

FIWC - 09.06.2018

From the emergence of the graioid morphotype to the ancestral Irish Wolfhound

***A lecture by
Sophie Licari***

In this presentation, we will talk about the emergence and the development of the ancestral graioid morphotype, from which proceeds the Irish Wolfhound. The graioid morphotype is the cynotechnical name of sight hounds, corresponding to a vertical lengthening of shape, which allows these dogs to perform with the greatest efficiency the sight hunting function. According to the available data, the sight hound is one of the first two specialized morphotypes to emerge from the morphotype of the primitive dog.

Etymology

First of all, where does the term "graioid" come from? If we suspect at first sight that its root is Greek, like many scientific neologisms, to go back on its track allows us to understand, how the pioneers of cynology were led to suppose that the sight hound type was of Greek origin. We must consider for this, the monumental "Historia Animalium" of Conrad Gessner, a Swiss naturalist of the sixteenth century, first zoologist of modern times. In his long chapters devoted to dogs, he quotes the "De Canibus Britannicis", cynological treatise of an other precursor of cynology, the English doctor John Keys (also known as Johannes Caius); this work, published in latin in 1570, and then translated in English, was originally an essay addressed to Gessner.

Gessner mentions the Latin word "leporarius", adjective of "lepus", hare - the expression "canis leporarius", literally hare dog, appearing in the eighth century in the law of the Alamans. But he also mentions the etymology proposed by Caius to explain the origin of "grehunde", old form of "greyhound" : the prefix gre, estimates Caius, comes from the Latin "gradus", degree, "because among all dogs, these dogs occupy "the chiefest place", are "the best of the gentle kind of hounds." But as for Gessner, he thinks that grehunde comes from "canis graecus", Greek dog.

Linguistics has obviously progressed since the sixteenth century : we know that "grehunde" (which will later undergo the phonetic attraction of "gray", which also made believe that the term was related to a color of coat), comes from the old English "grighund". Grig would be a derivative of a word of Old Norse (the language of the Scandinavian colonizers of England in the High Middle Ages), geri, or gerr, which means voracious, greedy; the English word greedy is connected to it. In a substantive form, geri could mean the wolf, the dog, or the raven. In Germanic mythology, Geri is also the name of one of the wolves of the god Odin. It may be therefore assumed that "grighund" meant hounds for wolf hunting.

In any case, it is very likely that "grehunde" did not mean "Greek dog"; Gessner's explanation will, however, be retained by the naturalists who will succeed him. Thus in the eighteenth century, Carl von Linné, founder of modern systematics, gives the sight hound the scientific name of "canis graecus" or "graius", Greek dog. The French zootechnician Pierre Mégnin takes the term, when he builds at the end of the nineteenth century a nomenclature of the ancestral canine types : he divides the canine species into four principal morphotypes, lupoid, graoid, molossoïd, and braccoid, which will continue to be so named in the cynophilist terminology of the Latin countries.

The primitive dog

Let's go back up the track of the emergence of the graioid. We must begin by talking about the primitive dog. Archaeozoological data suggest that the primitive dog, which appeared at the end of the Upper Paleolithic according to a broad scientific consensus, is distinguished from the wolf by the following features : reduction in size, less robust construction, reduction of the volume of the skull, shortening of the muzzle with sometimes formation of a slight stop, smaller teeth but remaining wide, and therefore presenting a tighter implantation. This primitive dog usually measures 13 to 21 inches at the withers (except two larger specimens found on a Russian site).

The bone remains testify that the primitive dog is not usually consumed. Its morphology also betrays no particular predisposition for the accomplishment of an utilitarian function, as revealed in particular by the comparative anatomy study of the prehistorians Eitan Tchernov and François Valla, on the canine bone remains of the Israeli site of Hayonim Terrace (dated about 10,000 years BC); they were found in the hunter-gatherer burials of the Natufian culture. Compared with wolves of equivalent size in the same region (the smallest subspecies of wolf), these dogs show that they are more slightly built : the reduction of muscle attachment areas, disproportionately than that of the long bones, indicates a less developed musculature; in other words, compared to the wolf's anatomical standards, their musculature, relative to their size, is weaker than it should be. Zygomatic arches are also less wide.

