

From snout to tail

Exploring the Greek sacrificial animal
from the literary, epigraphical,
iconographical, archaeological,
and zooarchaeological evidence

Edited by Jan-Mathieu Carbon
& Gunnel Ekroth

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ABSTRACT

Animal sacrifice fundamentally informed how the ancient Greeks defined themselves, their relation to the divine, and the structure of their society. Adopting an explicitly cross-disciplinary perspective, the present volume explores the practical execution and complex meaning of animal sacrifice within ancient Greek religion (c. 1000 BC–AD 200).

The objective is twofold. First, to clarify in detail the use and meaning of body parts of the animal within sacrificial ritual. This involves a comprehensive study of ancient Greek terminology in texts and inscriptions, representations on pottery and reliefs, and animal bones found in sanctuaries. Second, to encourage the use and integration of the full spectrum of ancient evidence in the exploration of Greek sacrificial rituals, which is a prerequisite for understanding the complex use and meaning of Greek animal sacrifice.

Twelve contributions by experts on the literary, epigraphical, iconographical, archaeological and zooarchaeological evidence for Greek animal sacrifice explore the treatment of legs, including feet and hoofs, tails, horns; heads, including tongues, brains, ears and snouts; internal organs; blood; as well as the handling of the entire body by burning it whole. Three further contributions address Hittite, Israelite and Etruscan animal sacrifice respectively, providing important contextualization for Greek ritual practices.

Keywords: Greek animal sacrifice, anatomy, division, butchery, body part, multi-disciplinary approaches, zooarchaeology, iconography, epigraphy, texts, cross-cultural comparisons

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I. From snout to tail

Dividing animals and reconstructing ancient Greek sacrifice

Abstract

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Sacrificing an animal was a central component of ancient Greek religion, an act by which the worshippers communicated with the divine sphere.¹ The anatomy of the animals—usually, though far from exclusively, bovine, ovine, caprine,

¹ Sacrifice as communication with the gods, see Stavrianopoulou 2006; Parker 2011, 124–165; Naiden 2013, 3–38; Ekroth 2019.

and porcine—provided an intricate structure through which such rituals could be articulated in different ways. Generally speaking, the diverse rituals we label as “Greek animal sacrifice” entailed some form of cutting or division of the offering. Whether this simply involved slitting the throat to kill or more elaborate forms of butchery, some sort of implement—an axe, a knife, etc.—was used to cut and to begin a process of repartition, which usually was followed by the burning of some parts of the animal and the consumption of others. Normally, the animal was divided between immortals and mortals, marking distinctions in status and character between the recipients.² But the sacrifice, division, and distribution of a sacrificial animal could also serve to underscore differences between the human participants, both groups and individuals (such as priests and worshippers).³

The reason for studying Greek animal sacrifice with a particular focus on the animal’s body is the fundamental importance this ritual had for how the ancient Greeks defined themselves, their relation to the divine, and the structure of their society. To grasp this complex sacrificial reality, we need to use an approach which is as empirically broad as possible, adopts a cross-disciplinary perspective, and goes into detail as to the practical handling of the animal’s body. Although the treatment of the animal and its meat, blood, innards, bones, and

² An aitiological myth of the most common form of ancient Greek sacrifice, *thysia*, is the feast conducted by Prometheus at Mekone, which according to Hesiod (*Theog.* 556–557) explains why humans burn “white bones” on altars for the gods. A broader conception of Prometheus’ gifts can notably be found in the play insecurely attributed to Aeschylus (*PV* 496–499), where “κῶλα completely wrapped in fat and a long ὄσφῦς” are burned for the gods, from which humans can then interpret “fiery (divine) signs.” See *inter alia* Detienne & Vernant 1989; Ekroth 2009; Stocking 2017; Ekroth 2019; cf. also Carbon 2017a and 2021.

³ See Ekroth 2008, 267–276; 2019. For priests and ritual functionaries, see also Svenbro 1987; Le Guen-Pollet 1991; and the recent survey of Carbon 2017b. Worshippers: see notably Paul 2018.

skin, have been touched upon by individual studies on animal sacrifice produced during the 20th and 21st centuries, a fresh look, adopting an interdisciplinary approach and making use of the full scope of ancient sources, has not yet been undertaken.⁴ The present volume stems from an international conference organized at Uppsala University in December 2016, which focused on animal sacrifice in ancient Greek religion (c. 1000 BC–AD 200) from a cross-disciplinary perspective. Its mission was to explore the Greek sacrificial animal from the literary, epigraphical, iconographical, archaeological and zooarchaeological evidence. Taking our inspiration from recent culinary movements aiming to use the “whole beast” in the preparation of food,⁵ we called this investigation of the sacrificial animal *From snout to tail*, a survey of the body—from one end to the other—that remains an apt designation for the resulting volume.

The conference had two specific aims. Firstly, to clarify in detail the use and meaning of the body parts of the animal within the sacrificial ritual. This involves a thorough study of ancient Greek terminology used in literary texts and inscriptions, representations on pottery and reliefs, and animal bones found in sanctuaries. The purpose of such an in-depth discussion was to provide new insights into how animal sacrifice for the ancient Greeks worked as a means of communication with the gods, and how it structured their society and established a world-view through the division and handling of the body of the sacrificial animal. The second and partly overlapping aim was of a more methodological character, namely to encourage the use and integration of the full spectrum of ancient evidence in the exploration of Greek sacrificial rituals, which is a prerequisite for understanding the complex use and meaning of Greek animal sacrifice.

