

Talon and White Crest: the Role of Falconry and Aviculture in Asian Societies

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Class Handout:

This class will tell the story of raptors and psittaciformes in East Asian history through their sciences of falconry and aviculture. In this handout (but not in the class presentation), we will also discuss the distinct differences between raptors and Psittaciformes to improve better appreciation for these magnificent avians. Please refer to the handout from time to time during class so you do not get lost in class. Biological information in particular is in this handout, not the presentation.

This handout contains most of the presentation text as well. If you lose your place in the presentation, odds are very good you won't miss anything—it should be right here in the handout.

Introduction: Birds of Asia

Asia is not Europe. Parrots are not falcons. Geography matters as does species. Each bird we will discuss is unique and has a special ecological niche. It really does matter when discussing the Tang dynasty, for example, whether the bird in question is a saker or a peregrine, because these birds are built fairly differently physically and hunt different prey—falconers use them very different, hence they have very different values!

In Europe, falconry culture put the peregrine near the top of the pecking order for desirable hawks. Yet Tang dynasty records speak far less of peregrine hunting than saker hunting. Geography matters!

What is a hawk?

A falconiforme (order) is a raptor, a bird of prey. Raptors include eagles, hawks, falcons, owls, and so forth. Falconry birds must be falconiformes by definition. All raptors have very powerful talons that BIND onto prey—breaking bones, tearing, and otherwise destroying flesh. Nothing can force a bird of prey to let go of anything short of killing her—they are that strong! If binding alone to prey fails to kill it, most raptors are able to assist the kill by using their razor sharp beaks to help break the neck. However in many cases, it is the speed of the strike from a high altitude STOOP that deals most of the death blow—lucky for the many pigeons that fall to many city peregrines!

Beyond the beak and talons, a raptor is best identified by their impressive eyes and visual system. Raptor eyes are so large that there is no space in the skull for muscles to move them—they are fixed forward in the skull.

This is why you see raptors moving their heads as much as they do—the head must do what most other creatures simply use eye muscles for. But this trade-off provides the best visual acuity in nature—falcons can spot moving prey more than a mile away and stoop at nearly 200 miles per hour to catch that moving target!

To handle these impressive eyes is an equally impressive visual cortex which constitutes the largest single area of their brains. Neurologically, falcon brains are structured very much like pigeon brains—except for a supermassive visual cortex that permits expert processing of all that visual data, allowing these most visual of all birds to do what they do so perfectly.

Falconiformes are the perfect aerial killing machines! Greatly to be respected for the lethal weapons they are!

Asian falconiformes for discussion in class:

In Asia, we are mostly dealing with **GOHAWKS** (especially the **CHINESE GOSHAWK**) which hunts from low altitude, mostly from tree tops and dense growth and forests, **PEREGRINE FALCONS** (which favor the East coast of China, the Chinese plain in the north, and north of the Great Wall—areas that are much less mountainous, less forested, where their high altitude hunting style is advantageous), **SAKERS** (a large falcon that prefers grasslands), and **GYRFALCONS**, the beautiful large falcons of Manchuria that are prized for their color morphs that include white and silver. In the west are **GOLDEN EAGLES** prized by **MONGOL FALCONERS**. Eagle falconry is different from the other styles of Asian and European falconry: rather than working with the bird's natural hunting style, in eagle falconry, the bird is encouraged to hunt **LOW** and **CLOSE TO THE GROUND** once the hood is removed. However one discussion with a licensed falconer in Society has revealed that the eagle prefers to hunt over 1000 feet in the air most of the time—eagles are naturally high altitude hunters.

