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# Raptor on the fist: falconry, its imagery and similar motifs throughout the millennia on a global scale – a synthesis against a broader background

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## INTRODUCTION

Falconry is the taking of quarry in its natural state and habitat by means of trained birds of prey (definition by the IAF [International Association for Falconry and Conservation of Birds of Prey]: [www.iaf.org](http://www.iaf.org)); a practice which, it can be assumed, developed from the observation of nature and was passed from one generation to the next. Falconry is a way of hunting, but also a form of art: *de arte venandi cum avibus*, as stated by the most famous falconry author of all times, Frederik II of Hohenstaufen. The time and place in which falconry originated remain, so far, unknown, but the earliest falconry practice can, from both pictorial and written evidence, be traced back to Han Dynasty China about 2,000 years ago. There is reason to suggest that falconry in the eastern part of the Eurasian steppe goes back to the first millennium BCE, if not to earlier times. However, it is quite possible that falconry was invented more than once. Ultimately, it is a special facet of the multi-layered relationship between bird (raptor) and human, which is many millennia old and is, one may presume, considerably older than falconry. As this book shows, there is imagery that reflects hunting with trained birds of prey beyond any doubt, but there are also similar depictions with no falconry connection. Put simply, a human with a bird of prey on his/her fist is not necessarily a falconer. There is also the widespread depiction of isolated birds, rarely with any link to falconry.

What is written below is a synthesis for the present publication (= second book from Schleswig [and Abu Dhabi]) on falconry, its imagery and similar motifs against a broader background. Author names in small caps (without year) refer to papers in the present publication. In turn, author names in small caps + 2018 relate to articles in the previous work (= first book from Schleswig) on falconry and bird symbolism. ZBSA stands for Centre for Baltic and Scandinavian Archaeology (Schleswig, northern Germany) and NYUAD for New York University Abu Dhabi (United Arab Emirates).

THE WAY FROM THE FIRST TO THE SECOND BOOK (GERSMANN/GRIMM 2018; GRIMM 2020, IN COOPERATION WITH KARL-HEINZ GERSMANN AND ANNE-LISE TROPATO)

Both books go back to workshops (ZBSA 2014; NYUAD 2018), but the publications were considerably extended, the result of a cooperation between falconers and scientists from many different backgrounds. The first book (GERSMANN/GRIMM 2018), with around 100 articles, provides a very broad look at pre-modern falconry and bird symbolism, whereas the second one (GRIMM 2020, in cooperation with Karl-Heinz Gersmann and Anne-Lise Tropato), with c. 50 papers, focuses on falconry, its

imagery and similar motifs, again for pre-modern times. The image analysis follows the general impression, formed from the texts in the first book, that in earlier times there was bird/raptor symbolism in a period before falconry, whereas in younger times (archaeologically, art-historically), falconry was never just falconry; there was often a symbolic meaning attached.

The present book has four main sections (following the synthesis in chapter 1):

- Chapter 2: introduction and methodology – actual falconry, raptor biology, the importance of birds/raptors in human history and religion, the art of image analysis in more general terms and, as a necessary case study, the consideration of shamanism (in not less than three contributions by H. NUGTEREN and M. KNÜPPEL, which aim at the area of origin of the term in northern Eurasia or, to be more precise, address the Tungusic language of Ewenki that is spoken in parts of Siberia);
- Chapter 3: bird/raptor imagery in a period before falconry (this goes back millennia in time, but in other instances it also relates to the first millennium CE or even later);
- Chapter 4: early falconry images in archaeology (mainly first millennium CE, Europe, Arabia, Eurasia, and East Asia);
- Chapter 5: younger falconry images in art history (mainly second millennium CE in the same region as mentioned before).

At the end of the book, there are two small sections:

- Chapter 6: splendid late falconry books from the end of the 19<sup>th</sup> century;
- Chapter 7: future databases on falconry images.

EARLY RAPTOR-HUMAN ENCOUNTERS: BIRDS IN THE SKY, HUMANS BOUND TO EARTH (CHAPTERS 2–3; CHAPTER 3 IN THE PREVIOUS BOOK)

Raptors and humans have had encounters as far back as human history goes; the earliest picture that comes to mind is one of a human looking up to the sky at day time, following the flight of raptors with admiration, for the bird could achieve what no human was meant to: mastering the sky, but also hunting other birds or land-based mammals in a breathtaking manner. Early human beings learned from the observation of nature that the flight of vultures indicated carcasses, a possible source of food for hunter-gatherers (BEDNAREK 2018). Much more far-reaching was the human's wish to transform into a bird, to take its position as a dominating force in the sky: "I am eagle" (title of the paper by S. OEHRL) or "becoming bird" (likewise, R. FERGUS). Shape-shifting into a raptor is a belief encountered in a series of papers in the book (see above; cf. HULL, VON DER OSTEN-SACKEN, WARBURTON, etc.).

Humans also looked at the sky during the hours of the night and formed the signs of the zodiac and other constellations in their mind's eye, including a reference to the eagle, but with the falcon and goshawk missing. It is a fascinating story, which is also thought-provoking with regards to falconry, that the constellations identified by the Sumerians in Mesopotamia six millennia back in time (at the maximum) were transmitted/transformed via ancient Greece and Arabia before being received (or rather received again) in Europe, where 16<sup>th</sup> century Dutch sailors added new constellations for the southern hemisphere (PETRISCHAK).

What has been described above – the overwhelming of humans by the celestial – may have happened tens, if not hundreds of thousands of years ago, but there will probably be no chance of ever finding conclusive proof for this. Among early indicators of bird-human encounters are bird bones found in human occupation layers. However, only partial or entire bird skeletons are noteworthy; isolated bones would have only very limited evidential value. A place of particular interest for early bird-human contact is the Hohler Fels (cave) in south-western Germany: the Palaeolithic carving of a duck on mammoth ivory that was found there is a little more than 30,000 years old; yet predating this by some thousands of years is the oldest flute on earth, made of a griffon vulture long bone

(WARBURTON, fig. 2; cf. WARBURTON 2018, fig. 4). Another icon for early bird-human encounters is the cave art at Lascaux (France), half as old as the finds just mentioned, where “a dying human has mortally wounded a bison, whereas a bird stands on a vertical staff nearby” (after WARBURTON 2018, fig. 3).

The so-called “Fertile Crescent” in the Middle East was a centre of early domestication, early farming and early nation-building from 10,000 years BCE, and there was also a widespread use of bird imagery, ranging between wild birds of prey and “harmless birds”, depending on the periods/regions (WARBURTON and VON DER OSTEN-SACKEN; cf. WARBURTON 2018). Among the early finds, there is the burial of a woman (shaman?) in Israel, c. 12,000 years old, which included the wing tip of a golden eagle. In turn, ancient Egypt provides an early example of a raptor, the Horus falcon, which was connected to state ideology (see further below on political iconography and the role played by raptors and falconry).