Perhaps no single scholar today can manage to have an in-depth knowledge of all the empirical evidence and research pertaining to Greek animal sacrifice. For example, it is important to keep in mind the degree of special competence required to decipher a worn and damaged inscription in a local Greek dialect referring to a ritual action or to determine the animal species and body parts present in a sanctuary from a pile of calcined bones, as well as to distinguish any traces of butchery. Attic vases bearing representations of animal bodies, whole or in part, are not “snapshots” of antiquity nor were

they made with a documentary purpose. Their interpretation requires a broad understanding of the iconographic conventions. Furthermore, a knowledge of animal anatomy is important to ascertain what parts are actually shown.

The need to master and explore a specific type of ancient evidence is crucial, but it is also essential to realize that a comprehensive grasp of the ancient phenomena cannot be achieved without the necessary collaboration between scholars from various fields. Therefore, the conference brought together researchers from different academic environments in order to create a “critical mass” for the investigation of the use and meaning of the body parts of the animal within Greek sacrificial ritual. The scholars contributing to this volume not only possess a profound knowledge of the source material, be it literary, epigraphical, iconographical, archaeological, and/or zooarchaeological, but also have a deep interest in ancient Greek religion and particularly in animal sacrifice. A recurrent theme of the conference was the importance of cooperation, most of all between Classical scholars and zooarchaeologists in order to avoid over-simplified and erroneous interpretations of the ancient sources and the anatomy of the sacrificial animals.

The integration of different kinds of empirical evidence follows a long established trend in the study of Greek sacrifice, and several of the participants to this volume incorporate distinct types of ancient sources in their work. The value of such an approach, but also its pitfalls, has been aptly summarized by Folkert van Straten in his seminal work *Hiera kalá* from 1996:

We need a constant feedback between the different categories of evidence (archaeological, epigraphical, literary) to get the maximum of information from them. That is the approach I have adopted. Admittedly an argument based on such mutual feedback carries a certain risk of circularity, but so does riding a bicycle. As long as one is aware of the mechanics involved it need not be fatal.⁶

Following van Straten’s lead, and while remaining conscious of the specific characteristics of separate scientific approaches, we can try to use them in a complementary manner to explore ancient rituals and to point towards new directions of research. The bicycle can even be improved.

On the menu

From the outset, we recognized that a truly exhaustive study of the body of the sacrificial animal was probably impossible. As we have outlined, handling all of the relevant sources at the

⁴ For early work on this aspect of Greek animal sacrifice based on the written sources, see Stengel 1910 and Puttkammer 1912. For recent studies, also incorporating a wider range of evidence, see van Straten 1995; Gebauer 2002; Hermay *et al.* 2004; Ekroth 2014. For particular parts of the body, note for example the following: meat: Berthiaume 1982; Ekroth 2008 and 2011; blood: Ekroth 2005; tongues: Kadletz 1981; intestines: Frost 1999; bones: Ekroth & Wallensten 2013.

⁵ Most notably, the titles of two works by the British chef Fergus Henderson (1999 and 2004).

⁶ van Straten 1995, 9.

same time is a challenging task. More problematically, in a given context, a part of the evidence is often lacking, for instance literary or epigraphic sources that parallel what one may find in the zooarchaeological or iconographical evidence, or vice versa. Rather than steering our contributors towards distinct parts of the sacrificial animal, in the manner of a handbook for example, we exercised some initial guidance but let the experts single out their particular areas of interest. This approach allowed for the possibility of an overlap between two or more contributions, which, in turn, yields complementary or nuanced approaches to the same part of the animal, making use of different kinds of empirical evidence. Not every part of the sacrificial animal is discussed in the volume, as certain limbs or organs were of greater interest for the participating scholars; in antiquity, similarly, interest tended to concentrate on certain body parts over others (e.g. the head of the animal). Some essays also consider multiple body parts, whether for the sake of comparison or to demonstrate their interrelations. Still others have investigated different uses of the animal body, for instance taking it as a whole rather than anatomized.

Four papers touch on various aspects of legs, whether taken alone or in combination with other body parts. **Jake Morton** focuses on back legs in combination with the tail (*Chapter 2*). These are the two body parts central to *thysia* sacrifice, from which bones were burnt on the altar and from which signs were obtained. Applying past training in butchery as a professional cook, Morton is able to innovatively elucidate the division of the carcass and the use of these parts during the ritual. By interpreting ancient texts—such as Sophocles’ *Antigone* (1005–1011) and Aristophanes’ *Peace* (1026–1055)—and Attic vase-paintings, but most of all through an extensive use of experimental archaeology, Morton demonstrates how the back legs and the tail in practice formed an anatomically integrated sacrificial unit, a unity which underlined their religious importance. The butchering was accomplished in three phases: first removing the hind section and the innards (*splanchna*); then, separating the tail from the hip; and finally freeing the femur from the leg. Any sharp knife can be used and the division is a fast and smooth process. Morton’s extensive experiments with burning fat-wrapped thighbones and tails further clarify the written and iconographical evidence. This supports the argument that, just as these parts were removed together, so they were burnt together, thereby optimizing the use of the fire on the altar and the examination of signs. Morton’s experiments also suggest that not only was it easy to accomplish the ritual correctly, it was also simple to understand and to interpret.

