



Advanced studies on the archaeology and history of hunting
edited by the ZBSA

Karl-Heinz Gersmann · Oliver Grimm (eds.)

Raptor and human – falconry and bird symbolism throughout the millennia on a global scale

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**Raptor and human –
falconry and bird symbolism throughout the
millennia on a global scale**

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Raptor and human – falconry and bird symbolism throughout the millennia on a global scale

1/3

Edited by
Karl-Heinz Gersmann and Oliver Grimm

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Cover picture: Skilled eagle master. Western Mongolia, August 2011 (photo used with the permission of Dr. Takuya Soma).

*Top to the left: Seal of the Danish king Knud IV (late 11th century). Redrawing. Taken from M. Andersen/G. Tegnér, *Middelalderlige segl-stamper i Norden* (Roskilde 2002) 129.*

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The global perspective of the book. Orange: Eurasian steppe (presumed area of origin of falconry); green: the areas considered in the book (map Jürgen Schüller, ZBSA).

Falconry definition

Falconry is defined as the taking of quarry in its natural state and habitat by means of trained birds of prey (according to the International Association for Falconry and Conservation of Birds of Prey [IAF] = www.iaf.org).



*Frederick II of Hohenstaufen with a bird of prey. Miniature in his falconry book (folio 1v, Codex Pal. lat. 1071, Universitätsbibliothek Heidelberg/Biblioteca Apostolica Vaticana). Redrawing. After: *Hunting in Northern Europe* (Neumünster 2013) 344 fig. 1.*

Frederick II of Hohenstaufen was an early global actor in the 13th century, bringing together falconers and falconry traditions from far and wide.



UNESCO recognition of falconry as Intangible Cultural Heritage of Humanity (cf. HEWICKER in this book, Fig. 6).

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Early falconry in Russia

By Andrei V. Zinoviev

Keywords: Falconry, hawking, Rus, history, hunting

Abstract: Early falconry in Russia (Rus) from the beginning of the State in the 9th century AD was a leisure activity. Prior to the Mongolian invasion, it experienced both Asian and West European influence. After the Mongolian invasion in the 13th century AD, Russian falconry experienced massive Asian influence. The West European influence strengthened after the end of Mongolian occupation at the end of the 14th century AD. As a vast country with a turbulent history, medieval Russia displayed a dynamic mixture of European and Asian features in falconry. Novgorod the Great remained a little apart from this process; part of the Viking trading network and the north-easternmost outpost of the Hanseatic Union, it must have experienced western and eastern influences on falconry, regardless of the Mongolian invasion.

INTRODUCTION

When writing about early falconry in Russia we must define the time and area ranges that are to be covered by the subject. Both tasks are uneasily interrelated. Bearing in mind the dimensions of the Russian Federation and the former Russian Empire and Soviet Union, we have to note that prior to the beginning of the 16th century AD, the time defined by the scope of the study, there was a much smaller state, called Rus or Russkaya Zemlya. Historically, this was comprised of the north-western part of Russia, the northern part of the Ukraine, Belarus and some neighboring parts of Finland, the Baltic states, Poland and Slovakia. Novgorod Rus, founded by the Rurik Dynasty in the 9th century AD, soon spread southwards when Count Oleg took Kiev. Then called “Kievan Rus” after the name of the main city (Fig. 1), the new state reached its cultural and political height in the 10th and 11th centuries AD, later splitting into smaller principalities, the most powerful of which were Vladimir-Suzdal, Halych-Volhynia and Novgorod. The final union of Russian principalities took place during the 13th–15th centuries AD around the Principality of Moscow; it became the capital of Russia at the end of the 15th century AD. Most of our accounts will thus be related to the written, pictorial and archaeological sources, originating from the time and area of the Russian state prior to the middle of the 16th century AD, when the state covered the area up to the Ural Mountains in the East (Fig. 1). However, it is impossible to understand the early history of falconry in Russia without using information from a much broader area. It is not only the area of the Russian Federation, which includes a part of Central Asia (the Altai Region, in particular), where falconry is supposed to have

originated around 2000 BC (SOMA 2012)¹, but also western and southern Europe that have greatly influenced falconry in Russia.

WRITTEN AND PICTORIAL SOURCES

It is impossible to establish the exact date that falconry arrived in Russia (Rus and Moscovia, from the 15th c. AD). It has always been widely known as an area inhabited by a wealth of raptors. The first accounts of hunting with falcons in Russia come from its southern region, from so-called “Kievan Rus”. Oral traditions report that Oleg, Grand Prince of Kiev, built a falconry yard in Kiev at the end of the 9th century AD (cited by KUTEPOV 1896, 137). A hundred years earlier, falconry in Russia had already become a subject of legislative regulation. The legal code of Kievan Rus, called *Russkaya Pravda* (Russian Justice), written under the reign of Prince Yaroslav the Wise (beginning of the 9th c. AD), establishes a penalty for falcon stealing (KARSKY 1930, 94).

One of the frescos in Saint Sophia Cathedral in Kiev, painted at the beginning of the 11th century AD, depicts a hare being hunted by a raptor (Fig. 2). Vladimir Monomakh, Grand Prince of Kiev, in his “Instruction for My Children” (1117), listed in the Lavrentiev Chronicle (the second half of the 14th century AD) (LAVRENTIEV ... 1872, 232–238), informs his children that he personally took care of “... church and service, household, stable, hunting, *hawks and falcons*” (MONOMAKH 2014, 435).

