Extract from:

The Police Dog: History, Breeds and Service

Chapter 1

In the Beginning

The Grey Wolf Photo Jaroslaw Miernik

The wolf, the progenitor of the dog, is an extraordinarily effective predator. He is fleet of foot, of acute hearing and olfactory capability, strong and bold in the attack and works effectively in the cooperative social structure of the pack, attributes in many ways naturally well matched for an alliance with mankind. Although current scientific thinking is that the process of domestication was much more complex than primitive capturing, taming and thus directly domesticating wolves to create the dog, the end result is a remarkable working partnership. From the beginning man sought alliance with the dog as an effective protector in order to take advantage of these physical attributes of fleetness and power in his own struggle to survive and prosper. The keen canine olfactory capability, acute hearing and effective night vision are fundamental components of this protective functionality, for in order to repel a marauding predator, man or beast, it is necessary to detect his presence before harm can be done to livestock, property or members of the band, family or village.

Once agriculture commenced the crops would have tended to attract growing populations of varmints and pests, wild animals which at every opportunity would feed on the crops, in the field or stored after harvest, such as rats and deer. Newly domesticated animals, such as sheep, would have been enormously vulnerable to predation. The presence of primitive dogs would have alleviated much of this both by reducing the local population of prospective guest feeders, perhaps providing meat in the process, and by driving them away, permanently intimidating them. As carnivores, dogs or quasi-domesticated proto dogs would not have been inclined to disturb the crops or stored grain and, as proven by contemporary practice, could have been managed so as to fend off predators on the livestock while abstaining themselves.

The use of the dog in livestock husbandry and herding was an enormously important aspect of the contribution of the dog to the survival, advancement and prosperity of mankind. Although the use of contemporary herding dogs, particularly in the British Isles, often does not involve an important guardian role this is from the historical perspective a recent and unusual set of circumstances. In earlier and more primitive times, and over much of the world even today, herding and livestock guarding was and is as much defense against predators as containment, control and movement of the livestock itself. The common American or British perception of herding as being what Border Collies do on television or in the recently fashionable amateur herding trials reflects a very time and regional specific culture where control and manipulation of the sheep is the totality of the functionality. This situation has come about because of the eradication of the more significant predators in the British Isles several centuries ago.

Conventional wisdom, as espoused in popular literature and general canine books, is that man directly domesticated wolves to create the dog by capturing, taming and selectively breeding wolf pups. This process, which would have occurred over long periods of time, with false starts and failures along the way, and perhaps in many places independently, would eventually have led to the breeding of animals living out entire lives in the company of man. The taming process would no doubt have been precarious with many becoming wild and aggressive as they matured and thus eventually being culled or returning to the wild. But from time to time some, the less aggressive and more tractable, and thus better adapted to life with man, would eventually have been bred while living with the band or within the village and the ongoing selection for the more tamable would gradually have increased the physical and psychological differences from the wolf population.

So prevalent is this view that it is widely assumed as established scientific fact. Yet the current literature belies this perception, that is, many current researchers increasingly believe that the dog is likely not directly descended from the grey wolf at all, but rather from an intermediate species or sub species, depending on the particular viewpoint being espoused. Thus while the wolf and the dog are very closely related, the emerging modern view is that there most likely was an intermediate non-domesticated breed or stage of development, which would have evolved and changed, thus distancing the first domesticated dogs from the wolf in terms of time and evolutionary state. Furthermore, if these views come to predominate under ongoing scientific scrutiny, increasingly likely, it will mean that man did not directly domesticate the wolf after all, but rather an existing wild or quasi-domesticated canid distinct from the wolf. This is of enormous importance, not only for the advancement of science, but because the existing mythology contributed to enormously misguided, ineffective and even damaging practices in canine breeding and especially training. The "alpha wolf" concept of dog training is dead, and being put to rest. We are the better for it.

Over the past thirty years science has made enormous strides in understanding the evolution of the human race, knowledge of fundamental practical importance in understanding the structure of modern society and the behavior of men, tribes and nations even today. New tools of science such as linguistic analysis and investigation of mitochondrial DNA sequence variation have resolved controversies and provided revolutionary insight. In coming to understand ourselves better our relationship with the domestic canine has been enhanced; these novel scientific methodologies have also been applied to the canine with equally significant and far reaching results.

There are practical consequences of this for dog breeders and trainers as well as historians. As an example, the concept of the alpha wolf has permeated the literature and gospel of dog training over the past thirty years, almost anything can be and has been justified and verified in terms of "just like the alpha wolf," perhaps most notably the once popularly promoted concept of the alpha roll. Yet David Mech, who

popularized much of this in his famous 1970 book, has in the intervening years fundamentally revised his views and publicly urged his publisher to take the obsolete book out of print in favor of his subsequent work. (Mech, The Wolf: Ecology and Behavior of an Endangered Species, 1970) (Mech, Personal Web Site)

This enormous progress in the biological sciences in recent decades offers the hope of better breeding, training, medical care and nutrition for our canine companions. Most of this is sound science supported by substantial DNA evidence, archeological discoveries and other scientific evaluation procedures which have come into use. But there is always an element of conjecture in the popular literature and care is needed to separate actual scientific reporting from amateur speculation, especially extreme speculation intended to popularize a person, a point of view or a commercial activity. All new knowledge and interpretation of existing knowledge needs to be applied with common sense and caution, for there can be danger in making simple minded interpretations and applying them blindly to training, breeding and discipline. We do not need to repeat the sort of nonsense propagated in canine circles based on the alpha wolf concept, which was always more hype than science.

Canine Origins

In the 1750s the famous Swedish biologist and zoologist Carl Linnaeus evolved a classification system for plants and animals, thus creating the field of taxonomy. In his system species with similar appearance were grouped into the genus, and the Latin word for the dog, Canis, became the genus Canidae in which he classified the wolf, fox, dog, jackals, coyotes and other similar creatures. The dog was viewed as a species, and a number of sub species were identified according to general physical appearance. It had long been known that dogs and wolves are very closely related, as they can interbreed and produce fertile offspring. By the 1990s modern molecular biology had demonstrated that the gray wolf (*Canis lupus*) is the common ancestor of the domestic dog and many authorities therefore reclassified the dog as a subspecies of the wolf, that is, *Canis lupus familiaris.*

More recently some authorities, such as Coppinger, have nevertheless contended that for practical and evolutionary reasons the domestic dog is best thought of as a separate species. One consideration is that dogs can also produce viable offspring when bred to coyotes and jackals, which are themselves separate canine species. But more fundamentally they argue that although closely related the dog and wolf are separate species because they have developed marked differences in appearance, physiology, social mode and biological niche, and generally do not interbreed in nature because of these differences.

All of this is important in our context because the concept of the dog as a subspecies of the grey wolf implies that the first dogs were directly tamed and thus large, aggressive pack oriented predators. There are, however, problems with this perspective because such animals would have been very difficult to deal with, and also because the dogs found with existent primitive peoples are much smaller, less aggressive and less pack oriented. Contemporary thinking has increasingly gravitated to the concept that the first domestic dogs were in fact very similar to these smaller, much less aggressive dogs, which implies that there is an intermediate evolutionary stage or species between the gray wolf and the first dogs. This has far reaching implications.

Although there is much speculation about the relationship between mankind and the progenitors of the domestic dog prior to the transition from hunter-gatherer to pastoral and agricultural life, solid archeological evidence is sparse. The popular and dramatic view of man the great hunter taming the wolf and teaming with him in the pursuit of big game has little direct evidence and serious practical ramifications.

Janice Koler-Matznick remarks:

> "At that time, humans had only clubs, axes, spears and knives. With these tools, stealth and ambush are used to secure large prey. Wolves are extremely difficult to condition to reliably inhibit inherent behavior. They instinctively chase large prey, and thus would hinder humans hunting cursorial (quick running) game, rather than assist. Wolves are also extremely food-possessive. If hungry tamed wolves did secure prey, humans would have to fight them for it. Dingoes provide a modern example of tamed wild canids as hunting aids. The Aborigines used dingoes to locate small prey that goes to ground or trees, but prevented dingoes from following when hunting kangaroos because the dingoes chased them off. If tamed wild canids are not useful aids, for hunting cursorial game and smaller canids are as proficient at locating smaller prey, there is no reason to keep large wolves in domestication." (Koler-Matznick, 2002)

Thus it would seem likely that prior to agriculture and pastoral life men and wolves may have interacted in various ways, perhaps with either scavenging from the other according to the luck of the hunt. Wolves living in proximity to human encampments or villages in order to scavenge may have inadvertently alerted in the event of an intruder, just as the cry of the crow sometimes gives warning to the observant man walking in the forest. But a directly tamed wolf is clearly problematical as actively cooperating in the large game animal hunt or living in close relationship to the human band. The ancestral role of the dog in seeking out game and participating in the hunt for smaller game, driving them to ground or into the trees where they could be dispatched and harvested, is much better established by archeological evidence and observation of contemporary primitive practice than actual participation in the pursuit and slaying of large game animals.

Although villages or long-term encampments occurred sporadically in the hunter-gatherer era, in especially supportive locations, the advent of pastoral and agricultural living, very roughly about 12,000 years ago, was the point in time at which there begins to be substantial evidence of the human-canine relationship as we know it. The band of hunter-gatherers was always on the move, often making brief camps in the open, leaving little in the way of evidence of a primitive canine association or anything else; many things remain uncertain in our current state of knowledge.

Once planting and crop tending began mankind became tied to the soil and thus gave up the mobile way of life. Archaeological evidence is strong that the dog was present very early in this process. The immediate consequence of agricultural or village life was the creation and disposal of edible waste in the immediate area rather than spread across the countryside as the band moved in pursuit of game to hunt, carrion to scavenge or the abundance of nature to gather. All known primitive villages, those without a dogcatcher and eradication process, have quasi-tamed dogs belonging to no one in particular which live as scavengers, on the social margins, on the waste material. Even today large metropolitan areas, such as Moscow, sometimes have significant populations of indigenous canines with the same general physical attributes and quasi-domestic ecological niche.

In recent years Raymond Coppinger and others have theorized that as man gradually adapted to fixed agricultural life elements of the regional wolf population concurrently evolved into scavenging canines living on the periphery of human society and villages. Their view is that the discarded human waste in a fixed location attracted wolves as scavengers, and that gradually populations of these wolves became more and more dependent and as a consequence became less wild, smaller, with proportionately smaller heads and teeth, in other words, gradually became dogs

or proto dogs. Modern DNA analysis is gradually producing significant evidence to support such speculation. (Coppinger & Coppinger, 2001)

In this view man did not domesticate the wolf at all, rather elements of the wolf population through scavenging on village waste gradually evolved into the dog, or an intermediate species, without any direct intervention, selection or even desire of men. Even to this day in many societies, particularly in the Middle East, dogs are regarded as unclean and much more of a nuisance than an asset, to be despised rather than used or loved.

Others, such as Koler-Matznick, take the point of view that the primitive agricultural village could not in general have supplied enough edible waste to support the evolution of a population of proto dogs. (Or, in her words by private communication: "The hunter-gatherer lifestyle did not produce enough refuse to nourish canids as large as the wolf. If the wolf was domesticated, this started long before there were permanent farming villages.")

Her view is that the available evidence most satisfactorily supports the concept of domestic dogs as descended from a species of medium-sized generalist canids, a truly wild species derived from but distinct from the wolf, that voluntarily adopted the pariah niche and remained commensal, that is living on human waste food without providing substantial benefit in return, for an extensive period before some populations became truly domesticated.

The problem with this is that it is difficult to imagine an intermediate species not able to obtain sufficient food from the waste of the human population being able to compete with the wolf and other established predators. If this hypothetical independent, intermediate species did in fact exist, the question becomes how did it sustain itself, that is, what did it actually eat?

My view of this is that while the theories of Dr. Coppinger, Koler-Matznick and the many other contributors may seem to differ in significant ways this might well turn out to be primarily a matter of emphasis and the timing of the domestication process rather than irreconcilable fundamental differences. There is a solidifying consensus that there was an intermediate stage between the wolf and the domestication process, and the primary questions are about how long did the process take, where were these intermediate animals living, and how did they sustain themselves. Since there are no old world coyotes, and since we know of reasonably successful instances of taming new world coyote pups, perhaps the intermediate population was similar to the coyote, filled a similar ecological niche.