Flint Dibble also looks at legs but from a more distinctly zooarchaeological angle, making use of evidence from sanctuaries as well as often overlooked data from settlements in different contexts (*Chapter 3*). From this detailed study of the

bone material, it is obvious that the handling of back legs envisioned from the written and iconographical sources entailed more nuances in real life. Burned lower limbs are evidenced in a number of private contexts dating from the Late Bronze Age through the Hellenistic period, showing that the thighbone was not the only part of the leg which was put in the fire. The ritual significance of this action is hard to discern, but the burning of lower legs (occasionally with elements from the head or horns) could reflect an action found in the *Homeric Hymn to Hermes* in relation to ritual cleaning (136–140). In domestic contexts, the bones show that smaller knives were used for butchering and dividing animals. By contrast, the use of cleavers is manifest on bones deriving from large-scale feasting assemblages, for example at Azoria on Crete. This indicates a form of professional butchery, as such implements require practiced skills. Finally, Dibble discusses the absence of cut marks on unburned femora from the Athenian Agora, suggesting that they were removed with particular care. This practice also suggests the work of professional butchers, whose treatment of these parts in a special manner can be seen as an element of the important spectacle that was animal sacrifice and sacrificial feasting.

François Lissarrague applies a more narrow focus on the lower leg, exploring the presence of hoofs in Attic vase imagery and arguing for their importance as a semantic element (*Chapter 4*). The hoof, a non-edible part of a sacrificial animal, appears in different contexts on 6th- and 5th-century-BC vase-paintings. A first group consists of dogs gnawing a hoof which has been separated from the leg. These dogs are often shown lying under the table or couch in banquet scenes, but they also occasionally appear in representations of hunting and Dionysiac settings. Here, the hoof can be taken as a sign referring back to the division and distribution of the animal at a sacrifice, the dog being at the end of this process of consumption. A second and smaller group, only appearing on red-figure vases, are representations of shield devices showing a bird holding a hoof in its beak, a motif tentatively linked to *bomolochia*, the stealing of parts from the altar. Finally, the author discusses more common representations, in particular in red-figure scenes, of the handling and distribution of back legs with the thighbones removed. On these legs, the hoof is distinctly rendered, which can be taken as a pictorial strategy to clarify what body part is represented but also as a reference to the distribution of meat which followed a sacrifice.

In another paper dealing notably with legs, **Michael MacKinnon** explores the presence of bones from feet and heads in sacred contexts (*Chapter 5*). The chapter treats burned as well as unburned parts, comparing sacred with non-sacred contexts when possible, in order to test the usefulness of the traditional division of sacrificial faunal remains into altar offerings, consumption debris, and butchery refuse. Emphasizing the need for a clear and reflective methodological

approach when comparing different find contexts, MacKinnon points to a number of cultural and natural biases that can affect our interpretations of what is ritual or non-ritual. Among the factors that need to be considered when explaining the distribution of the bones are taphonomy, the fact that certain bones such as teeth and lower legs are better preserved, and the idea that feet and heads may have left a sanctuary while still attached to the hide of the animal (or brought there in the same way). Integrating epigraphic evidence, MacKinnon considers other important aspects of the use of the hides (with head and feet attached or without, cf. notably *I.Didyma* 482), such as tanning, sale, and honorific awards (perquisites for cult personnel or others). Holocaustic sacrifices, the consumption of feet and heads during feasting, and the symbolism surrounding the use, display and role of animal feet and heads in antiquity, should also be taken into consideration. Detailed scrutiny of the evidence suggests that, apart from the use of bones for explicit ritual purposes, i.e. the selection of particular elements to burn on the altar, and regardless of the species, there is little distinction to be drawn between ritual and non-ritual deposits when it comes to consumption debris and butchery refuse. These conclusions should invite us to reflect on what defines a bone deposit as sacred or secular apart from the context of the find.

The importance of the animal's head, touched upon in MacKinnon's paper, is explored in three contributions. **Tyler Jo Smith** looks at the representation of horned animals in pre-kill sacrificial scenes on pottery primarily of Attic origin and from the Archaic and Classical periods (*Chapter 6*). Particular attention is paid to the representation of the heads, in order to achieve a better understanding of how vase painters represented sacrificial animals, as well as to the meaning and significance of heads with horns in the iconography. The importance of the head of the animal, evident from the ancient authors, is confirmed by the iconography. Horned animals are prominent already on the "animal style" vases of the 7th century BC and the consistent position of the heads of the animals in the sacrificial scenes from the 6th century BC emphasize the horns even further. The painters draw attention to heads by representing horn-grabbing or "head-hugging" as a significant part of heroic iconography. Horn-grabbing in sacrificial scenes also indicates a forceful gesture of human control over the animals. The importance of the horns is further brought out by the fact that activities and objects tend to converge around the head of the sacrificial animal: horns, hands, and sticks form "visual clusters". Moreover, animal-head vases underline the importance of this body part, and are suggested to have worked as substitutes for, or symbols of, live animals.