These indications denote a reduction of the natural selective pressure for an efficient predation : these dogs eat a softer food than that of the wolves, and move little to obtain it; so they depend on the humans. In dog matter, however, they are primitive as can be : these natufian dogs have a muzzle shortened only in its front part. This delay of development of the front of the muzzle and the teeth concerned, is a typical pedomorphical feature of mammals, a by-product of a selective environmental pressure.

It is in the Neolithic period that the Natufian dogs bear the shortening of the posterior part of the muzzle, specific to the domestic dog; the appearance of this trait reveals an increase in the selective pressure, that could correspond to the intentional phase of domestication. The iconography of several continents, moreover, suggests that at that time, the dog was put in function as hunting assistant. Although there are different sizes here and there, the primitive dog retains for thousands of years a strong similarity of conformation.

But afterward, in some contexts, the primitive dog will undergo a stronger selective pressure, probably due to the search for an optimal efficiency in the accomplishment of certain tasks : their users draw on the variability then available, to privilege specimens more efficient than others. Functional specialization, giving a boost to the differentiation of the canine species, will gradually lead to a high morphological specialization : some dog populations then move away from the mesomorphic and mesencephalic morphotype of the primitive dog, and this in two opposite directions : the first two specialized morphotypes of the canine species are the powerful molossian dog, protector of the livestock against the predators, and the fast sight hound, this sight hunter able to easily catch fast preys running.

The morphological specialization of the sight hound is reflected in the lightening, the vertical stretch, and the lateral reduction of the proportions, which increase the performance of the dog in top speed : elongated limbs, well developed musculature, but not very covered with adipose tissue, deep but flat rib cage with hollow flanks, optimizing the movements of the limbs, very flexible spine, acting as a spring for running, lean and well cut up underline.

Tchernov and Valla also compared the Natufian dogs to a village dog of the same region, of similar size, and of graioid type. The anatomy of the latter reveals the ability to achieve superior athletic performance, not only to primitive dogs, but also to the current wolf of the same size : the limbs have grown disproportionately, the areas of muscle attachments have also disproportionately enlarged, revealing the power of the musculature : in other words, compared to the anatomical standards of the wolf, the sight hound has longer limbs and a stronger musculature than its size should allow it. The study thus shows that the transformations induced by the intentional selection of the graioid morphotype, consist in the inversion of some of the anatomical features, that resulted from the process of domestication. As corollaries of bodily changes, those of the face also reveal this phenomenon of inversion: in the sight hound, the stop disappears, the muzzle lengthens and refines, the teeth splay from each other.

Appearance of the graioid morphotype

The available data place the earliest evidence of the emergence of the sight hound in North-East Africa, Western Asia and South Central Asia : it is logically in countries with low vegetation cover, favorable climate for the survival of dogs lacking the body compactness that reduces heat loss, that this morphotype highly specialized in the pursuit, could have been the subject of an early selection. The data also provide a chronological hypothesis towards the 5th-4th millennia BC; it is the time when decisive developments in the Ancient Near East are taking place : metal work and trade, development of cultivated lands by irrigation, urban revolution, invention of writing.

The increase in selective pressure to facilitate the expression of specialized canine morphotypes could be understood, in this context of an outbreak of civilization and technical progress, as a step forward in the rationalization of animal use, similar to the progress in the breeding of domestic ungulates. Subtracting like this, a part of the canine population from the functional versatility of the non-specialized dog, extension of the primitive prehistoric dog, would be more specific to the economies of production than to subsistence economies; a strong differentiation of the canine species could thus be seen as a testimony of civilizational progress.

The archaeological evidence liable to correspond to the emergence of the graioid morphotype, are located in Egypt, Lower Mesopotamia, Turkmenistan, Syria. In a study of Turkmen canine bone remains, the archaeologist Aleksei Kasparov explained that the morphological type of dogs spread in western Asia and southern central Asia in the 4th-3rd millennia BC was very different from those in Europe and corresponded to the graioid type.