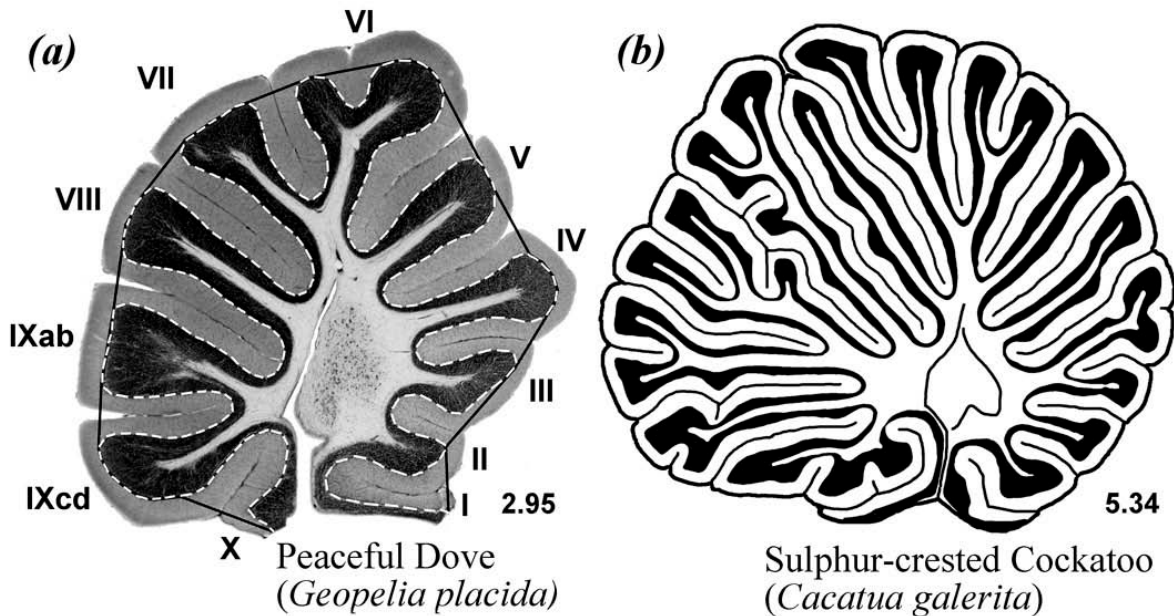
What is a parrot?

Far from the deadly predators of the falcons are the peaceful and often playful psittaciformes, parrots! As discussed in Survey to Medieval Aviculture, there are no native European parrot species—parrots come from the southern proto continent of Gondwana of which Arabia, parts of Africa, and India, along with the south pacific islands, Australia, south America, and so forth, all once were part—the lands of parrots. Parrots are evolutionarily younger than many other bird orders—younger as in taking more time to evolve and advance. So it should be no surprise that parrots are our avian equivalents in intelligence and cognitive ability! Or, as one newsletter puts it, they are “flying monkeys”.

Everything we can do cognitively, a parrot can do with a brain of only a few grams in size!

They can figure out our speech like a human baby does—by the same methods! Only being a creature of a forest environment, our re-enforcers make much less sense to them. A parrot's psychology assumes the individual teaching the language has a beak, feathers, wings, and tail.

The brains of all birds are extremely compact and efficient. Flight requires maximum neurological capacity at minimal space and weight—which is why the avian brain is a structure called the cerebellum. The more folds in the cerebellum, the more areas this brain possesses and the more sophisticated the cognitive abilities. See diagram below comparing the sulfur crested cockatoos (a grouping within genus *Cacatua*) with peaceful doves.



The sulfur crested cockatoos, representative of parrots as a whole, possess many more regions of the brain than doves and pigeons do, indicating their intellectual sophistication over not only columbiformes, but most other orders and families of birds. This more advanced brain design is responsible for parrots' advanced societies which are at the heart of parrot communication styles and communication abilities and parrots' abilities to learn and remember complex data required to map food sources and retrieve foods from very difficult sources. In other words, parrots are expert puzzle solvers with incredible memories, particularly for object locations in a changing world.

Parrots learn languages by role modeling—just as humans do. This is due to the multitude of individual dialects within each parrot language—each flock has its own dialect to convey to chicks hatched within it. A companion parrot learning human speech is simply learning the flock dialect—not mimicking. It must be understood in these terms. Companion parrots see their humans as more bird than human and expect humans to communicate to them in parrot. Conflicts arise when the humans fail to do so—which is why the aviculturist works to learn parrot and communicate as closely as possible in parrot with body position and tone of voice.

