

# Dogs & Wolves

## 2 Instincts & Behaviours

Understanding the instincts and behaviours of dogs and wolves. For dog trainers and the interested dog-owner.



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## Instincts And Behaviours

*In this essay, I will try to give you a **practical** understanding of instincts and behaviours; the sort of understanding that is of use to a dog owner or trainer. This means that I have approached the subject and the definitions of various things within it from a completely different viewpoint from that which an academic animal behaviourist would use.*

*What you will learn here will help you to understand why dogs and wolves do what they do in the real world.*

## Instincts And Behaviours

*One of the difficult things about writing a document like this is in deciding what to leave out. Opinions on this will vary from trainer to trainer and owner to owner but there has to be a limit somewhere and that means that something – or rather, a whole lot of things – will have to take a back seat. This document was designed with two purposes in mind. Firstly to provide information that is most often - for whatever reasons - missing or unreliable in published material; If you read something here that contradicts what you have read in a book or website then on average you should believe what it says here. Secondly, this document acts as a focus to draw together, in one place, the key facts and truths upon which understanding of the subject depends.*

*This essay is mostly aimed at people wanting to be dog trainers and the interested owner and is written from the standpoint that what matters is the truth about the subject, not political correctness, trendy theory or cult dogma. You will find no platitudes here, just fact and truth as near as I can record the two. It is designed to be read in its correct place in the sequence of other essays in this series. If you have not read the preceding essay(s) in this series yet, then you may not appreciate the meaning and rationale behind various terms which are discussed in the other essays.*

*In this essay, I have tried to account as best I can for the differences between individual dogs. One can almost never say things like “no dog ever ...” or “every dog will always..” because dogs are all different. Even if instead one says things like “most dogs..” one will inevitably run into the person who has never met “a dog that does..”. If you have never met a dog that does anything mentioned here then all I can suggest is that you enlighten us and write your own essay on dogs.*

*When you make up your mind who to believe about a subject, how do you decide ? Do you want to believe what your friends do, what your parents approve of, what makes you feel happy or just the bald, uncomfortable truth for its own sake ? In dog training ,looking at the published material, you certainly have the choice. In writing this essay, I have simply taken the role of informed but dispassionate observer and analytical recorder. I have no ideological axes to grind, no complexes to indulge and I am not in anyone’s theory and dogma camp. When I promote an idea, it is because that idea works in the real world; when I debunk one, it is because no matter how much water it holds in the world of theory and popular books, it doesn’t hold any in the real, hands-on world. What you read here is bald - perhaps uncomfortable - truth for its own sake*

# 1 Instincts and behaviours

## 1.1 *Defining instincts and behaviours*

### 1.1.1 Instincts

The behaviour of dogs was hardly understood at all in an analytical sense until the mid twentieth century. By then, advances in the overall scope and precision of animal behaviour as a subject had begun to lead to a systematic approach to understanding the development, purpose and modes of employment of the behaviours we see in dogs.

The pioneering work on conditioned reflexes by Pavlov at the end of the nineteenth century and further work on conditioned behaviours by Skinner in the early twentieth century laid the foundations upon which succeeding generations would build the modern understanding of dog behaviour.

By the 1960's, it was broadly acknowledged that dogs were almost certainly a direct descendent of wolves and much of this belief was driven by the fact that studies were revealing almost complete correspondence in the behaviours of (what were then considered to be) the two separate species. Many experiments were performed in wolf and dog behaviour in the final decades of the twentieth century and much information was gathered by people such as Michael Fox and Erich Klinghammer. The intense similarities were increasingly noted and the final confirmation of genetic near-identity by the Smithsonian Institute in the mid 1990's provided the validating link between the study of wolf behaviour and that of dog behaviour.