The Nikonov Chronicle provides under the year 1135 an address from the citizens of Novgorod the Great to their Prince, Vsevolod Mstislavich: “... having received dogs and hawks you are still not judging and governing the people” (PATRIARCHAL ... 2000, 159). “The Tale of Igor’s Campaign” (c. 1185) also refers to falconry (LIKHACHEV 1984, 8). The original charter by Grand Prince Andrey III Alexandrovich of Gorodets (he was a ruler of Gorodets County), written between 1294 and 1304 and addressed to the officials of the people, prescribes the provision of food and transportation for people coming from the sea with captive birds (KARAMZIN 1819, 168). One of his seals bears the image of a riding falconer (YANIN 1970, 161). The birch bark manuscript #54 from Novgorod the Great, dated to around 1320–1340, contains a fragment of a list, where falcons are mentioned in relation to possible owners or catchers (BORKOVSKY 1955, 68) (Fig. 3a); a similar manuscript #248 (c. 1380–1400) reports the occupation of gyrfalcon nesting grounds by people from the Swedish part of Karelia (ZALIZNYAK 2004, 622, 623) (Fig. 3b). An initial of a falconer with a bird is painted in the Novgorod Psalter of the 14th century AD (RUSSIAN ... F. n. I, 3) (Fig. 4a). A standing falconer with a bird on his right hand and certain items of professional equipment is depicted on a seal, found in the same city and dated to the twenties of the 15th century AD (GAIDUKOV 1992, 83; fig. 42, 3) (Fig. 4b). The earlier seal, found in the Novgorod the Great and used during the reign of the Grand Prince Andrei Alexandrovich (1294–1304), bears the depiction of a riding falconer with the falcon on the right hand (YANIN/GAIDUKOV 1998, 165, 278; fig. 390) (Fig. 4c). A scene of hunting with a hunting bird adorns the famous hunting lance of Boris Alexandrovich, Prince of Tver (1425–1461) (Fig. 5). The coat of arms of the Rurikid family, the dynasty of the first Russian rulers, bears a stooping falcon (RAPOV 1968, 62–69) (Fig. 6). The tradition regarding the use of birds of prey as heraldic symbols probably started in Scandinavia during the Viking Age, and subsequently was brought to Rus (AMBROSIANI 2001, 11–27; although, see the discussion in HEDENSTIERNA-JONSON 2009, 170–172).

Russian falcons and falconry are mentioned in a number of written sources from medieval Western Europe. The Famous German Dominican friar and Catholic bishop of the 13th century AD, Albertus

1 Although numerous rock engravings of birds of prey, dated back to 3000–2000 BC, are known from the Altai Mountains region, the first persuasive depiction of a mounted falconer on a bronze belt buckle comes from the 3rd c. BC north-eastern China (SOMA 2012, 173–174).

Magnus, points out that the best hunting birds inhabit "... Slavic, Prussian and Russian regions", especially the northern parts (ALBERTUS MAGNUS 1920, 1492). Russian falconers (*falconarii Ruthenorum*) lived in the court of the King of Hungary, Croatia and Poland, Louis the Great (1342–1382), also shipping him gyrfalcons (cited by DEMENT'EV 1951, 152). Ridolfo "Aristotele" Fioravanti, Italian Renaissance architect and engineer, came to Moscow in 1475 to acquire white gyrfalcons for Galeazzo Maria Sforza, Duke of Milan (cited by DEMENT'EV 1951, 152).

The 15th century AD was the century when the hunting birds, primarily gyrfalcons, started to be used as a diplomatic "weapon" between Russia and other countries. Rulers (Khans) of the Golden Horde regularly received hunting birds as a tribute from the princes of Russia. The famous medieval Russian traveller, Afanasy Nikitin, mentions in his diary under 1468: "... I have waited for two weeks in Nizhny (Lower) Novgorod for Asanbeg, the Ambassador of the Tatarian Shirvanshin², who came from the Great Prince Ivan³ with 90 gyrfalcons" (NIKITIN 1980, 46). Great Prince Ivan formed a pact in 1494 with the Crimean Khan, Mengli I Giray, which contained an obligation to send gyrfalcons to the Khan. He also sent, in 1504, eight gyrfalcons to his daughter, Elena, the wife of Alexander I, Grand Duke of Lithuania and King of Poland. Six gyrfalcons were sent in the same year to the Holy Roman Emperor, Maximilian I. Seven gyrfalcons and one falcon were presented to Ivan III by the citizens of Novgorod the Great upon his visit to the city in 1476–1477. Vasili III Ivanovich, the son of Ivan III, sent gyrfalcons to the Crimean Khan, Sahib I Giray (all the events are cited according to DEMENT'EV 1951, 152; 153). The following 16th and 17th centuries AD appear to be the most remarkable in the number of birds sent by rulers of Russia to foreign countries (Turkey, Persia, Crimea, England, Poland, Denmark, Georgia, Imereti, Khiva, Bukhara and Kalmyk Khan; for a detailed account see DEMENT'EV 1951, 153–155).

The trapping of hunting birds, especially gyrfalcons, in medieval Russia is also documented (for the list of some of these documents see DEMENT'EV 1951 and SHERGALIN 2011). The trapping of gyrfalcons along the northern reaches of medieval Russia had started as early as the end of the 13th century AD. Russian Grand Prince, Andrey III Alexandrovich of Gorodets, had already received gyrfalcons from Zavolochie (the region to the north-east of Lake Onega) between 1294 and 1304 (KARAMZIN 1819, 168). Ivan I Daniilovich Kalita, Grand Prince of Moscow and Vladimir (1325–1341), gave so-called "Tarkhan Charters" to the falconers from Pechora, which released them from taxes and fees. In the 14th century AD, falcons were already being trapped over the vast areas of Zavolochie, Pechora, Ural, Perm, Novaya Zemlya and the White Sea⁴. Some gyrfalcons might even have been trapped in the Vologda region (60°05'N 40°27'E), due to the colder climate in early medieval times. The agreement of Prince Yury Danilovich of Moscow and Novgorod the Great with Great Prince Mikhail Yaroslavich of Tver contains the phrase: "... and captured near Vologda gyrfalcons" (CHARTERS ... 1949, 26, 13). Since the beginning of the 16th century AD the right to trap falcons in North Russia has been given to special groups of professionals, called *pomytchiki* (Fig. 7). They had to catch and deliver to Moscow a certain number of hunting birds, following strict rules set by the government (for details see KUTEPOV 1896, 142–143 and SHERGALIN 2011, 2–4). The hunting birds (peregrine falcons) for the impressive hunting ceremonies of the Kublai Khan, fifth Great Khan of Mongol Empire (1260–1294), were mainly trapped in the region, which geographically may be interpreted as the Ural Mountains, according to the accounts of the Italian merchant traveller, Marco Polo (YULE 1903, 269).