The contribution of archeology, which is fundamental when the state of the bone remains makes it possible to understand the type of the dog, remains however always fragmentary. But the dog, closely integrated with human societies, being the animal most represented in art, iconography is an important documentary support, as long as we take care not to make it reveals more than it can. Faced with a crude or highly stylized representation, the identification of a specialized canine morphotype can be speculative. This methodological reserve made, a world of images opens, whose overview can bring relevant elements.

Iconographic research makes it possible to conceive that over time, stylistic conventions, specific to the main canine functional morphotypes, have been established, traveling from one cultural or temporal sphere to another. It is thus sometimes possible to recognize, despite the rudimentary aspect of certain representations, what kind of dog the artists represented. The molossian dog and the sight hound offer many

examples. Given the fact that the sight hound differs from the primitive morphotype by the stretching of its proportions, its very oblique underline, its long and narrow snout, its slightly arched spine, its thin curved tail, and often its rose-shape ears, in many cases the artist only needs to represent a basic or stereotypical canine silhouette, and to sign his graioid identity by combining at least two of these elements.

Iconographic records

In the Ancient Near East and African iconography, Negev and Sahara rock paintings dating from the 5th to the 3rd millennium, ceramics of the Egyptian and Elamite civilizations of the 4th millennium, the sight hounds first emerge as hypotheses, like a sketch, as a stretched or slightly carinated silhouette, then as a more specific graioid form. Certain stylistic codes which will continue to characterize the sight hound in world iconography, seem to be set up at these times; as I said, these morphological details, tacked on a general canine form, make it possible to make a presumption of its identity : it can be a very deep chest accompanying a tucked up belly, a triangular head with erect or rose-shape ears, or long and floating backwards ears, slightly hooked muzzle, slightly arched back, elongated neckline and limbs, long and thin tail. The more these elements are added in a representation, the more the identification of it as a graioid becomes probable.

In Pharaonic Egypt, the sight hound becomes an important iconographic figure; it is painted, carved, engraved in the funeral complexes, in hunting action but also in full-length portraits. The dedications that are sometimes consecrated to it, show that it is appreciated as a hunter, guardian and companion. It is more or less greyhound-like, according to the representations; his ears are straight, his tail carried high, most often rolled up on the rump, or sometimes curved or vertical. The name of the dog is said in Egyptian in different ways, but it seems that the term "tesem" corresponds to this morphotype.

He would be present also in the pantheon; however, the deities represented by canids, Anubis, Oupouaout, Khentyamentiou, hardly differ from each other, and seem to form a Canids generic entity, rather than being consecrated to different species. The iconography, however, provides a clue to the identity of the representations of these gods : their tail is low and bushy, like that of the jackal figured in hunting scenes, and not rolled up or even vertical. This slight but recurrent differentiation is also attested by the hieroglyphic code, as Champollion testifies in 1828 : *"I am no longer surprised that in hieroglyphic inscriptions it is so difficult to distinguish the dog from the jackal : the characters that express them are identical. The dog differs only by the turned-up tail. This trait is taken in nature; all the dogs of Egypt carry indeed their tail thus rolled up."* So the Egyptian canid deities are probably not represented by dogs.

A graioid form with semi-drooping or drooping ears, which will later characterize the majority of sight hounds figures in all iconography, also emerges. Sight hunting does not require a particularly sharp hearing, so it's probable that this carriage didn't impact the level of performance. Certain representations allow us to suppose its presence in Mesopotamia in the fourth millennium. The sight hound with semi-drooping ears, or even falling ears, would appear around the same time in Egypt, where thereafter it will supplant the tesem carrying erect ears, at least in iconography. The adoption by Egyptians of sight hounds from Asia has, however, been assumed. But there is nothing to indicate that the falling ear, a secondary pedomorphic trait which can also sometimes characterize the primitive morphotype, has not appeared indifferently in several places : all the graioids with these ears do not therefore necessarily go back to a single Asian

strain. And in Asia as elsewhere, the erect ears will continue to persist in some sight hounds in later times. But it is noted also that the cut of ears could relate to this kind of dogs; for example, Indo-Iranian religious rituals included the prescription of cutting the ears of certain domestic animals dedicated to the deities.

