation of a temporally framed structure where animals that had been trained to be good subjects would also have some time and space to exercise their sense of being free horses among other horses. If so, such a form of organization would have provided a temporally delineated balance between two worlds. This balance would have been a way to harness the strength and endurance of horses that served the state.

This institutional and linguistic approach effectively reflects the multifaceted nature of equine care through linkages across a number of boundaries: those between institutions, human and animal medicine, and practices of equine care in central organizations and the steppe. The examples discussed in this chapter also suggest the existence of multiple registers, through which knowledge and practices of equine care were attributed to Mongols. Moreover, horses in the Qing not only were situated within a number of cultural frames, but also shared conceptual and practical spaces with other horses and human/animal beings. This leads one to consider whether these examples represent aspects of the larger plans of the state, or if they are rather reflections of a variety of actors' practical solutions in light of specific contextual factors at particular junctures in time.

11 Animals as Wonders

Writing Commentaries on Monthly Ordinances in Qing China

Zheng Xinxian

This chapter examines how the Qing Emperor and scholars aligned texts with empirical observations of animals. It focuses on the interactions between Han Chinese scholars and the Manchu emperor around animal life cycles which were recorded in classical texts. In particular, I will analyse how the Qianlong Emperor, who ruled China for most of its long eighteenth century, acted like a Han Chinese scholar and commented about animals in the classics. Living in a prosperous age with seeds of decline in sight, including the ecological crises that affected imperial hunting rituals, Qianlong interwove his frustration over hunting trophies with his wonder about animals as recorded in the classics. By examining his commentaries and the Chinese reactions towards his work, this chapter argues that knowledge of animals stayed at the front and centre of Qing political life: animals, as both objects and subjects, formed an essential part of the Qing rhetoric about imperial management.

The Reception of Monthly Ordinances in Qing China

In Qing China, almost everyone knew about Monthly Ordinances (*yueling* 月令), a body of calendrical texts that included accounts of animal activities (real and imagined) according to five-day periods (*qishier hou* 七十二候, also known as the seventy-two pentads).[1] As an essential part of ritual learning in

[1] Versions of Monthly Ordinances include the 'Yueling' in the *Liji* 禮記 (Book of Rites), the 'Xia xiaozheng' 夏小正 (Lesser Annuary of the Xia Dynasty) in the *Da Dai Liji* 大戴禮記 (The Rituals Compiled by Dai the Elder), the 'Shixun jie' 時訓解 (Interpretations of Times and Seasons) chapter in the *Yi Zhoushu* 逸周書 (Remainder of the Zhou Documents), records of the twelve months in the *Lüshi chunqiu* 呂氏春秋 (Master Lü's Springs and Autumns), the 'Shixun ze' 時訓則 (Orders of Times and Seasons) chapter in the *Huainanzi* 淮南子(The Master Huainan), the 'Youguan' 幼官 (Dark Palace) chapter in the *Guanzi* 管子 (The Master Guan), and an apocryphal text known as the *Yiwei tonggua yan* 易緯通卦驗 (Comprehensive Verification of the Hexagrams in the Weft of the Changes). Wang Mang 王莽 (45 BCE–23 CE) also used the *yueling* format to commission protocols. See *Dunhuang Xuanquan yueling zhaotiao* 敦煌懸泉

the curriculum for the civil service examination, which was institutionalized in the Tang dynasty and abolished in 1905, Monthly Ordinances were familiar to most of the Chinese people preparing for the examination.

By the early Qing, Chinese scholars had already acknowledged the discrepancies between animal life cycles as recorded in Monthly Ordinances and their own observations. Liu Xianting 劉獻廷 (1648–95), a scholar who worked on the Qing project of compiling Ming history, argued that the Monthly Ordinances described animal life cycles as they had existed in the central plains (*zhongyuan* 中原) during the Warring States period. Not only were there discrepancies (*cha* 差) between these ancient accounts and the environmental conditions in the Qing dynasty but, he claimed, there may also have been various 'localized' editions of Monthly Ordinances that more accurately described the animal life cycles in each region.[2]

Nonetheless, for the Qing Emperor and scholars, these ancient records of animal life cycles still provided useful references to align texts with empirical observations of animals. Among scholars, extensive commentaries of Monthly Ordinances were produced to express their own opinions on the established sayings about animals in these classics.[3] At the Qing court, Qianlong's grandfather, the Kangxi Emperor, commissioned an encyclopaedia on the theme in the 1710s, which drew on almanacs, government proceedings and natural history. In 1741, Qianlong reinstitutionalized the imperial hunt, which had first been introduced by Kangxi.[4] Simultaneously, Qianlong – who had known about Monthly Ordinances since childhood[5] – listed their accounts of animal life cycles in state-commissioned agricultural texts.[6] Qianlong claimed that he expected the Monthly Ordinances to serve as standard references for seasonal planning for both hunting and farming.[7]

月令詔條 (Edict of Monthly Ordinances from Xuanquan near Dunhuang). I follow Derk Bodde's translations of the seventy-two pentads, except rendering Bodde's 'moose' as '*Mi* deer'. See Fung (Feng) and Bodde (trans.) (1983), vol. 2, 114–17. On Monthly Ordinances and the classification of animals in early China, see Sterckx (2002), 64–7, 123–204. See also Chapter 2 by Roel Sterckx in this volume.

[2] See *Guangyang zaji* 廣陽雜記, 3.22b–23a.

[3] As Henderson (1991) points out, Chinese scholars commented on classical texts rather than confronting them. For a list of monographs about Monthly Ordinances, see Zhang and Wu (2015), 115–19.

[4] Chang (2007), 91–4.

[5] On Qianlong's classical education, see Kahn (1971), 120–1.

[6] See *Qinding shoushi tongkao*, 262.20–1 ('Shou shi zhi tu' 授時之圖).

[7] As he noted in a 1744 poem at the Summer Palace, he used Monthly Ordinances as the standard against which to verify the accuracy of agricultural texts in terms of seasonal planning. See *Rixia jiuwen kao*, 1341 ('Qianlong jiu nian yuzhi Xinghua chun guan shi' 乾隆九年御製杏花春館詩).

The Wonder of the Deer Antler

Deer hunting had been a 'ritual act of great significance' for the Chinese emperors since the Yuan dynasty.[8] According to Monthly Ordinances, the *mi* 麋 'deer' (*milu* 麋鹿, *Elaphurus davidianus*, known as Père David's deer today) had horns all year, only shedding them around the winter solstice. But, as overhunting had caused a decrease in numbers, the *mi* deer recorded by Monthly Ordinances became hard to find in Qing times. In 1719, when the Kangxi Emperor was sixty-six – three years before his death – he was lucky enough to hunt down a total of fourteen *mi* deer, which was a small number compared to the 135 tigers, 96 wolves, 132 wild boars and several hundred deer in his records. An even smaller number of *mi* deer remained for Qianlong, Kangxi's grandson. The species had become endangered in China by the late nineteenth century and only avoided extinction by conservation efforts at Woburn Abbey in England after 1900.[9]

In the 1760s, Qianlong first questioned Monthly Ordinances for being at odds with his own observations on the imperial hunt and causing him bad luck in obtaining an antler, a hunter's most desired trophy. In contradiction to the ancient wisdom as recorded in the Monthly Ordinances, Qianlong found out in around 1761 that 'recently, all deer in the Mulan preserve and the *mi* deer in the Jilin preserve were shedding their horns in the summer months'. Consequently, at least that year, he had not managed to obtain a deer antler in the summer hunt. Recalling quotations from the Monthly Ordinances, which listed 'deer shedding their horns' under the fifth month and 'the *mi* deer shedding their horns' under the eleventh month, Qianlong speculated that this ancient wisdom was totally mistaken: 'How could the *mi* deer in ancient times be different from today's?'[10]

These remarks were made in an essay entitled 'A Record of My Grandfather's Deer Antler' (*Lujiao ji* 鹿角記), which Qianlong composed in 1762. That year, Qianlong ordered court artists to produce a painting of a deer antler that Kangxi had obtained in a hunt on 7 October 1709, upon which he wrote the essay in his own calligraphy (*yubi* 御筆). The essay provided a detailed account of the 'wonder' (*qi* 奇) of the antler his grandfather had obtained, an object that Qianlong 'often appreciated in leisure'. Qianlong wrote that he had always marvelled at its immense size: the antler had sixteen points and the inside span of the main beam measured a highly unusual 8 feet 7 inches. He stated that the deer antler proved his grandfather's invincible bravery (*shenwei* 神威), entreating later generations of the imperial family 'not to forget the glory of the ancestors'. 'Look at this antler', he wrote. 'Should you not be amazed (*ya* 訝) and curious (*qi* 奇) where this wonder (*qi* 奇) came

[8] Allsen (2006), 161. [9] Xia Jingshi (1989), 269–70.
[10] *Yuzhi wen chuji*, 1301.72–73 ('Lujiao ji' 鹿角記).