The general view of the scientific community is that the transition to agriculture was a response to growing populations, more and more people were competing for limited resources and gradually some began to plant and then increasingly tend crops. This was likely much more out of necessity than preference, for agricultural life was generally harder, disease more prevalent and diversity and quality of food in the village much less than for the hunter-gatherer band in pristine regions with abundant natural food. In this view it was the lessening of this abundance due to population increase that was the driving force behind the innovation of agriculture. It would seem that even primitive men preferred a life of hunting and fishing – sending the women and children out to gather the bounty of nature – to the labor of planting, tending, gathering and processing grain. And perhaps the same diminishing supply of food put pressure on the wolf to adapt along with the human populations; the fact that the original domestic dogs were smaller with proportionately smaller teeth, skulls and brains may have been an adaptation to hard times, a restricted food supply.

The emergence of the dog as the despised scavenger on the edge of the human social structure will no doubt strike many as less heartwarming than the traditional notion of domestication by direct human intervention. The trouble is that people like

and want to believe nice stories, that is, taking puppies home for the children to play with and having them grow up as dogs and living happily ever after is a lot more appealing than the dirty village dogs that are there primarily to live by consuming human waste. But the premise of an intermediate scavenger or pariah stage rather than direct wolf domestication is compelling in many ways and seems likely to emerge in time as the conventional wisdom.

Furthermore, contemporary efforts to tame wolves taken from the wild and wolf and dog crosses have tended to be difficult; such animals must be kept in elaborate pens or runs and cases of taking a wolf pup home and raising it in a normal pet situation, even with the most capable trainer, virtually do not exist. While wolf pups can to some extent be tamed, in general they are exceedingly difficult to train, that is, teach to reliably come, bring, stay or sit on command.

Thus while it had been common to accept the dog as the result of a simple process of man taming and domesticating the grey wolf, in the current scientific thinking the domestication process turns out to be much more complex, with a number of conundrums and apparent contradictions. For instance, the social structure of the canine, that is, the dynamics of the pack, and the in many ways similar structure of the hunter-gatherer bands are commonly put forth as the basis of the human – canine alliance. Since the social structures are similar the migration of individuals from one to the other would seem to provide a sound basis for domestication.

A common counter example is that many of the larger wild cats are much more powerful than any canine, but their solitary social structure makes training and control in general problematic. Men may live with small domestic cats, but the cats retain their fundamental independence and do not generally work at the direction of or in direct cooperation with man, there are no herding or personal protection cats. If they catch a mouse or a rat, it is because they are hungry or interested in the sport of it, you cannot command a cat to go out and kill a mouse. Also, in domesticating a predator, one which is physically smaller tends to tip the scale in deciding who is ultimately boss in favor of the man.

The fact that men have trained cheetahs for hunting and large cats in circus acts are common would on the surface seem to contradict this. Also, it has been pointed out that you do not see wolves in circus acts because they are so much more difficult to train.[1]

Perhaps the key to this conundrum is to focus on the distinction between the concepts of tame and domesticated. As Ádám Miklósi comments:

> "Biologists prefer to study domestication in the context of evolution. For example, Price defines domestication as an 'evolutionary process by which a population of animals becomes adapted to man and to the captive environment by genetic changes.' Thus domestication is a Darwinian process including forms of selection that are present in natural populations." (Miklósi, 2007)

Dogs and sheep are domesticated, changed fundamentally in the process, while Indian elephants are tamed, taken from the wild and trained to work. The reason for taming rather than domesticating elephants seems to be that nature provides a reliable and cost effective source of supply, negating any potential advantages of actual domestication. Jared Diamond points out that only a very small number of

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[1] Of course, it might well be that wolves are not common in circuses because their size and similarity in appearance to domestic dogs would limit the audience appeal. The existence of wolf acts in the nineteenth and early twentieth centuries, actually Borzois (Russian wolfhounds) and white German Shepherds were used, has been brought to my attention as a counter example.

wild animals are practical candidates for domestication, for a variety of reasons ranging from difficulty of reproduction in captivity to inherent difficulty in taming. (Diamond, 1999) He goes on to point out that none of the large African grazing animals such as the zebra and various antelope species have ever been domesticated either for food or as draft or transportation animals in spite of repeated and determined efforts. No large animals other than the dog and llama, very limited in range and impact, were domesticated for either food or transport in the Americas or Sub-Sahara Africa, a major factor in European world domination. (Diamond, 1999) The dog is unique in that it is the only really large predator ever successfully domesticated.

Taming is distinct from domestication, a process of taking a wild animal – a wolf, bear or elephant - and by means of training, feeding and association modify the behavior so that it will respond to various commands and refrain from killing you the first time you turn your back. As we have seen, cheetahs, lions, tigers and bears can to some extent be tamed, that is, to perform in circus acts. The severe injuries in the Siegfried and Roy tiger act in Las Vegas a few years ago serve as a reminder that this is an extremely shallow and hazardous process. Yet the fact remains that the big cats are to some extent trained to a greater extent than has proven possible for the wolf.

How then, if the wolf is so difficult to tame and then train for useful work, did the dog become man's best friend? Cats are domesticated but carry on their original mode of existence, that is, hunt mice. Cats do not engage in cooperative activity – herding, joint hunting – because in nature they lead a solitary rather than a cooperative life. Cats are domesticated but do not take on new roles or work cooperatively with their owners, are famously independent even in domestication. Notice that all domestic cats are very small, small enough to insure that the man will always be physically dominant, win a physical confrontation. Dogs are dangerous to man primarily in packs and groups, and cats simply do not form groups. Dogs are useful in cooperative work primarily because of the inherent social structure of the ancestral canids. Taking a wolf for training is extremely difficult, but when derived canids can be integrated into the human social structure training becomes enormously successful and useful.

So how can you domesticate what you cannot tame? The answer would seem to be that you cannot, but the dog evolved independently of man's direct intervention as a scavenger on the edge of human society, perhaps most importantly on the edge of villages as man converted from hunting and gathering to agriculture. In this process they became smaller, with proportionately smaller skulls and teeth, as adaptations to living in a world of scarce food. In a similar way, as the Coppinagers point out, the tight, cooperative pack structure gave way to much more independent existence, for in scavenging others are there to share the food but not particularly useful for obtaining it as they are in the hunt. At the edge of the village, other canids are competitors rather than partners.

Koler-Matznick's differing view, via private communication, is that

> "the dog ancestor was not a cooperative pack hunter of large game and instead had the most common form of canid social organization, the mated territorial pair that hunts small game. Note that the mid-size canids, the coyote and Golden jackal, have the ability to be flexible in their social groupings, and where there is plentiful larger prey like deer, they can form long-term family groups to take advantage of the larger game."

At this point I leave the discussion to the experts, for I certainly do not have the credentials to affirm or discredit any particular theory of the canine domestication process. The purpose of this discussion has been to emphasize that dogs are much

more and much less than domesticated wolves, and that we need to be more careful in statements beginning with "Since dogs are just domesticated wolves..."

The taming or domestication process for the dog occurred very rapidly, for after millions of years of separate existence the dog emerged as part of mankind's transition to agricultural and pastoral existence. This is in some ways contrary to evolution as an acumination of random, accidental genetic modifications, implying that the genetic basis of the dog was latent in the wolf for a very long time.

Key insights to the special nature of this canine domestication process have been provided by the groundbreaking work on the taming of the silver fox by the Russian scientist Dmitry Belyaev, commencing in the 1950s. Beginning with a foundation population of foxes selected for apparent tameness, from existing stock being raised for their pelts, and then in each generation selecting based only on tameness, within 30 to 35 generations the population had become to a very significant extent domesticated. But, even though tameness had been the only selection criteria, there were dramatic physical changes including floppy ears, short tails, short legs, lighter colors and dental malformations, attributes generally associated with the canine. Physical and psychological traits seemed locked together genetically in a way very similar to that of the domestic dog. (Wang & Tedford, 2008)

There are significant ramifications here for the training and application of dogs. In recent years the social structure and dynamics of the wolf pack has provided a lot of the theory and verbiage in dog training literature and like many newly fashionable concepts is perhaps taken beyond what is really warranted. If the self-domestication scenario popularized by Coppinger, but growing out of extensive earlier work, becomes the new conventional wisdom, perhaps too literal an interpretation of wolf pack structure and dynamics will come to be seen as misleading as a guide to canine training and application.

In recent years analysis of human mitochondrial DNA sequence variation has indicated a common female ancestor for mankind about 100,000 years ago in Africa, leading to the increasingly predominant Out of Africa theory of human origins. Similar genetic analysis techniques have more recently been applied to the domestic dog.

A 2002 article in *Science* magazine by Dr. Peter Savolainen, of the Royal Institute of Technology in Sweden, reported on the analysis of mitochondrial DNA sequence variation among 654 domestic dogs. Savolainen concluded that the most likely scenario for the emergence of the domestic dog is from a common origin in a single gene pool for all dog populations in a relatively short time about 9,000 to 14,000 years ago in eastern Asia, that is, the general region of China and South East Asia. The canine DNA evidence indicates three females rather than a single maternal origin for the domestic canine. Subsequent breeding back to wolves in some canine populations is also supported by this evidence. (Savolainen, 2002)

Although there were subsequent claims of much earlier origination, a 2009 report of much more comprehensive research by this group, which includes Dr. Savolainen, lends further support to the earlier date:

> "The mean sequence distance to ancestral haplotypes indicates an origin 5,400–16,300 years ago from at least 51 female wolf founders. These results indicate that the domestic dog originated in southern China less than 16,300 years ago, from several hundred wolves. The place and time coincide approximately with the origin of rice agriculture, suggesting that the dogs may have originated among sedentary hunter-gatherers or early farmers, and the numerous founders indicate that wolf taming was an important culture trait." (Pang, 2009)

Notice that while these genetic analyses of current dogs are of primary interest, none of this eliminates the possibility of previous instances of regionalized sub populations of wolves adapting physically and psychologically in an ongoing relationship with primitive men. Such populations of pseudo dogs may have emerged any number of times, only to become extinct as circumstances changed, and thus leave no genetic remnants in our dogs of today.

Although there was at one time speculation of genetic contributions to the domestic dog from the other canids such as the jackal or coyote, these results of DNA analysis and other evidence clearly indicate that this was never so. While it is possible for a dog bred to a jackal or coyote to produce fertile offspring, the occurrence of this is so unusual, virtually absent in nature, that no detectable contribution to the current domestic dog gene pool is known to exist.

By saying indirectly descended it is meant that man did not domesticate the wolf but rather a pariah like intermediate species. Regardless of the exact details of the domestication process, and the fact that dogs and wolves can interbreed and produce fertile hybrids, the dog is seen today as a separate and distinct species. The fact that dogs returning to the wild do not take on the type, form and character of the wolf but rather become very similar to the common pariah or the dingo is strong supporting evidence for this view.

Subsequent to the initial domestication, and during their long association with mankind, many fundamental differences in appearance, character and genetically determined behavior propensities have evolved and been selected for to produce the many diverse breeds now existent, further distancing the domestic dog from the wolf and intermediate species. Thus while there is potential insight into dog behavior to be gained from a study of the wolf and its social structure, it must be applied with care and caution and only where actual experience verifies speculation.

To some it has seemed plausible that pastoral existence – that is, gradually guiding and controlling a herd of reindeer, sheep or other stock animal in the process of domestication – may have had a different mechanism, that is, been a process of concurrent domestication of the stock animal and the appropriate herding dog. This seems not to be the case. According to Dr. Myrdene Anderson (Anderson, 1986) the domesticators of the reindeer, the Laplanders (or more correctly people of the Saami culture) brought preexisting dogs with them as they migrated into the area from the east. (Private communication) Although the Saami reindeer-herding dog was fundamental to the domestication of the reindeer, it was never used as a sled dog, transport being provided by the reindeer, usually castrated males. (Anderson, 1986)

The use of the dog for the sled team was typical of the Inuit or Eskimo cultures of Siberia, the far north of America and on to Greenland. These dogs are also believed to have gradually migrated into these northern areas along with the original populations, as ongoing existence in these extremely cold regions without these dogs was likely not possible.

In many regions, even to some reduced extent today, sheep are maintained in massive herds and moved many miles, even hundreds of miles, yearly for forage in the presence of serious predators such as the wolf. This process is highly dependent on the use of herd guarding dogs, and although some postulate that this way of life involved the concurrent domestication of the dog along with the sheep it seems likely that the evolution of this way of life was dependent on the adaptation of the necessary guarding dogs from preexisting domesticated dogs. Furthermore, as the Coppingers point out, these guard dogs are not really bred by man in the sense of selecting particular stud dogs for females in heat, since even today breeding occurs to whatever dogs are acceptable to the female and litters likely produce pups from several sires, with a preponderance of herd guarding dogs the norm because of proximity but not excluding local dogs of every description. It is the selection process

subsequent to birth rather than the human directed selection of breeding pairs that maintains these herd guarding dogs.