It is important to note at this stage, that current sight hounds are not the direct descendants of ancient sight hounds. The iconography bears witness only to the age and permanence of the functional selection : the ancestral morphotypes continued until the advent of cynophilia, because they represented the forms necessary for the functions devolved to the canine species. If the images bring essential elements to the cynology, they do not mean that the specimens represented, as well as the exhumed bone remains, can be considered as the direct ancestors of our breeds. Before the cynophilist era, dog populations did not live in reproductive isolation, and many local varieties or stocks were able to die out, dilute, and be reborn under new selective pressures. The idea of millennial or centuries-old breeds, perpetuated until now in some kind of genetic cocoon, is therefore a fantasy.

The sight hound, as a relatively standardized form, continues in later times, reaching Europe and East Asia. The Chinese, Persian, Arab, and Ottoman civilizations produce realistic representations of their sight hounds. In regions with a harsher climate than areas of initial emergence of the graioid type, sight hounds will bear a more furnished coat. It can be noted that under the Chinese Tang Dynasty (seventh to tenth century), dog-servants are foreigners from Central Asia; it might be supposed that they imported dogs from their country to the imperial court; it is also from the Persians that the Chinese civilization inherited hunting with hounds. But if the animals themselves can travel, customs and practices too : it can not be excluded that these countries have seen the emergence of their own graioid selections, not directly related to the previous ones. A morphological convergence can reveal a common filiation, disseminated through economic-cultural exchanges, but not necessarily, any canine variety being able to emerge from new selective pressures.

Greco-Roman and Celtic Worlds

Greco-Roman iconography gives a large place to sight hounds, and often represents them in hunting action. The decor of the Greek and Roman ceramics, coins, mosaics, statuary, thus grant him a quite large place; if the line is not necessarily precise, the graioid morphotype is generally recognized with a small degree of uncertainty. Some Roman representations sometimes seem to reach a large size, perhaps to be considered as the product of selective practices revealed by the hunting authors; an element that could be put in perspective with the archaeozoological data, which show, with a very clear increase in the morphological variability of the canine bone remains, that the functional differentiation of the species accelerated during the centuries and in the area of influence of Roman domination. The literary sources are then sufficiently explicit to be assured that the Romans, by a policy of importation from all around the Empire, knowingly mixed and recombined the cynological heritage at their disposal.

The Roman hunting literature also gives a large place to sight hounds, these "canes veloces". The authors know the specimens of Egypt and Libya. But there is also the Laconian, from the name of a region of Peloponnese, of which Sparta is the capital; this term seems to designate sight hounds. Oppian, author of the third century, describes the dog used "*in long runs to hunt roe deers, deers and hares*", as having nervous and elongated body, light head, long neck, arched flanks.

The "vertragus", of the Celtic "ver-traig" (that means great runner), is a Celtic dog famous in the Greco-Roman world, of which Arrian, author of the second century, who owned a specimen, is the main exegete. If among the Greeks, the dogs pursued and drove the hare to the trap, it is indeed in the Roman world, during the imperial era, that spread the Gallic custom to hunt the hare, for sporting purpose, with dogs able to catch it in running. Arrian explains that to be very fast, the Vertragus too must have light head, very elongated body, broad chest, hollow sides and belly, long legs, long and flexible neck, powerful but not fleshy back. The ears are often drooping, sometimes erect. The coat is very diverse in color, short or thick. Like its counterparts in other countries, the vertragus also hunts the deer.

It is very likely that the vertragus was not limited to the territory of Gaul as defined by the Roman conquerors - for whom the ethnonym "Galli" also referred to the Celts in general. If they never built a political unity, their civilization, through language, religion, art, lifestyle, social structures, formed a cultural unit from either side of the Channel and as far as the Iberian Peninsula, the Carpathians and even Anatolia. The Celts of Gaul thus maintained constant exchanges with those of the British Isles. Other Roman writers indicate that in Britannia, that is of course in Great Britain, there are very fast dogs.