Early pictorial art is often associated with rocks and caves, but – rather surprisingly – the areas considered in the book have provided only rare occurrences of raptors (cf. articles in chapter 3). India, for example, is rich in peacock images, loaded with religious meaning in Hinduism that continues into modern times, with the peacock being the national bird (DUBEY-PATHAK/CLOTTE). Remarkably, in a period before falconry and be it cave/rock art or bird figurines, sometimes – again – only “harmless birds” found artistic attention, whereas raptors were largely ignored although they were present in the areas in question (LAZARICH/GONZALES, KASHINA/EMELYANOV, and others in this book). It probably goes too far, however, to see an “image taboo” at work here.

Mongolia seems to provide the oldest rock art that shows humans, raptors and potential prey. This imagery might be as much as 5,000 years old, when nomadic life with a particular emphasis on horses was born in parts of the Eurasian steppe (ULAMBAYAR 2018). These images, however, cannot be accepted as irrefutable proof for hunting with trained birds of prey since there is no immediate bird-human interaction and even less falconry equipment. There is a need to bring together birds depicted in early rock/cave art in a systematic way; sadly, this turned out to be impossible in the present book.

Alongside archaeology, there are other potential ways to look back on pre-modern times. The famous Greek historiographer, Herodotus (5<sup>th</sup> century BCE), in his writing on the Scythians, a widespread tribe in the western part of the Eurasian steppe, has no knowledge of falconry (NAGLER). Yet another record, written down as late as the early 19<sup>th</sup> century, but reflecting a narration, the Nart Saga, transmitted orally since times immemorial, may yield religious texts and behavioural norms of the Scythian military aristocracy. The eagle, notably a personification of a Supreme God of the Nart pantheon, is always referenced as a magician and is also present in the main narration about the forefather of all Nart-warriors (NAGLER). So, how far back in time does this saga really reach?

Remarkably, raptor imagery as known from indigenous groups in North and Central America, Central Asia and Australia can be approached and read on the basis of still-existing local traditions, even if there is a need to assume a somehow sceptical attitude about presumed millennia of unbroken transmission. What is recorded today, or has been recorded rather recently, may only be the result of transformations of a traditional core that can no longer be reconstructed (see the critical attitude by KNÜPPEL when discussing the role of the eagle in Siberian folk religions).

In any case, the aforementioned Nart Saga might give some idea about the reading of the rather frequent raptor imagery in the so-called “Scythian animal style” of the Eurasian steppe (NAGLER). Regarding indigenous populations in the USA, Canada and Meso-America, raptors played a role in connection with costuming, ritual, and healing practices (FERGUS, HULL; cf. also HULL et al. 2018), one visual icon being the image of a Maya leader in a bird costume, perhaps linked to the belief of a human becoming a bird (FERGUS, fig. 12). In Australian rock art, raptor images are relatively rare but are linked to powerful Ancestral Beings, as indigenous traditions record (TAÇON).

In contrast to the encounter of wolf and human, one between social beings for mutual benefit, which led to the close dog-human relationship (e.g. SCHMÖLCKE 2013; VANG PETERSEN 2013), the history of raptors and humans was quite different. Humans have long admired the bird's flying and hunting abilities, but the birds that sometimes may have followed people in the hope of finding flushed game, were not social beings that felt attracted to humans. Undoubtedly, the first step to breach the lack of contact was made by humans. The most obvious case at hand is the human hunter who sought to achieve an understanding with a bird of prey, a natural born hunter/killer with highly efficient abilities, such as the falcon's stoop at very high speed when hunting other birds, or the goshawk's quick initial acceleration when trying to kill other birds or mammals (GAMAUF; see also the falconers' contributions in both books).

The falconer's way to build a bond of trust with the bird of prey is through food, which is offered on the gloved hand of the falconer. The very first time she (often the females of a species are chosen because they are larger than the males) eats from the glove, either straight away or after a while, the initial step of the training has started (see WILLIAMS for an introduction into falconry; see also HAGEN for the view of a newcomer).

But beware: patience is asked for; the bird does not accept any "misbehaviour" by the human. In a way, the bird that remains undomesticated in the strict sense of the word behaves opportunistically, as it takes the chance to have easy prey available from the hunter's hand. The bird goes hunting with the falconer and not the other way around; this is how falconers describe the relationship between bird and human during the actual hunt. The complex emotionality of the falconer ranges between euphoria when the bird turns in a spectacular flight in the pursuit of prey and the actual fear of losing the bird (BEDNAREK 2018), while the hunter and the hunted display the old drama of "survival of the fittest". Briefly, raptor and human come together as companions, a term coined by the well-known zoologist and ethologist K. LORENZ (1935).

#### VENERATED VS. TRAINED BIRD OF PREY (CHAPTERS 2–5)

In the two books from Schleswig (and Abu Dhabi), venerated and trained birds of prey have been considered throughout human history. What is quoted below – from J. NOLLÉ, this volume – relates to the ancient Greek and Roman world, but is likewise important for other periods of time and other regions: "[...] the predatory birds' proximity to the divine sphere and especially their embedding in religious and mythic traditions may be one of the most important reasons for the Greeks' and Romans' reticence to use such birds for hunting. People who had internalised Greek and Roman cultural traditions must have understood such a use of birds of prey as some kind of impiety, if not as an act of sacrilege: It ill behoved men to use falcons or eagles, the birds of Artemis and Zeus, for human purposes. It could be understood as a kind of self-deification. Therefore, it is very likely that only the rise of Christianity and the decline of the traditional religion opened up a wider path for using birds of prey for hunting." This is a strong argument that may well be transferred to, for instance, ancient Egypt, its pharaohs and Horus falcons (WARBURTON; WARBURTON 2018) and to other regions. Thus, it remains to be proven if there was any "holy hunt" and, connected to it, the use of venerated but trained birds of prey for hunting (briefly NAGLER and ILYASOV for Central Asia; cf. KEEN 2018; see also GÖRKE/KOZAL 2018 for the Hittite Empire).

UNESCO has acknowledged falconry as a living human heritage and thus placed it on the Representative List of the Intangible Cultural Heritage of Humanity (cf. in the following GERSMANN 2018). However, there is not just one kind of falconry that still exists in dozens of countries, since falconry takes different shapes, depending on the local landscape and the given bird species, be it the hunting birds or the prey. As has been argued on the basis of practical falconry, it is a short progression from observing raptors in nature to the idea of becoming involved in the hunting of such birds. If one follows this understanding, the classic attempts to locate just one area of invention must fail. Among others, H. EPSTEIN (1943, 497) – notably, being one of the most original falconry historians (see JACOBI 2018) – has considered falconry as an advanced way of hunting originally attached to advanced civilisations in the Middle East, like the ones in Mesopotamia, whereas J. WARMBIER (1959, 111–121), in his little known unpublished Ph.D. thesis, has favoured the mounted nomads of the Eurasian steppe.