The emergence of the pastoral or herding dog is of particular interest and significance in the story of the protection dog, for the modern police patrol dog, the ultimate example of the genre, has emerged primarily from one very specific region and culture, that is, the northern European tending style sheep dogs and the cattle dogs of the same general region, such as the Belgian and German Shepherds.

Even from the beginning the dog, even the quasi-domesticated scavenger, would provide a warning at the approach of other animals or hostile human beings on a raid. The human-canine partnership evolved through many phases and in many different settings, and the ability to alert and warn of, and possibly also fend off or attack, intruding adversaries was a primary benefit of the association. Especially at night the dog's sensitive hearing and sense of smell provided security both to the people and to the domestic or quasi domestic animals their sustenance depended on. Intrusion detection, protection and defense were from the beginning a major part of what the dog brought to the partnership with mankind.

The popular vision of the first dogs as hunting partners for wandering bands of hunter-gatherers is problematic on two levels. If dogs were actually directly tamed wolves – doubtful in light of current science – taking their food away from them would have been extremely difficult, and in such a scenario the question becomes what advantage the partnership would have provided to the newly tamed wolves. Modern attempts to tame wolf pups taken days old from the nest never produce adult dogs remotely useful for the sort of hunting envisioned. And if such a partnership was viable, why did it only come into existence just before widespread agriculture, rather than during the thousands of years when the wolf and hunter-gatherers coexisted? If on the other hand if the direct ancestor of the dog was the thirty-pound scavenger from the village edge these incipient dogs would not have been powerful hunters, but perhaps would have at best been useful for seeking out smaller prey animals, perhaps for the human beings to dispatch.

Coppinger speculates that although there is scattered, often indirect, evidence of canine associations as far back as 12 or 13 thousand years, the comprehensive human-canine partnership began to flourish with the advent of agriculture, that while the evidence for partnership in the hunt is tentative and sparse the evidence for dogs as integral to the advent of widespread agriculture is broad and robust. This would mean that the foundation canine roles were the herding dog and the varmint or pest eradication dog that kept wild animals from consuming crops before they could mature and be harvested. (Coppinger & Coppinger, 2001)page 283

Our knowledge of the evolution of the dog is ongoing and will without doubt become more detailed and nuanced as archaeological discoveries are made and the evolving tools of modern science such as genetic DNA analysis provide more firm information as a basis on which to speculate. But for our purposes present knowledge is more than ample to establish that the protective function of the dog has played a major and perhaps at times irreplaceable role in the story of European civilization from the very beginnings, as evidenced in the mythology of Rome where Romulus and Remus, abandoned in the wilderness, were suckled by the she wolf and thus survived to found the city and the empire.

In summary, the state of current science is that the domestic dog is descended, probably indirectly, but primarily or entirely from the gray wolf. Earlier speculation of genetic links to the jackal or coyote have largely gone out of favor. While this had been the growing consensus over many years, the twenty-first century canine genome research has served to confirm and emphasize this, as well as promise much future knowledge. (Ostrander & Wayne, 2005)

Over more than twenty centuries, from before the Greeks and Romans, and well into the twentieth century, a good dog was a necessity for virtually every European farmer, stockman and herdsman. As Justin Chastel, Belgian working dog breeder born prior to the First World War, said to me in recalling his childhood "when the sun went down, all a farmer and his family had was his dog. There were no lights, no police patrols and no telephones to summon help."

Cane Corso

The Molossers

Throughout history the land has increasingly been owned and ruled by a small elite, be they the lords of the manor of medieval Europe, the plantation owners of the American South or the British or Dutch colonists of South Africa. Whether those working the land or in the mines were serfs, peasants, slaves, tenant farmers or share croppers the outcome was much the same: those who possessed the land or owned the mine worked little or not at all and benefited enormously, took the necessities for granted and luxuries as they came while those who toiled the soil lived at a bare sustenance level. Of course none of this was ever really voluntary; few of us would choose to be enslaved or tied to the land or to work in the mine.

Just as each class had its function and place in life, they also had dogs according to their needs, desires and resources. The shepherds and farmers had their herding dogs, later to emerge into formal breeds, and the house dogs of the lower class tended to be smaller and less expensive to feed and keep.

Those in power maintained it by force and rigorous social bounds, ever vigilant to quench any uprising from below, any sign of rebellion. And rebellion has always been just under the surface, be it the slaves of Rome or the slaves of the American South. Usually these uprisings are crushed, but sometimes they succeed, as in the French revolution which went on to change the social fabric of Europe or the revolution of the slaves in Haiti which succeeded in taking over that nation. Other successful rebellions lead to an even more oppressive ruling class as in the Russian Revolution of 1918.

Just as firearms, and earlier weapons such as swords, were held away from the working classes, large and powerful dogs were largely in the service of the rich and powerful. If the aftermath of our American Revolution the right of the people to hold arms was enshrined in our constitution, and although there is not a canine equivalent of the second amendment free Americans of all classes came to possess these large, powerful dogs, as in the progenitors of the American Bulldog in the rural South.

The classic examples would be the large English Mastiff and corresponding national breeds such as the Dogue De Bordeaux in France and Cane Corso in Italy. As European colonists spread around the world local variants emerged such as the Dogo Argentino, Fila Brasileiro and Boerboel of South Africa. In many instances these dogs protected the landowner's interests beyond the immediate premises, as for instance the function of the gamekeeper and his dog was to keep the peasant classes from poaching on the game in the landowner's forest. And, of course, all of the forest belonged to one powerful lord or another; there was generally relatively little public land open to the common man for sport or sustenance.

The term Molosser has come into use for these large, powerful dogs, usually with down ears, a foreshortened muzzle and a short coat. The term Mastiff is sometimes used as synonymous, but better usage is generally to reserve that term for the original English Mastiff and its variants. Other nations and languages adopted their own vernacular such as Dogge in German and dogue or dogo in French or Italian.

This terminology is in actual practice poorly defined and often confusing. In general working dog conversation a distinction is made between the herding dogs or herders and the mastiff style or Molosser, such as the American Bulldog. But the Rottweiler is generally thought of as deriving from herding or droving dogs but yet is often included in Molosser lists.

It is most important to realize that classifications such as Molosser and herder are broad and have great overlap, and that many if not most breeds encompassed by such classifications will have significant ancestry from other kinds of dog. Comparative statements are particularly treacherous in that any generalization will have numerous exceptions. State that the Molosser breeds are in general massive and powerful and many will be quick to point out that many Boxers are less massive than individual German Shepherds. The Rottweiler is commonly thought of as a Molosser and by many others as a herding dog, and can thus be enlisted on either side of any argument.

As an example, consider the Presa Canario of the Canary Islands. This is the historical summary direct from the FCI standard:

> "Molosser dog native of the islands of Tenerife and Gran Canaria, in the Canary Archipelago. Emerging as a result of crosses between the "majorero", a pre-Hispanic cattle dog originating from the islands, and molosser dogs brought to the archipelago.
>
> These crosses originated an ethnic grouping of dogs of "dogo" type, of medium size, of brindle or fawn color, marked with white, of robust morphology, characteristic of a molosser, but with agility and drive of tremendous temperament, rustic and of an active and loyal character.
>
> During the XVI and XVII centuries their population increased considerably. Numerous mentions of them exist in the historical texts prior to the conquest, mainly in the "Documents of the Town Council" which explained the functions that they fulfilled. Essentially they functioned as a guardian and cattle dog, as well subdued the cattle for the butchers."

The problem with all of this is that much of it is based on promotional enthusiasm rather than objective, verifiable historical fact. Actual records of descent, a studbook, only commenced in the 1960s or 70s. The process, as always, was on the basis of "Yes, that one looks like it might be a Presa Canario." This is by no means intended to slight this particular breed; this is exactly how the German Shepherds, the Belgian Shepherds and the Bouviers came into existence as formal breeds. This is how all breeds commence. Talk about this or that breed being descended from dogs brought by the Romans two millennia ago and similar foundation mythology tends to incorporate a great deal of poetic license in that these primitive types are continually

being genetically modified by random bleedings to whatever is locally available. While the Presa Canario is thought of as the Molosser type in actual fact a significant portion of the genetic heritage is that of the native herding dogs present on the islands prior to the more recent Spanish colonization.

A simple statement of origins is never enough to characterize a breed, for the decisions of the breeders subsequent to the melding of the two originating types must have had a profound influence on the dogs before us today, and these breeders were among the farmers and cattlemen. The similarity to the Rottweiler is striking, and it would seem reasonable to think of both of these breeds as intermediate between the Molossers and the herders, perhaps even with a preponderance of herder in functional terms.

Although substantial plantations predominated in many favorable regions of the south, North America in general came to be dominated by independent family farms. In the hill regions of the South in particular, Molosser style dogs for farm protection and bull and hog control came into the hands of these small, family based landholders. These dogs tended to be a little smaller, a little more quick and agile than the classic English Mastiff. Remnants of these rural southern farm dogs formed the basis of the American Bulldog after the Second World War.

In general the Molosser is thought of as heavy boned, large and powerful rather than quick, fleet and agile. The bite is a methodical grip rather than a quick strike. The typical short muzzle is characteristic of the guard dog relying on sight and sound rather than olfactory prowess. In general, the attack of the Molosser was to be direct, strong and persistent. Indeed, the Bulldog has become the ubiquities personification of relentless, dogged persistence.

The herding dogs of protection dog discussions are not generally of the Border Collie type of the midlands of the British Isles, where the land is sparse and the sheep disperse to forage rather than remain in flocks, but rather tending style dogs from northern European areas of Germany, the Low Countries and northern France. The quintessential example was of course the dogs of the shepherds, progenitors of the Belgian, Dutch and German Shepherds, who in the herding past were primarily tending and guarding dogs needed where flocks were large, needed to be kept intact and needed to be defended from serious predators.

Thus these tending style herders needed immense stamina to contain, guard and guide the herd night and day. Such dogs were quick and fleet rather than large and powerful. Being lighter boned and less massive than the Molosser, the power of the attack comes from the quick strike rather than massive power. The muzzle tends to be longer for more efficient breathing and for the olfactory capability necessary in searching out strayed herd members.

While the function of the Molosser is to engage an opponent and prevent his escape; that of the herder is different in fundamental ways. The primary duty of the herder is to protect the flock or herd, which means that when an intruder retreats he must react in a manner opposite to the Molosser, that is, break off the attack and stay with the herd. Wolves and other predators are often quite canny; perfectly capable of sending a couple to draw off the dogs in an extended chase while the remainder can have their way with the herd.

In addition to the Molossers and herders, many regions had specific breeds or types for predator eradication, such as the Irish and Russian wolfhounds. These tended to be sight oriented chase dogs and were of entirely different breeding, structure and character from the herding dogs or Molossers. These sight hounds have had relatively little practical human protection or police application.

This distinction between the slower, powerful, dogged attack of the Molosser and the quick strike, often with a quick release, of the herder plays a pivotal role in the

selection of breeds for modern functions such as police dog, guard dog and personal protection. The effectiveness of police dog service in Europe is largely a consequence of the various training, trial and breeding systems such as Schutzhund and the Dutch Police or KNPV trial systems, which began to emerge very early in the twentieth century. Just as police service emphasized the herders, these trials were primarily participated in by the traditional herder based police breeds such as the German Shepherd, Malinois, Bouvier and the others. Other breeds developed specifically as police style working dogs, such as the Doberman Pincher, also played a part.

The Molosser style dogs, other than the Rottweiler and Boxer, have generally not been represented, and their participation has tended to decline with time. There has been a double edged sword aspect to this, the trial systems were set up to emphasize the nature of the herders, that is the quickness, and especially the control in the emphasis on quick outs, recalls and automatic guard rather than engagement when the adversary stands still. And this is not discrimination against other styles of dogs, for these trials emphasize the natural tendencies of the larger, more robust tending style herders precisely because they are the most useful and effective in actual police service.

French Ring especially emphasizes the extreme aspects of the herding dog nature, with great emphasis on quickness and agility in engaging a helper who is expected to be deceptive and evasive. This is not really ever going to be to the advantage of the Molosser, although in America we have seen at least one Ring III American Bulldog.