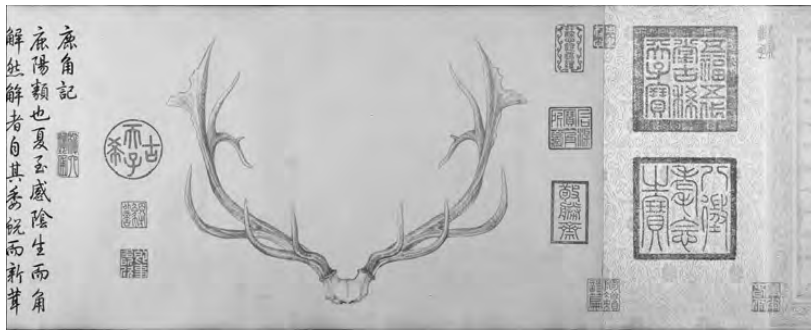

Figure 11.1 Kangxi's antler paired with Qianlong's essay. 'Two Paintings of Deer Antlers' section 2-b. The Metropolitan Museum of Art, New York.

from? How can I not record this trophy in detail so that the ancestral glories can be permanently remembered by history!'[11]

Underlying Qianlong's rhetoric about the wonder of Kangxi's antler, 'A Record of My Grandfather's Deer Antler' revealed that Qianlong had often felt troubled (*chang genggeng* 常耿耿) by the Monthly Ordinances' claim that *mi* deer shed horns around the winter solstice. In 1767, Qianlong sent an imperial guard to observe the deer in the Southern Hunting Park (*Nanyuan* 南苑). The guardsman returned with an antler in his hand, reporting that he had picked up a (broken) horn from some kind of deer-like animal domesticated in the hunting park. Qianlong allegedly 'felt lost and did not know what to do'. He lamented, 'among all things under Heaven, is there anything more than this one that shows the difficulty of exhausting principles and investigating things!'[12]

In contrast to his appeal to follow the example of Kangxi's military bravery in 1762, five years later Qianlong invoked the Han Chinese classics and announced that he had discovered the *zhu* 麅 deer (*Alces alces*, moose), a species of long-tailed deer, based on the imperial guard's report about deer in the Southern Hunting Park. On 28 December 1767, Qianlong commissioned an edict to introduce the *zhu* deer. He recalled his earlier observation that 'both deer and *mi* deer shed horns in summer', and his 'doubt that there might be a mistake in the transmission of the *Liji* 禮記 (Book of Rites)', which he referred to as *Lijing* 禮經 (Classic of Rites). Qianlong asserted that Monthly Ordinances might be correct about the timing when deer shed their

[11] *Yuzhi wen chuji*, 1301.72–3 ('Lujiao ji').
[12] *Da Qing Gaozong Chunhuangdi shilu*, 798.7a–b; *Qianlong di qiju zhu*, 32.519–20; *Yuzhi wen erji*, 1301.316 ('Mi jiao jieshuo' 麅角解說).

horns, but still contained 'errors in erroneously naming the species of deer'. According to Qianlong, when the Monthly Ordinances' authors talked about *mi* deer, they were actually referring to *zhu* deer. Because of mistakes in the pentad, even prominent Han Chinese scholars such as Xu Shen 許慎 (c. 58–147 CE) and Sima Guang 司馬光 (1019–86 CE), who compiled the *Shuowen jiezi* 說文解字 (Explaining Graphs and Analysing Characters) and *Ming yuan* 名苑 (Garden of Names), respectively, could not distinguish *mi* deer from *zhu* deer. Qianlong asserted that his discovery of *zhu* deer showed that 'it is important to exhaust principles and investigate things so that we can examine antiquity'. Thus, Qianlong ordered the quotation of Monthly Ordinances in the 'Shixian shu' 時憲書 (Calendar of the Temporal Model) to be amended. The statement under the ninth month that '*mi* deer shed their horns' was revised to 'the *zhu* deer shed their horns'. While amending the 'Shixian shu', Qianlong ordered the Monthly Ordinances to be preserved as it was, that is, as a classical text (*gu shu* 古書).[13] As the next section will show, Qianlong's separation of Monthly Ordinances as a classical text from its use in the orthodox calendar allowed him to act like a Han Chinese scholar and write poems about the seventy-two pentads.

Discovering Animals in Rhetoric

Between the 1770s and 1780s, the Qing government compiled the *Siku quanshu* 四庫全書 (Complete Library of the Four Branches), its largest attempt to commission orthodoxy and classify knowledge. In the project, the Qing state systematically ordered the scholarly writings about nature. For example, the compilers authorized *pulu* as an established category of treatises and listed it under the 'masters' (*zibu* 子部).[14]

In 1779, Qianlong also ordered a systematic review of all works that had been dedicated to Monthly Ordinances since the Tang. Among these works, a group of poems caught his attention, which were written by an early Qing scholar named Gu Deji 顧德基 (c. 1586–1657). Gu Deji came from Suzhou prefecture in Jiangsu province. Living through the Manchu conquest, Gu identified himself as a Ming loyalist and was active in local poetry societies.[15] In addition to the political beliefs that made him a dissident from Qianlong, Gu was also the younger cousin of Qian Qianyi 錢謙益 (1582–1664), whom Qianlong had vociferously vilified for losing his integrity

[13] *Da Qing Gaozong Chunhuangdi shilu*, 798.7a–b; *Qianlong di qiju zhu*, 32.519–20; *Yuzhi wen erji*, 1301.316 ('Mi jiao jieshuo'); He Wenlong (1997), 59.

[14] See Martina Siebert's Chapter 7 in this volume.

[15] Gu Deji was friends with Chen Hu 陳瑚 (1613–75) and Mao Jin 毛晉 (1599–1659). See *Zhongguo difang zhi jicheng*, 10.52 ('Zhixi xiao zhi' 支溪小志). For the poetic circle centred around Chen Hu and Mao Jin, see Zhu Zejie and Li Yang (2012); Miura Riichirô (2001), 150.

by first serving the Manchus and then shifting his allegiance back to the Ming.[16]

Around 1656, Gu wrote seventy-two regulated verses on Monthly Ordinances and attached notes to each of these poems. More than one hundred years after his death, Gu's manuscript, entitled *Donghai sanren ji* 東海散人集 (Collected Works of the Man in Leisure at the East Sea), which included these poems, was presented to the Qing court by Sun Yangzeng 孫仰曾 (1751–?), a prominent book collector from Zhejiang, to be considered for inclusion in the *Siku quanshu*.[17]

In the poems, Gu, who had lived in his hometown throughout his life, revealed his knowledge about deer hunting. Under 'deer shed their horns', the fourth pentad in the fifth month, Gu also expressed doubts about the records of deer hunting in the Monthly Ordinances, commenting that seasonal changes affected deer hunters the most. Referring to Sima Xiangru's 司馬相如 (179–117 BCE) *Shanglin fu* 上林賦 (Rhapsody on the Shanglin Park), Gu mocks the grandiloquent official accounts of a dynasty's (i.e. the Qing's) imperial hunting rituals, which generally avoided mentioning the genuine challenges of hunting, such as its being contingent upon a number of deer with horns: 'If hunting were as easy as in Sima Xiangru's account of the Shanglin park, why does the emperor worry about not spotting any deer with antlers? [The emperor worries about] the seasons' change [and who wants to shoot a deer without antlers?].'[18]

In contrast to Qianlong, Gu Deji took a literary approach and treated the classical accounts of animals as a theme for poetic composition. Following the calendrical order of the seventy-two pentads, Gu Deji deployed animals and plants in his rhetoric on the vicissitudes of his life, as well as his remonstration and resistance. Gu chose not to explain most of his rhetorical use of animals, assuming that the idioms and metaphors would be well known to all educated minds at that time. Instead, the subtlety of his poems might even have added to the ways in which the audience could relate and empathize with them.