Although detailed written sources on trapping, keeping, training and using hunting birds in Russia prior to the 16th century AD are virtually non-existent, later accounts can give insight into medieval falconry in the country. The best account comes from the times of Alexey Mikhailovich

2 Shirvanshin or Shirvanshakh – a title of rulers over the historical area of Shirvan (799–1538 AD), which is now a part of Azerbaijan.

3 Ivan III Vasilyevich, also known as Ivan the Great, was a Grand Prince of Moscow and all Rus (1462–1505).

4 Pechora et al.: areas of the European part of Russia, stretching from the east coast of the White Sea to the Ural Mountains.

Romanov, Tsar of Russia (1645–1676). Falconry gained prominence and reached its peak during his reign, gradually diminishing during the reign of his son, Peter the Great. The following description is based on the accounts of Grigory Kotoshikhin, Official of the Ambassadorial Office (Podyachiy of Posolsky Prikaz) (KOTOSHIKHIN 1859), official documents from the 17th century AD and the correspondence of Alexey Mikhailovich, Trapper A. I. Matyshkin, Podsokolnichi P. S. Khomyakov and Stolnik Golokhvastov (according to DEMENT'EV 1951, 162–165).

Tsar Alexey Mikhailovich had a collection of up to 3000 falcons and hawks. Birds were kept in two aviaries (“gyrfalconaries”) and about 300 servants took care of them. The chief of “gyrfalconaries” had the title “Trapper of Moscow Way” or “Sokolnichi”. His assistant had the title “Podsokolnichi”. Other servants had titles according to their duties: “Nachalnye Sokolniki” (second falconers), “Krechatniki” (gyrfalconers), “Yastrebniki” (hawkers), shooters, hood masters, and falconers-trappers (Fig. 8). Although well-paid, servants of “gyrfalconaries” must have followed very strict rules. Access for other people to aviaries was strongly prohibited.

Birds were classified according to their place of origin – Siberian or Kholmogorian – and color of plumage – white, pale, colorful, black, grey and spotted.

Lamb, beef and pigeon were used to feed the hunting birds. Up to 10 000 pairs of pigeons were kept nearby in a loft to satisfy their needs. However, this number was not sufficient to sustain so many raptors. Although some pigeons were bought, the main number of additional birds was acquired from peasants’ households. Each household was obliged to pay what was known as pigeon tax, consisting of two pigeons.

Training of hunting birds was similar⁵ to modern methods, which are quite conservative and have changed little since the 13th century AD (FREDERICK II 1943). According to the accounts of Tsar Alexey Mikhailovich’s times (DESCRIPTION 1856), it started with making the wild bird accustomed to human beings. The bird, in hood and jesses, was carried by the falconer for 24 hours. Manning went on longer if the bird refused to take the food after 24 hours. The bird was constantly kept half-fed. Simultaneously with manning, the bird was trained to wear a hood. Then the bird was trained to take the food: first from the hand, then from the creance of the falconer, standing and sitting on the horse. After the lure, the quarry was introduced to the bird. Living quarry was initially given to falcons and hawks in the aviary. Then the quarry was provided in the field; birds were flown at pigeons, rooks and crows, which were sometimes blinded. No more than 5–6 wait-ons were allowed at one session (wait-ons are not used by Asian falconers; their raptors chase the quarry). The waterfowl were often flushed out by drums (Fig. 9). The equipment of hunting birds consisted of the hood in Indian fashion (manufactured from a single piece of skin with a straight seam), jesses, bewits, bells, swivels, breastplate and tailplate; the latter two were only worn occasionally. Favorite birds of Alexey Mikhailovich often wore adorned equipment of expensive manufacture and decorated with golden and silver threads as well as precious stones. The same is true for falconers (Fig. 10). One of the favored hunting grounds of Alexey Mikhailovich, to the north-east of Moscow, which is now its district, still retains the name Sokolniki (Falconers).

The number of gyrfalcons flown at kites and trained by Tsar Alexey’s falconers exceeded those of trainers from Western Europe. Russian falconers used only one gyrfalcon, while western counterparts used two, or even three, simultaneously. Seven gyrfalcons caught 11 kites between the 4th and 12th June 1657. 18 kites were caught on July 7th 1660 with one gyrfalcon catching six kites. An average gyrfalcon could be flown 15 times at game on a hunting day; the best ones up to 25 times⁶ (Fig. 11).

5 Some of the techniques described below, such as the introduction of living quarry in the aviary or flying at blinded quarry in the field are rarely or not at all used in modern training methods (K.-H. Gersmann, pers. comm.).

6 Which might be a historical exaggeration, since the falcon needs half an hour of rest after each wait-on (K.-H. Gersmann, pers. comm.).

Although never approaching the level of Alexey Mikhailovich, falconry has been experiencing a gradual appraisal (with ups and downs) in Russia from the end of XIX up until now. A number of works on falconry in various parts of the Russian Empire (Soviet Union, Russian Federation) have been published (DEMENT'EV 1951; 1953; YRSALIEV 1966; AKSAKOV 1987; BORODIN 1997; SIMAKOV 1998; 1999; NOSKOV 2002; FEODOROV/MALOV 2005; PONOMARIOV 2006; EYEBERDIYEV 2007).