This is a dilemma for the advocates of the Molosser breeds, especially those in increasing popularity where there is a strong desire to emphasize proven working capability. If these breeds are bred for success in Schutzhund and Ring, they will need to become smaller, more agile, less bull dog like and quicker in the bite. But will this in reality only diminish the traditional attributes of the breed, the power, massiveness and strength? Is evolving a Molosser line into a pseudo herder ever really the right direction?

Some Americans, such as Dominic Donovan on the east coast, have attempted to create new breeds free of European domination and control, a new start in a new land. Although precise combinations are closely held secrets, this seems quite evidently an effort to combine some of the more robust and energetic Molossers with short coated herders, mostly Malinois and perhaps Dutch Shepherds. In principle there is no reason to object to this, Americans in general need to grow up and stand on our own feet rather than sucking up to Europe; but it a difficult undertaking.

But would these dogs be Molossers? How much Malinois blood can you incorporate and not have Malinois with a little outside breeding to maintain vigor, size or whatever the needs of the moment seem to be, as in the Dutch police lines?

Are weight pulling or hog catching trials an answer? In this day and age the draft dog is obsolete, even illegal in much of Europe, and the traditional bull and hog work was in steep decline when the American Bulldog was pulled together by advocates in the south like John Johnson and Alan Scott to preserve this heritage as the way of southern life changed, eliminating their function just as the herding breeds were established in Europe as police style patrol dogs half a century earlier for the same reasons. (The Johnson dogs, created by crossing with English Bulldogs, are much more massive and ponderous than the more athletic and functional Scott style dogs.)

In the big picture, the American and French revolutions stripping the ancient regime of its land, its power and often its lives and the Industrial Revolution, moving the masses from the land to the cities and putting power in the hands of an emerging commercial and merchant class, have made the Molosser style dog less prominent as the working herders of the lower classes have emerged as the modern

police patrol dog and to a large extent the guardian of farm, business and homestead.

Just is as in the herders and other fashionable show lines, many of the Molossers have evolved into pathetic caricatures, as in the English Bull dogs and the Johnson style of American Bulldog. The advocates of these breeds have a challenge even more difficult than that facing the herder style dogs, for it is obvious that a Malinois must pass a Schutzhund, KNPV or Ring trial in order to be proven worthy of his breed heritage; but there are really no corresponding, generally available and widely accepted Molosser criteria.

But in the larger picture, all of this is for another author and another book, for the vast majority of police canines, and all serious departmental programs, are based on the herding breeds of North Central Europe rather than the Molossers or other variations.

The Herding Heritage

Shepherd with Flock and Dog Painting by Anton Mauve (1836 – 1888)

The police breeds as we know them today emerged from among the indigenous herding dogs of north central Europe in response to the need for enhanced law enforcement in rapidly expanding industrial cities in the latter 1800s. The question for the canine historian, and the key to unlocking the essence of these breeds, is why this latent foundation was among these herders, why these dogs rather than the Airedales, Mastiffs, other Molossers – or any other breed or type – became the working partners of the police officer worldwide. The answer lies in the evolution of our common agricultural heritage.

For several million years man and the hominoids he evolved from had subsisted by hunting, scavenging and gathering in competition with other predators and herbivores. Very late in this process, only a few thousand years ago, a moment in time on the evolutionary scale, rather than simply seeking out the bounty of nature we began to domesticate our food sources, that is, gradually began to plant and tend crops and to take active control of game animals. This was in response to increasing human population and the consequent scarcity of naturally occurring food, an alternative to population control through starvation. Population reduction by less productive breeding, starvation or migration had always been the natural way of reigning in growth, but eventually local human populations evolved means of enhancing food supply through intervention and management in natural food production. As game animals became more scarce and neighboring bands increasingly put pressure on supply we evolved a process of controlling and restraining them and fending off other predators, including other humans, so as to provide sustenance in hard times when nature did not. Once the process reached critical mass, that is as populations increased more and more beyond the capacity of

nature to provide, crops and domestic animals became the social foundation rather than strategies for transient hard times. The world would never be the same.

Although there was enormous variation in the evolution of pastoral existence according to climate, terrain, natural vegetation and the nature of the animals to be tamed dogs were in many instances crucial partners in the process. Dogs may not always have been necessary, and domestication would eventually have come forth without them, but some pastoral traditions would have been much more difficult or impossible without the use of herding dogs. Sheep and goats were the first to be tamed and controlled, followed later by cattle and swine. Dogs were useful both for controlling movement, that is, for keeping the herd together and moving it in search of forage or for convenience and also in discouraging predation, that is keeping wolves, lynx or other human beings from harvesting the livestock for their own benefit.

In the centuries following the fall of Roman domination in the north of Europe the land was held by the nobility and the church, and the common man was tied to the land. This was generally a sparsely populated world vastly different from today, where predators such as the wolf, lynx and bear still contested man for the benefit of his livestock. The Romans had come with domesticated animals, cattle and sheep, and their own herding and droving dogs, which remained even as direct Roman domination waned and then vanished.

For twenty centuries these herdsman tended their sheep and cattle, aided by their dogs. This was an era before cities and with larger distances between villages, with vast open lands, much of it forest or of use primarily for grazing. Because of this sparse population, the herds tended to be in large, open grassland where the primary function of the dog and the stockman was to keep the flock or herd together and to protect them from predators such as the wolf. Many herds moved great distances yearly to take advantage of the lush grass and cool temperatures of the highlands in the summer, retreating to lower elevations to avoid the snows of winter. This continues even today in areas such as Greece, Spain and Turkey, although in recent years trucks have augmented some of the long migrations. And the predators were always present, alert for the opportunity to take down a wandering animal, even today in many regions of the world.

Gradual increases in population caused favorably situated villages or trading outposts to emerge into towns and eventually cities. In time this process, and the increasingly onerous bondage of those working the land, built up the societal pressures leading to the French Revolution, in the 1790s, which spilled across Europe and then the world as a whole. This was the focal point of a process that over time would transform agriculture and thus the age-old role of the herding dogs. This revolution was at root about land, about wresting it away from the nobility and the church of the ancient regime and allowing it to pass into the hands of the men and woman who actually worked it.

Prior to the French Revolution the stock largely grazed on what is referred to below as untilled land, what in America we would call open range. Although the ancient role of the dog was largely that of guardian against the predators, times were changing, the wolf was disappearing. The last known wolf in Belgium was killed in the Ardennes in 1847. (Vanbutsele, 1988)

Von Stephanitz mentions bears as so prevalent in Prussia as late as the 1750s as to occasion school closings. He further notes that the last known lynx was killed in Westphalia in 1745 and lynx were being shot regularly in the mountains of Thuringia up to the early 1800s. The wolf is mentioned as the most serious predator, and numerous instances of large-scale killings and serious economic loss are cited; predators were a very serious problem for the continental stockman until relatively

recent times. Even today a few wolves have reappeared in remote areas of Germany. (von Stephanitz, 1925) p106

This way of life went on for many hundreds of years, and only began to change with the Industrial Revolution in the eighteenth and nineteenth centuries, which took increasing population from the country side to emerging cities and began to mechanize the farm, reducing the need for agricultural labor. One consequence of this was the evolution of formal police service commencing in rapidly growing cities, which in time led to the evolution of the police dog. In the early years the canine function was primarily aggression, that is, crowd control and providing security for the patrol officer, particularly at night. In light of this the most obvious candidates would have been drawn from the larger estate guardian breeds and similar dogs, and in fact Great Danes and similar dogs were among the earliest recruits in Germany and other places, long before the herders were established as formal breeds. But over time the Molossers, Airedales and other candidates fell aside; and modern police dogs evolved from the herding breeds, specifically the tending style dogs of Belgium, Holland and Germany.

This revolutionary process – long, difficult and violent though it was – went hand in hand with incessantly expanding populations to transform the way of life of the herdsman and his flocks and dogs. This transformation, of the entire social order, was for the herdsman from open land grazing to increasingly controlling the flocks in more crowded circumstances, in close proximity to cultivated fields and over actively used roads. As the predators were gradually pushed back and the livestock was coming into closer proximity to expanding farm fields the canine protection role was diminishing and the tending style herding dog was emerging.

In the decades following the French Revolution the expansion of crop farming to fill more and more land, driven by and contributing to expanding populations, put pressure on the herdsman, for now he had to find food for his herds and flocks in close proximity to actively tilled land, which meant he and his dogs had to keep them out of the tempting fields. This gradually altered the role of the dog, putting increasing emphasis on herd control and less emphasis on the waning predation threat. The larger and more fierce guardian dogs gradually gave way to the more mobile, more agile working dogs of the stockman and shepherds, the progenitors of the tending breeds of today such as the German and Belgian Shepherds.

The Industrial Revolution was a process of expanding industry in ever-larger cities and mass migration from the country to industrial work in the cities. This greatly accelerated the changes in an agricultural way of life that had been evolving slowly. The handwriting was on the wall for these sheep and cattle tending breeds, and for the shepherds and stockmen themselves.

In the words of Dr. Adolphe Reul, founder of the Belgian Shepherds:

> "There was a time when Belgium possessed, according to its relatively small territory a considerable number of dogs used for the guidance and guard of the flocks of sheep, and even flocks of geese, because in the whole country sheep were bred and used for their wool.
>
> "As a result the price of wool and mutton fell, an inevitable consequence of the ruthless competition that Argentina and Australia offer our own producers, as a result of the given extension to the production and the use of cotton and of the realized progress in the agricultural domain that has brought it the suppression of the out of date system of untilled land, the decrease of the number and the importance of the flocks is emphasized." (Vanbutsele, 1988)

In another commentary Reul pointed out that the widespread use of chemical fertilizer meant that the long term custom of leaving fields periodically fallow,

without a crop, was greatly reduced, further reducing the grazing land available to the shepherd and his sheep.

Similar trends were taking place in other regions, such as Germany. Vanbutsele goes on in his own words:

> "Following the general counting, 969,000 sheep were enumerated in 1836, 583,000 in 1856 and 365,000 in 1880. The sheep were mainly bred in Campine and the Walloon provinces." (Vanbutsele, 1988)

The Industrial Revolution was driven by technology, especially the steam engine for mining, railroad and industrial use. Technology would continue to transform the pastoral and agricultural world as the nineteenth century emerged into the twentieth, with barbed wire, the tractor, combine and other novel inventions further reducing the need for farm labor. The railroad, paved roads and eventually the truck were transporting the stock to market, making the drover and his dogs relics of the past. The horse went from the foundation of agriculture and transport to amusement, racing and recreational riding, in a few short decades. The replacement of the sailing vessel by the steam ship meant that foreign agricultural products from places such as Argentina and New Zeeland could be economically transported to Europe, relentlessly driving down prices of products such as wool and mutton.

As the sheep disappeared and the shepherds turned to work in the fields or in the cities, the way of life of these herding dogs was in its own turn disappearing. In order to preserve these dogs, and to meet the emerging social needs of urbanization, men such as Louis Huyghebaert created new sports, the so-called dressage or obedience, which with new emphasis on practical police style application quickly evolved into the Belgian Ring sport. The evolution of these sport activities and the invention of the police dog were part of the same process, for amateur breeding and training was from the beginning an essential part of the European canine police and civilian defense work.

Animal husbandry varies over time and region immensely according to the climate, terrain, social structure, state of technology and the animals herded, that is, sheep, cattle or others. The function and thus the physical and working attributes of the herdsman's dogs have varied according to time and region. Many times a differentiation is made between the herding of the sheep or other animals, controlling and directing their movement in the pasture, countryside and along rural roads and the guardian breeds whose function is solely to challenge and drive off predators. But this is not a realistic way to think, for this division really includes only the extreme ends of a wide spectrum of functionality, for over time and region the vast majority of pastoral dogs have had roles that involved elements of each.

Furthermore, the distinction is often made between the drover’s dogs, as exemplified by the Smooth Collie or the Rottweiler, who help transport the cattle or sheep to market, and the more general herding dogs that tended or herded the sheep in the fields and meadows. These are all broad generalizations, and in reality any particular herdsman or farmer is likely to have dogs that perform several of these functions in ways appropriate to his situation and needs, and the man himself would probably tend to regard such arcane discussions of terminology as just plain silly. Much of this has been invented and popularized by the citified, middle class breed creator hobbyists, seeking to identify, differentiate and justify their newly discovered show dog breed, something the stockmen in their fields and meadows would no doubt regard at as humorous or outright absurd.

Nevertheless, in common usage today these pastoral dogs are by convention broadly classified as herding or gathering dogs, livestock guardians or tending dogs. Each of these shall be discussed in some detail in the following three sections.