In the remaining six lines of the poem on 'deer shed their horns', Gu Deji draws on another four historical anecdotes about deer to offer a veiled criticism of the Qing dynasty. He then insinuates that those in power suppressed dissidents by citing a Western Han scholar, Wulu Chongzong 五鹿充宗 (n.d.), whose name contains the graph for 'deer' and who dominated the study of the

[16] Qian Qianyi's mother was the sister of Gu Deji's father and Qian Qianyi notes that the two families endured the Manchu conquest together. See *Qian Muzhai quanji*, 8.543–5 ('Gu Xingzhi qishi shou xu' 顧行之七十壽敘). For the reception of Qian Qianyi, see Chang (2006), 199–201, 206; Wakeman (1985).

[17] *Yuzhi shi siji*, 1308.262 ('Yueling qishi'er hou shi' 月令七十二候詩).

[18] *Siku quanshu cunmu congshu: Ji bu*, 195.351 ('Yong yueling qishi'er hou shi' 詠月令七十二候詩).

Book of Changes until challenged by Zhu Yun 朱雲 (n.d.). Next, Gu alludes to the misuse of power by Zhao Gao 趙高 (?–208 BCE), the Qin chancellor who had called a deer a horse in order to prosecute officials who dared to disagree with him – even though he was obviously in the wrong. Zhao Gao's anecdote stands in contrast to the fourth analogy between a female deer and a man's wife, as noted in the saying 'only deer share the same wives between fathers and sons', which was perhaps an ironic reference to the Manchu practice of widow remarriage. In his concluding lines, Gu Deji uses a fifth deer analogy to portray the idea of reclusion, which can be traced back to the Tang poet Wang Wei 王維 (692–761 CE), who chose not to serve An Lushan 安祿山 (703–757 CE). Wang Wei's example reminds Gu Deji of his own milieu under Qing rulership. He concludes: 'When writing the *Deer Park Hermitage* (*Lu chai* 鹿柴) as a hermit in Lantian county in Shaanxi province, Wang Wei had just stepped down from officialdom: how could he even want to gaze at himself in the streams [near his Wangchuan mansions]!'[19]

Gu used the pentads as topics by which to group historical references according to the animals mentioned by the pentads. Animals in the pentads allowed Gu Deji to adopt an anthropomorphic voice to project moral properties onto certain animals. Under the pentad 'sparrows enter the sea and become molluscs' in the ninth month, Gu depicts his choice not to work for the Qing government as the transformation of a sparrow into a mollusc. Even if he thought the government's positions might be occupied by more unworthy people than himself, he would rather side with scholars outside the government, as suggested by the idiom 'When snipes and clams compete, it is the fishermen who benefit.'[20]

Although Qianlong considered Gu's manuscript *Donghai sanren ji*, which contained the poems, to be a piece of dissident writing 'full of ridiculous speech attacking [our] Qing rulership', he claimed that the poems 'did not include any [obviously] harmful words', and that it was necessary to 'make the work known among people'. Qianlong authorized the *Siku quanshu* compilers to preserve Gu Deji's poems independently as the *Qishi'er hou shi yi juan* 七十二候詩一卷 (Poems on the Seventy-two Pentads, in One Chapter). In contrast, Qianlong ordered them to destroy and ban the rest of the manuscript.[21]

Animals in Rhetorical Contradiction

After discovering Gu Deji's poems in the spring of 1779, Qianlong spent eighteen days completing seventy-two poems on each of the five-day periods.

[19] *Siku quanshu cunmu congshu: Ji bu*, 195.351 ('Yong yueling qishi'er hou shi').
[20] *Siku quanshu cunmu congshu: Ji bu*, 195.355 ('Yong yueling qishi'er hou shi').
[21] *Yuzhi shi siji*, 1308.262 ('Yueling qishi'er hou shi'); *Siku quanshu cunmu congshu: Ji bu*, 195.351 ('Yong yueling qishi'er hou shi').

Qianlong claimed that, by writing seventy-two poems about the seventy-two pentads, he was also able to 'universally apply' (*bian shi* 遍適) his thoughts to each of the five-day periods. In this way, he could 'correct mistaken views' item by item to transmit authentic things he had seen, experienced and learned, and relate his own emotions to things in nature.[22]

In the preface to his pentad poems, Qianlong claims that Gu Deji had produced 'a vulgar song from the countryside' and that, therefore, he 'has not repeated a single word from Gu Deji's writings'.[23] However, the two works overlap in style and content, although their rhetoric is markedly different. When writing poetic responses, Qianlong often employed contradictions (*fan* 反) to portray his innovative notions.[24] In 1779, Qianlong also shows his sense of innovation in writing poems about Monthly Ordinances by claiming a rhetoric that was opposite to the one used by Gu Deji. One telling example of this can be seen in their poems about the three pentads on falcons.[25]

In Qing China, falconry was practised among Han Chinese commoners. From a death penalty case in Jiangning 江寧 prefecture in 1753, in which a fight over a falcon between two commoners resulted in one person's death, we know that falconry was practised in the Lower Yangtze Delta region.[26] The falcon poems show that, whereas both Gu Deji and Qianlong were knowledgeable about hunting, the emperor and the scholar used their respective poetic imaginations to talk about falconry practices.

In Gu Deji's poem on the pentad 'hawks are transformed into doves' under the second month, Gu notes that the bird transformation recorded in the Monthly Ordinances is an analytical category to distinguish hunting seasons from feather-shedding times when rearing a falcon.[27] Gu Deji quotes from Lang Ying 郎瑛 (1487–1566), the author of *Qixiu leigao* 七修類稿 (A Manuscript Divided into Seven Categories), who noted that the 'doves' recorded in the Monthly Ordinances should be understood as feather-shedding falcons rather than pigeons which falcons prey upon. Gu Deji emphasizes that rabbits and doves, falcons' prey, bravely fight back against their aggressors. By describing falcons flying

[22] *Yuzhi shi siji*, 1308.262–3 ('Yueling qishi'er hou shi').
[23] *Yuzhi shi siji*, 1308.262 ('Yueling qishi'er hou shi').
[24] Rebuttal was a style technique often used in *changhe* 唱和 works (poems composed by matching another poem in rhetoric or rhyme, or both). A poet sometimes called the exchange partners his or her 'poetic adversaries', indicating that *changhe* was an intellectual arena for well-matched opponents. See Shields (2015), 140.
[25] The pentads are 'hawks transforming into doves' in the second month, 'young hawks learning to fly' in the sixth month, and 'hawks sacrificing birds' in the seventh month.
[26] A commoner named Liu Wu 劉五 caused the death of a temple gatekeeper who scared away his hawk. Liu Wu was tried by court and sentenced to hang. See Zhuang Yougong 莊有恭, 075285–001, Qing Grand Secretariat, preserved at the Institute of History and Philology, Academia Sinica.
[27] *Siku quanshu cunmu congshu: Ji bu*, 195.347 ('Yong yueling qishi'er hou shi').

Figure 11.2 Falconers in Republican Beijing (between 1917 and 1919). 'Men and Falconers (item ID RL_10074_LS_0157) by Sidney Gamble. (Sidney D. Gamble Photographs, David M. Rubenstein Rare Book and Manuscript Library, Duke University).

as fast as the wind and capturing rabbits at lightning speed, Gu uses a metaphor that first appeared in Sima Guang's *Zizhi tongjian* 資治通鑑 (Comprehensive Mirror in Aid of Government) about those in power prosecuting argumentative scholars.[28] Gu also refers to the poems about white doves written by Wang Shizhen 王世貞 (1526–90)[29] which were, in turn, derived from Liu Yuxi's 劉禹錫 (772–842) poem about Tan Daoji 檀道濟 (?–436 CE). Tan was a general who was killed by the ruler of the Liu Song dynasty and commemorated for generations in Moling 秣陵, ancient Nanjing.