Vasiliki Zachari's contribution looks at the animal's head after the conclusion of the ritual, specifically, in the case of bovines, when the head has been transformed into a *bucranium*,

by being stripped of most or all of its meat and skin (*Chapter 7*). The analysis is based on Attic red-figure scenes where *bucrania* occur, here taken both as entire heads and as merely pairs of horns. The vase painters emphasize the sacred qualities of the *bucrania* by adorning them with bands, recalling the ribbons decorating the sacrificial animals when they are led to the altar. In scenes of butchery, however, the head occupies a secondary place and is treated like any piece of meat. Most *bucrania* appear together with altars, usually represented above the sacrificial installation. This vertical position marks the close connection between these two elements and functions as a sign of temporality, echoing and commemorating past sacrifices in the same sense as the blood stains on the front of the altar. Together with the sacrificial animal and the altar, the *bucranium* forms a tripartite scheme recalling the cyclical and recurrent process of sacrifice. *Bucrania* also occur in red-figure scenes without altars and here they stand in for the altar, marking ritual space and evoking the performance of animal sacrifice. A more distinctly decorative use of *bucrania* does not appear on pottery until the end of the 4th century BC, shortly after which *bucrania* also start to be used to adorn architectural elements and, more frequently, altars.

This cephalic section of the book is closed by **Stella Georgoudi**'s careful analysis of the rich terminology used for the head in literary texts and inscriptions (*Chapter 8*). Words for the head and its different parts (*kephale*, *hemikraira*—a "half-head", *koruphaia*—the "top of the head", *kephalaion*—a rare word for the head), as well as the tongue, the brain, the snout, the ears, and the cheeks are considered. The aim is to clarify their precise anatomical meaning—a far from easy task considering the rarity of some of these terms. Equally importantly, the investigation concerns how and to which divinities and human agents these parts were distributed. The head or its elements were often granted as a priestly perquisites (sometimes while still attached to the hide, see above) but also sometimes to the gods themselves. A sustained comparison between the literary and the epigraphical sources brings out interesting differences as to how the head and its parts were designated and used. For example, Aristotle's works on the animal realm do not make use of the same terminology as the ritual norms recorded on stone, while the particular association between the tongue and Hermes suggested in the literary record cannot be verified in the inscriptions. Even the main term for the head, *kephale*, which is commonly found in epigraphical sources as a part of the animal included in the priestly perquisites, is rarely mentioned in Athenaeus, as if not considered regular food. Even if a complete understanding of the terminology for the head cannot be reached, due to some terms reflecting local usages or representing variations across different historical periods, Georgoudi concludes by emphasizing the importance of considering literary sources together with inscriptions in order to avoid hasty generalizations.

After considering the extremities of the animal—protruding limbs, the head—, we proceed to its center in more than one sense, with two papers looking at the internal organs of sacrificial animals, the *splanchna*. **Bartek Bednarek** finds that the role and importance of *splanchna* at animal sacrifice have not been fully grasped by modern scholars (*Chapter 9*). It is evident from both literary and iconographical sources that the *splanchna*, defined by Aristotle as the heart, lungs, liver, spleen, and kidneys, were seen as distinct from the intestines (*entera*) and the meat. This distinction is underlined notably through the examination of an inscribed regulation from Kos (*CGRN 86, A lines 33–36*). At a sacrifice, the *splanchna* received a special ritual treatment, being roasted over the altar-fire in which the share of the gods was burnt, and they were consumed by a select group of participants, underlining subtle distinctions between those belonging to the inner circle of the sacrifice and those who were more peripheral. From an analysis of the evidence for *splanchna* at sacrifices, Bednarek argues that the handling of these parts is to be linked to the burning of the god's portion. Taken together, these high-intensity actions constituted the communication with the gods. These two actions formed the core of the ritual activity, and to grill and eat a share of the *splanchna* marked a particular moment in the ritual, which was considered as the essence of participating in a sacrifice. Evidence from Homer, Aristophanes, and inscriptions is adduced towards this conclusion. At oath-takings also, textual evidence shows that the handling of the *splanchna* served to underline an intense participation in the ritual. In this sense, the handling of the *splanchna* conveyed a deeper religious meaning than the handling of the rest of the meat, which has been the focus of much scholarship on sacrifice. We should here recall that meat could be devoid of sacred connotations, since all meat eaten did not come from animals which had been sacrificed,⁷ and that the division, distribution and consumption of meat could often carry social and economic connotations, rather than religious implications.