Since then research into wolf and dog behaviour has progressed in parallel as it is now broadly accepted that dog behaviour is, in fact, a mutated and evolved version of the behaviour set of the ancestral wolf. Many authorities believe that the difficulty of understanding dog behaviour with its many mysteries and contradictions can be more easily understood by looking first at the original purpose, motivation and relationships between behaviours in the ancestral wolf. By understanding how certain behaviours have been modified in the selection and breeding of dogs, it would then be possible to work out the purpose, relationships and motivations of behaviours – and lack of them - seen in dogs.

For the purposes of this section on instincts and behaviours I shall consider those of the wolf and relate these to dogs.

Essentially, like all animals, wolves are driven by a set of life-needs which can be categorised under a short list of titles. Each title is called an “instinct”. The list includes but is not restricted to:

- Self Preservation
- Territorial protection
- Prey acquisition (hunting)
- Social interaction
- Mating
- Parenting
- Play

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- Exploration
- Self-care

Each need (instinct title) is served by – or you might say ‘contains’ - two sets of behaviours reserved for it, a) innate behaviours and b) learned behaviours. The great intelligence of dogs and wolves allows learned behaviours to contribute maximally to each need. (We will look at these two categories of behaviour later in detail).

So, each of the titles in the above list is, in fact, an **instinct**. It is important to remember this definition:

- **An instinct is just a category of life-need, not knowledge or intention or action or something an animal does**
- **An instinct is therefore nothing but the title at the top of a list of behaviours (actions).**

This means that each of those instinct titles I have given should be followed by a list of behaviours and later, I will list and discuss the behaviours that fall under each heading.

At all times, an animal is experiencing at least one life-need – it’s looking for food (prey instinct), looking after itself - Eg. grooming, sleeping etc. (self-care instinct), competing socially (social instinct) etc. This simply – and rather obviously - means that at all times, the animal is either already producing behaviours that belong to one of the instincts or is receiving stimulation of some kind to do so. We can say that “at all times, an animal is under the control of one of its instincts” which is the official way to word what I have just said but the problem with describing the situation this way is that it leads people into thinking that an instinct is some kind of real, physical thing that can, in some sense “control” an animal. It leads to a fuzzy understanding of the word “instinct” because an instinct can’t control anything, it’s just a title at the top of a list of behaviours. Later, we will look at correct and incorrect ways to describe things to do with instincts and how to use the word “instinct” itself exactly instead of fuzzily.

The need an animal is experiencing can switch rapidly between two or more instincts (behaviour lists). Sometimes, the animal can even appear to seize up in indecision if it is facing some kind of conflicting, double opportunity or problem which requires contradictory behaviours that fall under more than one instinct. Think about what a wolf would do if it was mating and a grizzly bear tried to attack it – it seriously needs to finish mating (a behaviour in the mating instinct list) but it also needs to run away (a behaviour from the self-preservation instinct list).

It is quite difficult for us humans to imagine this kind of thing because we really show very little strong demarcation between instincts. A lot of our behaviours are much more generalised and most serve more than one life-need (they occur in more than one instinct list). Animals too have generalised behaviours that serve more than one life-need but they just seem to have a lot less of them.

It is not possible to make a table of the relative strengths of the instincts because they are nothing but words. It is the nature of the behaviours within each instinct and their relative strengths within an individual animal that decide how strong a particular instinct may appear to us to be.

There is no single, authoritative list of instincts and different authorities tend to have their personal preferences although the list given above would be accepted by many. On average, most authorities identify somewhere between about 9 and 12 instincts. Some would dispense with the maternal

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instinct and place maternal behaviours in the Social instinct category. Nevertheless it is not difficult to draw up a list which seems to cover the list of needs in a wolf's or dog's life satisfactorily one way or another.

### 1.1.2 Behaviours

Basically, a behaviour is a single action or repeated short sequence of actions which completes some purpose. For example, a bite is one behaviour; repeated biting is one behaviour; chewing is one behaviour; sleeping is one behaviour.

One pace of a trot is not a behaviour – it is a component of the behaviour of running; One deep-sleep-breath is *not* a behaviour – it is a component of sleep behaviour.