ARTIFACTS

Falconry is related to certain equipment that generally retains common and local features that were acquired in the past. Most of the equipment is made of easily degradable materials, such as leather and cloth. This equipment is represented in the wet layers of Old Russian cities, such as Novgorod the Great, Moscow, Tver, Pskov, etc. The following items are present in the archaeological records of medieval Russia: jesses, swivels, leashes, bells, hoods and gauntlets. The richest material on the subject comes from Novgorod the Great or Veliky Novgorod, already mentioned in 9th century chronicles as a major station on the trade route from the Baltics to Byzantium (YANIN/ALESHKOVSKY 1971). Systematic archaeological excavations in the historic part of Novgorod started in Novgorod Kremlin⁷ in 1932 and have been carried out ever since (f. e. THOMPSON 1965; YANIN 1992; YANIN et al. 2002). The overall area excavated is more than 40 000 m², which is only about 3 % of the total area of the historical Novgorod (Oleinikov pers. comm.). Although the earliest archaeological layers uncovered in Novgorod are dated to the 10th century AD, the earliest finds ascribed to falconry originate from the layer of the second half of the 12th century AD (see below the jess KP No 35 471-1277/2751). Most of the artifacts come from the 13th–15th centuries AD layers of two of the oldest districts of Novgorod, called Lyudin Konets and Nerevsky Konets, located near the Novgorod Kremlin (Detinets), the residence of Novgorod princes and administration (Fig. 12).

Jesses

Jesses are thin straps, traditionally made of whole or braided leather strips, which are secured on the tarsometatarsi. Jess size varies depending on the bird size and species. A slit on one side of the jess allows it to be looped through itself and around the tarsometatarsi of birds to fit comfortably and securely. The other side is perforated by a longitudinal cut to secure a swivel. Without knowledge of falconry, equipment it is often hard to attribute perforated leather strips to jesses. Even when the jess contains the tarsometatarsal bone of a bird, it is frequently interpreted by archaeologists as an amulet, such as happened with two tarsometatarsi of the Gyrfalcon male (*Falco rusticolus*) and Peregrine falcon female (*Falco peregrinus*) (det. by V. M. Feodorov) secured in leather straps and found in layers of the 80s–90s of the 13th century AD in the Tver Kremlin (KURBATOV 2004, 58–59) (Fig. 13a). The find was made in a pit near the residence of the Prince, away from the leather workshops (Kurbatov pers. comm.). A jess with the left tarsometatarsus of a Northern goshawk (*Accipiter gentilis*) was found in Novgorod the Great in the layers of the second half of the 12th century AD (Novgorod State United Museum – NSUM – KP No 35 471-1277) (Fig. 13b). Another jess with the right tarsometatarsus of a male northern goshawk (NSUM – KP № 35471?) from the same city (first half of the 14th c. AD) belongs to a typical eastern type, which has analogies in Middle Asia and Kazakhstan. The jess has a figured cut instead of a longitudinal one – a feature also characteristic to jesses with the bone of a large falcon from Tver (see above) and with the bones of a male and female Eurasian sparrowhawk (*A. nisus*) from Pereslavl' Ryazansky Kremlin (middle of the 16th century AD) (FEODOROV

7 Novgorod Kremlin or Detinets is a city stronghold and a centre of power.

2011a, 232–233). Although the above-mentioned jesses appear to be of the western type, figured cuts are typical for the eastern tradition (FEODOROV 2011b, 69–70).

Besides jesses with hunting birds' bones, there is a number of leather thongs, associated with bones of other birds, found in medieval Russian cities. HAMYLTON-DYER (2002, 104) reports such associations with the tarsometatarsi of an immature Common Crane (*Grus grus*) and a Common Buzzard (*Buteo buteo*), discovered in Novgorod the Great. Although neither of these birds would be used for hawking, the shape and size of the thongs closely resembled those of falconers' jesses. Captive birds, including diurnal and nocturnal raptors, are known to be used as decoys in the training of hunting birds (WIJNGAARDEN-BAKKER 2010, 153–162; ZEILER 2010, 163–168). Excavations in the Tver Kremlin (stronghold) in 2013 brought to light another interesting case of bird bones associated with leather thongs. Two jess-like leather strips, tied together, and the tarsometatarsi of one individual Little Owl (*Athene noctua*) were found in layers bordering the 13th and 14th centuries AD. A thin needle, made of bone, was inserted between the left tarsometatarsus and the corresponding jess (Fig. 13c). Whether the Little Owl was used as a decoy for small hunting birds, such as the Merlin or Hobby, or for some other purpose, remains to be clarified.

Swivels

Made of metal, bone or wood, swivels are a very important piece of equipment as they prevent the leash from tangling (Fig. 14a–b). Widely used and found separately from jesses and leashes, they cannot always be confidently connected with falconry equipment (KOLCHIN 1968, 78). Collections from Novgorod the Great, Rurik Gorodischche, Belozersk and Yaroslavl contain swivels that might have been used for falconry (NOSOV 1990, 129; ZAKHAROV 2004, 209, 221). Made of bronze, bone or wood, they resemble modern swivels used in Middle Asia (CEBALLOS 2009, 94). Varying in size, they might have once been used for raptors of different sizes. A number of the mentioned swivels belong to the pre-Mongolian period. This indicates that they might have been taken directly from the eastern nomads prior to the Mongolian invasion (FEODOROV 2011b, 70–71).

Leash

The side of the swivel, opposite to the jess, is connected to the leash, made of a long strip of leather or several braided leather strips. As with swivels, the leash is not always easily attributed to falconry when it is apart from other equipment. A leather strip (supposedly the leash for small raptors, such as the Eurasian Sparrowhawk or Merlin (*Falco columbarius*), which was found in the course of excavations in the Moscow Kremlin in 2007 in a layer from the first half of the 16th century AD, had a knot on one end similar to that on jesses from Western Europe (OSIPOV 2009b, 245) (Fig. 15a). Earlier examples might have had a simpler construction, characteristic of Eastern influence. The typical European type of leash seems to appear in Russia only in the 16th century AD (FEODOROV 2011b, 71).

Bells

Attached to the raptors' legs, bells are used to locate the bird in the field. When not in the field, bells help the falconer to understand how the bird is behaving. A falconry bell is attached to the leg with a small leather strip, called a bewit. Bewits are rarely preserved; unlike bells, they are not known from the archaeological excavations of medieval Russia. Bells of various shapes and sizes are quite numerous in the medieval layers of Russian cities. Although it is difficult to attribute any of them specifically to falconry due to their extensive use for other purposes, some bells are almost identical to those used today in falconry (Fig. 15b).