Vinciane Pirenne-Delforge also looks at *splanchna*, in particular at their function as a marker of what constituted a Greek sacrifice, distinct from non-Greek practices (*Chapter 10*). The chapter offers a thorough review of the role of *splanchna* in the literary and epigraphical record, underlining the link between the *splanchna* and the god's part burnt on the altar: both can be called *hierai*, “sacred things”, contrary to the meat consumed after the sacrifice. The assorted *splanchna* could both be eaten by worshippers and offered to the gods as a part of their share; in some places, the *splanchna* were part of the priestly perquisites. In this connection, the paper also addresses the tricky question of whether *splanchna* given as honorific portions, and sometimes placed on sacred tables or “into

hands and knees” (presumably of divine statues), were roasted or left raw. Finally, the recently published Hellenistic cult regulation from Marmarini in Thessaly (*CGRN 225*) is discussed, which attests to a sacrifice performed “according to the Greek norm”. In order to make clear what a Greek sacrifice entailed at this sanctuary devoted to a goddess of Near Eastern origin, the parts to be burned in the fire (*hierai*) are listed and the organs constituting the *splanchna* are specified, as well as the fact that they are to be cooked. The conclusion that emerges is that the burning of a part of the sacrificial animal for the gods and the handling of the *splanchna* in a particular manner constituted the essential characteristics of a “Greek way of sacrificing”. Accordingly, it is correct to speak of a basic mode of “Greek sacrifice” (a *thysia* sacrifice), which is not invalidated by the local traditions and variations that we encounter in the epigraphical evidence.

The two final papers addressing Greek evidence approach the body of the sacrificial animal more as a whole than in its anatomical parts. Blood—a tissue and fluid coursing through the whole body—, together with its role and its use at animal sacrifice, is investigated by **Jennifer Larson** (*Chapter 11*). This research applies a cognitive approach, according to which certain ritual techniques are predicated on a substrate of intuitive beliefs, which are held without conscious reflection. A specific focus is the identification of the conceptual models that allow practitioners to infer that their methods were efficacious during rituals which emphasized the shedding of blood of the sacrificial animals (known as *sphagia* in such a case). Following the agentive model, the blood during the *sphage* (blood-ritual) was used to facilitate interaction or reciprocity with a god or a hero, to influence their mental state for a particular purpose, and to discern their intentions, for example during divination. According to the mechanistic model, on the other hand, the state of mind of the divinity was of little or no importance. Often, for example at purifications or rituals of aversion, there was no specific divine recipient and the blood cannot be seen as an offering. Instead, the blood was used to achieve a result automatically through sympathetic magic. A close review of the ritual contexts where blood was a central component shows that a dual activation of both of these models can be discerned in rituals before battle, oaths, and some types of purifications. This co-existence of agentive and mechanistic models is also evidenced from the use of dual sets of animal victims or an animal and a non-animal offering, such as water.

Gunnel Ekroth's paper discusses the handling of the body of the sacrificial victim at rituals where the entire body was burned: holocausts (*Chapter 12*). A review of the written and archaeological evidence indicates that such rituals were rare among Greek sacrifices. A detailed exploration of the concrete execution of holocausts suggests that the animal body was not always intact when put on the fire and that the carcass

⁷ Cf. Ekroth 2007; Parker 2010; Naiden 2013, 241–250.

may have been flayed, emptied of blood and intestines, and even sectioned before being burned. The fact that holocausts did not necessarily entail the burning of a complete animal has implications for how we are to understand the burning at moirocausts, that is, sacrifices during which a larger part of the animals was burnt than at a *thysia*; moirocausts are evidenced both in the written sources and the zooarchaeological record. In fact, the use of fire at animal sacrifice varied. It could entail the complete destruction of the animal's body, though not always as a whole carcass; the burning of a substantial part of the meat or intestines, but not of the entire animal; or the select burning of particular bones and fat that characterizes a *thysia*. Finally, the ancient evidence for holocaustic burning is discussed in light of an experimental cremation of a lamb and a pig, both intact and unflayed. Considering the substantial amount of time it took to burn the bodies completely, it is argued that Greek holocausts, especially when performed in combination with *thysia*, may have aimed at burning the meat to such an extent that it was unfit for human consumption rather than at completely annihilating the body in the fire. However, a prolonged ritual may also have been desired as it fulfilled a particular purpose when performed in contexts of crisis and purification or for recipients with links to death and pollution.

Seeking to further enrich our investigation, we also sought out experts in other religions of the ancient Mediterranean world to discuss the papers at the conference. We are delighted that they have responded positively to an invitation to contribute this volume, now lending their expertise through research focussed on other areas, which offer many possible reflections on Greek sacrifice. Addressing cultures beyond the Greek world, the three resulting papers create productive counterpoints to the others, underlining both commonalities and differences in the practical use and the conceptual role of animal portions in sacrificial ritual.

An Anatolian perspective is provided by **Alice Mouton** (*Chapter 13*). Mouton offers an overview of rituals involving the burning of animals or body parts found in Hittite texts dated from the 17th to the 12th centuries BC. Based on a review of 22 Hittite cuneiform texts, the chapter discusses the terminology, the concrete actions, and the reasons for performing rituals at which the offerings are burnt, as well as the interaction between different Anatolian traditions. Animals, such as cattle, horses, sheep, goats, piglets or birds could be burned whole or parts of their bodies, such as the heart, the fat, the bones or the hide, could be put in the fire. Some of these rituals took place in the porch of a temple or even inside the building, while others made use of a ritual pit through which communication with the deity was created. Why such rituals were performed is not always evident from the texts but a broad variety of ritual settings can be noted. Invocations

of deities made use of burnt sacrifices, serving both to attract and honour them, or to send the offerings to the beyond. The relationship between burnt sacrifice and substitution is also prominently observed in connection with purification and the curing of diseases, in particular for royalty. Other ritual contexts involve getting rid of pollution and handling a divine recipient's anger by burning it away, as well as thanksgiving-offerings made to the gods in connection with military campaigns. Since many Hittite texts deal with burnt animal sacrifice, this material is of great interest for the study of Greek animal sacrifice, which also focusses on burning selected portions (*Chapter 2*) or the entire animal (*Chapter 12*). More broadly, this opens the consideration of transfers of ritual procedures from Anatolia to the west or at least of possible adaptations of such procedures.