Undoubtedly, Central Asian and Arabian falconry reflects an intact old tradition whereas, for instance, in large parts of Europe or Japan, classical falconry as a privilege of the nobility died out in the 19<sup>th</sup> century (see contributions in both books). Thus, Central Asia and Arabia could be considered as old focal points of falconry. There is a need, however, to gather all pieces of evidence at hand, be they archaeo(zoo)logical, written or pictorial (see again numerous texts in both books, including DOBIAT 2018 [fibula from Xanten, Germany, c. 600 CE] and PROFANTOVÁ [strap end of a belt from Moravský Svätý Ján, Slovakia, second half of the 8<sup>th</sup> century CE] on finds from Europe which may echo falconry of the steppe).

It is important to keep in mind that the steppe cultures have left no written records of their own, it was rather strangers, foremost Herodotus (on the Scythians in the western part of the steppe) and Marco Polo (on the Mongolian Great Khan, thus in the steppe's eastern part), who shed light on the area. The latter has left a description of Imperial hunting that includes the incredible number of 10,000 falconers (section XCIV). However, it is also mentioned by Marco Polo that falconry could be conducted by everyone within a certain distance (20-day trips) of the Imperial court. Thus, two extremes are captured here: the Imperial hunt and the common hunt.

On the Eurasian steppe, with its nomadic way of life, the horse was used for general travel and transport, and was also used as a draft animal, meat/milk provider and for herding, battle and war. Historically, hunting with eagles from horseback, including the use of dogs, was restricted only to certain parts of the steppe (KEEN 2018; SOMA 2018; ULAMBAYAR 2018). However, this kind of hunting was probably rather widespread as falconry had a largely practical value – foxes and wolves were hunted for their fur and the latter also for the protection of herds, which included sheep and goats. As a by-product of fur-gaining and herd-protection, the meat of the game was probably consumed (personal communication Karl-Heinz Gersmann).

This is in considerable contrast to the falconry conducted in other areas, since in Europe and northern Africa, Arabia and Persia, India, China, Korea and Japan, horse-riding in the context of self-representation, hunting and war was rather the reserve of an upper social class, and so was falconry, with the actual “manning” and daily care of the birds carried out by professional falconers (see below). In addition, falconry had only minor practical significance for food procurement and none for the acquisition of raw materials. For Europe, however, the term “kitchen bird” for the goshawk indicates that the quarry hunted by trained birds of prey also contributed to the menu card.

According to present knowledge, falconry can be traced back c. 1,500 years to late pre-Islamic times for Arabia and Persia (OLSEN and PINTO; cf. AKASOY 2018; DARYAEE/MALEKZADEH 2018; SCHAPKA 2018; YULE 2018), and the same age is given for large parts of Europe, northern Africa, Korea and Japan (GRIMM/GERSMANN 2018: summary). In turn, Chinese Han Dynasty falconry is almost 2,000

years old, with no reasonable doubt (WALLACE; cf. WALLACE 2018), whereas the testimonies seem to be older for the Eurasian steppe, with a presumable dating to the first millennium BCE in its more eastern part, if not to even older periods of time. A key find as regards the early falconry of Eurasian nomads, the depiction of a rider with a bird of prey on his fist on a belt mount, comes from a burial in north-eastern China and is c. 2,200 years old (WALLACE 2018, fig. 15). Strictly regarded, however, although this image is a piece of evidence, it does not provide such firm proof as the one from Han Dynasty China. A little older are two richly furnished kurgan burials from Kazakhstan, which also yielded birds of prey, in one case the remnants of not less than four golden eagles (NAGLER; cf. KOSINTSEV/NEKRASOV 2018; YABLONSKI 2018). In this case, it will have to remain open whether these graves can really qualify as “falconry burials” (see below on Sweden, Norway and Central Europe).

In the present context, Ctesias’ *Indica* has to be recalled, c. 2,500 years old and written down at the Achaemenid court in present-day Iran. This work – that has only limited value because of its many mistakes – gives a short account that is somehow reminiscent of falconry, but wrong in a number of details (HURKA 2018). Thus, possibly, Ctesias had not seen falconry himself, but had knowledge of misleading descriptions. Allegedly, his account refers to India, but this is meant to be understood as the Indus valley and areas to the north and east of it (today’s Pakistan; cf. KARTTUNEN 1981, 106; WILHELM 1987, 348; CTESIAS 2011, 93). In the period in question, this area shows influence from Eurasian nomads (PARZINGER 2009, 61), who quite possibly already knew this kind of hunting (see above). Caution is due, but Ctesias may thus provide an early written testimony for the falconry of Eurasian nomads south of the steppe area, whereas the silence of Herodotus in the same period of time can be taken as an indication that the Scythians in the more western part of the Eurasian steppe had no knowledge of falconry (see above).

Even further back in time, the rock art of Mongolia with somewhat controversial falconry content may be as much as roughly 5,000 years old, dating right back to the beginning of nomadic life on horseback, after a climate change for the worse. From then onwards, large herds of animals were kept (horses, camels, cattle, sheep and goats), and there was a need to have hunting assistants at hand, both dogs and eagles, while sitting on horseback (see above; cf. ULAMBAYAR 2018).

## THE ART OF IMAGE ANALYSIS (CHAPTER 2)

It is owing to the paper by A. PESCH that image analysis has been sketched for northern European Iron Age archaeology (mainly the first millennium CE), notably a period with only limited literacy (runic inscriptions, Skaldic poetry; see LORENZ) among those societies who created this imagery. Thus, a “context iconography” has to be established that draws from different kinds of sources (older, contemporary, younger) in the area under consideration and neighbouring ones. As it turns out, well-known types of bird-human depiction have a background other than falconry, such as in the case of the “rider-with-birds image” on a helmet (7<sup>th</sup> century, Sweden) as discussed in this book or the “head-with-bird-on-top-of-horse motif” in the case of Migration Period so-called bracteates considered in the previous book (PESCH 2018).

In the article by H. BREDEKAMP, falconry imagery is considered a variant of the image act (with images seen as autonomous entities and the image act being a parallel to the speech act). Interestingly, trained birds of prey as used in falconry retain autonomy and may thus add to the image act as represented by paintings. One of the facets discussed in the paper in question is the connection of falconry imagery with political iconography (see below). Also, the animal-human divide is considered by way of apes which, by most recent observations, can be observed in human-like manners never expected before – piling up heaps of stone, acting as architects, following a ritual? The particular raptor-human relationship as the core of falconry comes to our attention again, which may be understood as an

attempt at reaching an understanding: raptor animal hunters meet human animal hunters (notably, however, the latter took the first step).

#### VISUAL EVIDENCE FOR SINGLE BIRDS: DO THEY SPEAK FOR THEMSELVES? (CHAPTERS 2–5)

Images restricted to birds themselves, with no apparent connection to falconry, are a re-occurring topic in the present book. In fact, these birds do not speak for themselves, a proper context has to be established before interpretation starts. A classical case, if not *the* classical one, is the Horus falcon of ancient Egypt (WARBURTON; cf. WARBURTON 2018).