Hoods

Used in the manning process as well as to keep raptors quiet, hoods are utilized through the entire falconry career of birds. There are seven hoods, stored in the collection of the Archaeological Museum of Novgorod the Great. These were earlier misidentified as sheathes for scales, mirror frames, bags for amulets etc. All of them were classified as one group by a triangular perforation, the purpose of which had long remained enigmatic. In fact, the triangular perforation is nothing else but the opening for the raptor's beak. The following numbering and descriptions of hoods from Novgorod the Great is given after FEODOROV et al. (2011, 209–210) and OSIPOV (2012, 39–40).

The earliest hood (NSUM – KP 30861 A68-183) was discovered in layers dated to the 13th century AD (Fig. 16a). The hood is high and helmet-like. The small perforation for the raptor's beak is triangular. The hood is assembled from two pieces of thin black leather with a brown inner surface. The leather was stretched after stitching the two pieces together. There are slits for braces along the lower edge of the rear side. This hood is analogous to modern Arabian hoods, which also have braces along the lower edge of the rear side. The second unfinished hood (KP 25060 A19-458), dated to the first half of the 14th century AD, was made of thick (1.5 mm) black leather (Fig. 16b). The perforation for the beak is triangular. The fashion of the hood is analogous to items from Western Europe. The size of the hood is difficult to estimate due to the shrinking of the leather. The reconstruction, carried out on the basis of the template that was found, fits only the head of a sparrow-sized bird. Slits are only marked by an awl. The third hood (NSUM – KP 25060-19) comes from a layer of the first third of the 14th century AD. It has been cut from one stretched piece of black goat or sheep leather. The hood is not finished and lacks slits for braces. The fourth hood (BX 1768-5), the largest one, comes from the layers of the second half of the 14th century AD (Fig. 16c). The leather was stretched on a wooden mold. The triangular perforation for the beak is bordered by two decorative leather rays. There are holes for braces at the base of the rear side of the hood. Judging by its size, the hood must have been designed for a large raptor, such as a female gyrfalcon or male Golden Eagle (*Aquila chrysaetos*). There are at least two styles combined in the hood. The bulging eye-covers with a saddle between them are typical of Turkic hoods, whereas the braced back is more characteristic of Arabian samples (FEODOROV et al. 2011, 209). The best preserved fifth hood (BX_1768-4) was found in the layer dated to the border between the 14th and 15th centuries AD (Fig. 16d). Manufactured in an Arabic style from one piece of leather, the hood has a triangular perforation for the beak, which reaches the top of the product. There are two holes on the top to secure the plumage. The hood, found in the 14th century layer in Moscow, belongs to the same type (OSIPOV 2009a, 237–250). The sixth hood was found in layers from the beginning of 14th century AD. Made of one piece of thick leather, it must have been used on a Merlin or a Eurasian Hobby (*Falco subbuteo*). This hood has close analogies to those in Western Europe. The seventh hood, found in layers of the second half of the 13th century AD, is similar to the previous one except for the circular brace. The frontal brace is weak and primarily decorative, whereas the rear one served to fix the hood on the head.

There is also a report on the hood that was found in 2007 during the excavations of a wooden building in the Moscow Kremlin in layers dating to the end of 14th century AD (Fig. 17). Made of saffian (very thin, soft goatskin tanned with plant matter and then brightly dyed), the hood once fit the head of a saker female or gyrfalcon male (OSIPOV 2009a, 435–441; 2009b, 243–245). Hoods have been in lifetime use primarily for the two mentioned species, whereas small falcons were exploited without them. Hoods for hawks were only used during the training stage (DEMENT'EV 1935, 78). Baron Meyerberg mentions richly adorned parade hoods on the falcons of Grand Prince Alexey Mikhailovich (MEYERBERG 1874, 159).

Gauntlets

Gloves with gaiters are worn by falconers to ensure the protection of forearms against the sharp talons of raptors. Gaiters without gloves can be sometimes used. Russian pre-Mongolian and later traditions show mittens instead of gauntlets, which is characteristic for falconers of Middle Asia. There are several leather mittens with gaiters stored in the Archaeological Museum of Novgorod the Great. Some of them are ornamented along the outer sides of the gaiters (Fig. 18). The decorations show the extraordinary position of mittens and their proprietors (FEODOROV 2011b, 71–72). Similar mittens are still used by falconers of Kazakhstan, Kyrgyzstan, Turkmenistan and Uzbekistan.

BONES

Not only artifacts, but skeletal remains of birds of prey from medieval sites of Russian cities can also be associated with falconry (hawking). Unfortunately, bird bones are fragile and not always properly collected from archaeological sites. The best collection of identified bird bones comes from Novgorod the Great and its vicinities, although their percentage in the osseal assemblage is always less than 3 % (HAMILTON-DYER 2002, 101; SABLIN 2007, 310; ZINOVIEV 2011, 277–287). Bones of birds of prey, suitable for falconry or hawking, constitute no more than 2.2 % out of the mentioned 3 % (HAMILTON-DYER 2002, 103). The discovery in Novgorod the Great of goshawk or sparrowhawk bones, especially those of females, which are larger and more suitable for hunting larger prey, is a clear indication of hawking (MALTBY/HAMILTON-DYER 1995, 145–146; HAMILTON-DYER 2002, 104), supported by the written sources (for review see FEODOROV et al. 2011, 201–202). Other species used for hunting, single bones of which have been found in Novgorod the Great, are golden eagle and hobby (HAMILTON-DYER 2002, 104). Bones of possible decoy or prey, such as the common buzzard, black kite (*Milvus migrans*), tawny owl (*Strix aluco*), Eurasian eagle owl (*Bubo bubo*) (Fig. 19), common crane (*Grus grus*), corvids, various waterfowl and tetraonids are also recorded in Novgorod the Great (MALTBY/HAMILTON-DYER 1995, 145). Other bones of raptors, such as those of Hen Harrier (*Circus cyaneus*) and White-tailed Eagle (*Haliaeetus albicilla*), along with the already-mentioned common buzzard, may belong to birds that lived near the city and were killed as perceived pests (HAMILTON-DYER 2002, 104), although the white-tailed Eagle might have been used as a source of feathers for arrows (REICHSTEIN/PIEPER 1986, 1–214; ZINOVIEV 2011, 286; 2012, 26–31). The Novgorod Kremlin itself has only been poorly excavated. Animal bones, which had been obtained during recent excavations, have not yet been studied. The difference between this city and Moscow or Tver, where artifacts and bones related to falconry have been discovered in the actual seats of power, is thus only superficial. Although found inside the mansion borders of well-to-do citizens outside of the Kremlin, the scarcity of finds, which are not concentrated in certain areas, does not allow a connection between the bones' position and specialized falconry yards or living areas of falconers.