Jonathan Greer provides an overview of the “fellowship offering” (*šəlamim*) in ancient Israel *c.* 1000–500 BC, with the explicit aim of describing the ritual in a manner that is useful for Classicists, as a point of comparison with the Greek and Roman sacrificial systems (*Chapter 14*). The empirical evidence used is textual, but also archaeological and zooarchaeological, foremost the remains from Tel Dan. With regard to these sources, the chapter also includes a discussion of the complex questions surrounding the date of the biblical texts, namely the Hebrew Bible and the Septuaginta. Focussing on reconstructing the ritual, and through a close comparison with the archaeological evidence, Greer demonstrates that the biblical texts relate to actual ritual practice. For example, the written sources' emphasis on the fact that the selected animal had to be “without blemish” is supported by the bone material. Furthermore, the isotopic study of the animals found at Tel Dan suggests they were raised and grazed in the immediate vicinity, indicating the existence of special flocks kept for sacrifice, which facilitated the control of their purity. Evidence for slaughter, including an “altar kit” consisting of a bowl for collecting the blood, shovels, and a container with ash from animal remains, match the descriptions in the Hebrew Bible of activities at the altar of the temple in Jerusalem. Butchering, little described in the literary record, is clearly demonstrated by the bone material to have taken place within the temple precinct at Tel Dan. The zooarchaeological remains further allow for the identification of separate areas of activity for priests and for common worshippers at this important site. They also reveal traces of butchering and of the preparation of food that involved boiling chopped-up portions, which recalls the cooking methods prescribed in the biblical texts.

In the final paper, **Katie Rask** provides a much-needed survey of Etruscan ritual practices for the division of animal bodies (*Chapter 15*). These have received considerably less attention compared to those related to Greek animal sacrifice. In this discussion of Etruscan sacrifice, Rask applies a framework which highlights the multifaceted patterns of the manipula-

tion of the animal's body. These gestures were used to bring out the religious potency, symbolism, and social significance of the various parts concerned. The literary, epigraphical, and iconographical evidence is reviewed and evaluated, with particular attention paid to the zooarchaeological remains and their contexts. After killing, the body of the animal was processed and divided, allowing for a range of different uses in the interaction with non-human powers. Animal skins occupy a special role, which is closely associated with the figure of the *haruspex* who is depicted wearing an animal hide, while the importance of skulls is clear from their representation—displayed on altars or tables—and from the special treatment of cranial parts found in the archaeological record. Division into meat-bearing portions as well as the cooking of meat is indicated both by the bone material and the iconographical evidence. Etruscan imagery and Roman texts suggests that inner organs served important divinatory functions, while the construction of altars could point to a particular use of the blood, a practice which hopefully may be confirmed by residue analysis in the future. By orienting the Etruscan evidence within the empirical and theoretical understanding of Greek ritual practices, Rask aptly closes the circle of contributions in this volume.

Where next?

In Uppsala, the conference was followed by a traditional Swedish *Julbord*, the Christmas version of the *Smörgåsbord*. This rich and complex meal includes the consumption of a range of dishes, but was and remains traditionally centred on the pig which was slaughtered for Christmas. All parts of this animal are to be prepared and placed on the *Julbord*: hams and ribs, the flanks prepared as brawn (a cold cut terrine or meat jelly), the grilled head including the snout, the grilled trotters, sausages made of meat and of blood, and a *pâté* of the liver. As we have readily admitted, the proceedings published here are an inevitably partial survey of the anatomy of the ancient Greek sacrificial animal, but we hope that they may pleasingly echo such a feast, providing both substantive nourishment for research and food for further thought. The investigation of the handling of the body of the sacrificial animal within Greek religion is far from completed by this volume. There are still body parts left to explore, for example, the fat of the animal, specific inner organs such as the heart, or certain anatomical sections such as the breast or the back. More importantly, the interconnections between different portions of the carcass remain to be studied more fully—how these were significant in butchery, in sacrificial ritual, and in other uses of the animal.

Since the whole is demonstrably greater than the sum of its parts, there thus remain a number of broader questions to tackle. As is well known, gathering a group of scholars to ad-

dress and answer particular questions will typically give rise to new ones as well. In this spirit, we would like to conclude by offering some suggestions for further research within the field of Greek sacrifice, particularly with regard to the handling of the animal.

The use of animals in private religious practices in antiquity, particularly in non-sanctuary settings, remains understudied. For example, we do not know to what degree animals were sacrificed at home or if this was an action preferentially carried out in a sanctuary, as such a location facilitated the communication with the gods but also made the ritual more visible.⁸ The written sources are few and it is not clear to what extent Attic vase paintings showing rituals can be interpreted as representing domestic settings. However, animal bones from settlements indicate that there were differences between private and public contexts in terms of the ritual handling of the body of the sacrificial animal: how the carcass was butchered and to what degree the bones bear butchering marks.⁹ The zooarchaeological material is essential for the understanding of private ritual actions at home, but sanctuary contexts still remain overrepresented in our evidence, a situation which hopefully can be remedied by future fieldwork. Linked to the question of private religious practices is the complex issue of how one can decide if a body part, whether described, depicted or present in the form of bones, may be considered as sacred or as non-sacred (“profane”).¹⁰ Evaluating context is essential in this process.