In any case, the iconography provides very few identification elements, Celtic art being very stylized, as demonstrated for example by the magnificent Book of Kells, even if we can take into account the silhouette of the dogs engraved on Celtic Britain coins. And there is of course a bronze votive statuette of the fourth century, found in Lydney, Gloucestershire : it could appear as an iconographic witness of a British vertragus; exhumed on the site of a Roman-Celtic temple dedicated to Nodens, hunting and warlike deity; this figurine, with its elongated limbs and neck, its ears bent backwards, and its long head, seems to represent a sight hound morphotype.

We can consider also a letter from the Roman consul Symmachus, dated to the end of the fourth century : he thanked his friend Flavianus for sending him seven "Scotticorum canum" for the amphitheater hunts. So these dogs came from Scotland, where the Romans, having never settled in Ireland, had limited their conquest. It may, however, be supposed, the Scots of Scotland descended from the Gaels of Ireland, that their dogs also had common origins. In his letter, Symmachus states that "*all Rome looked at them with admiration, assuming they had been brought into iron cages.*" What did these dogs that impressed the Romans, look like ? Were they particularly large, or particularly tall ? The Romans being not novice in dog breeding, especially that of molossian dogs, we could be eventually inclined for the second hypothesis. We could suppose, but without any guarantee, that a large sight hound may have already been individualized in Scotland.

In early medieval Irish literature, extension and survival of Celtic mythology, the hunting dogs are present as an attribute of kings, heroes, gods (including many hunting deities), but are not described. They also appear in the collections of pre-Christian laws that governed Irish society until the Anglo-Norman invasion; for example, there is the number of dogs allowed to members of the aristocratic caste according to their rank, which suggests that they remain a social marker.

In the middle Ages

We see again the sight hound in feudal Europe, which is its climax in the West : closely linked to the aristocratic way of life, it is omnipresent. It is used on hare, but also on all the big game, in addition to the usual hounds and molossian dogs. The sight hound

is also the intimate companion of the lord, with whom he is represented in all circumstances. In our Western Middle Ages, the position of a member of the seigneurial class in the feudal pyramid is judged indeed, among other markers, on the number and beauty of his packs of dogs.

Apart from the hunting scenes, the quality of the male character represented is therefore indicated by the elegant sight hound that goes with him, further highlighted by its leather collar, often decorated with gold rings. In the field of individual portrait, which flourished from the Renaissance, the sight hound will remain the masculine and noble attribute par excellence, and not only in the West. In this iconographic function, however, he is competing with the hunting molossian dog, but especially from the 17th century by the pointing dog, while thanks to firearms, the hunt for birds acquires another dimension.

The sight hound thus constituted an inseparable element of the feudal civilization, which perpetuated with care the graioid morphotype. It benefits, within the rich seigneurial packs, from attentive care and selective practices, which allow it to multiply in several varieties of size, as the iconography attests ; the dwarf sight hound appears, selected for the rabbit hunting but also for the company of ladies. The graioid type become more radical. But when it is necessary, especially for wolf hunting, the sight hound bears a more powerful conformation, that could be linked to a molossoïd content. In any case, it can have sometimes, thereafter in the Renaissance art, a tall stature.

There are therefore high sight hounds on the continent. As for England, Caius said that the greyhound comes in several sizes, for various game : "Their principal service is to start and hunt the hare, but these dogs can serve the chase in tacking the deer, the roe deer, the fox and other beasts. It is a kind of lean and skinny dog (in flesh but not in bone), some are of the greatest variety, others of the smallest, some have smooth hair and others curly."

"The great irish wolf dog"

Tall sight hounds are thus present in the British Isles. They are mentioned in Scottish literature of the Middle Ages and Renaissance. Aforesaid Gesner represents a specimen, with a drawing transmitted by Henry St. Clair, the Dean of the Glasgow Cathedral Chapter. Besides, if the "grighound" was originally a wolf hunter, it required a size large enough to face the predator.