Arabia on a larger scale, in Islamic times, shows standardised eagles in one set position: wings spread, large tail lowered, and head and legs and, if depicted, the central body, seen in profile (BAGNERA). As has been argued, certain animal figures – most notably birds, fish and composite animals – carry a cosmic, and in particular solar, symbolism of good omen that is meant to bring happiness and prosperity. In turn, raptor imagery from ed-Dur in the United Arab Emirates is around 2,000 years old/from late pre-Islamic times, and probably reflects local gods or, possibly, royalty (OVERLAET).

Depictions of single birds are also a matter of interest in rock/cave art (cf. papers in chapter 3) and the so-called “animal styles” – Scythian (NAGLER), Thracian (BOTEVA), Germanic (OEHLER, PESCH), and so on; one interesting image type from Celtic times (slightly more than 2,000 years old) being helmets with birds placed on top, which testify to the link between warfare and birds (BAGLEY). A little older are the so-called “unicorn raptors” known from the Thracian world (BOTEVA).

#### VISUAL EVIDENCE FOR THE RAPTOR-HUMAN RELATIONSHIP: THE NEED FOR A REALLY CLOSE LOOK AT A SINGLE OBJECT (CHAPTERS 3–5)

A greave found in the richly furnished (prince’s) grave from Agighiol in north Dobrudja, south-east Romania, which dates back to the 4<sup>th</sup> century BCE, has yielded a bird-human depiction that has been discussed repeatedly: a sitting figure with a bird placed on the out-stretched right arm (BOTEVA, fig. 2). This bird has been equated with an eagle or hawk, and the figure as a falconer. However, as another close look shows, the object in question has come down to us in a bad state of preservation, especially the bird’s head. Thus, strictly speaking, no reliable bird (raptor) identification is possible, still less a link to actual falconry.

Even if there was a raptor on the arm, this would not lead to any conclusive falconry-related interpretation either, since falconry equipment (the glove, etc.) has not been depicted. So, we are left here with the pose “sitting man with bird (raptor) on the right fist”, with no apparent falconry content. In this respect, the well-known classical description left by Aristotle (4<sup>th</sup> century BCE) about bird hunting with the help of birds of prey in Thrace has to be recalled which, strictly regarded, is proof neither for trained birds nor for falconry (HURKA 2018). However, it is a legitimate question whether Aristotle, like Ctesias (see above), had received a description of falconry that was wrong in its details? In any case, we can be certain that ancient Greece, Rome and Constantinople had no knowledge of falconry. Reliable evidence, written and pictorial and notably on the periphery of Rome/Constantinople, belongs to the middle of the first millennium CE (FRADEJAS RUEDA and KÜLZER; see also FRADEJAS RUEDA 2018; HURKA 2018; KÜLZER 2018; LOPEZ 2018).

The lesson learned from this example – there are numerous others – is the very core experience of this book. It may sound trivial, but the pose “raptor on the fist of a human” is by no means proof that the image is a portrayal of falconry (cf. NOLLÉ, on the depiction of Zeus and the eagle on antique coins). Other cases in the book stand for the dual nature of falconry imagery inasmuch as falconry

is depicted, but there is also a symbolic meaning attached to it, independent from or in addition to falconry. Finally, the given example from Romania also illustrates the problems with bird identification that quite frequently accompany archaeological or art-historical depictions.

#### VISUAL EVIDENCE FOR THE RAPTOR-HUMAN RELATIONSHIP: THE SEARCH FOR TYPICAL POSES (CHAPTERS 3–5)

Actual falconry is often portrayed in two different kinds of pose/image, which are based on the given landscape and the given raptor/prey species:

- the falconer on his/her own feet, with a sparrowhawk, goshawk or falcon on the fist and hunting at close range with the prey flushed by animals and/or human hunting assistants;
- the falconer on horseback with a falcon on his/her fist, who possibly hunts in the waiting-on style by releasing the falcon that rises high in the air and turns to a stoop once the prey has been flushed by dogs or the falconer; heron hawking and hunting with trained eagles from horseback on the Eurasian steppe belong to this sphere, too.

These two different kinds of falconry pose/image are found widespread in early and younger falconry history. Image interpretation is often alleviated by the depiction of actual falconry equipment like gloves or hoods or a hunting scenery.

However, falconers' gestures yield much more and meaningful details than just described, but only a broader contextual analysis will help to recognise this. In Frederick II's precious book, the falconer on horseback carries the trained hunting bird in front of the body, whereas the position of the bird on the arm placed sideward or stretched back – as seen on the Bayeux tapestry from the late 11<sup>th</sup> century and on the contemporary seal of the Danish king Knud (Canute) IV – might have signalled a claimant to the throne (BLEILE; see also JACOBI). In the case of West and Central European seals from the 12<sup>th</sup> century to c. 1500 young, yet uncrowned noblemen are shown with birds of prey, whereas they hold swords after their coronation; falconry by noble women played an important role in the case of such seals, too (more on this below; cf. briefly HENKELMANN 2018, 454–458).

Alongside the falconry images, which are often charged with additional meaning, there are depictions of raptors and humans with no falconry content. As already stated, Zeus with the eagle belongs here as a classical case, particularly well-known on the tetradrachms of Alexander the Great from the 4<sup>th</sup> century BCE (NOLLÉ).

Repeatedly, raptor-human imagery in the form of “human on his/her feet with bird of prey on the fist”, as known from different cultures in Mesopotamia and the Hittite Empire, has been linked with the practice of falconry – visual evidence to that effect might be up to 4,000 years old, but there is even older, written testimony that goes back to the 3<sup>rd</sup> millennium BCE. However, this imagery cannot in itself be accepted as compelling evidence for falconry, owing to the lack of reliably identifiable falconry equipment and hunting scenes that truly show falconry. This also relates to the classical bird hunting imagery from Korsabad in Iraq, which is almost 3,000 years old. Contemporary written sources from the political powers of the respective areas indicate, for instance, the use of raptors as symbols of power and in connection with offerings or so-called “waving rites” aimed at the cleansing of temples (VON DER OSTEN-SACKEN; GÖRKE/KOZAL 2018; cf. REITER 2018a–c).

In pre-modern Persia, the image of the falcon, sometimes with a diadem/ring in its beak, was the symbol of divine protection and glory; this can for example be seen on Sasanian coins with a bird shown behind the king's head (PINTO; DARYAEE/MALEKZADEH 2018). Thus, the question emerges for Persia in Sasanian times of whether raptors that played a role in religious symbolism were also used for hunting (see above on venerated vs. trained birds)? Another interesting image from Sasanian times shows the ascension of a woman held in the claws of a giant bird of prey (ILYASOV, fig. 13).

What has been described above is a gathering of typical raptor-human poses for pre-medieval times, in Europe and beyond, related to or unconnected with actual falconry. However, there was no intention to collect the total number of such cases. It would be a matter of structured future research to try to produce such a catalogue.

Finally, as regards European art history, all picture cycles that drew from falconry will have to be identified and discussed: was this an independent invention or stood it in an older tradition that went through transformation? One example at hand is the picture cycle called “The Three Living and the Three Dead”, more on which is written in the following.