Herding or Gathering Dogs

The stereotypical herding picture that most quickly comes to mind is the intense Border Collie crouching and giving the eye; that is staring intensely as does a stalking predator, from whence the behavior emanates. In the lowlands of the British Isles, on the border of Scotland and England, the Border Collies do not deal primarily with sheep in massive herds, but with sheep which generally roam free, exist on their own, semi wild, to find sufficient grazing in a sparse and generally rough environment with rocky slopes and deep gullies. This is of course only possible in regions where predator pressure is very low, and the wolf has been extinct in the British Isles for centuries. Because the sheep spend much of their lives essentially on their own, roaming free, they are especially challenging for the dogs, who must quickly gain control when the time comes for shearing or other interaction. These dogs will bite or grip, preferably to the face or legs, to gain discipline. Breeding and training the herding dog to grip or bite with enough intensity, and in the right way according to the animals being worked, is fundamental to all herding. Herding is controlled aggression, derives from the basic hunting and chasing instincts modified by man through breeding and training to stop short of the kill or injury yet elicit enough of the fear response in the herd and individual animal to gain and maintain discipline. Such dogs generally work silently, circling the herd and then going to the eye and stalk posture to control, with a quick run forward or to the side to direct or cut off a sheep.

This style of herding and herd dog no doubt evolved concurrently with the eradication of the predators such as the wolf and the increasing population density and the resulting need to utilize ever more sparsely vegetated grazing land. Thus the herding role evolved from keeping the animals in a compact group for effective control and defense to one of locating and retrieving generally free ranging sheep. When the sheep are gathered together, the dogs of the different shepherds must often coexist in close proximity during the ordinary course of their herding work, for semi wild sheep feeding and living on their own must be gathered and separated for shearing, harvesting or breeding.

Although American and British people are typically familiar with this Border Collie style of herding, this is a very special case, for in reality unattended sheep have suffered significant loss from predation over most of history and most of the world even today. In general the continuous presence of a shepherd and his dogs, or the larger, more aggressive single purpose livestock guardian dogs, has been necessary to protect the sheep.

Livestock Guardians

Guardian dogs are those which live permanently with the herd as surrogate members, driving off or engaging predators, such as wolves, bears, lynx or jackals. They are exemplified by the larger, sheep guardian dogs from the Pyrenees to the Himalayas, such as the Komondor**,** Anatolian Shepherd Dog, Kuvasz, or Maremma Sheepdog of Italy. These breeds are predominantly white today to match the color of the sheep, but in much earlier times, prior to the Romans, when the sheep were of varied colors encompassing black, grey to brown the guardian dogs also tended to these colors, instances of which occur today. One explanation given is that the dogs come to match the color of the sheep, with white becoming predominant in Roman times because white sheep became desirable and common in that this facilitated the dying of the wool. Others speculate that the color was more a matter of fashion, and that the instances of northern European hobbyist breed creators with money to spend encouraged some shepherds to select for white, by culling pups of other colors, in order to supply this novel market.

Sheep and goats were the earliest domestic animals, beginning about 8000 years ago; and there is every indication in the earliest writings and existent art that guardian dogs were essential from the very early stages in order to keep domestic animals in a world where natural predators were ubiquitous. Over time the breeding of the sheep and the dogs gradually evolved together, more by happenstance than specific, premeditated human decisions, continually according to the evolving human social and agricultural circumstances.

As Coppinger points out, until recently, before the advent of trucks for transport, sheep, dogs and shepherds were continually on the move, often covering several hundred miles in a yearly cycle. In these circumstances, on the move year round with the sheep, it would have been impractical to confine a bitch in season to insure a specific stud dog. The female was no doubt serviced by whatever dogs were present and capable, perhaps several males. Coppinger points out that this is the typical situation, even today, in some remote areas. (Coppinger & Coppinger, 2001)

Thus the sheep herd guarding dogs are a continuum from the Himalayas to the Pyrenees in Spain, with local variation according to climate, terrain and local husbandry practice. Under such circumstances men do not generally make breeding selections, for the female will generally mate with the dog or dogs available, and those dogs that work stay and those that do not move on or die out. The various formal breeds are a modern creation, often at the instigation of European and American hobbyists, who love to discover a new breed and make it fashionable as a pet and show dog. Such dogs usually lose their real working potential and character by the time they wind up in the dog show ring, and certainly shortly thereafter if any vestige remains, for the fundamental fact is that such dogs were created to live with the sheep rather than man and by their nature tend to make poor human companions and pets.

Livestock dogs are the product of natural selective breeding and then imprinting and socialization at a very young age rather than training; human contact is generally minimized at this critical time. Although the dogs need to relate to the herdsmen to some extent, the fundamental and deepest loyalty is to the herd, of which they are from birth virtual members. These guardian dogs are primarily sheep dogs, although they are sometimes also used with cattle. The initial imprinting is species specific, that is, dogs raised with sheep will in general not develop a strong enough affinity for cattle to be effective.

Most authorities regard these dogs as while perhaps exhibiting regional types or variations fundamentally a breeding pool contiguous across the region, the breed distinctions being the creation of dog show hobbyists. Of course, similar observations also are relevant to the herders, for in the broad view the difference between the German, Belgian and Dutch shepherds has more to do with national and regional pride than fundamental differences in the indigenous herding dogs spread across north western Europe.

Lest one think of these livestock guardian dogs as specific to Europe or Asia, Charles Darwin reports dogs working in exactly this way in Uruguay in 1833 in his famous *The Voyage of the Beagle.* (Coppinger & Coppinger, 2001) Indeed, guardian dogs have enabled sheep raising for centuries and throughout the world, while the Border Collie style of herding is very recent and very local, a peculiarity of circumstances in the modern British Isles. Wherever men raise sheep, they either bring the dogs along with the initial stock and adapt them to new circumstances or quickly adapt local dogs to the guardian role, often evolving appropriate dogs through interbreeding.

In popular conception the livestock guardian dog engages in nightly battles with the wolves in a desperate struggle to preserve the herd. But Ray Coppinger makes the point that in reality the simple presence of the dogs generally disrupts the

predator mode of operation, and that actual physical engagements are uncommon. Just as wolf family groups or packs separate themselves spatially in a region, with each group marking its own territory and tending to respect that of other groups, thus minimizing physical violence, the existence of the guardian dogs within the herd establishes the grazing area of the herd as the territory of a separate canine group, which in the normal course of events is respected by the local canine predators. Just as the best outcome of the police officer's career is many years of side arms training without ever a shot in anger, the guardian dog as a deterrent rather than an active combatant is the optimal mode of livestock husbandry.

In a similar way, for many years it was the common belief that the wolf and the mountain lion were not natural predators on man, that there were no known examples of attacks on human beings. In recent years, mountain lion and even wolf attacks have become increasingly common because of restrictions on hunting and the use of guns has gradually reduced the communal memory, a learned behavior of man avoidance, in these predator species. Little Red Ridinghood was generally safe from the wolf in North America because her father, grandfather and uncles for generations shot at wolves at every opportunity.

By communal memory I mean that the fear and avoidance of man passed on from the mother or within the pack. In a similar way, each generation of wolves brought up in a social environment where sheep herd predation was not part of the learning experience would tend to carry on the existing modes of hunting. Hard times would of course lead to pressure for new means to survive, overcome social inhibitions against sheep predation even in the presence of the guardian dogs.

The Coppinger book relates their experiences in an extensive project over many years bringing old world livestock guarding dogs to America and introducing them to American stockmen. This book became upon publication an immediate classic, which everyone seriously interested in dogs of any type should not only obtain and read, but seriously study. Even when not referenced directly, much of the material presented here was first publically available in this source. (Coppinger & Coppinger, 2001)

Tending dogs

Dogs that control and direct the movement of the herd as well as protect it – as exemplified by the German and Belgian Shepherd dogs – are generally referred to as tending dogs. Such breeds work with large groups of sheep, which by nature and breeding selection maintain the flock structure, rather than dispersing to feed as do the sheep in environments served by the Border Collie. These dogs, often working in pairs under the direction of the shepherd, move the flocks from place to place, along roads as needed, to find continual access to new grazing and a safe place to rest the flock in the night, when the dogs patrol the perimeter to prevent straying and drive off predators. These tending dogs do not exhibit the eye and stalk behavior of the gathering breeds, but rather push and grip the sheep as necessary to maintain discipline.

Sheep in the larger herds of the tending style breeds live their entire lives under the close control of the dogs and thus will naturally to stay in the herd and not usually challenge a dog one on one, that is the dogs train the sheep continually and the lambs grow up in an environment with basically trained sheep. This is in contrast to the gathering breeds mentioned above, where the sheep often have only sporadic interaction with the dogs, which thus must continually be able to assert discipline over an animal used to living on its own.

Regional herding trials are generally popular and reflect the work of the various breeds according to local circumstance and tradition, with those in the British Isles

involving the dogs working with a half dozen to a dozen sheep while the HGH German Shepherd trials involve two dogs working several hundred sheep.

As we have seen, the herding dogs in general, and the continental tending breeds in particular, needed the endurance to be in the fields for long periods of time, the olfactory capability to seek out and identify lambs born in the fields or strayed from the herd, the willingness to work with the handler combined with the initiative to take action on their own as needed and the ability to exert control by biting and griping with minimum viciousness and damage, that is, contain the hunting and killing instinct short of the full natural cycle.

This is also an excellent job description of the modern police dog, and the underlying reason why the vast majority of police breeds evolve from these tending style herding dogs, developed over hundreds of years of service in the fields and meadows and then consolidated into our police breeds at the turn of the twentieth century.

Advent of the Police Breeds

The original working partnership between man and dog was primarily in diverse agrarian roles, the first of which was likely watchdog and guardian of the primitive band, homestead or village. Other roles were eradication of vermin or pests decimating crops and participation in the hunt, sometimes one and the same thing as in chasing down deer or antelope, which could be a threat to crops and also provide meat for the campfire or table. The dogs were likely necessary partners in the domestication of sheep, goats and cattle and went on to serve diverse livestock guarding and management functions. These were hands on farmers and herdsmen with crops to bring in, livestock to care for, farms to guard and families to support; their dogs were of value according to their contribution to this work. All of the attributes and capability of the modern police and military dogs were latent in these primitive canine partners.

In time as class structures evolved the nobility and later commercial classes created their own sort of dog – the modern hunting breeds especially, the retrievers and pointers, and their household companion dogs – which were valued more for leisure than work, often more valued than the working men and women whose labor supported their elite life styles. But the working dogs were still there, these herders and farmyard dogs, like their masters, living in obscurity, without written history or elaborate records of decent, beyond the purview of those who could read and write and thus create history.

In the middle to later 1800s the industrial age was awakening in Europe, the peasants and tenant farmers were in the first tentative stage of becoming land-owning farmers in the modern sense and many were migrating to cities to become working men beginning the long struggle toward middle class status. This Industrial Revolution, the demise of an agrarian way of life that had predominated in these regions for a millennium, would bring profound changes in the way men worked with their dogs and the nature of the working partnership.

The population was migrating to the cities and prime agricultural land was often becoming too valuable for open grazing on unfenced land, rendering the herdsman and his dogs increasingly obsolete. Mutton and wool were coming from places such as South America and New Zeeland at prices that were dramatically lowering European sheep production, especially in the Low Countries where the police dog emerged.

Throughout much of Northern Europe – in Belgium, Germany and the Netherlands – the more prosperous farmers, the veterinarians and indeed men from diverse backgrounds began to take notice that these indigenous herding dogs were

disappearing as a thousand year old agricultural culture was evaporating before their eyes. In response they began to establish the herding breeds, that is, to create standards of appearance and character and to keep records of decent. The dog show began as a means of gathering together these men and their dogs, to provide an occasion for the formation of clubs and evolving the infrastructure of the modern canine establishment.

These tending style dogs of the continental shepherd and cattleman, guardian as well as herding dog, medium in size, quick and agile, resolute in defense, would prove to be an ideal base on which to build a police patrol dog culture. The dogs of the British Isles - gathering style dogs such as the Border Collies, the larger terriers and the massive estate guardians – in time proved to be not of the right stuff, not the needed balance of physique and character.

Thus this age old guardian role comes down to us in the form of the police service dog, the military scout and patrol dog and the protection and watch dogs serving farmers, stockmen and families of every sort. In continental Europe especially, nations such as Belgium and Germany gathered together their regional herders, rapidly becoming obsolete because of the advancing Industrial Revolution, and created the police breeds such as the German and Belgian Shepherds, the Rottweiler and the Bouvier des Flandres.