Tracking down and killing an elk is *not* one behaviour, it is a whole list of behaviours in sequence, and parallel each of which may have several components.

Behaviours are mostly “ing” words, such as running, eating, digging, mating, biting, threatening, sleeping, yawning etc.

There is no point in getting too carried away here in trying to pin down comprehensive lists and exact definitions; just be aware that you will probably have to think about this whole thing a little to get a handle on it. As you read the following sections, you should begin to get the hang of deciding what is a behaviour, what is a component of one and what is not a behaviour at all.

Some behaviours – biting, for example – serve more than one instinct and may appear in slightly differing variations depending upon which instinct is employing them at any given moment.

The “strength” of a behaviour amounts to nothing more than how easy it is to release it – in other words, to cause it to happen - and how much energy the animal will normally put into the behaviour once released. A behaviour is released when the correct combination of sensory and other stimuli release it.

(You may wonder why the term “release” is used for behaviours. The answer is that researchers in biology discovered that the neurons in the brain that fire to generate a given muscle movement are, in fact, already firing to produce it in many contexts when the animal is not actually producing the movement yet; they are prevented from communicating with the muscles and actually causing the animal to produce the movement until some event causes the brain to cease blocking them and “release” the movement they are trying to generate).

#### 1.1.2.1 Innate behaviours

Innate behaviours - also called “instinctive behaviours” (and sometimes “motor patterns”) - are in effect, hard-wired into the brain from birth. Animals do not need to learn them and some do not even require practise to perfect them. Innate behaviours cannot be trained away and will not extinguish (be forgotten) if unused. Some improve in terms of co-ordination with practise and some need a learned component to become useful – killing large, dangerous prey is a good example.

Interestingly, it is virtually impossible for a human being to train a wolf not to produce one of its strong instinctive behaviours around the trainer whereas it is relatively easy to train a dog not to produce quite a lot of its instinctive behaviours in many situations.

From the training point of view, there are a number of problems with instinctive behaviours. One is that if you don’t keep a dog in practise at not producing whatever instinctive behaviour you trained

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out then eventually it will almost certainly reappear and you'll have to reinforce the training to make it go away again. *Innate behaviours are persistent*. Another is that total suppression of innate behaviours is not only near impossible – depending upon their strength - but unwise as well. The dog has a deep and primal need to produce these behaviours and the best option is to teach it where and when it is permissible to produce them. Attempts to completely suppress instinctive behaviours nearly always lead to the emergence of another problem behaviour in its place.

Innate behaviours include scent tracking, prey-chasing, grooming, copulation, greeting etc.

On important class of innate behaviours are the group-copying (infectious or “mob”) behaviours. Typical infectious behaviours are, of course, things like howling, yawning and mob attack

Many innate behaviours have what is called an appetitive stage – a visible action or short sequence that precedes the behaviour itself. Good examples are a) the circling of a dog “making its bed” before it slumps down to sleep and b) the circling of a dog before urinating. The distinction between a true appetitive phase and a gradual start to a behaviour is not always easy to draw but from the dog owner and trainer’s point of view it is rarely important. As a rule, to reward a behaviour in the early stages of training, the animal should be encouraged or rewarded as soon as it shows the first stages of it; to stop an unwanted behaviour, it should be interrupted as soon as possible. In both cases, it seldom matters whether it is in a true appetitive stage or not.

Innate behaviours also have what is called an “onset” time – a time during the dog’s development when they will first appear and some have an “offset” time as well – a time when they will stop occurring.

There is no point in making a full list here of all the innate behaviours serving each instinct. Indeed, it would be rather difficult anyway as behaviourists and trainers disagree continually about the origin, nature, function and overlap of them.

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### 1.1.2.2 Learned behaviours

Learned behaviours are simply any action the animal learns to perform. Whilst innate behaviours are passed on genetically, learned behaviours cannot be “passed on” at all. The nearest a dog could get to having a learned behaviour passed on to it by its parent would be to copy it from its parent.