#### VISUAL EVIDENCE FOR THE RAPTOR-HUMAN RELATIONSHIP: THE SYSTEMATIC GATHERING OF PICTURE CYCLES (CHAPTERS 4–5)

While on the one hand, as has been demonstrated, it is absolutely necessary to evaluate single objects or typical poses at close range, it is likewise important to try to gather all available evidence for a particular motif/motif group in a given region/period of time.

Now, with the second book, we are in the fortunate position that falconry depictions have been gathered systemically for many areas and periods of time, for instance late antique mosaics from Europe, northern Africa and the Middle East (see below) and Chinese Han Dynasty grave wall paintings (WALLACE; cf. WALLACE 2018); the latter are almost 2,000 years old and with undoubted falconry content. If one is to look for the oldest ascertained falconry imagery worldwide, it comes from right there. A little younger, dated to around the middle of the first century CE, is the pictorial evidence from Korea (HO-TAE JEON 2018) and Japan (MIZUNO; cf. KAKU 2018; NIIHONMATSU 2018).

In the case of the late antique mosaics, the road led from studies about particular finds (FRADEJAS RUEDA 2018; HURKA 2018; KÜLZER 2018; LOPES 2018) to an overall analysis in the present book (FRADEJAS RUEDA; see also KÜLZER). Classical mosaics were considered alongside little-referenced findings and the new discovery from Mertola in Portugal. This comes to the result that one of the classical “falconry mosaics” known from Carthago – rider with a bird of prey in front as part of a larger scene – can no longer qualify as evidence for falconry (FRADEJAS RUEDA, fig. 10). There are at least two possibilities, however: either the mosaic was not intended to display falconry, or hunting with trained birds is presented in a false manner by the introduction of a fenced-in area that makes no sense in a falconry context; apart from that, there is no evident interaction between the bird of prey and the rider. When seen as a depiction of wrongly understood falconry, Ctesias’ *Indica* has to be recalled (see above). As one may suggest, the artist (Carthago mosaic) and the writer (Ctesias) were both not eye witnesses, but received distorted descriptions on which they based their visual and written texts about “falconry”.

Finally, the late antique mosaics known from Madaba (Jordan) and Gaza (Palestine) are worth being remembered. Notably, the latter can only be reconstructed by a literary description (Procopius). In both cases, the myth about Hippolytus and Phaedra is represented. Quite possibly, falconry was still a new type of upper class hunting in the given area when added to the myth.

In the present book, spectacular progress is documented for European art history with a particular emphasis on France, Belgium and Italy in the period from the 12<sup>th</sup> to the 16<sup>th</sup> century (VAN DEN ABBEELE). It is owing to decades of work that more than 2,500 images, which mainly belong to so-called Books of Hours, have been gathered by the mentioned author (however, c. 600 miniatures of illustrated treatises on falconry have not been added yet). Fortunately, the collection of images will be made available via a database, FalconICON, which is under construction at the Catholic University of Leuven in Belgium (DELHAYE/VAN DEN ABBEELE, chapter 7). It is worth mentioning that yet another

database for falconry imagery will be built up at NYUAD in the United Arab Emirates (TROPATO, likewise chapter 7).

As a look at the FalconICON database shows, iconic images that are used over and over again as illustrations of falconry history are not necessarily representative. The *Très riches heures du duc de Berry*, a manuscript of the early 15<sup>th</sup> century made for the Duke of Berry by the Limburg brothers, contains a series of calendar pages belonging to the so-called “Labours of the Months”. The image for August depicts a falconry scene (VAN DEN ABEELE, fig. 7), but this is unusual since the month most often related to falconry in the case of the Labours of the Month is May. Ironically, that month is an unlikely choice, too, when seen against the background of practical falconry in medieval times; May is the month for bird moult, not for actual falconry. The heron hawking that took place in that month is an exception to the rule, but it is only documented for post-medieval times. The actual reason why the month of May was chosen had thus no basis in falconry; in fact, it was the month meant to reflect the celebration of spring, youth and good company, and was connected to the powerful and noble.

From now onwards, the next logical step forward is to approach falconry-related picture cycles in an empiric manner, using the overall evidence, and including literature studies if that cycle has also found reflection in written words. Contributions in this book can be considered as worthy pilot studies with the outspoken intention to gather visual evidence. This relates foremost to J. DELHAYE on falconry as a symbol of peace in western Europe (13<sup>th</sup> to 16<sup>th</sup> centuries), which makes explicit use of the database, but also A.-L. TROPATO on “The Three Living and The Three Dead” belongs here, although only a certain number of images are referred to. In turn, L. JACOBI presents a selection of imagery that documents how falconry depictions entered Jewish and Christian biblical art during medieval times and the Renaissance.

To introduce one of the aforementioned studies, falconry imagery is connected with the picture cycle named “The Three Living and the Three Dead” (13<sup>th</sup> to 15<sup>th</sup> centuries, Christian Occident), known from written and pictorial sources. In the present instance “three young men meet three hideous animated corpses, which engage in a dialogue. The dead tell of their experience of life and death, warning the young people about their dissolute and vain life: having had the same kind of existence as the three living, the dead now complain about the states of their souls in the Afterlife” (quoted after TROPATO, this volume). The social status of the living is, amongst other things, often indicated by a trained raptor on the fist of at least one person. The written message of the dead to the living in those images reads: “we were what you are, you will be what we are”. As is argued, the respective depictions are witness to the introduction of a new element in iconography of the time: animated corpses. Remarkably, birds of prey are not only an element of the composition, but are also an active part of the narration.

NORTHERN EUROPEAN AND BALTIC COUNTRIES: FALCONRY IMAGERY AND BIRD SYMBOLISM (CHAPTERS 2, 4–5; CF. CHAPTER 9 IN THE PREVIOUS BOOK)

The mid-east Swedish Rickeby burial (near Stockholm) that dates to the early 7<sup>th</sup> century CE is a unique record of falconry history, by way of well-documented grave furnishings among which were five raptors and also the typical prey of falconry, alongside potential hunting dogs and a horse (briefly: VRETEMARK 2018). As sketched in this book (GRIMM), the burial layer – the remnant of a funeral pyre directly covered by the grave mound – can be understood as a three-dimensional painting/still life, embodying three different kinds of falconer, using sparrowhawk, goshawk or peregrine falcon. The Rickeby burial belongs to a total number of around 40 “falconry burials” from mid-east Sweden, with a dating from the (late) 6<sup>th</sup> to the 10<sup>th</sup> centuries (VRETEMARK 2018). So far, these graves have no counterpart in the overall area of historical falconry practice, from western Europe and northern

Africa in the west to Japan in the east. Alongside archaeology, there are other pieces of evidence that underline the existence of historical falconry in northern Europe, even if this kind of hunting has long since fallen into oblivion there.