In contrast to Gu's rhetoric of differentiating moulting falcons from doves, in Qianlong's poem on the pentad 'hawks are transformed into doves' under the second month, the Manchu emperor acts like a Han Chinese scholar, believing in an actual transformation from hawks to doves and assigning human virtues to birds as an indirect reprimand

[28] *Siku quanshu cunmu congshu: Ji bu*, 195.353 ('Yong yueling qishi'er hou shi').
[29] *Siku quanshu cunmu congshu: Ji bu*, 195.347 ('Yong yueling qishi'er hou shi').

for overhunting and those 'human beings who still indulge themselves in killing' by flying falcons.[30] Qianlong also meticulously differentiates feather-shedding falcons from doves, and wild falcons from domesticated ones. But, instead of relying on the Han Chinese texts, he quotes a certain 'White Khoja', Qianlong's Muslim falconer, who asserted that a great amount of work was required to feed birds of prey when they shed their feathers in spring and lose the ability to hunt, thereafter having the appearance of different kinds of birds.[31]

Qianlong considered that domesticated falcons, which were likely to shed all their feathers in the spring and were incapable of catching prey when moulting, needed human beings to feed them. In contrast, wild falcons were self-reliant, as they only shed a few feathers in spring, so were still able to hunt by themselves. If they simply sat on their perch and expected people to feed them, this would be equivalent to waiting for death. Qianlong claimed that, although rearing birds of prey seemed to be a small matter, it offered potential for 'important metaphors':

> At the founding stage of our dynasty, the Eight Banners fought for the country with high morale. They never asked for many military supplies from the country. When fighting on the battlefield, every man and horse was highly motivated.
>
> Now, our dynasty has been at peace for a long time. Occasionally, we try to recruit Manchu bannermen-soldiers, but we cannot mobilize them unless we provide them with military supplies! This shows that the self-reliant ones are diligent, and those who rely on others are indolent. Subtle as birds may be, are they not also related to statecraft?[32]

Qianlong's criticism of the Manchu bannermen associated with feather-shedding falcons thus contrasts with Gu Deji's reference to remonstrative doves. Yet his use of the metaphor about moulting falcons in moral injunctions, which contrasted with Gu Deji's analogies about remonstrative rabbits, made Qianlong's writings appear to be trying to argue the opposite from Gu.

The only surviving edition of Gu Deji's pentad poems[33] includes two comments written down at the opening and concluding parts of his poems. One of these notes, reproduced below, reads: 'For these poems we do not have the original version, please do not lose this only manuscript.'[34] No one knows who wrote these notes but, considering the circulation of the text, as

[30] *Yuzhi shi siji*, 1308.264 ('Yueling qishi'er hou shi').
[31] *Yuzhi shi siji*, 1308.270 ('Yueling qishi'er hou shi').
[32] *Yuzhi shi siji*, 1308.270 ('Yueling qishi'er hou shi').
[33] This print was based upon a *chaoben* 鈔本 (handwritten copy) preserved in the National Library of China in Beijing. See *Qingren shiwen ji zongmu tiyao*, 6.
[34] *Siku quanshu cunmu congshu: Ji bu*, 195.344–5, 359 ('Yong yueling qishi'er hou shi').

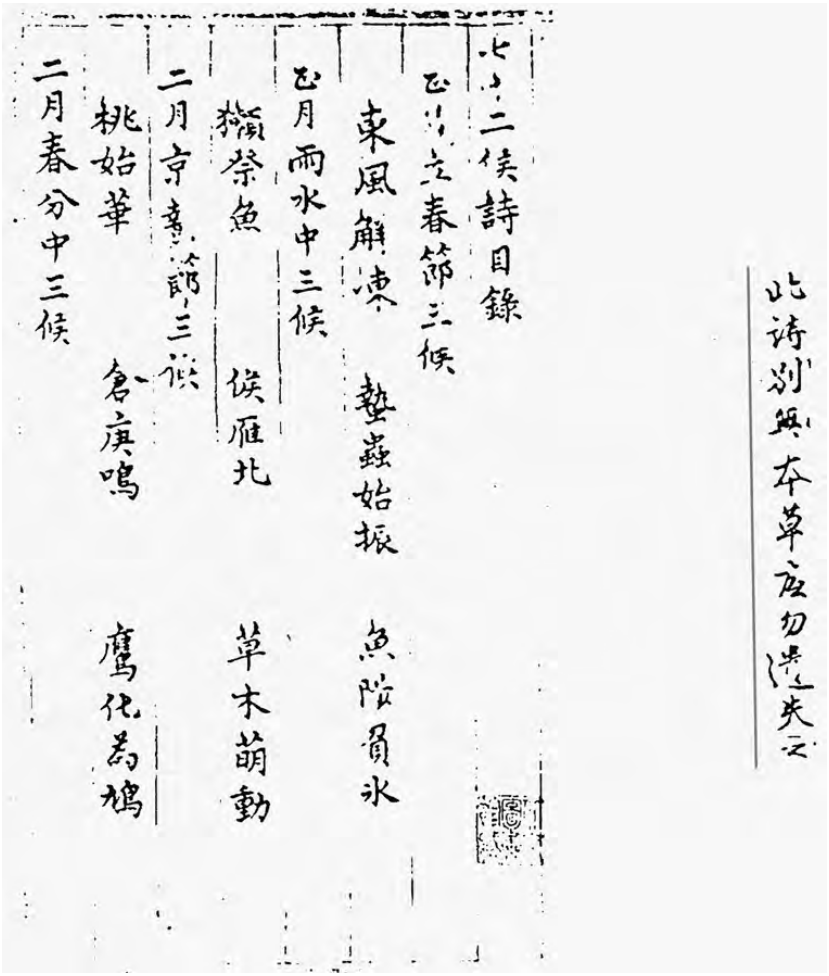

Figure 11.3 Note written on the title page of Gu Deji's poetry (*Siku quanshu cunmu congshu: Ji bu*, 195.344)

well as the reader's marks dotted throughout the manuscript, we can speculate that they may have been added during the compilation of the *Siku quanshu*, when Qianlong ordered the editors to make an exception for Gu Deji's pentad poems.

Animals in Scholarly Responses

The animals recorded in the Monthly Ordinances, which Gu Deji and Qianlong wrote about as poems, placed both emperor and scholars in the same commentarial tradition of the classics. Some scholars who served the Qing government praised Qianlong's poems for presenting important discoveries about animal life cycles. Between 1779 and 1787, Cao Renhu 曹仁虎 (1731–87) added a special appraisal of Qianlong's imperially composed seventy-two poems on the seventy-two pentads, claiming that they reflected the emperor's 'thoughtfulness in nurturing all things in accordance with the seasons':

> The emperor condescended to prove that the *mi* deer shed antlers in summer, and corrected their name to *zhu* deer [... Because of Qianlong's seventy-two poems on the seventy-two pentads], we now know that falcons and doves are not mutually transforming, that otters and wolves do not know filial piety, that rainbows hide themselves much earlier than the Slight Snow, and that pheasants begin to crow later than the Slight Cold. As for the [two different kinds of] molluscs transformed from other animals, who had seen these? As for the green frogs, different from birds, they croak at the beginning of the summer. In each poem, the Emperor corrected a mistake about one thing, and recorded the truth.[35]

Qianlong's introduction to the pentad poems also created a new trend for writing poems about Monthly Ordinances in Qing China. In 1849, during the Daoguang reign, the governor of Guangdong, Ye Zhishen 葉志詵 (1779–1863), wrote appraisals (*zan* 贊) of pentads. Ma Guohan 馬國翰 (1794–1857), a scholar of evidential research, also composed five-word verses on the pentads, which he referred to as poems in his own notes (*zi zhu* 自注). But Qianlong's commentaries on Monthly Ordinances were not equally well received among all scholars. By citing the emperor's comments as footnotes, rather than a 'classic' or main text, remonstrative scholars safely forged their own intellectual lineages by articulating views that differed from those expressed by Qianlong.