The physical features of a parrot include a sharp, pointed, hinged upper beak which is used in conjunction with the lower beak to climb, manipulate objects, crack seeds and nuts, build nests, and of course, to eat; a thick mallet shaped tongue that works with the beak to help with these tasks; zygodactyl feet (two front, two back) which function as both feet and hands to climb, manipulate objects, grasp food, build nests, and change the world around them; massive muscles controlling the beak to provide enormous strength to the beak, allowing

parrots to crack the hardest seeds and nuts on the planet—and the bones of threatening predators if need be!; and a massive, highly efficient cerebellum type brain controlling this most intelligent of all the avians.

The human brain, at 1-1.5 kg, is roughly 125x heavier than that of the largest parrots which have been documented to possess human intelligence (see Irene Pepperberg).

Asian psittaciformes for this class:

CHINESE DERBYAN PARAKEET—a violet breasted bright green rain forest parakeet originally from Shanxi-Gansu provinces.

INDONESIAN COCKATOOS of genus CACATUA: **UMBRELLA COCKATOO, MOLUCCAN COCKATOO, GOFFIN COCKATOO, SULFUR CRESTED COCKATOO SPECIES (ABBOTT'S, CITRON, ETC)**

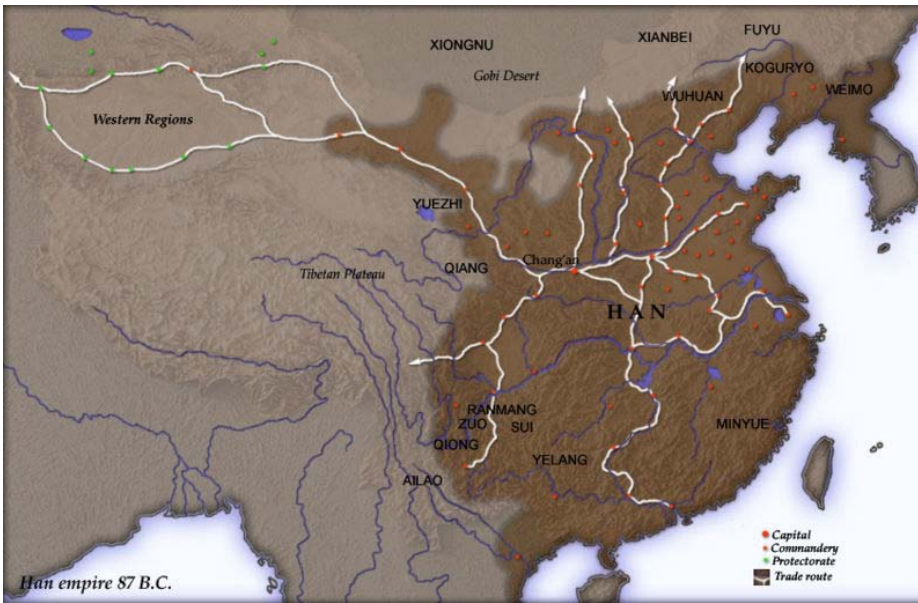
LORIKEETS—five colored nectarvores from Indonesia and Australia. The Chinese specifically imported the Indonesian Lories and lorikeets for their aviaries in the Tang dynasty.

PART ONE: Birds of Change—the Qin and Tang Dynasties

Background

- In 256 BCE Qin Shi Huang conquers the other Han Chinese states and unifies China as one “Zhong Guo” (Middle Kingdom). He is brutal as a ruler, but commissions a standardized dictionary for the nation. Written Chinese is nationalized.
- He commissions the building of the Great Wall to keep out his northern neighbors: the Shiwei (ancestors of the Mongols), the Khitans (Qidans), the Mohe (Jurchens), the Turkish peoples, and the Korean peoples.
- Before his death, he executes his prime minister, Li Si, a dedicated FALCONER who most likely learned it from his many interactions with foreigners.
- Li Si pays special tribute to his favorite gray goshawk just before his execution.
- After this, interest in falconry greatly increases in popularity among the Han Chinese.

Map of Han dynasty 206 BCE-220 CE



While the Han dynasty was essentially a successor to the Qin, the fall of the Han leads to chaos. Several smaller empires, mostly based on despotism, rose up. Look for Chang An—this is the capital! Shan3xi province where the Derbyan parakeet lives. The future Yanjing (Beijing) is on the coast near that big bay near WuHuan where the two rivers let out into the ocean.