Firstly, there is written evidence that goes back to the late 1<sup>st</sup> millennium CE (Skaldic poetry) or, possibly, to earlier times (sagas, cf. LORENZ; see CARSTENS 2018). Among the most interesting finds is the Skaldic *kenning*/circumscription “land of the hawk” for arm, a rather widespread term that also referred to women. It was probably meant to evoke the picture of a falconer with a bird on the fist.

Secondly, pictorial evidence comes from both archaeology and art history. In fact, falconry images are found on picture/runic stones and other objects, which mainly date to the late 1<sup>st</sup>/early 2<sup>nd</sup> millennium CE, with a dominance in eastern Sweden (OEHL; OEHL 2018; see also the above-mentioned “falconry burials” in the same area). Even if low in numbers, falconry imagery has come down to us for later periods, too, for Denmark and Sweden, but not for Norway (AHLAND; cf. AHLAND 2018). Among the pieces of evidence there are paintings of Queen Christina from Sweden and Queen Sophie Amalie of Denmark, shown together with a professional falconer in the former case (both from the middle of the 17<sup>th</sup> century). There is a little group of church paintings, too, which display “The Three Living and The Three Dead” (see above).

The Baltic area yields interesting falconry-related testimonies, too. In Vilnius Lower Castle, the palace of the Grand Dukes of Lithuania, bones of gyr and saker falcons have been found in 14<sup>th</sup> century layers (GIRININKAS/DAUGNORA 2018). In addition, a complete skeleton of a female goshawk with leather strips and several falconry hoods have come to light. More or less contemporary are written records about the burials of the last pre-Christian Lithuanian Dukes (13<sup>th</sup> and 14<sup>th</sup> centuries). If we believe those records that were made in connection with the military campaigns of the Teutonic Order – thus by enemies –, the cremation rite was chosen for deceased princes, including the use of birds of prey as grave furnishings (GIRININKAS/DAUGNORA). Is this the same kind of evidence as in the case of the aforementioned mid-east Swedish burials?

The tomb of the Polish-Lithuanian King Władysław II Jagiełło (ruled 1386–1434) in Cracow, Poland, is worth mentioning in this respect, too (CHRUBASIK 2018). It is among the most outstanding examples of European sepulchral art of its time and, surprisingly, yields fully plastic sculptures of dogs and birds of prey on the plinth of the high tomb, alongside the depiction of two lions and one dragon. However, in this case the portrayed animals could only have served as attributes with a Christian meaning or as heraldic symbols, whereas a reference to hunting and falconry was unthinkable since the king had just converted to Christianity.

Let us briefly address the age of falconry in the Baltic countries. Recently, two ships with slain warriors were found on Salme island (Estonia) and dated to the 8<sup>th</sup> century CE (MALDRE et al. 2018). The warriors came from mid-east Sweden, according to finds and scientific analysis. This points to the aforementioned area in Sweden with “falconry burials”; in Salme, bones of several goshawks and one falcon were found, too, perhaps indicative of falconry practised among the foreign warriors. Those warriors could be labelled “early Vikings” who went out intent on plundering, but lost the battle when they tried to enter Salme island, and the victorious domestic forces then “buried” (deposited?) the vessels together with the slain enemies. No matter how the intriguing Salme ship find is interpreted, it cannot really provide a dating for early Baltic falconry. So, how old was it, and did it go back to the late 1<sup>st</sup> millennium CE already (SHIROUKHOV; cf. GIRININKAS/DAUGNORA 2018)?

In the considered area, there was bird symbolism that was not attached to falconry. This includes, amongst other things, eagle depictions from northern Europe’s Vendel/Merovingian and Viking periods (second half of the 1<sup>st</sup> millennium CE); found on decorated helmets and picture stones they are associated with fighting, war and death, as is also reflected in Old Norse Skaldic poetry (OEHL; cf. OEHL 2018). Adjacent to the Baltic area, burials of horsemen from the Kaliningrad region of Russia (former East Prussia), which are more or less one thousand years old, have yielded horse forehead

pendants with images of birds of prey (SHIROUKHOV). Was bird symbolism used here to endow the horse with power? Noteworthy, gold bridle frontlets with three-dimensional raptor heads, which date back to the 3<sup>rd</sup> century BCE, belong to Thracian times (BOTEVA).

Another worthy topic are depictions of birds of prey and a discussion of their meaning for older periods of time. Amongst other things, this would have to address rock art imagery from northern Europe that belongs to the period of late hunter-gatherers and early farmers. One such famous place is Altanes in northern Norway, acknowledged as a World Heritage Site (UNESCO). However, there is only a very small amount of bird imagery in the northernmost rock art of Fennoscandia (personal communication Knut Helskog, Tromsø, Norway). Bird-shaped bone pendants (3500–2700 BCE) that originate, *inter alia*, from the Baltic countries and Russia, have been interpreted as images of totem animals, but birds of prey are rarely encountered (KASHINA/EMELYANOV). A most recent publication tackles the relationship between humans and birds in the northern European Bronze Age (c. 2000–500 BCE), with the argument that birds occupied a central position in society and in the imagination (GOLDHAHN 2019).

#### SPLENDID LATE 19<sup>TH</sup> CENTURY FALCONRY BOOKS AS THE LAST ONES OF THEIR KIND (THE NETHERLANDS, RUSSIA AND JAPAN) (CHAPTER 6)

Three lavishly made books each constitute an apex in book production for falconry, for periods in which the old tradition was at the brink of extinction and indeed died out a little later (GERSMANN, NAKAJIMA):

- Hermann Schlegel & Abraham Hendrick Verster van Wulverhorst, *Traité de Fauconnerie* („Treatise on Falconry“), The Netherlands/Germany, 1844–1853,
- Nikolai Ivanovich Kutepov, *Velikoknjažeskaja i Carskaja ochota na Rusi* [...] (“The Hunt of the Grand Dukes and Tsars in Russia from the 10<sup>th</sup> to the 19<sup>th</sup> centuries”), Saint Petersburg, 1896–1911 and
- Kawanabe Kyôtsai, *Ehon Takakagami* (“Picture Book on Falconry or Hawking”), Japan, 1863–1879).

Among the mentioned books, the one from Russia stands out inasmuch as it covers noble hunting in general, with falconry being only one part of it. However, all three books share the same traits in several respects: the time-consuming period of production, the lavishness, the portrayal of noblemen’s falconry and life in the countryside and the non-falconer background of the authors (scientists in the Netherlands and Russia, a painter in Japan). It is an intriguing question whether the authors themselves were aware that their books were the last ones of their kind about the falconry of noble persons and would thus act as a sort of “requiem”? With these given examples, it would be worthwhile to consider the overall falconry book production not only for Europe and East Asia, but also for Arabia, Persia, India and so on, e.g. with regards to luxury editions and the period of time from which they come. In the present context, the *Hünernâme* of the late 16<sup>th</sup> century is worth mentioning, a masterpiece among the Ottoman Turkish illuminated manuscripts that presents hunting – and falconry – connected to the governance of the Ottoman Palace (TÜRKMEN).