In the *Shuowen jiezi zhu* 說文解字注 (Annotations on Explaining Graphs and Analysing Characters) published in 1815, Duan Yucai 段玉裁 (1735–1815) noted that, 'according to the knowledge of this humble servant of your majesty, the so-called *zhu* deer correspond exactly to the *mi* deer transmitted from antiquity'.[36] In the *Qishi'er hou biao*

[35] The pentad 'otters sacrifice fish' (first month); 'hawks are transformed into doves' (second month); 'green frogs croak' (fourth month); 'sparrows enter the sea and become molluscs' (ninth month); 'rainbows hide and are invisible' (tenth month); 'pheasants enter the water and become molluscs' (tenth month); 'pheasants begin to crow' (twelfth month). See *Congshu jicheng chubian*, 1339.11–12 (Cao Renhu, 'Qishi'er hou kao' 七十二候考).

[36] *Shuowen jiezi zhu*, 471 (10A.22b).

七十二候表 (Chart of the Seventy-two Pentads), a study of the seventy-two pentads according to six classical texts which was completed around 1838,[37] Luo Yizhi 羅以智 (1788–1860), a scholar and book collector from Xindeng district in Hangzhou prefecture, lists his definition of the phrase *yun mi jiao* 隕麋角, '*mi* deer shed their horns', below the quotation from Qianlong's 1767 edict on '*mi* deer shedding their horns'. Luo Yizhi argues that Qianlong did not realize that the *mi* deer horn shedding recorded in the Monthly Ordinances referred to both the eleventh and twelfth months. Luo blamed Dai Songqing 傅崧卿 (fl. 1115) for introducing that error by only applying it to the eleventh month. Instead, Luo quotes from Kong Yingda's 孔穎達 (574–648 CE) commentary on the *Liji*: 'if the breath arrives early, the *mi* deer shed horns in the eleventh, if not, in the twelfth month'. 'Kong Yingda was right', Luo Yizhi contends.[38] In the preface to Luo Yizhi's work, a scholar named Hu Jing 胡敬 (1769–1845) praises Luo's scholarship, noting that his interest in the pentads came from his dissatisfaction with the 'substandard scholarship' of people such as Cao Renhu, the minister who had praised Qianlong's new findings about animals in the pentad poems.[39]

Conclusion

Between 1985 and 1986, the People's Republic of China launched a project to reintroduce *mi* deer and built two 'Milu' parks in Beijing and Nantong (Jiangsu) to conserve the animal that Qianlong had hoped to find. Contemporary policy-makers and researchers claimed that they were hoping to 'rebuild the beautiful sceneries of the Qianlong period' in the Milu parks by restoring the ancient deer's living environment.[40]

Before the rise of this modern view which treats animals as the object of conservation, the Qing emperor and scholars lived in their own zoological world. Ecology, which played a key role for the Qing local management of the empire,[41] was discussed in the commentaries of classical texts. As the emperor and scholars aligned those texts with empirical observations, animals such as deer and falcons were no longer prey and hunting partners: they became the 'Qing' animals which everyone could use in rhetoric. Acting like Han Chinese scholars, Qianlong interwove his

[37] The six sources included the 'Calendar of the Temporal Model', 'Xia xiaozheng', 'Yueling' and 'Shixun jie' chapters, and the record of months in the *Lüshi chunqiu*, as well as the past dynastic histories.
[38] *Siku weishou shu jikan siji*, 5.630 (Luo Yizhi, 'Qishi'er hou biao' 七十二候表).
[39] *Siku weishou shu jikan siji*, 5.611 ('Qishi'er hou biao').
[40] Jiang et al. (2000), 681.
[41] Bello (2016), 2–3.

Table 11.1 *Fung Yu-lan and Derk Bodde's chart of the seventy-two pentads.*[a]

24 Breaths	The 72 periods of the year 七十二候		
二十四節氣	Period A	Period B	Period C
立春（正月節） Beginning of Spring	東風解凍 East winds dissipate cold.	蟄蟲始振 Hibernating creatures begin to move.	魚陟負冰 Fish rise up to the ice.
雨水（正月中） Rain Water	獺祭魚 Otters sacrifice fish.	候鴈北 Wild geese appear.	草木萌動 Plants bud and grow.
驚蟄（二月節） Waking of Insects	桃始華 Peach trees begin to blossom.	倉鶪鳴 Orioles sing.	鷹化為鳩 Hawks are transformed into doves.
春分（二月中） Spring Equinox	元鳥至 Swallows arrive.	雷乃發聲 Thunder utters its voice.	始電 Lightning begins to be seen.
清明（三月節） Pure Brightness	桐始華 Elaeococca begins to flower.	田鼠化為駕 Moles are transformed into quails.	虹始見 Rainbows begin to appear.
穀雨（三月中） Grain Rain	萍始生 Duckweed begins to grow.	鳴鳩拂其羽 Cooing doves clap their wings.	戴勝降於桑 Crested birds light on mulberry trees.
立夏（四月節） Beginning of Summer	螻蟈鳴 Green frogs croak.	蚯蚓出 Earth-worms appear.	王瓜生 Royal melons grow.
小滿（四月中） Grain Full	苦菜秀 Sow-thistle is in seed.	靡草死 Delicate herbs die.	麥秋至 Period of slight heat arrives.
芒種（五月節） Grain in the Ear	螳螂生 Praying mantis is born.	鵙始鳴 Shrikes begin to cry.	反舌無聲 Mockingbirds cease to sing.
夏至（五月) Summer Solstice	鹿角解 Deer shed their horns.	蜩始鳴 Cicadas begin to sing.	半夏生 Midsummer herb grows.
小暑（六月節） Slight Heat	溫風至 Warm winds come.	蟋蟀居壁 Crickets live in the walls.	鷹始摯 Young hawks learn to fly.
大暑（六月中） Great Heat	腐草為螢 Decaying grass becomes fire-flies.	土潤溽暑 Ground is humid and air is hot.	大雨時行 Great rains come frequently.
立秋（七月節） Beginning of Autumn	涼風至 Cool winds arrive.	白露降 White dew descends.	寒蟬鳴 Autumn cicadas chirp.
處暑（七月中） Stopping of Heat	鷹乃祭鳥 Hawks sacrifice birds.	天地始肅 Heaven and Earth begin to be severe.	禾乃登 Grain is presented.

Table 11.1 (*cont.*)

24 Breaths	The 72 periods of the year 七十二候		
二十四節氣	Period A	Period B	Period C
白露（八月節） White Dew	鴻鴈來 Wild geese arrive.	元鳥歸 Swallows return.	群鳥養羞 All birds store up provisions.
秋分（八月中） Autumn Equinox	雷始收聲 Thunder restrains its voice.	蟄蟲壞戶 Hibernating creatures stop up entrances to their burrows.	水始涸 Waters begin to dry up.
寒露（九月節） Cold Dew	鴻鴈來賓 Wild geese come as guests.	雀入大水為蛤 Sparrows enter the sea and become molluscs.	鞠有黃花 Chrysanthemums show yellow flowers.
霜降（九月中） Frost's Descent	豺乃祭獸 Wolves sacrifice large animals.	草木黃落 Leaves of plants become yellow and fall.	蟄蟲咸俯 Hibernating creatures all push downward.
立冬（十月節） Beginning of Winter	水始冰 Water begins to freeze.	地始凍 Ground begins to harden.	雉入大水為蜃 Pheasants enter the water and become molluscs.
小雪（十月中） Slight Snow	虹藏不見 Rainbows hide and are invisible.	天氣上升地氣下降 Heaven's ether ascends, Earth's ether descends.	閉塞而成冬 All is closed up and winter is fully formed.
大雪 (十一月節) Great Snow	鶡鳴不鳴 Yellow pheasants stop their cries.	虎始交 Tigers begin to pair.	荔挺出 Broom-sedge grows.
冬至 (十一月中) Winter Solstice	蚯蚓結 Earth-worms curl up.	麋角解 *Mi* deer shed their horns.	水泉動 Springs of water are in movement.
小寒 (十二月節) Slight Cold	鴈北鄉 Wild geese go north.	鵲始巢 Magpies begin to build nests.	雉雊 Pheasants begin to crow.
大大寒 (十二月中) Great Cold	雞乳 Hens begin to hatch.	征鳥厲疾 Birds of prey fly high and fast.	水澤腹堅 Rivers and lakes are frozen thick.