A series of bones of birds of prey are known from a number of sites from the Middle Volga and Lower Don, including Sarkel (White Tower), a fortress built by Khazars with Byzantine assistance on the left bank of the river Don (47°42'N 42°16'E) in the 830s. Although some of them belong to adult females of potential hunting birds (saker, sparrowhawk, northern goshawk and golden eagle), the direct connection with hawking or falconry has not been established (VOINSTVENSKY 1966, 67; GALIMOVA et al. 2014, 354).

DISCUSSION

Early falconry in Russia (Rus) from the beginning of the State in the 9th century AD was a leisure activity of noble people due to the high costs of its organization and maintenance; the same was the case in Western Europe. Prior to the Mongolian invasion, falconry experienced both Asian and West European influence. Some of the earliest bone and wooden swivels are analogous to the modern falconry furniture of Kazakhs, Kirghizs, Turkmens and Uzbeks. Since the Mongolian invasion in the 13th century AD, Russian falconry experienced massive Asian influence. Joint hunting with hunting birds was organized between the Tatar Khans and Mirzas⁸, from one side, and Russian princes from the other (PATRIARCHAL ... 2004, 154, 155). Hoods acquired Asian and Indian features, though sometimes indirectly, through Western Europe. Some of the earlier traditions have persisted, such as the negative attitude to the saker falcon (*Falco cherrug*). Russian falconry terminology acquired Turkic words, such as “chelig”, which defines males of all the hunting bird species (BROCKHAUS AND EFRON ... 1903, 464; cf. UDOLPH in this book). Birds were carried on the right hand in an Asian manner (FEODOROV et al. 2011, 199). West European influence strengthened after the end of the Mongolian occupation at the end of the 14th century AD. However, Asian influence still persisted in the names of equipment and hunting birds. Most falcons and gyrfalcons in the aviaries of Alexey Mikhailovich had Turkic names: Adragan, Alai, Aidar, Arbas, Bumar, Islan-Bay, Kyzylbay (DESCRIPTION ... 1856, 121). On the other hand, the training of hunting birds became European, with wait-ons instead of chasing. As a vast country with a turbulent history, medieval Russia displayed a dynamic mixture of European and Asian features in falconry. Novgorod the Great remained a little apart from this process; part of the Viking trading network and the north-easternmost outpost of the Hanseatic Union, it must have experienced western and eastern influences on falconry regardless of the Mongolian invasion.

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8 Mirza is a title of Persian origin, denoting the rank of a high nobleman or Prince.

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Fig. 1. Map of Russia. The history of falconry in this manuscript is discussed primarily for the green area, which was Russia at the time of the coronation of the first Russian Tsar, Ivan the Terrible (1547). The dashed black line shows approx. borders of Rus by 980 century AD, orange indicates Russia in the present (map J. Schüller, ZBSA).



Fig. 2. A hare, hunted by a raptor. Outlines of a fresco of the 11th century AD from Saint Sophia Cathedral in Kiev (after KUTEPOV 1896, fig. 6).



Fig. 3. Birch bark manuscripts from Novgorod the Great, related to falcons or falconry. a manuscript #54, 1320–1340; b manuscript #248, 1380–1400 AD (project “Birchbark Literacy from Medieval Rus: Contents and Contexts”).

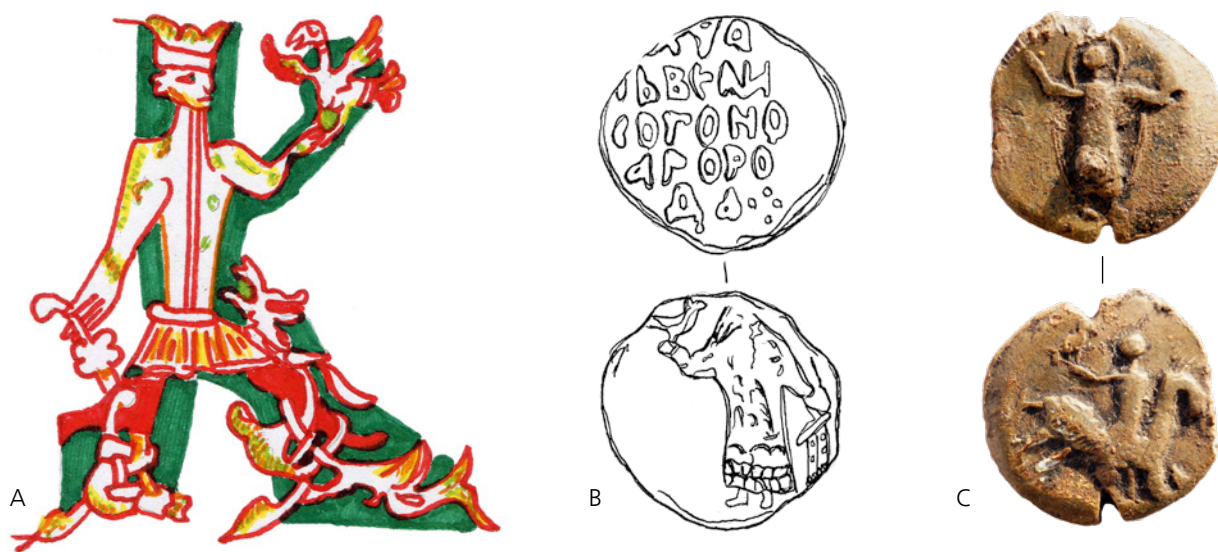


Fig. 4. Falconers with birds: a initial from the Novgorod Psalter (14th c. AD) (RUSSIAN ... F. n. I, 3); b the seal from Novgorod the Great (20^{ies} of 15th c. AD) (after FEODOROV et al. 2011, fig. 1, 3); c the seal from Novgorod the Great (1294–1304) (after YANIN/GAIDUKOV 1998, fig. 390) (courtesy by Oleg Oleinikov).