Beginning in the latter 1800s progressive police leadership, seeking to empower and protect the police officer on foot patrol in industrial city neighborhoods – men such as Konrad Most in Germany and Ernest van Wesemael in Belgium – began programs that have continued to evolve and prosper until this day. This process was facilitated by the establishment of police dog trial systems in cooperation with civilian breeders and trainers, such as the Dutch police or KNPV trials, which began in 1907. This close cooperation between civilian breed founders and trainers on the one hand and the police and military administration on the other was a key element in the rapid European progress in the evolution and deployment of effective police canines.

While the continental Europeans strode forward, the British and Americans wallowed in ambivalence. Although there was a certain amount of early enthusiasm in a few progressive police departments, with American police personnel going to Belgium, buying dogs and establishing programs before the First World War, it was seed spread upon barren ground, sometimes flourishing for a year or two but usually dying out at a change in police administration or on a politician's whim. Police programs, almost always small, came and went. Finally in the early 1950s the last existing program flickered out and for several years thereafter there were no known formal American police canine programs.

The failure of a strong working dog culture to emerge in England and America was fundamentally a matter of historical circumstance and the absence of strongly protective British herding breeds. While the Germans and Belgians were busy establishing their police dog culture – breeding traditions, trial systems and deployment programs – with broad public support and active civilian participation at every level, we procrastinated. In the English speaking world there were no new police breeds to excite and interest civilians and no trial systems to draw young men into training and competition, thus building a residual pool of knowledge and experienced trainers and handlers available for police and military programs.

This entrenched British ambivalence to the protective canine is not rooted in an especially humane culture; for bear baiting, pit dog fighting and other brutal canine diversions had a long national history, and only became illegal relatively recently. Perhaps this pervasive negative attitude springs from over reaction, that is the process of eliminating pit fighting and similar atrocities may have carried over as a general pacifist attitude and an aversion to all forms of canine aggression. Or perhaps this was simply the paternalistic and self-preserving instinct of the British

upper class at work, the concept that – although aggressive dogs may perhaps be necessary and useful in police applications – the breeding and especially the training of such dogs should be closely guarded activities, conducted only under the auspices of proper authorities. In this worldview the population in general is to be denied access to such dogs and such training, just as every effort is made to keep lock picking tools and techniques out of reach and secret, and firearms of all sorts forbidden to the population at large. This of course ignores that such restrictions do not keep explosives or firearms out of the hands of foreign terrorists or resourceful domestic criminals.

Strangely enough, although America became the land of opportunity for the gun enthusiast with the greatest per capita ownership in the world of even the most exotic firearms, our attitudes toward the protection dog have primarily been transplanted from the English. In general, English and American police forces, from the politicians providing the money, policy and senior officers right on down through the ranks, have a deep-seated suspicion of and aversion to cooperation with civilians of any sort. The extension of this elitist predisposition to dog trainers and breeders, as contrasted with the continental spirit of cooperation, plays a major role in the relative lack of sophistication and self-sufficiency of contemporary police canine programs. Ongoing dependence on European sources of dogs for deployment and breeding, training guidance and methodology and sport culture increases operational costs at a time of national economic stress when cost effectiveness is increasingly the prerequisite for ongoing taxpayer support.

These cultural biases and attitudes carry over to the civilian national canine organizations, the Kennel Club in Britain and the American Kennel Club, which have historically maintained great distance from any aggressive canine propensities. This of course reflects their origins in the upper class elements of British society, primarily interested in their hunting dogs, their lap dogs and their estate guarding and gamekeeper's dogs, that is, the Mastiff and similar breeds.

Indeed, the quintessential police dog, the German Shepherd, was given a new name by the British on the eve of the First World War, along with the royal family who gave up their German name to become the Windsors, in order to avoid seeming too German. The British chose to call the breed the Alsatian, after the province of Alsace, which although under French control subsequent to the First World War was historically, culturally and linguistically as much German as French. Perhaps only the Brits would go to such length to pretend that the German Shepherd is really some sort of French dog, for there is no historical connection between the breed and this border province other than in fertile and insecure British imaginations. Much of this attitude comes through in the world of the American Kennel Club, which was from the beginning under tight eastern, Protestant, upper class control.

While police service may be conceded as necessary, and even touted when there is money to be made, breeding of the high class purebred dog in the English speaking world has always been without any selection for practical working potential, especially in regards to the canine protective and aggressive functions. As a consequence the dogs produced are fundamentally useless for their work, and as serious dogs have become necessary, especially in the wake of the September 11th atrocity, they have increasingly been imported from continental Europe, especially the Netherlands and Germany. The consequences of this have been deleterious in that excellent or even marginal dogs have been difficult to identify and purchase and more importantly the American police canine programs have evolved isolated from the training, nurturing and breeding culture so important for effective deployment. Police dog work is a team affair, and just as a chain is no stronger than its weakest link the effectiveness of even the very best dog is severely limited if the handler is lacking strong canine knowledge, skills and experience in addition to being a first rate police officer. Such levels of skill are simply not provided and maintained by a

cursory instruction course for a new, inexperienced handler, and this has from the beginning been the Achilles heel of the American police canine movement.

Indeed, effective management and cost control in the basic and ongoing training process, both for handlers and the dogs, is the key to a viable police canine movement. Over the years, many programs have gone out of existence because they were perceived as not cost effective or simply beyond limited budget resources. The yearly cost for a police officer may be well over a hundred thousand dollars. (This is not what is seen in the paycheck, but rather reflects the overall cost of fringe benefits, the salaries of administrative and support personnel and training time reducing service availability.) Thus the decision to assign an officer for eight weeks of training is generally going to be expensive, perhaps a fifteen or twenty thousand-dollar investment. This may well be a good decision, but certainly not one to be taken lightly. Thus the economic motivation for the purchase of trained dogs rather than starting with untrained young dogs, many of which will inevitably be found wanting and discarded as training commences, are apparent.

Although the emergence of the canine police function was occurring across much of Northern Europe, after a brief flurry of interest in prewar Belgian programs subsequent American attention to these breeds of the protective heritage, commencing with the return of the troops from the First World War, focused on Germany. Cavalry Captain Max von Stephanitz, prime mover for the German Shepherd Dog, promulgated and promoted the foundation principles – that work must come first, that form must be according to function – and this vision has resonated around the world for well over a century.

The pioneering spirit of this German Shepherd culture demanded that a dog possess the moral and physical attributes necessary for his work, which must be proven on the working trial field as a prerequisite to breeding and service. In order to demonstrate and prove these essential attributes such as courage, stamina, working willingness and the olfactory potential these pioneers created a series of tests which eventually came to be known as the Schutzhund trial, in English literally the protection dog trial. Similar trials evolved concurrently elsewhere in northern Europe.

From the time of Columbus the Europeans who came to America brought their dogs with them, and European breeds, philosophy and authority have been predominant even until this day. Actually, this goes back even further; several thousand years earlier, for the American Indians brought their dogs with them across the Bering Strait land bridge.

Following the First World War protective heritage German breeds, beginning with the Shepherds and then later the Dobermans and Rottweilers, achieved enormous popularity in America, catering to a deep and persistent desire in so many of us for the perceived reflected machismo. The Belgians may have created the police dog, but the Germans knew how to promote and popularize it to the general population as well as the police specialist, for the genius of von Stephanitz encompassed promotion and deep understanding of human nature as well as the canine. Although the German Shepherd had been present in small numbers in America before the war, popularity surged with the return of the troops, peaking at 21,596 AKC registrations in 1926 and then crashing back down with the advent of the great depression of the 1930s.

The fly in this ointment was that American shepherds evolved strictly as show and companion dogs, with no expectation of or realistic appreciation for working capability. There is little doubt that many dogs lacking in courage or overly sensitive to gun shots, of little or no value for breeding or service in Germany, found their way into the American market, and more importantly, into our breeding programs.

The Doberman Pinscher also became a prominent and popular breed in America following the First World War, with many imports contributing to the rapidly expanding American lines and a large and vigorous body of enthusiasts emerging. The Doberman was promoted as a police dog and as a consequence served prominently with the United States Marine Corps in the Pacific during the WWII. The Doberman people were always good at promotion, perhaps a little too good in that there was the tendency to take drive and working character for granted. Other German dogs such as the Rottweiler and similar breeds in the rest of Europe, such as the Beauceron, the Picardy Shepherd, the Belgian Malinois and the Bouvier des Flandres, were rare in America, and in this era shared little of the protection dog aura driving the popularity of these German breeds.

In the better classes of American society, as pandered to, manipulated and encouraged by the AKC, canine aggression has from the beginning been perceived as a behavior problem, something to deal with, rather than a fundamental and useful attribute. It has always been slightly suspect, a touch low class. The use of the dog for personal protection, security, military service or police patrol became a perhaps necessary and useful function, but not something a respectable, upwardly mobile person would want to be involved in. When the subject came up with a breeder or advocate it would be patiently explained that certainly any German Shepherd or Doberman, even, no, especially, their show dogs had the innate potential for the police or protection role. It was portrayed as a simple matter of a little training, the implication being that such techniques should be carefully held secret among proper police authorities, least lower class elements should unlock the inner aggression for nefarious purposes, just like methods and tools for lock picking should be kept out of the hands of potential burglars.

Thus because of this passive culture encouraged and abetted by the AKC, Americans prior to the 1970s, breeders and owners alike, remained profoundly ignorant of the culture essential to the breeding, training and preservation of these working breeds. There were no Schutzhund trials as tests for breed worthiness, and more importantly no perception of the necessity of incessant testing of breeding stock to maintain the requisite character attributes. Thus many dogs coming to America were those insufficient for breeding in Germany, the timid or those lacking in gun sureness, thus poisoning our well. In America the only criteria for quality was a show ring increasingly deviating from the original breed in form as well as function. The American shepherd and Doberman lines quickly became pale imitations of the original, seriously deficient in both the appropriate athletic working structure and the requisite character for their work. They became, quite literally, pathetic replicas of the real thing.

Americans had been gradually becoming aware of this disparity and sought ways of bringing this German culture, these training and breeding practices that were the real foundation of these breeds, to our shores. Sporadically in places like the Bay Area in California and suburban Chicago, local groups had been forming clubs and training. In 1970 an American oriented national level Schutzhund organization came into existence, and although it faltered and fell by the wayside by the end of the decade German affiliated organizations such as the DVG and the *United Schutzhund Clubs of America* were flourishing.

Because of the popularity of the German breeds, and half a century of German promotion of their canine culture in the rest of the world, our dream of a sport and trial system in America, which would hopefully bring forth the best in a man and a dog, was focused on the Schutzhund trial. A few of us were determined to free these lines and these dogs from the debasement of AKC style show breeding, to bring a new and better era to America. We had the enthusiasm of the naive, really did believe that we could transplant the heritage according to the vision of the European founders.

Many of us had our beginning in American style obedience, but found it increasingly sterile and empty for dog and man alike, knew in our hearts that there must be something more. We were warned about this esoteric German ritual called Schutzhund, warned by our betters, warned that that it was not the American way, that it was from the primitive past before the canine had been purified and the aggression tamed and submerged. But some of us, drawn by the mystique of the protection heritage, by the vision of dogs capable of more than heel and fetch, sought out these forbidden rituals to see for ourselves.

We were transformed. Sometimes we saw our dogs come alive when given the opportunity to serve the purpose of their ancestors, but often we were dismayed to see that our noble working dog fell grievously short, that membership in a breed, inscribed on a registration form or pedigree, did not in and of itself confer the requisite character. Sooner or later most of us sought out truly advanced and capable dogs of our own breed, witnessed the execution of the work of our breed before our own eyes. For me it was in 1980, outside of St. Louis, where two Germans with Schutzhund titled Bouviers des Flandres brought over by Dr. Erik Houttuin opened my eyes; I had never imagined that such dogs could exist.

In time we came to believe that we were destined to fulfill the heritage of the protective breeds in America, bring the training and ideals of Europe, especially the Schutzhund program, to our shores to fulfill the age-old destiny of our breeds. As in every revolution, we looked up to and idealized all things European, especially German, and sought to emulate their heritage and ideals. Few of us had actually been to Europe and the early encouragement and pioneering to a large extent came from Germans who had to come to live in America after WWII.

For us Schutzhund came to be the sport for the common man and uncommon dogs, the key to the excellence we saw for ourselves in titled German Shepherds, often imported. These European trial systems held out the promise of being the way in which the ordinary person, the family man with other obligations and limited financial resources, could compete and contribute, and our dream was of making this a reality in America.