The degree to which the ancient evidence reflects pan-Hellenic or specific and local sacrificial practices also needs further consideration. Is it correct to speak of common patterns for understanding Greek sacrifice, despite all the diversity of evidence? Paraphrasing Herodotos, can one of the defining factors of “Greekness” be said to be sacrifice (*thysia*), and can this be viewed as cohering with the definition of a sacrifice according to the “Greek norm”, evidenced in the recently published cult regulation from Marmarini?¹¹ This interplay between animal sacrifice as a practice performed in a manner common for all Greeks and as a ritual embodying, or being used to bring out, local idiosyncrasies would profit from

⁸ On the evidence for animal sacrifice in domestic settings, see Ekroth 2017.

⁹ For efforts to investigate domestic or other non-sanctuary contexts, cf. here Dibble and MacKinnon, *Chapters 3* and *5*.

¹⁰ Several of the papers here broach this question in different ways: in *Chapter 4* Lissarrague considers sacred and non-sacred contexts for the consumption of the hoof; in *Chapter 5* MacKinnon provides a zooarchaeological analysis which raises the issue of “sacrality” in a broad perspective; in *Chapter 7* Zachari notes that a *bucranium* can serve as a marker of sacred (altar) space.

¹¹ Hdt. 8.144.2 (common *thysiai* stressed in a reported speech of the Athenians). For the Marmarini cult regulation, see Decourt & Tziaphalias 2015; Parker & Scullion 2016; Bouchon & Decourt 2017; *CGRN* 225. Cf. Pirenne-Delforge in this volume, *Chapter 10*.

further studies. In particular, we need to reflect on how we can treat the available ancient evidence in all of its diversity. Ancient authors often speak of animal sacrifice on a general level, which tends to imply public contexts such as sanctuaries. They only occasionally acknowledge local variations and private practices, which must have been essential for the people performing the rituals.¹² Moreover, some of our evidence is locally circumscribed. Athenocentrism remains a problem, since most of the iconographical and a large part of the epigraphical sources originate from Athens and date from the 6th to 4th centuries BC.¹³ Conclusions based mainly on this material could potentially reflect an understanding of Athenian rather than of Greek religion.¹⁴ The zooarchaeological material demonstrates that the sacrificial patterns known from Athens were repeated at other locations but also that there were alternative ways of butchering and burning.¹⁵ Such local ritual practices can be distinguished from the epigraphical evidence as well, and need to be explored to a greater extent in connection with the animal bones.¹⁶ We need to carefully reflect on the validity of generalizing from evidence deriving from a particular geographical and chronological range. This point ties into the broader methodological issue of how to reconcile our different pieces of evidence—literary texts, inscriptions, images, and animal bones—with all of their attendant problems; in short, implementing van Straten’s famous challenge of learning how to “ride the bicycle.”¹⁷ This is a central issue which is consistently raised in this volume and which remains at the core of the challenge of deepening and broadening our understanding of Greek sacrifice.

The amount of evidence available is also an important factor in the pursuit of these investigations, namely whether this evidence will be or can be increased. The literary evidence for animal sacrifice is more or less constant and the iconographical material is augmented only at a slow pace. The epigraphical material can become enriched in a remarkable manner, even with a single inscription: this is the case with the new ritual norm from Marmarini in Thessaly.¹⁸ Apart from increasing the empirical evidence from certain

contexts, such as zooarchaeological material from domestic settings, experimental archaeology can be used to contribute new information regarding the butchering and burning of the animal.¹⁹ Complementing visual and written depictions, practical tests involving burning fat-wrapped bones have yielded a better understanding of how ancient humans determined the gods’ reactions to the sacrifice.²⁰ To cite only another example, altars made of horns, mentioned as extraordinary in ancient texts, have been explained by practical experiments, which show that they can easily be constructed if the goats’ heads are butchered so that the result will be a pair of horns.²¹ Although experimental archaeology has had a mixed reception among scholars over the years, it can be a useful tool in expanding our understanding of ancient animal sacrifice, as long as the methods are clearly considered and presented in order for the results to be valid.

One of the more promising areas of future study is to orient Greek animal sacrifice in a broader chronological and geographical setting. The evidence for animal sacrifice within the Aegean Late Bronze Age is constantly increasing, and some contexts, such as the ash altar on Mt Lykaion, show that the burning of thighbones and tails characteristic of historical *thysia* sacrifice was practiced at least from the end of the Mycenaean period.²² On the other hand, some Late Bronze Age zooarchaeological assemblages emphasize different sections of the body than those found in the deposits from the historical period, as well as other species and other degrees of burning.²³ The question of how the Bronze Age rituals relate to the sacrificial actions found in the Homeric epics and evidenced in the historical period, what was inherited and what was new, would profit from being revisited in light of this growing body of evidence.²⁴

Even if the burning of specific bones during animal sacrifice seems to have been a practice particular to the area of the Aegean, Greek animal sacrifice did not exist in a vacuum and the complex issue of relations between Greek ritual practices and those of neighbouring cultures certainly needs more work. Some attempts have been made earlier, and a few further steps

¹² See the distinctions between the literary and epigraphical sources brought out here by Georgoudi in *Chapter 8*.