[a] Fung and Bodde trans. (1983), vol. 2, 114–17. 'Fung Yu-lan' is the Wade-Giles-style spelling of 'Feng Youlan'.

wonder about hunting trophies with his commentaries on animal life cycles as recorded in the classics. For the Han Chinese scholars, Qianlong's participation in classical learning opened the way for more discussion: writing about animals provided them with new possibilities to challenge the established order. As such commentaries show, animals find their positions in both history and the present.

12 Reforming the Humble Pig
Pigs, Pork and Contemporary China

Mindi Schneider

In contemporary China, pigs are pork. While the pig has played various roles in Chinese culture, politics, economy and agriculture for millennia, the pig's highest value today is as a standardized, specialized, industrialized pork-producer. As Harriet Friedmann observes about agriculture in the modern world, 'Plants and animals have been turned into homogenous rivers of grain and tides of flesh, more closely resembling the money that enlivens their movement from field to table, than their wild ancestors.'[1]

This is a general statement about the ontology of plants and animals in the current global agrifood system, and the practices, logics and relations that produce them. It is also an apt reflection of pig production in China today. China's modern hog is not the common pig that populated the historical texts Francesca Bray analyses in Chapter 6; nor is it the biological fertilizer factory celebrated in Mao's socialist science that Sigrid Schmalzer identifies in her recent book.[2] Rather, China's modern pig is a meat machine. It is a pork factory on four legs.

Transitioning from the old *humble pig* to the new *reformed hog* has entailed a suite of material and symbolic transformations. Starting with Reform and Opening (*Gaige Kaifang*) in 1978, policies and investments have greatly expanded the pork sector, transforming millennia of small-scale, dispersed and localized pig farming into a coordinated and concentrated system of industrialized pork production that relies on globally sourced resources and technologies. In the process of changing the spaces and practices of pig production, knowledges and values have also changed. This is partly so because of shifting human–hog proximities. Fewer and fewer people are raising pigs, and both people and pigs are moving out of rural households into modern ways of living; migrant workers or new urbanites in the former sense, and modern hogs in factory farms in the latter. The distance between humans

[1] Friedmann (2000), 481. [2] Schmalzer (2016).

and animals has increased in body and in mind, and the pig as pork factory now supersedes the pig as living being.

Although these processes are neither complete nor total, pigs and pork today are big business. China is home to half of the world's pigs, half of the world's pork production and half of the world's pork consumption. It is also home to the world's largest pork processing company (the WH Group) and a host of rapidly expanding pork-related agribusiness firms. In 2016 alone, farmers and companies in China produced 53 million tons of pork from a domestic herd of 671 million pigs: this was twice the amount of pork produced in all twenty-eight European Union countries combined, and almost five times the amount in the United States.[3]

Given its world-leading scale of production, this chapter asks how China's contemporary pork boom replicates the general practices and logics of the (industrial, capitalist) global agrifood system,[4] while at the same time enacting and interpreting them in a particular historical and political economic context. Taking the reformed pig as an ideal typical embodiment of new modes of production, value and consumption in the contemporary era, the following sections outline three broad transformations: of the pig itself, of the sites and forms of pig and pork production, and of the shifting nature of pork and pork consumption. For each, I highlight changes in ownership and knowledge, as well as some of the tensions that emerge in the encounter between past and present, global and local, and environment and development.[5]

Reformed Pigs

Pigs have a long history in China. When the Chinese Academy of Agricultural Sciences undertook the first national survey of indigenous livestock in 1960, researchers found more than one hundred native pig breeds with thousands of locally adapted types. They ranged from the extreme northeast of Heilongjiang Province to the Tibetan Plateau in the southwest, and many places in between.[6] Millennia of admixing between wild boars and domesticated pigs, and genetic selections made through animal husbandry, had produced a rich porcine

[3] United States Department of Agriculture, Foreign Agricultural Service (2017). Although China was virtually self-sufficient in pork throughout most of the reform era, pork imports are now increasing.

[4] E.g. Clapp and Fuchs (2009); McMichael (2009); Weis (2013).

[5] The study is based primarily on field research in northeast and southwest China during various trips in 2009–16. I conducted interviews about the pork industry and the changing food system with government officials, agribusiness executives, representatives of foreign and domestic industry associations, researchers, farmers and consumers.

[6] Zheng (1984).

diversity.[7] Pigs of various shapes and sizes were adapted to specific and changing climatic conditions, terrains and feed resources.

These are not, however, the pigs of the pork boom. Of the millions of tonnes of pork produced each year in China, native pigs account for less than 10 per cent.[8] Instead, the modern pig is a reformed creature, generated through China's encounter with the technologies, scientific practices and political economy of the global food system. In the early 1990s, the Ministry of Agriculture began importing pigs and semen of the same breeds that dominate industrial pork production globally – principally Duroc, Landrace and Yorkshire pigs[9] (together, DLY). As animals bred to reach market meat weight and finishing standards in the shortest possible amount of time, these modern pigs turn processed feeds into commodifiable parts in only six months.[10] The industrialized system quickly processes, packages and sells bits and pieces of the pig in a variety of forms at supermarkets and in restaurants – and for other, non-food industrial applications – constantly expanding its range of profit-making opportunities.

This foreignization of the pig herd and corporatization of ownership play important roles in the development of the modern pork production system. Agribusiness firms develop, own and sell genetic technology, often in concert with state agencies, which is protected through property law and trade agreements. Sows, boars, pig breeds, pig semen and associated genetic 'blueprints' are patented as private property. From the 1990s on, world-leading pork genetics firms, including PIC (the Pig Improvement Company) and Hendrix Genetics (which operates as Hypor China), have facilitated these processes, together with the Ministries of Agriculture and Commerce. Chinese firms in the genetics business are also on the rise, operating in concert with international leaders or, increasingly, on their own. In each of these ownership arrangements, not only pigs and their saleable parts, but also pig genetics, are commodities that are bought and sold at international, national and local levels, managed almost exclusively by corporations, in a supportive policy context.[11] The knowledge and practice of animal husbandry and people–pig interactions in adapting pigs to local ecological conditions has largely been replaced by interactions between scientists, agribusiness executives, government officials, breeding farm workers and the commodity form.

[7] On pig domestication and admixing, see Ottoni et al. (2013) and Cucchi et al. (2011).
[8] Interview No. 58, Ministry of Agriculture, Beijing, 17 September 2010. The native pigs that remain are raised either by small-scale farmers, on speciality 'boutique pig' farms, or on state-funded and largely privately run conservation farms tasked with preserving genetic diversity.
[9] Gura (2008). [10] E.g. Holden and Ensminger (2005). [11] Schneider (2017a).

Modern Hogs, Dragon Heads and Rivers of Manure

In her recent work on agriculture, Sigrid Schmalzer identified several important continuities in forms and values of pig production and pork consumption in Chinese modern history. For instance, from the nineteenth century far into the Mao era, Chinese farmers and politicians valued pigs primarily as 'fertilizer factories', rather than for their meat.[12] In the nineteenth century, manure was still the product of pigs' extensive grazing on herbaceous plants and crop residues, in addition to being fed kitchen and food processing scraps. In the Mao era pigs were collectivized, though not industrialized and, as Schmalzer also notes, both 'traditional' peasant knowledge and 'modern' science were passed on at the time.[13]

In the reform era, pigs and pork reflect discontinuities with the past, as production has come to resemble the organization, science and practices of the global pork industry, while 'traditional' methods and knowledges have been marginalized. Decollectivization and the institution of the Household Responsibility System (HRS) in 1981 brought the pig out of the collective and back into the private household, while the emergence of agribusiness firms and private ownership initiated the consolidation and vertical integration of pig production. These changes progressively restructured pork production into operations on three distinct scales, which market analysts describe as a *trifurcation* of the pork sector: (1) small-scale household farms who raise between one and fifty pigs each year in backyard systems that are most like 'traditional' farming; (2) mid-scale specialized farms with annual production of fifty to a thousand hogs; and (3) large-scale commercial operations raising a thousand or more pigs per year.[14] Production on specialized and commercial farms has risen rapidly and intensified throughout the reform era, accounting for the country's massive pork production increases.[15] The smallholder form of production, however, is in rapid decline: in 2006 alone, more than 50 per cent of rural households gave up pig raising.[16]

[12] Schmalzer (2002). See also King (1911); Wittwer et al. (1987). [13] Schmalzer (2016).