From 220-280 the three kingdoms of Wei, Shu, and Wu ruled a smaller territory than the Han. Then from 265-420 the Western Jin and Eastern Jin (Han Chinese—not to be confused with the Jurchen Jin dynasty by a different character) took over.



From 420-589 were the southern and northern dynasties. These were then followed by the Sui dynasty.

The Sui dynasty is significant to the formation of the Jurchen people and the Korean state.



This map of the Sui dynasty in 610 shows not only the Sui prefectures, but China's neighbor's on the eve of the formation of the Tang dynasty.

- During the Sui dynasty, extensive war with the Korean kingdoms gave rise to Goguryeo kingdom's power and influence in North Korea.
- When Goguryeo fell, it was replaced by the Balhae (Bohai) dynasty which invaded the Mohe (Jurchen) lands of Jilin and Liaodong
- Sui fell to Tang dynasty
- Balhae (Bohai)—Korean kingdom that invaded Manchuria and subjugated the Mohe (Jurchens).
- Silla, Baekje— south Korean kingdoms

This Tang map reflects Han Chinese neo-Confucian attitudes towards its neighbors—suddenly the Khitan (Qidan) and Bohai Jurchen state (in 691 the Mohe and Goguryeo united into this new kingdom) , are labeled as just “Khitan” as if all their neighbors were Khitan and the Bohai kingdom did not exist at all while the Shiwei are moved westward and labeled “Mongols”. While the term “Mongol” did first come into use during the Tang dynasty, this map marks it in the year 700—early Tang. In fact, the actual year for the first use by the Chinese of the term “Mongol” over “Shiwei” is unknown—it could have been at any point from the mid-7th century to the early 10th century when the Tang collapsed.



Falconry Thrives in the Tang Dynasty

- Under Tang monarchs, falconry continued its previous popularity under Li Si from the Qin era nearly 1000 years before.
- Certain emperors, by being more athletic and more passionate about falconry, such as Tang Daizong (780-805) and Tang Shunzong (805), encouraged more of the population to become interested in falconry

...and is banished from court life

- Other emperors, under pressure from Confucian advisors, outlawed falconry from the practice of everyone at court—starting with themselves, emptying the imperial mews to gain status according to the Confucian virtues.
 - Tang Gaozong (650-683) ended all tribute in falconiformes. Gaozong’s concubine was a very notorious woman: Wu Zhao, later Empress Wu Zetian, the only woman to rule China entirely in her own right.
 - Ruizong (684-690) emptied the imperial mews along with the imperial theatre.
 - Xizong (873-888) followed Gaozong’s example and ended tribute in falconiformes



White color morph gyrfalcon (this one photographed in Iceland) such as those native to Manchuria.



Saker falcon

Why this attitude?

- The best of these falconry birds were received as tribute birds from “barbarians” north of the Great Wall.
 - Han Chinese culture had and has an attitude that they, the Han Chinese, are culturally superior to their neighbors. China is to the East as Rome was to the West—attitude and all!
- The Chinese on one hand loved falconry and loved to hunt as much as the rest of the world—but Confucian regards falconry as morally sinful.
- Add in that the best birds are (in order): Manchurian, Korean, Mongolian, Turkestani, and only then Chinese for quality and emperors are under a lot of political pressure to outlaw falconry—which they happen to love doing themselves



CHINESE DERBYAN PARAKEET



GREATER SULFUR CRESTED COCKATOO

The Tang Dynasty and the Derbyan parakeet

- The native parakeet, the violet breasted derbyan, suffered a very different fate in the Tang dynasty.
- In the Tang dynasty, as in all previous united Chinese dynasties, the capital was in Chang An (today's Xi An) in Shan3xi province in northwestern China.
- Throughout antiquity until the end of the Tang, the Derbyan ranged across all of Shan3xi province.
- Tang poet and courtesan Xue Tao wrote a poem about this parakeet and life in Chengdu, the "brocade city" in Sichuan province.
- In 9th century Pi Ri-xiu mourned that the original population of Derbyans in the Long mountains on the Shan3xi-Gansu border was already extinct due to poaching by peasants to pay their taxes to the emperor. They literally did not leave enough wild birds in the flock for them to survive predation and they perished!