The existence of a large sight hound is also attested in Ireland. In the 16th century, the Irish Jesuit Edmund Campion wrote in his "History of Ireland", that "*the Irish are not without wolves, and greyhounds to hunt them, bigger in bone and limb than a colt*". Afterwards, mentions of a variety of tall Irish greyhounds continue to be seen in British history and literature. The Irish wolf hunter remains a prestigious dog, prized by the English nobility, and is also the subject of diplomatic gifts to crowned heads of Europe or even Asia. So that in 1652, Lord Protector Oliver Cromwell, after his repression of the Irish rebellion, bans its exportation, in order not to empty the island of his wolf hunters; to this end, the local officers are responsible for intercepting any dog of this kind that the "party of the enemy" would attempt to drive out of Ireland, and to verify its measurements.

But the decline is not stopped, especially as the wolf is finally eradicated from Ireland in the eighteenth century : the last wild wolf in Ireland is said to have been killed in 1786, three hundred years after the wolf was believed to have been wiped out in England and a century after its disappearance in Scotland.

So the breeding of such a dog, moreover in a country in the process of impoverishment, was no longer necessary. The Irish naturalist Oliver Goldsmith writes in *Animated Nature*, 1774, about the "great Irish wolfdog" : *"this animal, which is very rare even in the only country in the world where it is to be found, is rather kept for show than use, there being neither wolves nor any other formidable beasts of prey in Ireland, that seem to require so powerful anagonist. The wolf dog is therefore bred up in the houses of the great, or such gentlemen as chose to keep it as a curiosity, being neither good for hunting the hare, the fox or the stag, and equally unserviceable as a house dog. Nevertheless he is extremely handsome and majestic to appereance, being the greatest of the dog kind to be seen in the world. The largest ot those I have seen, and I have seen above a dozen, was about 4 feet high, or as tall as calf of a year old."* In 1789, historian and antiquarian Richard Gough say that there may be ten left in the country. The Earl of Alamtont, in Wespport, in the west of Ireland, would have been the last, in the 1780s, to breed the variety.

In the nineteenth century, in a troubled economic and political context, if there are still sight hounds in Ireland, the giant model disappears; a few hunting packs, such as Lord Massy's, in Limerick County, still retain some of its genetic heritage. The *Encyclopedia Britannica* of 1877 says it extinct, but the romantic legend of the great wolf hunter continues. In reference to this rich past, some nostalgic people will undertake to resurrect it. But this is another story, that all of you know well.

The story of the Irish Wolfhound is thus a typical illustration of the destiny of the canine populations, led to disappear, by extinction or dilution of their gene pool, according to the evolutions of the human environment from which they come.

We spoke about Arrian, Roman governor of Spain and then of Cappadocia, who later retired to Athens where he wrote his works under the name of Xenophon. He has made of his sight hound a touching moral portrait, which I would like to quote to conclude this historical panorama : *"he was fast, he was ardent, he had so much courage and so good legs that, in the prime of life, he alone was able to tire four hares. For the rest, it is the gentlest dog and the most friend of mankind (because I still own it as I write these lines). (...) If I stay at home, he stays with me; he escorts me when I go out; he goes with me to the gymnasium and sits while I exercise; then, when I come back, he goes before me, turning frequently to see if I have deviated from the road; after giving me a look and a smile, he resumes his run in front of me. (...). So I must not hesitate, I think, to write the name of this dog, so that posterity learns that Xenophon the Athenian had a dog named Hormé, who was the fastest, the smartest and the sweetest of all dogs."*

Abstract

The graioid morphotype is the cynotechnical name of sight hounds, corresponding to a vertical lengthening of shape which allows these dogs to perform sight hunting with the greatest efficiency. The sight hound is one of the first two specialized canine morphotypes to emerge, the beginning of its intentional selection taking place in North East Africa, West Asia and South Central Asia, in the 5th-4th millennia B.C., when occurring in the Middle East decisive civilizational developments whose the sight hound is a testimony. The sight hound morphotype extends in the following times, reaching Europe and East Asia. It is known by Greco-Roman, Far Eastern, Persian, Arabic worlds, and Celtic world of course with the "vertragus", well described by Roman writers. The Middle Ages, where it is closely linked to the aristocratic way of life, is the climax of the sight hounds. References to a large Irish hound, wolf hunter, continue to punctuate British history and literature, supported by a rare but significant iconography, before he disappears in the late eighteenth century.