¹³ The Athenian evidence clearly dominates both van Straten’s (1995) and Gebauer’s (2002) major studies of the iconography of sacrifice.

¹⁴ For work on sacrifice based on material from other locations, see Scheffer (1992). Cf. also Smith’s contribution in this volume, *Chapter 6*, which tries to make use of as wide a variety of iconographical sources as possible. On the possibilities offered by the richness of the Athenian evidence, see Parker 1996 and 2005.

¹⁵ Cf. again Dibble and MacKinnon, *Chapters 3 and 5*.

¹⁶ For a discussion of the homogeneity or heterogeneity of inscribed ritual norms, arguing against deeper or substantive regional differences in Greek sacrificial practice, see Parker 2018.

¹⁷ van Straten 1995, 9; see above (with *note 6*) for the relevant passage.

¹⁸ *CGRN 225*. See above with *note 11*.

¹⁹ For bones from domestic settings, see Dibble and MacKinnon in this volume, *Chapters 3 and 5*; for practical experiments, cf. the contributions by Morton and Ekroth, *Chapters 2 and 12*.

²⁰ Morton 2015. These experiments also suggest that the main phase of the *thysia* ritual was brief, lasting no longer than 15 minutes.

²¹ Forstenpointner 2000; Forstenpointner *et al.* 2013.

²² For the evidence from Mt Lykaion, see Starkovich *et al.* 2013, 508–511; Romano & Voyatzis 2014, 569–652, esp. 614–615; Starkovich 2014, 644–648; Romano & Voyatzis 2021, 4–7. See also the material from Kalapodi, where sacrum bones and tails are lacking in the Late Helladic IIIC levels: Felsch 2001, 196–197.

²³ Pylos: Isaakidou *et al.* 2002; Halstead & Isaakidou 2004. Methana: Hamilakis & Konsolaki 2004. Iklaina: Cosmopoulos 2015. Eleusis: Cosmopoulos & Ruscillo 2014.

²⁴ For a discussion of burnt animal sacrifice in Mycenaean cult, see Whitaker 2007 (now modified by more recent discoveries).

are taken in this direction in this volume by specialists on the ritual practices of other cultures.²⁵ The possible influx or influence of rituals from Anatolia during the Late Bronze Age and Early Iron Age warrants further study.²⁶ The similarities in the burnt animal sacrifice between the Greeks and the Israelites are particularly intriguing, although the fundamental differences should not be overlooked.²⁷ Greek links with the Levant need to be taken into consideration as well. The new ritual norm from Marmarini, which lays down the ritual actions within a cult of Near Eastern deities in Greece and defines what is called a “Hellenic” sacrifice, shows that there was an awareness of distinct ways of treating the animal’s body that corresponded to different cultural and religious contexts.²⁸ Finally, the relation of Greek rituals to Etruscan sacrifice is also of interest.²⁹ Considering the number of Attic vases exported to this region, which often included scenes of sacrifice, how were these images perceived and understood in an Etruscan context? It has been suggested that certain motifs were preferred by the Etruscan buyers or even commissioned by the Etruscans, but the role of sacrificial scenes in this material should be carefully evaluated.³⁰ Similarly, the connections between Greek and Roman animal sacrifice, if any, also merit further consideration.³¹

In sum, Greek animal sacrifice deserves to be studied in a wider variety of contexts, both analytically and holistically. By taking the full range of evidence into account while keeping in mind the idiosyncrasies of each category, by evaluating similarities and differences, and by adopting alternately a specific focus or a broad chronological and geographical approach, this volume contributes to the ongoing process of elucidating an ancient ritual in all of its coherence yet complexity, while also pointing the way towards new directions of research.

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²⁵ See the contributions by Mouton, Greer and Rask, *Chapters 13, 14 and 15*.

²⁶ For examples of such possible influences, see West 1997, 33–60; Collins 2002; 2006; Bachvarova 2016.

²⁷ Ekroth 2018. One example of an evident difference between Greek and Israelite sacrifice is that, while the Greeks would eat the blood of the animal, this is strictly forbidden in the Hebrew Bible.

²⁸ This is also clear from Dionysius of Halikarnassos’ description (1.30.3–4) of Greek in contrast to Roman sacrifice, as discussed by Pirenne-Delforge in this volume, *Chapter 10*.

²⁹ A first important step has been taken here by Rask, *Chapter 15*.

³⁰ See Gebauer 2002, 341–351, on scenes of the inspection of the liver being targeted for the Etruscan market. For further recent studies in this connection, see Bundrick 2014, 657, 660; 2019.

³¹ For Roman sacrificial ritual, see the work by Prescendi 2007; Schultz 2016; 2018 and MacKinnon 2023. Schultz is presently exploring Roman sacrifice in detail, including the Roman view of Greek ritual as well as other foreign rituals.

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