Yet losing this flock was not the only blow for the Derbyans in China!

Derbyans and Tang Climate

- In the Tang dynasty, western China was largely forested. Rain forested and dense forest animals like Derbyan parakeets and giant pandas thrived in vast numbers and over huge ranges. The goshawk (a forest hunter) hunted

these very bright and almost neon-bright green birds.

- Or to put in very simply: it rained a LOT MORE before the 10th century CE in central and western China than it does now. China went through a distinct and ecologically dramatic CLIMATE CHANGE.
- This Song dynasty era climate change radically altered the landscape of China physically, politically, and ecologically.
- While this aviculturist has not yet pinned down the exact details of what happened, the results are clear...

Voyages to the South Pacific...and parrots!

- During the Tang dynasty several expeditions were made to Indonesia to explore and bring back exotic plants and animals.

- Among the exotic parrots brought back to the Tang courts were lorikeets, and white cockatoos (genus *Cacatua*, including Moluccan cockatoo).
- Concerns arose in the Tang that petting the cockatoos would cause death due to their powdery feathers (instead of oil as with other parrots) as a form of disease transmission.
- Emperor Tang Daizong released his wild caught cockatoo back to the forests of Indonesia out of compassion for its unhappiness.

Impact of Cockatoos

- While the bright colors of lorikeets brought praise in Tang courts and the powdery feathers brought initial fear of cockatoos in 7th century China, the beauty, intelligence, and virtue of the bird made an immediate cultural impact.
- Within decades, Buddhist sutras like “Guanyin and the Filial” came to include the cockatoo as the faithful servant of Guanyin
- By the 12th century, Buddhist iconography depicted white cockatoos at Guanyin’s left shoulder.
- The cockatoo was a vital part of Buddhism.

PART TWO: THE LIAO AND JIN DYNASTIES: WHITE FALCONS AND SONG PARROTS

Khitans and Jurchens: the Liao dynasty

- In 907 CE the Tang dynasty fell to the Khitan Liao dynasty in the north of China. In 960 CE the non-Liao parts of the former Tang dynasty united into the Song dynasty.
- The Liao conquered the Korean Balhae (Bohai) state. For the Mohe, now known as JURCHENS, this should have been an improvement in their condition. Instead, the Khitan treated the Jurchens horribly and demanded crushing quantities of tribute from them while denying the Jurchens the autonomy for self-government their clan-based society required.

The gyrfalcon—the Jurchen’s feathered gold

- One of the most precious possessions the Jurchens held were the Asiatic gyrfalcons who chose their lands to nest, migrate, and hunt.
- The gyr is so valuable that when Richard the Lion heart was captured returning from Crusade in 12/1192, the ransom was for 2 gyrfalcons.
- Throughout the Liao dynasty, taxes of all kinds were especially heavy on Jurchens while denying them permission to maintain their own leaders in government or grant positions of power to Jurchens in the Liao government.

On page 220 of the Cambridge History of China, we learn that tribute taken by the Khitan/Qidan from the Jurchens was a violent matter. The independent minded Jurchens resisted the occupation of their lands by the Liao and strongly resented the abuse they suffered at the hands of the largely nomadic Khitans whose government structure left no place for the Jurchen clan system and granted no permissions for the Jurchen beiles to rule over their own people.

Or, as another people would put it in a faraway land, there was heavy taxation without representation in a culture that strongly valued self-government and clan autonomy.

In imposing the gyrfalcon tax (the gyrfalcon being a bird integral to Jurchen shamanism), the Khitan nobility unwittingly set off their own “Boston Tea party”

Wanyan Aguda and the gyr—a dynasty falls over white falcons!

- One of the heaviest taxes the Liao emperors levied was for gyrfalcons which could be found almost exclusively on Jurchen tribal lands in Manchuria.
- Liao emperors had a passion for hunting, especially swans, with gyrfalcons.
- When Jurchens resisted these excessive (and dangerous to the ecology) levies, the “silver emissaries” of the emperor took the birds by violent means.
- In 1109 when Wanyan Helibo fought with other Jurchen clans for domination, his son, WANYAN AGUDA recognized that these GYRFALCON TAXES were a serious source of anti-Khitan hatred among his own people.
- 1113 Wanyan Aguda becomes BEILE of his tribe.
- 1114 Wanyan Aguda uses the gyrfalcon tax to encourage revolt against the Liao dynasty and UNIFY the Jurchen clans and tribes
- 1115 Wanyan Aguda declares the JIN DYNASTY—but the Liao dynasty is not defeated yet—the war continues.
- 1123 Wanyan Aguda dies with the war still raging.
- 1125 Aguda’s brother and new emperor Wanyan Wuqimai, finally captures Liao emperor Tianzuodi, ending the Liao dynasty at last.