Little did we dream that our heroes had feet of clay; that betrayal even then lurked in high places in Germany.

Police Dog Requisites

Dogs serve so well in so many diverse roles because of the enormous range and pliability of physique and character attributes inherent in their genetic heritage. Men have for innumerable generations and centuries been creating, through breeding selection, intentional and inadvertent, dogs that are massive and powerful, lean and swift or small and appealing according to the requirements of a specific service, be it hunting, guarding or lap dog. This is not selection in the classic evolutionary sense of random genetic mutations bringing forth novel attributes, for that process is much too slow; we have done this sort of thing over and over during the past ten or twenty thousand years. Little or nothing fundamental has been created by mankind; breeding selection brings forth latent attributes, present in the original canine genetic base even if not evident in the phenotype, to produce dogs with the potential at birth to excel in a specific role. The genetic potential is there, all we do is adjust parameters through breeding selection.

Over much of history selection was not in the sense of physically isolating the in season female and providing access to a human selected male, but rather a process of females breeding to the available dogs, as in a herding environment, and men selecting from the pups according to utility and preference which are to be valued,

protected and fed preferentially and which are to be treated less favorably, pushed out or selectively culled.

Thus we are able create specialist lines and breeds in relatively short time spans because the essential canine propensities and characteristics are and were latent in the rootstock, available to be brought forward and stabilized, be it directly from the wolf or through an intermediate species. As an example, all dogs have potential for instinct driven hunting or prey seeking, but this can be latent and submerged as in the Toy Poodle or active and intense as in the better specimens of the herding or police breeds.

Nobody trains a Mastiff and takes it to the Greyhound track, but people sometimes are foolish enough to train dogs of hunting breeds or lines whose progenitors left the hunting field generations ago or German Shepherds from American lines not tested in the crucible of the trial or service since the ancestors were imported from Germany, perhaps disposed of because found wanting in the home land. Yet the one is just as absurd as the other.

Sports cars and dump trucks are both vehicles with an engine, four wheels, or at least wheel sets on four corners, a steering wheel and a driver's seat. If you have enough money for fuel you can drive any of them to Las Vegas, at least if you start in North America. But if you go to the gravel yard and have the nice man dump a yard of road bed gravel into the side seat of your sports car or enter your dump truck into a sports car rally you are going to be disappointed, and all of the driving skill in the world is not going to make one bit of difference. The same principle applies to dogs. One can train the right German Shepherd to sort of point or retrieve, and an occasional Chesapeake Bay Retriever will pass a Schutzhund trial, but on the whole this sort of thing is going to be a lot of work, a little flat and mundane once the novelty wears off and very unlikely to provide the personal satisfaction of top level competition or service.

The typical domestic dog is in general smaller, less aggressive and much less suspicious than the wolf, all necessary adaptions for integration into human social structures. Skull and teeth are diminished in terms of relative proportions and absolute size. The creation of the police or protection breed demands that some of this be recovered, that is, there was a need to produce candidates in general larger, with the more robust teeth, a more powerful bite and more dominance and aggression than the typical house or farm yard dog. Such dogs are of course more expensive in terms of maintenance – require more food, room, exercise and discipline – than the village scavengers and thus by nature are less well adapted as pet dogs or dogs in the hands of the population at large. Most of the problems ordinary people have with police style dogs today have roots in these breeding enhancements creating the more robust and aggressive dog necessary for police service. This is the fundamental paradox of police dog breeding: in spite of all the propaganda in support of pet sales only limited segments of the population are willing and able to effectively deal with strong specimens from such breeds. This is why these breeds are so often emasculated and why they are inexorably divided into pet lines, replicas if you will, and those truly capable of high level police service.

By adapting lines of dogs through breeding selection as sheep guardians, herders or police dogs the useful propensities are selected for and enhanced and those that are deleterious are suppressed, first through selection and then through training and conditioning. But this is an age-old process, likely commenced informally by selecting, encouraging and supporting the better workers among random breedings and neglecting, pushing out or culling the less useful dogs, a process operational for generations and centuries before men began making specific breeding selections and then later the invention of formal breeds and studbooks.

When the need for police and military dogs in the modern sense was becoming increasingly compelling in the middle to later 1800s the use of the herders was not preordained, for they were still in the fields and pastures, did not yet exist as breeds. The various mastiff style dogs, massive estate guardians with roots extending back to ancient war dogs, would have been obvious candidates. Diverse breeds including Airedale Terriers and English Collies had their advocates and were worked with before the various northern European herders were even in existence as formal breeds.

But ultimately the tending style herders had the right stuff, the requisite combination of moderate size, agility, stamina, trainability, olfactory acuteness and especially the restrained aggressive nature necessary to defend with vigor, but resist being drawn away in the chase, leaving the herd or flock unguarded. The massive size and more overt aggression of the Molossers, the ancient style of war dog, was not what was needed for police patrol in expanding urban factory and working class districts at the turn of the twentieth century.

The emergence of the practical police dogs and the formal police breeds, such as the German Shepherd or the Belgian Malinois, was concurrent; these trends were opposite sides of the same coin. But almost from the beginning there was a disconnect, once formal breeding began increasing majorities of these incipient police breeds were being selected for the show ring rather than according to the actual needs of the police officer. The political structures – the establishments – of the breed clubs were increasingly in hands which saw money, prestige and power in show ring glory. These men, these brothers of Judas, were right about money, prestige and power; but they were and are wrong about police dogs.

Even today Malinois of the Dutch police community are often without formal pedigree – are what they do on the trial field and in service. This community is quite willing to blend in an overly aggressive dog to reinvigorate a line or a larger mastiff style dog for more size; the trials and training decisions inevitably serve to discard what does not contribute to working excellence. Just as the Scotsman with his Border Collie is not concerned about the purity of the lines, if it can herd, get along with the other dogs and is healthy and robust it is a Border Collie and all of the scribbling on kennel club record books means exactly nothing.

Just as the cowboy of the American west could be light or dark – Negro, Caucasian or Hispanic – dogs throughout time have been what they do, not who their ancestors were. The breed in the kennel club sense, with the closed gene pool, is a European invention less than two hundred years old, a twinkling of the eye in the time scale of genetic evolution. As can so clearly be seen in the plague of genetic defects and structural absurdities in the show breeds, and all of the medical screening tests, this is evolving into a self-limiting genetic fiasco.

American Doberman and German Shepherd advocates, particularly the show elements, tend to disparage what they like to refer as mongrels and half-breeds, such as the lines of the KNPV trainers. But the Doberman is a genetic disaster no longer even considered for serious police or military service and the useful German Shepherds are increasingly from working lines on the fringes of the mainstream, increasingly distinct from the show lines. This is true not only in North America but in Germany as well. Where thirty years ago most of the Schutzhund podium places were reserved for the German Shepherd, today the Shepherd predominates only in his breed specific trials; in open competition increasingly the Malinois is enjoying his lunch, and police departments, even in Germany, are looking to this Flemish breed.

Ultimately the pragmatic concept that a dog is what he does on the field, and especially in actual service, will prevail. The incessant demand for the exported KNPV dog worldwide, and the increasing price, demonstrates this and belies the kennel club concept of the purebred, the pseudo purity of the arbitrarily closed gene pool.

This does not mean that we cannot or will not have breeds such as the German Shepherd or Malinois with commonality of appearance and demeanor as well as working character, but it does mean that in the long term it will be necessary to bring whatever is needed from wherever it can be found into the lines to maintain vigor, working drives and genetic diversity. This is how men have bred serious dogs according to real needs for untold centuries, and will continue to do so in the future. The concept of the purebred and the closed gene pool and conformation beauty shows of the pseudo elite kennel clubs will wither in the face of practical reality, the performance of the dog in service. Mankind has always selected dogs according to performance and only later thought of the resulting body of breeding stock as a breed, and those in need of actual working stock will always select in this way.

In an earlier era of Greeks and Romans, before the advent of firearms and armored knights on horseback, the war dog as an actual combatant, where the power to bite and attack was the inherent reason for the dog, was at least to some extent of practical battlefield utility. At the turn of the twentieth century, about 1900, the police dog was introduced for urban patrol, often in factory or working class districts, where, especially at night, the police officer was alone, often unarmed, and out of touch, with only his baton for defense and his whistle to summon help. In this environment the patrol dog as a partner for the officer on foot patrol served primarily for his aggressive capability, to fight beside the officer if necessary, to change the dynamics of the street encounter. Even a pistol was neutral, could be taken and used against the officer; but there was no way to turn the well-trained dog, injury to his partner was only likely to enrage him further. There was very little mention of substance, drug or explosive, detection in this era, although the ability of the dog provide timely warning of an adversary through his olfactory capability, hearing or sensitive night vision was of fundamental importance.

Today the police officer patrols in a radio-equipped squad car with a high capacity side arm and often a virtual arsenal in the trunk or on the gun rack. Sophisticated computer driven portable radio networks extend officer communication beyond the vehicle to the streets and wherever else duty calls. The dog is confined in the back area an SUV or squad car, and while available for officer security, and sometimes important in this role, it is no long the primary purpose. When the Navy SEAL team went in to take out Osama bin Laden they were heavily armed with devastating modern weaponry, the Malinois was not there to bite or fight, he was there to intimidate the civilian population outside the compound, to control the field of action with minimal risk or resources. In the Iraq or Afghanistan engagements, carried out primarily on the streets and against a foe indistinguishable from the civilian population, the primary function of the dogs was search, warning of potential adversaries and explosive detection. Winning hearts and minds among a civilian population much less sympathetic to the dog as a personal companion renders the use of aggression for intimidation and control problematic, a double-edged sword.

Beyond the technical advances in firearms, vehicle use and modern radio communications the scope of police responsibility has expanded enormously because of societal demands for the suppression of recreational drug traffic and the necessity of countering increasingly sophisticated organized crime operations with international reach and expanding terrorist threats, also sophisticated and international in scope.

Thus in modern police service the olfactory potential – the ability to search, track and for substance detection – has come to predominate, to be as or more important than the ability to fight and bite. For this reason it has become increasingly essential that these olfactory capabilities be emphasized in breeding, selection and training, along with the aggressive potential.

Police canine structural and character requirements have evolved over time, influencing training doctrine and methodology, breed preference and the

expectations of control and restraint of the dog. In the early years physical intimidation in support of the foot patrol officer was a primary purpose and in surveying surviving photos and descriptions we see a great deal of variation in size and appearance. The modern dog in general needs to be agile and small enough to get in and out of standard patrol vehicle configurations, healthy and durable enough to provide a reasonable service life in return for increasingly large investments in the candidate dogs and training, and stable and social enough to function in the presence of civilians, diverse police personnel and other dogs.

The predominance of the tending style herding breeds, especially those of the Low Countries and Germany, in contemporary police service is a consequence of the age old guardian role with the flock or herd, discipline in the aggression, the instinct to break off the engagement and remain with the livestock when the marauding predator withdrew and the olfactory competence inherent in the need for predator detection and seeking out lost animals. These powerful, agile dogs of medium size, developed over centuries in the livestock tending role, live on in spite of the fact that their age-old herding function has largely passed into history.

As we have seen, good police or protection dogs must be born and then made. The founders of these breeds have created, through a long process of incessant selection and testing, lines of dogs with good expectation of the robust, athletic physical form and moral attributes such as aggression and courage necessary in a serious police patrol style dog. Just buying any dog of a particular breed, that is, any German Shepherd out of the newspaper or off the internet, is not sufficient, indeed in many situations is little better than going down to the pound and picking out a dog who looks like he might like to bite.

The problem is that all of these breeds have many litters produced casually for profit, for show ring results or simply to make money. In all breeds – with the exception of the Malinois – the typical or average puppy is simply not very good because it is not out of a real working line.

And every puppy is a gamble, for some pups out of the best combinations are, through the simple random processes of genetic diversity, going to be born without the basic physiological make up to become good protection or police dogs. Much can be done by observing and testing the puppy, but this only enhances the likelihood of a suitable adult dog, does not produce certainty. At the end of the day, every puppy is a gamble, a roll of the dice and all we can do is load the dice in our favor. It is for this reason that many advanced trainers and police training programs purchase young dogs from fifteen months to two years of age, so that they can see a hip X-ray and other physical and medical conditions and can accurately evaluate the character of the dog. There is a much bigger price for such a dog, but generally it is a worthwhile investment for those with sufficient experience and need.