A case of its own is the falconry book from Frederick II in the lavishly furnished Manfred edition (BOCCASSINI 2018; GIESE 2018), with no contemporary counterpart in Europe as a work of art and an example of early European science/ornithology (in a period of general Arabian supremacy in science). Although falconry in large parts of Europe was already almost a millennium old, Frederick’s book may be seen as marker for the rise of European falconry with an emphasis on falcons, as is confirmed by archaeozoology: falcons dominate over goshawks in find contexts later than 1000 CE, often connected to strongholds as seats of noble persons in Central Europe (briefly, PRUMMEL 2018). The dominance of the falcon was strongly influenced by the large-scale deforestation of the post-1000s.

After this, open landscapes became available as a prerequisite for hunting on horseback with trained falcons. This kind of hunting may have involved covering hundreds of metres at considerable speed whereby the rider followed the bird (see WILLIAMS for the waiting-on style of falconry). This led further to a final climax of European falconry in the 17<sup>th</sup> (/18<sup>th</sup>) century with its luxurious heron hunting. More or less contemporary, Japanese falconry reached its climax in the Edo period (1603–1867).

#### THE USE OF BIRDS OF PREY AND FALCONRY IN POLITICAL ICONOGRAPHY (CHAPTERS 2–5)

The role of raptors and, much later, falconry in political iconography will be a most welcome topic of broader future research. It is needless to say that ancient Egypt, with the Horus falcon, provides an early example of the role of raptors in state ideology/political iconography (WARBURTON; WARBURTON 2018). From ancient Egypt and Mesopotamia, both without any reliable documents for early falconry, but with clear proof for the veneration of raptors, any argument would ultimately have to approach the post-1000s for Europe, with its wealth of falconry imagery, and beyond (see above, BLEILE on the role played by the Bayeux tapestry imagery and the seal of the Danish King Knud (Canute) IV, both from the late 11<sup>th</sup> century; see HENKELMANN 2018, 454–458, more broadly on the role of seals; see below on Mary of Burgundy).

Early modern Central Europe has seen the use of falconry imagery and falconry equipment in political iconography, linked with emperors in power, not least Maximilian I from the Holy Roman Empire, around 1500 (HADJINICOLAOU; cf. AHRLAND, too), but the use of such imagery can also be identified for the recent history of the United Arab Emirates (HADJINICOLAOU) and Kazakhstan (KEEN 2018).

A striking example of the display of political power by artistic means, in the context of raptors and falconry, is found for Mughal period India. An aged king, Emperor Akhbar, passes power to his grandson (Shah Jahan) in the early 17<sup>th</sup> century; interchangeably, this is shown in an image where the crown or a trained raptor are given to the claimant to the throne (PARIKH, this volume, on India).

#### WEALTH VS. LACK OF SOURCES ABOUT FALCONRY AND “THE ENIGMA OF THE LOST FALCONER” (CHAPTERS 4–5)

It cannot come as a surprise that in the case of historical falconry a wealth of images in art history encounters a much more restricted amount of images in archaeology – however, as to the latter, archaeozoological data (bird bones, but preferably bird skeletons) and falconry equipment have to be taken into account, too, and sometimes early written sources on falconry.

The great enigma of research into falconry history are areas with ascertained knowledge of falconry, but without any or hardly any record. This relates foremost to the Sasanian Empire (PINTO; cf. DARYAEE/MALEKZADEH 2018). That falconry existed in Sasanian times is beyond doubt, since Persian falconry and raptor terminology found its way as loan words into the languages of speakers who were neighbours of Persia, including Arabic (OLSEN; cf. SCHAPKA 2018). Another case in question is Early Byzantine times; apart from the mosaics situated on the periphery of the empire there are no other pieces of evidence (KÜLZER; cf. KÜLZER 2018). Also, Arabic Spain (VALOR), North Africa (CRESSIER) and Sicily (BAGNERA) have left surprisingly few testimonies for falconry, for reasons yet to be explained (one being the possibility that images of humans were not permitted, following particularly strict religious rules; see here CRESSIER for North Africa in Islamic times).

In other instances, a rarity of disputed sources or rather a complete lack of documents indicates areas with no historical falconry practice. For example, the Aztec emperor Moctezuma II surely had

an aviary that belonged to his palace, but – contrary to earlier suggestions – neither he nor the entire pre-Columbian world knew anything of falconry (FRADEJAS RUEDA 2018; cf. FERGUS).

#### PROFESSIONAL AND FEMALE FALCONERS – TWO EASILY OVERLOOKED GROUPS (CHAPTERS 4–5)

Historically, falconry in more eastern parts of the Eurasian steppe – carried out on horseback, preferably with trained eagles – had a practical value in the form of fur-acquisition and herd-protecting; it looks like a case of its own, with no exclusive connection of falconry to the powerful. In other areas where birds of prey were trained – Europe, Arabia and Persia, India, China, Korea and Japan – the “manning” and daily care for these birds was presumably in the hands of professional falconers, while the actual hunting that had limited practical value was restricted to the elite who could afford this expensive pastime.

The extent to which professional falconers can be found in falconry images would be a worthy study; the mentioned database established by B. van den Abeele, FalconICON, could help in that respect. Generally, however, the imagery discussed in this book was meant for the self-representation of the powerful; the depiction of professional falconers would instead be the by-product of larger images that show the actual execution of the hunt. Johann Heinrich Tischbein the Elders’s picture cycle on a historical heron hunt from the midst of the 18<sup>th</sup> century, arranged by Landgrave Frederick II of Hesse-Kassel at a hunting palace close to Kassel (Germany), is a telling example in this respect (DOBLER 2018). Mughal India provides the image of a court falconer who was held in high esteem (PARIKH, on India, fig. 6), while depictions of such falconers were quite frequent in Ottoman miniatures (TÜRKMEN).

It should be mentioned that birds, once trained by professionals and accustomed to several persons, can easily be placed on another person’s gloved fist. This is how those in power could hunt with raptors trained by others. We know that there were ardent practitioners like Frederick II and Mary of Burgundy (see below) and that falconry was part of the noble hunt with the aim of representation and of the education of young yet uncrowned noblemen (AHLAND; DELHAYE).

According to pictorial and written testimonies, Mary of Burgundy (1457–1482) was a passionate falconer who, tragically, lost her life early in a hawking accident (KARASKOVA-HESRY). One may go as far as to state that she was the female falconer par excellence for the European Middle Ages; in her case the depiction together with a hawk on the fist became the symbol for power in the hands of a female ruler (replacing the military seals of her forefathers with armour and sword).

Quite possibly, however, there was earlier falconry by women, indicated by archaeological evidence, i.e. burials of high-ranking women in Central (middle of the 1<sup>st</sup> millennium CE) and northern Europe (last third of the 1<sup>st</sup> millennium CE), furnished mainly with goshawks (LUDOWICI 2018; SCHMÖLCKE 2018; VRETEMARK 2018). Furthermore, the burial of a wealthy juvenile girl of the 9<sup>th</sup> century CE, found in Staré Město (Czech Republic), has yielded a beautiful falconry image (PROFANTOVÁ, fig. 5). The mentioned burials are worthy of their own, separate, study.