[14] These categories are problematic. A backyard farm, for example, should raise one to ten pigs per year, mostly for home consumption and local trade or sale. At the other end of the spectrum, 'megafarms' that produce 100,000 or even one million pigs on a single site should be differentiated from those with a thousand head. I use these categories because they commonly appear in industry and government reports.

[15] Precise figures on production shares for each category are patchy. The Rabobank (2012) estimates that commercial farms in 2015 accounted for about 15 per cent of pork production, specialized farms 57 per cent and backyard farms 27 per cent. Other studies (e.g. Zhang et al. 2017) cite large-scale farms as representing 35 per cent, mid-size as 30 per cent and small-scale as 35 per cent. In all cases, mid- and large-scale production is increasing, while small-scale is declining.

[16] Li (2010).

In small-scale backyard contexts, peasant farmers raise a few pigs a year, along with a mix of crops and other livestock for private consumption. Small surpluses achieved in good years feed into local wet markets.[17] Such pigs can be an indigenous variety, or exotic hybrids produced by small-scale hybridizers. Backyard pigs graze mainly on scraps and weeds, and their manure is used in small amounts for grains and tree crops, although smallholders today typically use chemical fertilizers.[18]

Specialized pig farms are something of a black box. Industry analysts consider them a form of household production, based on their relatively small numbers of pigs and the fact that households typically run their own production. But specialized farms – especially the larger ones – often house DLY pigs in barns (with government subsidies) and use commercial feed mixes (provided or dictated by contracts or arrangements with processors) to make meat that accords with market standards. Given their relationship to pork processors and their modern production materials and methods, specialized farms are often part of the industrial system. The pork industry (with state support), however, would like to see commercial farms surpass and replace them, effectively completing the transition from smallholding to factory (farm).[19]

Large-scale commercial operations are wholly industrialized. Using the CAFO (Confined Animal Feeding Operation) model of production, they raise exclusively exotic pigs on exclusively commercial feed to produce uniform animals and meat. Agricultural science and industry brought these livestock confinement systems into existence in the United States after the Second World War,[20] steadily 'perfecting' and globalizing the system through advances in genetics (pigs bred to survive in confinement), animal nutrition (feed mixes and feed additives to speed animal growth) and biosecurity[21] (prophylactic doses of antibiotics and disciplined labour practices to protect against disease transmission). CAFOs account for the majority of meat production in the world today, and are the fastest-growing form of production worldwide. While Chinese pig operations are not without their innovations, for the most part, a large-scale CAFO in Sichuan looks like a large-scale CAFO in Iowa in the United States.

The CAFO model is a clear expression of how the central government has conceptualized and enacted 'modern agriculture' in the reform era. Under

[17] Backyard pigs are typically not lean enough to meet industry standards, so contracting with vertically integrated processing firms is rarely an option.
[18] E.g. Hu and Yang (2015).
[19] E.g. Interview No. 17, industry group, Beijing, 24 March 2010; Interview No. 23, university scientist, Sichuan Province, 14 May 2010; Interview No. 26, CEO, Sichuan Province, 19 May 2010.
[20] Foster and Magdoff (2000).
[21] For an analysis of how biosecurity protocols are remaking labour, see Blanchette (2014).

the leadership of Jiang Zemin, the party-state in 1998 defined modern agriculture as commercialized, specialized, scaled up, standardized and internationalized.[22] To lead the process of agricultural modernization, the state assigned an important role to agribusiness firms called 'dragon head enterprises' (*longtou qiye*), which act as agricultural integrators (i.e. pork packers) that coordinate with rural households as input suppliers (i.e. pigs). For their role in both economic and rural development, dragon heads receive subsidies, loans and tax breaks from the government. According to official figures,[23] in 2011 there were 110,000 formally registered dragon head enterprises, and the dragon head led model of vertical integration accounted for 60 per cent of China's crop production, 80 per cent of aquaculture and 70 per cent of livestock (pork and poultry) production.[24]

Dragon head firms are particularly evident and powerful in China's pork sector. The WH Group, formerly called *Shuanghui* (or Shineway), is a case in point. Henan Shuanghui Investment and Development Company was formerly a state-owned enterprise that was privatized in 2006, at the same moment that it took its first foreign investment from Goldman Sachs. It became China's largest pork processor, supported by government subsidies and growing investment from domestic and foreign financial institutions. In 2013, Shuanghui bought US-based Smithfield Foods, changed its name to the WH Group, and became the largest pork processor in the world. This was the largest takeover of a US company by a Chinese company *in any sector*, demonstrating the state's goal of increasing the global presence and competitiveness of Chinese firms.[25]

Despite the productivity increases and business successes of the dragon head led pork modernization project, the pork industry also brings environmental and social problems.[26] Antibiotics, hormones and heavy metals from livestock feed contaminate industrial meat. The manure flowing out of CAFOs pollutes soil, air and water and, through it, antibiotic-resistant disease-causing organisms are also transmitted into the environment and the food system. In addition to high-profile food safety scandals, CAFO-related water pollution is perhaps China's most serious pig industry crisis. The first national pollution census (*Zhongguo wuran yuan pucha*) in 2010 identified manure from industrial livestock facilities – mostly pigs, but also

[22] Zhang and Donaldson (2008).

[23] From the inaugural speech given by Hui Liangyu, Deputy Prime Minister of the State Council, at the launch of the China Association of Leading Enterprises for Agricultural Industrialization in 2011. The full text of the speech is at http://baike.baidu.com/view/9676144.htm (in Chinese).

[24] Dragon heads also occupy a growing share of China's land: in 2012, they occupied 28 million mu (1.9 million hectares), which was 10.3 per cent of all land that changed hands from village collectives and households (Yan and Chen, 2015).

[25] Schneider (2017a).

[26] E.g. Emel and Neo (2015).

chickens – as the number one source of water pollution in the country.[27] Some of the nearly 5 billion tonnes of manure that are produced each year ends up in waterways, causing blue-green algae outbreaks and eutrophication that renders water unusable for the mainly rural households that depend on them. This is an additional challenge to already existing water problems. At least 300 million people lack access to safe water in China, while one-fifth of the country's water is classified as 'toxic', two-fifths is 'seriously polluted' and more than half of all the country's water is considered 'poor' to 'very poor' quality.[28] As well as adopting the science and practice of the global pork industry, therefore, China has also adopted its crises: importantly, manure is no longer a value, but a crippling source of pollution.[29]

Modern Meat, Conspicuous Consumption and Public Health

The value shift from 'fertilizer factory' to 'pork factory' also, of course, impacts on consumption and consumption relations. While *pigs* were much more ubiquitous in pre-reform China, *pork* was a rare treat for most people throughout history. With households raising only a few pigs each year, slaughter was a once or twice annual event. At Spring Festival (Chinese New Year), people ate fresh pork in the form of dumplings, sausages, meatballs and various offal-based dishes as part of celebratory feasts.[30] They also preserved pork to eat after the festivities ended, and saved lard for cooking vegetables.[31] Both fresh and preserved pork could be eaten directly by those who produced it, given as a gift, and/or used to curry political or social favour.[32] Pork was diverse, both in culinary form and in social use.

The meat of this historical pig was fatty, very different from the lean varieties that line supermarket meat fridges today. This was because the household pig's diet was composed primarily of carbohydrates (in the form of coarse plants and kitchen scraps), with very little protein. The resulting pork, therefore, was made up of layers of muscle and fat. Cooking methods and dishes were based on this characteristic, and the form and flavours it produced.