Fig. 5. Detail of decoration of the famous hunting lance of Boris Alexandrovich, Prince of Tver (1425–1461), depicting hunting with a hunting bird (after OSIPOV 2009b, 246, fig. 10).

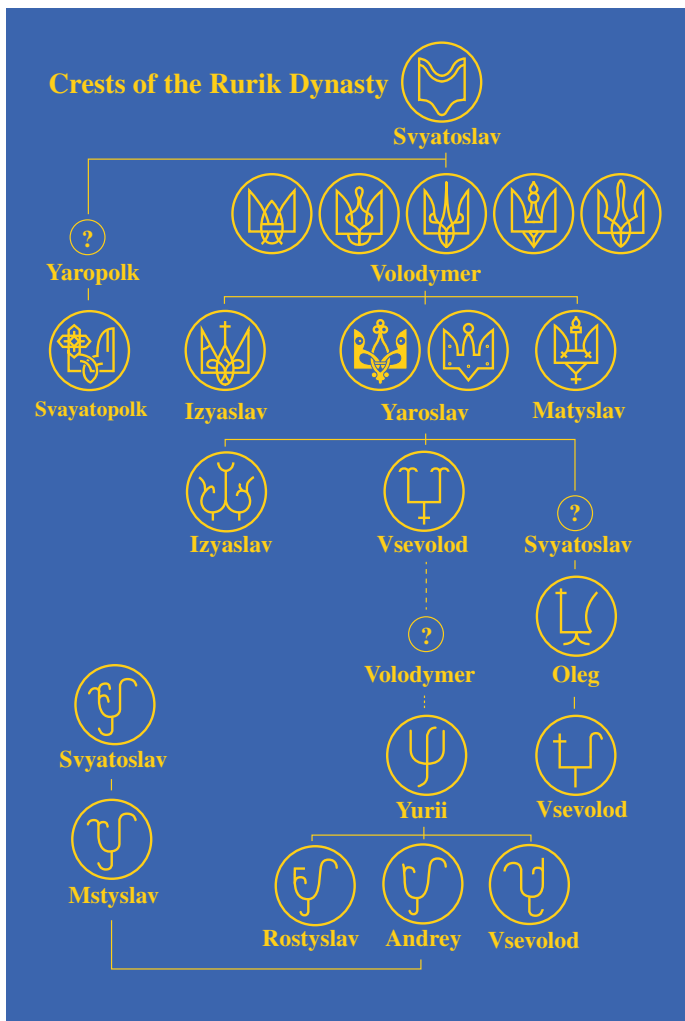


Fig. 6. Coats of arms of members of the Rurik Dynasty (c. 980–1132) with motifs of a stooping falcon (redrawn by L. F. Thomsen after Creative Commons Attribution 2.5. with changes).



Fig. 7. Trapping of gyrfalcon by pomytchik. Historical drawing by Vadim Grobatov (courtesy by the author).



Fig. 8. Gyrfalconer of Tsar Alexey Mikhailovich is releasing gyrfalcon after cranes. Historical drawing by Vadim Grobatov (courtesy by the author).



Fig. 9. *Hunting with trained birds in a miniature from The Illustrated Chronicle of Ivan the Terrible (60s–70s of 16th c. AD) (Book 12, 320, LRS 31.7.30/2, p. 813 rev.). Note the drum carried by the rider to flush the quarry (courtesy of the Library of the Russian Academy of Sciences).*



Fig. 10. *Italian Ambassador Calvucci is drawing the favorite falcons of Tsar Alexey Mikhailovich. Painting by Alexander Litovchenko, 1889 (courtesy by the Kharkov Art Museum).*



Fig. 11. Tsar Alexey Mikhailovich leading the hunt. Painting by Nikolai Sverchkov, 1873 (courtesy by the Russian Museum).