Gyrfalcons were not the only reason for the collapse of the Liao dynasty, but they were a very important proximate reason. Liao mistreatment of the independent Jurchen and refusal to permit Jurchens any part of their own government were ultimately the causes of the Liao downfall. However, the exploitation of the gyrfalcon resource, which was so vital to Jurchen shamanism and clan internal policies, and the violent methods used by the Khitan emissaries to force compliance out of this highly independent and proud people became symbolic of

Khitan abuse as a whole. And therefore the gyrfalcon tax became a rallying cry for revolt and ultimately dynastic overthrow, the echo of which might be heard in the American Revolution over slightly different rights violations.

Climate Change Comes to the Song dynasty (10th-12th centuries)

- Sometime between the collapse of the Tang dynasty in 907 and the birth of Temujin (Genghis Khan) in 1162, the rainfall levels in western China and Mongolia changed dramatically.
- This not only deforested the Derbyan parakeets' native range in Shanxi-Gansu, but converted once lush forest land to steppe land mostly suitable for the Mongols' nomadic way of life.
- Life grew harsher for the Mongols who now needed to travel further to survive than before.
- These harsher conditions set the stage for Temujin's coronation in 1206 and the Mongol invasions to come.
- In Shanxi province at the climate divide boundary, the northern region of the province became steppe, leaving the southern half to retain its original monsoon climate pattern.
- When this aviculturist contacted Shanxi tourism about Derbyans, the reply was that there are still wild Derbyans in the province—at elevations up to 4000 meters above sea level.
- However, with significant habitat loss and pressure from a new predator hunting them—the saker falcon—many Derbyans were forced to move to Tibet and India where their bright feathers make them easy targets for sakers.
- This dispersal out of the range areas that were no longer suitable split the Derbyan species into TWO SUBSPECIES of *Psittacula Derbyana*:
 - *Psittacula derbyana chinensis* is the Chinese subspecies.
 - *Psittacula derbyana derbyana* is the Tibetan, Indian subspecies.
- It took CENTURIES for this division to create different subspecies—but recently scientists have recognized the Chinese and Tibetan birds

PART THREE: Jurchen falconry equipment



Jurchen HA ME TOU
(toad head) hood.



European DUTCH HOOD for red
tail hawk



ARAB HOOD for a kestrel
(smallest of the falcons)



Tao Xiu gauntlet.

The tao xiu sleeve gauntlet leaves the fingers exposed so the falconer can better feel what the bird is doing and control her with more sensitivity than the European gauntlets do. This gauntlet is the biggest difference between European and Asian falconry.



Hu Lu Jurchen water bottle



SHI PIAO—Jurchen field food dish

The shi piao is used to feed the falcon after her kill or attempted kill. The meat is first washed, then put in the shi piao before being offered to the falcon in the field.

IN CONCLUSION:

- The orders falconiformes and psittaciformes made important contributions to Asian culture and history.
- They became the pretext for imperial policies, dynastic overthrow, and were the objects of imperial greed in all its forms.
- In nature, falcons and parrots struggle against each other for survival—yet in their dealings with humans, they ultimately face the same enemy: US
- Destruction of nest sites, poaching for falconry and aviculture, and mistreatment of birds in our care have pushed many species to extinction or near extinction.
- From the peregrine falcon that almost went extinct to the many cockatoos of genus *Cacatua* that without serious help from us will be extinct within 20 years, these Talons and White Crests need our help to fly free and remain the best living history a gentile of any kingdom can hope to appreciate.

May our Society keep the dream alive...of a world filled with Talons and White Crests for all to enjoy for generations to come.

May the Talons and White Crests fly forever free!

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