There is also evidence for falconry of women outside Europe. Chand Bibi (1550–1599), Indian Muslim regent of Bijapur and Ahmednagar and a warrior, is shown in a painting while hawking on a horse (PARIKH on India, fig. 14). In turn, a female falconer is shown on brocaded velvet silk from 17<sup>th</sup> century Persia, but the image in question reflects European templates and is loaded with symbolic meaning (PARIKH on Persia, fig. 16) However, there are also written records from Persia on the hunting and falconry of women from the same period of time.

Finally, hunting with trained birds of prey by women – only one aspect of hunting by women more generally (e.g. ALMOND 2009, for Europe) – has not received proper consideration. It would be a topic worth studying in an interdisciplinary manner, by including archaeology, historical and literary studies plus art history and, internationally, by looking at Europe and beyond.

OUTLOOK: THE CONSIDERATION OF FALCONRY HISTORY – IS IT DONE WITH NOW, AFTER TWO LARGE, LAVISH BOOKS FROM SCHLESWIG (AND ABU DHABI), OR HAS WORK JUST BEGUN?

The previous book from Schleswig (2018) covered pre-modern falconry and bird symbolism in a broad narrative on the basis of c. 100 papers. The present book (Schleswig [and Abu Dhabi]), with around 50 contributions, is much more focussed, looking at falconry imagery and similar motifs (again for pre-modern times). Both works are the result of interdisciplinary research, including falconers and representatives from the Natural Sciences and the Humanities with many different backgrounds.

In short, it is only now, after the second book, that certain regions/topics have been addressed in a systematic way by introducing the full amount of evidence at hand (see above; FRADEJAS RUEDA as example for the late Roman mosaics and VAN DEN ABEELE for European art history, with emphasis on France, Belgium and Italy). In other cases, however, only surveys have been made with no chance to provide a list of all respective testimonies (examples: DAIBER for the central Arabic lands; PARIHK for both Persia and India; ILYASOV for Central Asia; in all cases mainly for the period post 1000 CE). Thus, a lot of work remains to be done.

Firstly, it all begins with translations into English of scholarly literature published in a wide array of languages. Some small steps have already been made in that direction in both books, but this will have to be continued. It will only be after the translations have been carried out that the published state of research can really be grasped and future research strategically planned.

Secondly, it goes further with the demand to have available for all regions studies which cover the necessary materials, be they archaeo(zoo)logical (bird bones, but preferably bird skeletons, and falconry equipment), pictorial (both archaeological and art-historical) or written (historical, literary and philological). Often this demand can only be met by small groups of researchers and falconers.

Even after 150 articles in the previous and the present book, there remain open questions in very fundamental manners. It is no wonder: the earlier the period of time, the bigger the problem in developing a strong narrative on firm ground; so, from where do the reliably earliest testimonies for falconry really originate, and what is their dating? At any rate, they will have to be older than Han Dynasty falconry, almost 2,000 years old and beyond any reasonable doubt. Equally challenging are areas with ascertained falconry history, but no or very little evidence so far (Sasanian period, Early Byzantine times, Islamic Spain, North Africa and Sicily). India is also an interesting case, since we are still missing attempts (rock art notwithstanding) to find out whether there was any ancient hunting with trained birds of prey. Ctesias' work, which purportedly covers India, may in fact have a different background (see above), but there are weak indications for hunting with trained birds of prey in Sanskrit literature (WILHELM 1987). Another topic that is largely missing in the present volume is the role of falconry from the Kök-Turk to the Ottoman Empire, for a period of a thousand years or more (TÜRKMEN; cf. ESIN 1968 with a broader look at hunting).

There is still a chance to find substantial evidence. Archaeo(zoo)logically, a lot of progress has been made already. Raptor bones/skeletons, falconry equipment and falconry images from western Europe and northern Africa to eastern Asia go into the hundreds, but not into the thousands. This can be coped with. However, Arabian and Central Asian archaeology still needs to be integrated more thoroughly into the discussion about the origin and early history of falconry; what were the lifestyles in those large areas, and which types of birds and falconry were preferred? These would be vital contributions for the establishment of a future "archaeology of falconry" (GRIMM in print). There is a need to be open to surprises. To give an example: recent re-analysis of animal bones salvaged a long time ago led to the discovery of goshawk bones in the royal Gokstad ship burial in eastern Norway (c. 900 CE); this find links Scandinavian Viking Age rulers with falconry in a way hitherto unknown (GANSUM 2018).

In contrast to archaeology, the situation is entirely different for art history inasmuch as there will be many thousands of images, not least in Europe. The only possibility of getting to grips with such an abundance of material will be the databases that are under construction (see above) and a comparative evaluation on the basis of the overall material. The paper by B. VAN DEN ABEELE in this book is a milestone inasmuch as it analyses for the first time chosen aspects of falconry imagery against the background of 2,500 gathered images which mainly originate from France, Belgium and Italy in the period from the 12<sup>th</sup> to the 16<sup>th</sup> centuries. As demonstrated, this leads to surprising discoveries.

In addition to paintings and book illuminations, there are other beautiful and sometimes rather small objects of arts and crafts that belong to the realm of art history, too, and have a connection to raptors/falconry. To name but a few: mirror cases in connection with depictions of Courtly Love (HENKELMANN) and knife handles that show persons with a raptor on the fist (AHLAND 2018), both from the European Middle Ages, and also pyxides from al-Andalus, Spain, with falconry imagery or depictions of single birds (VALOR). A pomander or incense burner in the form of a falcon that originates from Persia or Central Asia dates back to the 12<sup>th</sup>/13<sup>th</sup> century (PARIKH on Persia, fig. 3).

The study of falconry history – a great adventure for all falconers and scientists with an interest in the matter – is far from being over. We start seeing things in clearer shape now, but work has just begun. Let us go on, preferably in a coordinated action of falconers and scientists. The book from Schleswig (2018) and the present one (Schleswig [and Abu Dhabi]) contribute their share, but there are conferences and book projects in the hands of others, too. We can only benefit from this.

Historically, there are areas with falconry practice and those with no such thing. Ultimately, falconry is a special facet of the bird-human relationship, with an ascertained minimum age of almost 2,000 years for Han period China. However, as described above, falconry in the eastern part of the Eurasian steppe probably goes back to the first millennium BCE, if not to earlier times. This constitutes an ancient focal area of this kind of hunting, but this is not necessarily its cradle when allowing the thought that falconry had seen several ancient focal areas and, potentially, areas of origin.

More daring than the mere consideration of pre-modern falconry would be the attempt to address the wider topic, that of the role of birds (birds of prey) in human history and religion, with a look at the perception of animal wildlife/raptors from the period of hunter-gatherers to early farmers and inhabitants of state-like formations, and also at the role of animals/birds in belief systems like Zoroastrianism, Hinduism, and Christianity.

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