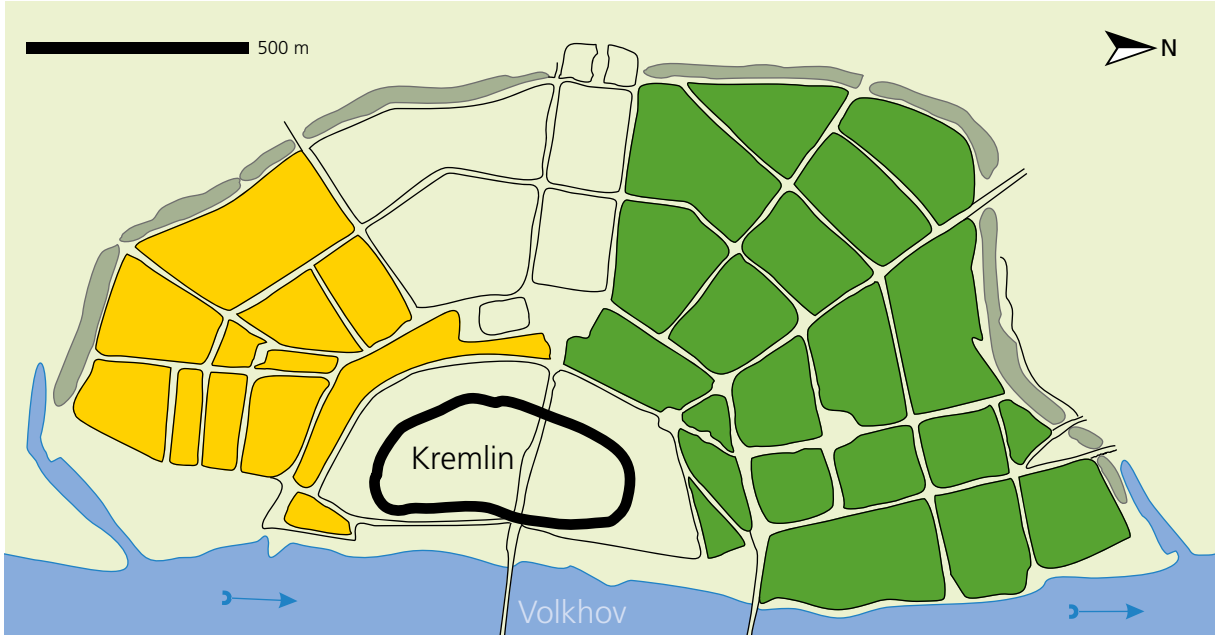


Fig. 12. Lyudin Konets (yellow) and Nerevsky Konets (green) in the western historical part of Novgorod the Great (after ZINOVIEV 2012, 147, fig. 2 with changes).



Fig. 13. Leather straps with tarsometatarsi (not to scale): a male Gyrfalcon (*Falco rusticolus*) or female Peregrine falcon (*Falco peregrinus*) from Tver of the 13th century AD (after OSIPOV 2013, 143 with changes); b female Northern Goshawk (*Accipiter gentilis*) from Novgorod the Great of the second half of the 12th century AD (courtesy of the Novgorod State United Museum); c Little Owl (*Athene noctua*) from Tver of the 13th–14th centuries AD.



Fig. 14. Swivels from Novgorod the Great, made of: a bronze (last third of the 16th century AD); b bone (13th c. AD) with leather strap (NSUM – KP 25295/A – 293) (after FEODOROV et al. 2011, 204, fig. 2). Not to scale.

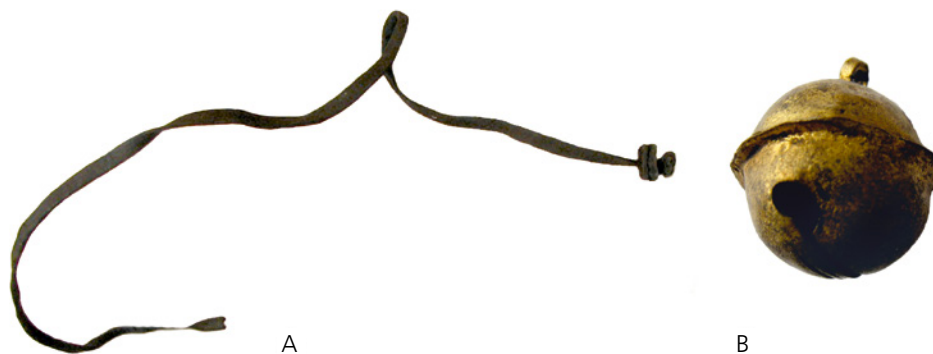


Fig. 15. a Leash of the 16th century AD from the Moscow Kremlin and an analogous medieval bronze modern falconry bell from Novgorod the Great (b) (courtesy of D. O. Osipov). Not to scale.

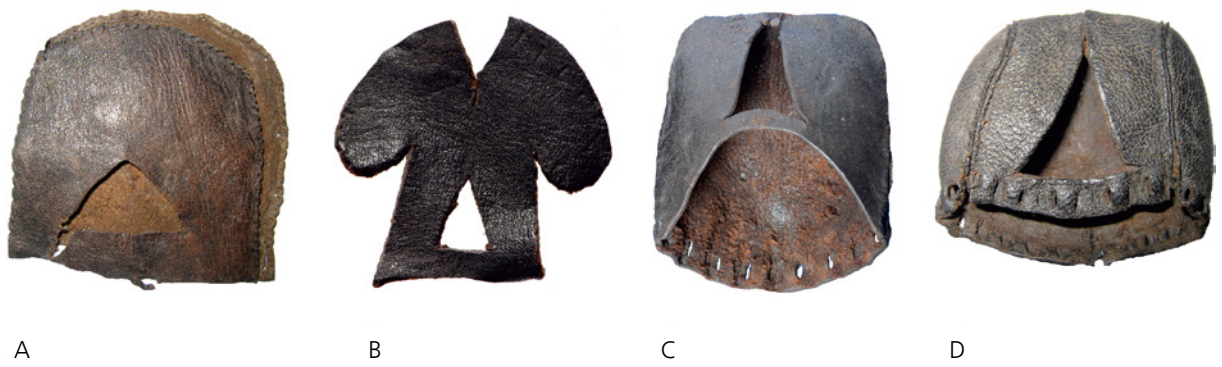


Fig. 16. Falconry hoods from Novgorod the Great: a 13th century AD; b first half of the 14th century AD; c second half of the 14th century AD; d border between the 14th and 15th centuries AD (courtesy of the Novgorod State United Museum).



Fig. 17. The 14th-century AD hood from the Moscow Kremlin: a artifact as it was found; b hood's cut; c the hood as it fits the wooden falcon's head (courtesy of D. O. Osipov).



Fig. 18. Right mitten with the ornamented gaiter from the medieval Novgorod the Great (Nerevski XVI excavation site) KP 25293 A7-42 (courtesy of the Novgorod State United Museum).



A

B



C

Fig. 19. European eagle owl (*Bubo bubo*) as a decoy: a fragment of the right tibiotarsus of female eagle owl, found in Novgorod the Great in layers of the 13th century AD (A. V. Zinoviev, unpubl. data); b enlarged fragment of the mentioned bone, showing the area of abnormal bone formation due an inflammatory process – possible evidence of captivity; c “Falconer lifting an owl from the ground” – copper engraving by J. E. RIDINGER (1764; Bibliotheca Falconaria K.-H. Gersmann), showing the use of the European eagle owl as a decoy (for a review of eagle owl use as decoy see WIJNGAARDEN-BAKKER 2010).