When my personal canine involvement commenced in the latter 1970s there were a number of breeds – including the Doberman Pincher, the Rottweiler and the Bouvier des Flandres – that had been intended historically as police and military service breeds, were generally perceived in these roles and had honorable service histories. [2] Although it was not obvious at the time, and advocates of each of these breeds did their utmost to preserve and protect the legacy, all were rapidly declining

[2] As a point of personal reference, I have been active in Schutzhund training for many years and have trained and titled one German Shepherd and numerous Bouviers, and also have observed other dogs and breeds in training over many years. Much of my commentary here will relate to my Bouvier des Flandres experience, but the same general trends have unfortunately prevailed for the other secondary breeds.

as serious police dogs in terms of number in service and the vigor and prominence of serious working lines.

In the early years of the American working movement, primarily Schutzhund, advocates for each of these breeds emerged, determined to create an ongoing American tradition and community, each represented at the foundation of the *American Working Dog Federation* in 1986. Over the years these early aspirations faltered, and these breeds are in decline as service and working dogs. Today's reality is that actual police dogs are German Shepherds and increasingly the Malinois, the others falling by the wayside.

It is true that there are individuals of these secondary breeds in service here or there, but these are fading exceptions, transient occurrences: often little more than a photo of a dog with a man in a police uniform, portrayed as a police dog but upon in reality not actually deployed or making street engagements. Sometimes trained dogs are donated, and there is more diversity among the single purpose detection dogs, a noble service but not the image projected by the concept of police dog. Today the American military deploys only German, Dutch and Belgian Shepherds – the Malinois – and most mainstream police programs worldwide have similar practices. No one could regret this more than I do, but at this point in history it is beyond any possible rational denial.

Although the focus of this discussion has been on the protection aspects of the dog it cannot be emphasized enough that the olfactory capabilities and willingness for the tracking, search or substance detection are also a product of breeding and must be part of the selection process, for there are 100 tracking points in Schutzhund and most police dogs must be capable of duel service, that is able to search and capable of substance detection. And it is fundamental that working willingness and obedience is the foundation of all useful work.[3]

[3] This is not entirely true of the old style military sentry or guard dog, or the proverbial civilian junkyard dog, where acclimation to one handler and raw aggression was more or less enough, but such dogs and applications are now increasingly obsolete.

House Divided

Men have been drawn to fast horses and aggressive dogs for as long as they have ridden and trained; and the robust, masculine, powerful persona of the police breeds has always been immensely popular with large segments of the civilian population. Many of us were and are perfectly at ease with such dogs, taking on the responsibility to manage them, integrate them into a world of children, neighbors and others with ease, providing the necessary responsibility, control and discipline. Unfortunately, others find the reality more difficult to deal with than expected, sometimes creating serious problems of control and inappropriate aggression.

This is in a certain way reminiscent of the performance cars coming out of Detroit in the 1960s and early 70s, many virtually racetrack ready. But such cars were temperamental, quasi track level vehicles often less than entirely suited to the street, and in need of being driven with restraint and control, generally far below their potential. A few notoriously required as much time tinkering as driving to keep them running under the restraints of street use. This presented a problem for the automotive executives, for there was immense money to be made, and the aura of the performance models reflected to the entire brand; the auto company without a race car image was in danger of being perceived as a supplier of stogy sedans for the old folks, not a high profit margin business. Their solution was quite simple: bring out models with racing stripes, spoiler wings and evocative monikers such as *Gran Turismo*, *Charger* or *Grand Prix* but with only modest enhancements under the hood; they sold by the millions and were enormously profitable.

In a similar way many early breeders, with the entrepreneurial spirit of a Detroit executive, that is provide whatever will sell, began to produce softer, less demanding dogs for those desiring the persona but not quite up to the reality. Just as there is much more demand for pretend racing cars than real racing cars, there have always been many more homes for pseudo police dogs than real police dogs; and people ready to pay very good money for their illusions. The result has been the gradual division of these breeds into the serious working lines and the show and play lines for the less sophisticated and able segments of the public. The major exception to this has been the Belgian Malinois, which has never had substantial popularity as a companion or show dog.

Nothing could illustrate this debasement more surely than the AKC conformation ring, where pathetic caricatures presented as German Shepherds slink around the ring, hardly able to stand upright when brought to a trembling halt. Those attempting to train such dogs invariably find them deficient in the confidence, enthusiasm and fortitude that were the hallmark of the breed, as well as physically inept and fragile. Even though the German Shepherd is known around the world as the police dog, it is difficult to find a specimen from American lines capable of serving credibly in a police role, and they are no longer prominent at a competitive level in AKC obedience and other amateur sport venues.

Even more disturbing, over the past thirty years this debasement has also crept into the German show lines: rather than the Germans influencing American breeders to take on higher standards the American disease, spread by money, has corrupted much of Shepherd breeding in Germany. In stark contrast, the German Shepherds coming from the better European working lines, often from other nations such as the Czech Republic or Belgium, regularly produce individuals with the potential for excellence – exhibiting trainability, working willingness, aggression and confidence. The other breeds with a police dog persona, other than the Malinois, have a similar division, the primary difference being that none of them have a large enough pool of working dogs to easily find a dog to train and work. For this reason, the vast majority of serious, dual purpose police and military dogs today are Malinois, German Shepherds or a few Dutch Shepherds. Today such dogs are often without registration and sometimes of mixed background; the "purebred" concept has

increasingly lost credibility among such people, who are concerned with what a dog can do on the field or street rather than what is scribbled in registration books.

Many of us in the beginning find all of this contrary to simple common sense; quite naturally tend to believe that since the dogs look alike the character and the adaptability for work or training must also be present throughout the breed. Show breeders – European as well as American – encourage this mythology, minimize the fact that the working potential is primarily a function of the genetic selection which is greatly diluted in many lines. Their sales pitch is to the effect that if one is going to expend so much money and work in training he might just as well have a beautiful dog out of their champion lines, implying that genetic background is a secondary factor in police work and trial field success. None of this is true, but it is the foundation of the breed mythology, the sales propaganda. But it is a false foundation, a bubble of credibility as it were, and destined to burst as all bubbles do in time.

This propaganda is so insidious that most of us insist upon learning from direct personal experience. Many years ago, in the later 1970s, we bought a young German Shepherd male, mostly because like so many others I had grown up with a fascination with police dogs and because my wife Kathy wanted a better dog for obedience training. The dog came from a show breeder, at a time when we had absolutely no idea that such distinctions existed, and would likely not have believed had we been warned.

According to the plan we started tracking the dog, and I became the chief criminal suspect, to be searched for in the fields and woods. Normal tracks became much too easy and boring, and the dog tended to go fast, so I took to trying to throw him off by taking big jumps to the side, doing acute turns, going over fences and through ditches and anything else I could think off. The only rules were that I could not cross back over the track or walk on the rail across the ditch, because the dog would try to follow and slip off. The more I challenged this dog the greater his enthusiasm and drive became.

By the time the dog got the AKC tracking title he had become essentially my dog, so my wife gave him to me and went off to find the Bouvier she wanted in the first place.[4] So this young German Shepherd and I, knowing absolutely nothing, started going along on obedience training night, and the dog progressed remarkably. It was not all that long before we went to a big German Shepherd obedience trial specialty where, much to my surprise, we came in third overall and took home a huge trophy. We got the Companion Dog certificate with more impressive trophies, and shortly thereafter the dog died from Parvovirus, which we had never heard of, within twelve hours of the onset of symptoms; a truly sad story.

After a time we began to look for another Shepherd and began to run into some of the German working lines which were just beginning to be promoted. We were not convinced and went back to the original breeders for another dog, this time a much more expensive dog promoted in terms of high-level show potential lines.

But there was a problem. When we went off to training nothing happened, the beast was little more than dog meat in a fur sack. In obedience, on the recall, he would get up and sort of ramble toward you, had no interest in tracking and basically was a mild mannered, laid back, fairly dull dog. We were just looking into Schutzhund and the new Bouvier progressed rapidly, but the expensive new Shepherd would sort of bite like he was doing you a favor and could we please go home now. The Shepherd people in the Schutzhund club tended to show a pained look on their face, which I did not really understand at the time, but to their credit said nothing negative about the dog, which was sold shortly thereafter.

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[4] I have never quite known how premeditated this was.

What is the moral of this tale? We started to look seriously into lines and discovered that the first dog was mostly out of imported working lines, combined with some credible older American breeding, and the second dog was of prominent American show lines, meaning he was bred tight on then currently fashionable conformation winners.

This experience was our introduction to working dogs, and has served us well. Why was a novice trainer able to come in third out of a hundred or so German Shepherds at a well-established Shepherd obedience club with many experienced trainers? This was a real mystery, for I was a very ordinary novice as a trainer, could see that there were much better trainers at our obedience club. It took a certain amount of time to realize it, and even longer to believe it. But the fact was and is that the trainers at this specialty club were working German Shepherds out of American show lines, "pet quality" cast offs not deemed worthy of the show ring, competing with one hand tied behind their backs, and that their dogs were on the whole of very limited potential relative to dogs properly breed according to demonstrated comprehensive working potential. We, everybody in America, had so much to learn.

This is not an isolated instance, an accident of selecting the wrong dog, but rather a generality, the common experience. In reality the vast majority of dogs going into American police service today, regardless of breed, are imported or bred out of European working lines, mostly German Shepherds and increasingly the Malinois. The reasons for this are that these lines are much more trainable, energetic and reliable than dogs out of show lines, European or American. The most fundamental truth of working dog breeding is that when working intensity and willingness is not incessantly the predominant factor in breeding selection, it quickly withers.

When looking at the American registration statistics over the years, it becomes apparent that about twenty five percent of Americans seeking a purebred companion or family dog are looking for some sort of protection or police style dog to project the desired image. The German Shepherd, for many reasons, good as well as bad, was the beginning of the wave in the 1920s and is today still predominant almost a century later. While other breeds have come and gone the total has consistently been about a quarter of registrations. The Doberman Pincher sky rocketed in the 1970s and for a few years became even more popular than the German Shepherd. In the 1990s the Rottweiler surged, which went hand in hand with the decline of the Doberman.

On the whole the owners of these pretend dogs have been generally satisfied, found friends and neighbors sufficiently impressed and the dogs on the whole relatively easy to deal with. Breeders found that dumbing down and diluting the character reduced customer problems, made good business sense and made their breeding stock much easier to deal with. Nobody seemed to notice that they had been given replicas, like the macho man cars with racing stripes and nothing special under the hood.

Thus the vast majority of such dogs offered for sale in America today, the German Shepherds and other police heritage breeds such as the Doberman Pinchers or Bouviers des Flandres, are grossly deficient in working potential and character because they are bred without regard for character, or more often in fact selected for a low intensity character. Most dogs coming out of show lines, in Europe as well as America, are seriously deficient in the fundamental attributes of intelligence, working willingness, confidence and courage. This trend has become more and more pronounced over the decades, for in the 1960s and even a little later you could see some common ancestry in the successful working and show line Shepherds, but not today. The breeders will of course promise you anything to make the sale, confident

that the customer will not know the difference, in reality wants the image but not the reality.

Although this division has become much more pronounced in the past few decades, in reality it emerged in the very beginning as the conformation winners attracted the lion's share of the notoriety, prestige and money. Lest this be perceived as the attitude of an over the edge elite, consider the experience of those involved with Dorothy Eustis in the famous *Fortune Fields* breeding and research program in Switzerland, leading up to The Seeing Eye guide dog program for the blind at Morristown, New Jersey. In their 1934 report, Elliott Humphrey and Lucien Warner, leaders of the program, comment:

> "It will be remembered that at the turn of this century the German Shepherd as a breed began to split into two strains. The one produced beautiful dogs, including *all* the show winners. The other produced working dogs, including *all* the working champions. No dog of the championship strains born since 1909 has produced winners in *both* show and working classes. Thus the cleavage is complete." (Humphrey & Warner, 1934) p226

Even in these founding years, with the ringing words of von Stephanitz, still alive, demanding character and working capability, the prestige and money gravitated to those who did the minimum for work, sought glory in the politics of the conformation ring. Ultimately, excellent working dogs are only produced by those whose highest personal priority is working excellence. In the early years of the American awakening many, even I, endorsed slogans such as "We can have it all," "One breed" or "The Golden Middle." But thirty years of experience, during which my breed approached ever closer to the abyss, has shown these slogans were and are blatant falsehoods, for in the end such programs always lead to mediocrity, at the very best, in working character.

But in the world of real police service, mediocrity is not enough.

Police Dog Book

Angel's Lair All Breed **Angel's Lair Schutzhund**