Today, the hegemony of exotic lean-type meat pigs, together with the CAFO model of production and its commercial feeds, has changed the consistency and flavour of pork and, for some, has lessened its appeal. Modern lean meat is not the meat that enlivens Chinese cooking, or the taste preferences of especially middle-aged and older Chinese people who have memories of pre-reform

[27] China Pollution Source Census (2010). According to the Ministry of Environmental Protection, the second national pollution census begins in December 2017.
[28] Xie (2009); Lin (2014). [29] Schneider (2017b).
[30] Muslim communities were an exception. See Hsu and Hsu (1977).
[31] Anderson and Anderson (1977); Spence (1977). [32] Anderson (1988); Hsu and Hsu (1977).

pork.[33] Despite this, the market for pork continues to grow and consumption continues to rise, while the forms and sites for buying and eating pork are changing. Today, processed and packaged pork products are the fastest growing market segments, sold increasingly in super- and hyper-markets, as well as in family-owned shops and other small retail outlets. Urban people eat more and more of their meals outside the home, either as packaged food on the go, or as prepared meals in restaurants.[34]

One result of these changes is that public health is suffering. In their longitudinal study of the links between lifestyle, diet and disease across more than sixty-five counties in the late 1970s and the early 2000s, Campbell and Campbell describe a shift from 'diseases of poverty' to 'diseases of affluence' in rural China.[35] The former include maladies that result from nutritional inadequacy and poor sanitation (i.e. intestinal obstruction, pneumonia and tuberculosis), while the latter result from 'nutritional extravagance', defined in terms of excess caloric and fat intake, particularly the shift from predominantly plant-based to more animal-based diets (i.e. diet-related cancers, diabetes and coronary heart disease). In 2015, cancer, heart disease and cerebrovascular disease (hypertension) together accounted for 69 per cent of deaths in urban China and 68 per cent in rural China; this was an increase from 62 per cent in urban areas, and from 48 per cent in rural areas in 1998 when the National Bureau of Statistics began reporting these data.

While China's pork has become leaner, China's people are becoming fatter. A recent study in *The Lancet* found that there are more obese and overweight people in China than in any other place in the world. According to the study, more than 43 million Chinese men and 46 million Chinese women are obese, accounting for 16.3 per cent and 12.4 per cent of the respective global totals. Moreover, 23 per cent of boys and 14 per cent of girls under the age of twenty in China are overweight or obese.[36] 'Diseases of affluence' cannot be attributed entirely to diet (cancers especially are also related to pollution), nor can the rise of obesity be solely explained by increasing pork (meat) consumption. The pork production boom, however, is also a consumption boom, and an important component of changing eating habits, expanding waistlines and the emergence of diet-related diseases and causes of death.

[33] E.g. Interview No. 76, Chengdu, 10 December 2010.

[34] According to the National Bureau of Statistics (NBS) in 2013, urban households consume on average twice as much meat as rural households. Because urban middle- and upper-class people eat more than half of their meals away from home, which are not included in NBS figures, urban meat consumption is three times or more than in rural areas; Xiao et al. (2015).

[35] Campbell and Campbell (2006).

[36] NCD Risk Factor Collaboration (2016).

Eating pork is about more than diet and health. As a social artefact, pork also carries cultural meanings. In 2007, I visited a 'Pig Culture Museum' on the outskirts of Shanghai. Founded by Mr Bu,[37] the CEO of a large-scale pork processing firm and a general pig enthusiast, the museum contains displays of pig history, pigs in Chinese culture and pig-related artefacts. Explaining various connections between pigs and society, Mr Bu told me that, even though fewer and fewer people are raising pigs in China today, swine continue to be important cultural and social signifiers. He noted that pigs are a symbol of China as a modern nation, but a nation with enduring and ancient legacies: the modernity is in the industrialization of pig production, while the legacy is in the cultural preference for eating pork. He went on to say that, 'Meat [pork] signifies wealth. The more money you have, the more meat [pork] you will eat.' This idealized notion expresses an important changing value in contemporary China: at the same time that pork is a more staple dietary component for many Chinese people, it is also something of a status symbol.

Not all pork is of equal status, and there are important differences among various social groups. For some, imported pork is the highest value, because of food safety scandals in China, and notions that 'Western' goods are better products. A recent study of highly educated and largely upper-class consumers who prefer imported pork found that they also want their pork to be expensive, fresh and lean.[38] These new *consumer* preferences contradict other political, economic and cultural preferences: they are at odds with the state's 'preference' for developing domestic firms, the industry's 'preference' to market packaged meats, and the historical cultural 'preference' for fatty pork.

Concerns over food safety also drive other pork consumption choices, especially for those who can afford to be selective. Research shows that middle-class urban consumers prefer pork from factory farms, which they view as safer than pork produced by small-scale 'backward' peasant farmers. They believe that CAFOs are more tightly and carefully regulated by the state to ensure compliance with food safety standards.[39] The opposite is also true. Among the blossoming 'alternative food networks' in China – including farmers' markets, community supported agriculture (CSAs), and organic and biodynamic farming – consumers also cite food safety as their primary motivation for participation.[40]

Aside from food safety, there are other registers of value, status, motivation and preference. For instance, a 'boutique pork' market has emerged, in which elite consumers buy and eat expensive pork from black pig breeds native to China or other East Asian countries (modern pigs are typically pink or white).

[37] All names have been changed to protect anonymity. [38] Xiu et al. (2017).
[39] De Barcellos et al. (2012). [40] E.g. Shi et al. (2011).

Rather than deriving status from imported pork as in the study cited above, here status is linked directly to China: black pigs elicit nostalgia for an idealized past when pork was flavourful and the countryside was bucolic. At the same time, boutique pork is a niche-marketed commodity, typically containing claims of innovation for environmental sustainability. A telling example of this came in 2016, when a leading Chinese online gaming company called NetEase rolled out its new pig breeding sideline business. Claiming that their technological expertise had created environmentally friendly methods of pig production, NetEase sold three pigs for $15,900, $23,150 and $40,000 each.[41] If China's pig industry in general is big business, these new speciality markets are creating another big, *elite* business.

Conclusion

Pigs in China are a source of profit for agribusiness firms, a symbol of wealth and prosperity for consumers, a source of legitimacy for the state's role in providing a bountiful, modern and regulated food system, and the cause of serious environmental and public health crises. Given its current economic importance, its global–local and past–present dynamics, and its long-standing cultural and political significance, the pig also provides a powerful lens on social transformations. For instance, the shifting consumption 'preferences' described above indicate five key phenomena. First, the pork industry (through media reports and government pronouncements) has convinced consumers of the idea that industrial pork is better and safer than that from smaller producers, despite the fact that problems with tainted meat arise predominantly from factory farms.[42] Second, these transformations reveal that cultural preference and consumer demand are changing constructions, both of which can be capitalized upon to support further development of the industry, of speciality markets and the pork economy. Third, corporate operations and state regulation are seen as necessary and important values of modern life, and people now trust firms and the state more than they trust the 'backward' peasant farmers. Fourth, consumption is not only conspicuous, but also an important arena within which people are urged to take personal responsibility for their own health and safety. Finally, so-called 'Western' modes of eating and ideas of safe and healthy food are influencing – but not defining – Chinese pork consumption.

While this study has focused on the internal dynamics, it is important to note that China's contemporary pork industry relies on – and is altering – global resources and markets. With 21 per cent of the world's population but only 9 per cent of arable land, feeding China's pigs without starving China's people

[41] Tang (2016). [42] Schneider (2015).

has required re-routing international trade, investment and resource flows. In 2014, China imported almost 60 per cent of the total global soybean trade (70 million tonnes) for its livestock feed industry;[43] maize imports are also rising, and the party-state increasingly supports Chinese agribusiness firms to 'go out' (*zou chuqu*) to seek access to land, resources and markets abroad. In terms of ramping up pork production while avoiding widespread hunger, the development model has been successful: although food security remains a focus for the state (and a problem especially for poor rural populations), for those who can afford it, modern life means living high on the hog.

[43] For more in-depth analyses of China's feed industry and soybean politics, see Oliveira and Schneider (2016); Wang (2013); Yan et al. (2016).

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