(It must be noted that behaviourists debate the exact nature and detail in which innate behaviours are passed on to offspring and the degree to which they can be shaped and modified in response to an animal’s environment but this amounts to an argument of fine detail which need not concern us here. Basically, all the reliable evidence indicates that learned behaviours cannot be passed on genetically. Only instinctive behaviours can.)

A lot of the main thrust of dog training is to get dogs to learn new behaviours in the form of trained moves and positions. Some of these things will be easier for some dogs to learn because various breeds have been deliberately selected and bred to have a predisposition to produce certain behaviours that we want to train.

One important feature of learned behaviours is “inevitability”. This means, for example, that if you put a lot of different dogs into identical situations where they can only get something they need by a producing a certain behaviour that they initially don’t know then there is a very high chance that they will all eventually start producing it. Each will find out how to produce it in its own way. When they do it, they will all probably do it much the same way because give or take a bit, they all have the same approximate physique, mental faculties and senses. Given a common problem, the common mind and body finds a basically common solution. The finding-out may include copying from others or simple experiment and success or even serendipitous accident.

A good example of inevitability is the use of a toy or food treat to lure a “sit”. The lure object is moved up and back over the dog’s head and in order for the dog to continue with the canine psychological inevitability of wanting to track it with its eyes and nose, the most inevitable *physiological* outcome is that it will learn to “sit” each time to do so. This inevitability crosses the border between breeds, ages and genders – put something interesting near a dog’s nose and move it and the dog will try and follow it with its nose. If that “something” moves up and over its head in the right way, the dog will sit in order to follow it with its nose.

### 1.1.3 Relationship between instincts and behaviours

Let's have a look at how the behaviours fit under the instinct headings.

Although it is useful to restrict our concept of an instinct to something which is just a heading on a piece of paper in order to ease the understanding of what a behaviour actually is, nevertheless, animals' minds do seem to have a notion of behaviour grouping into clusters or "instincts" built into them and it is also useful to think of each instinct to some extent as though it were itself a complete, separate sub-brain, or 'mind', if you like. Each shares the input from the five senses which it feeds to each behaviour within it, each has its own memory accessible only to the behaviours within it and each has its own learning capacity which seems to be independent of and unrelated to behaviours within other instincts.

The behaviours within each instinct do seem to have the ability to over-ride behaviours of another instinct in certain situations.

Wolves and most other animals seem to have little in the way of deliberate, conscious control of their behaviours and, as stated before, the instinct in overall control of the animal at any given moment is simply the one with the highest motivation at that time. Motivation can include not only the obvious, sensory inputs but the animal's ambient hormonal state and any stimuli arising from the learning store of the instinct concerned. When the instincts are viewed in this way, it is interesting to speculate that the mind and consciousness of the wolf and dog may not be a unified, single thread like our own, but may consist of the whispering of many voices.

Compared with dogs, the various behaviours of the wolf are all much more equal in strength although it does have to be said that the behaviours of the self-preservation instinct may well be stronger than any others. We have selectively bred dogs to exaggerate the strength of some behaviours and to attenuate others. For example, we have increased the strength of prey chasing and attack behaviours in working hounds and increased the strength of opportunistic scavenging behaviours in others to make them more trainable (by seeking and accepting treats and food from us). We have attenuated many of the prey acquisition behaviours overall to exclude ourselves from the normal prey envelope of the dog. Wolves show little of any such bias.

The diagram 'relationships between instincts' shows a greatly simplified (don't take it too literally) but rather useful view of the way in which the instincts relate to and interact with each other. Inside each of the bubbles labelled 'instinct ()' is the set of behaviours - behavioural algorithm, if you like - which serves that instinct. Each bubble doesn't necessarily represent separate regions of the brain although many functions do actually occur in regions which only appear to activate in the context of one particular behaviour or instinct.

It is not possible to represent all the inputs and outputs which each instinct has. For example, the autonomic nervous system is not shown and it should also be noted that not every instinct has behaviours that can override every other.

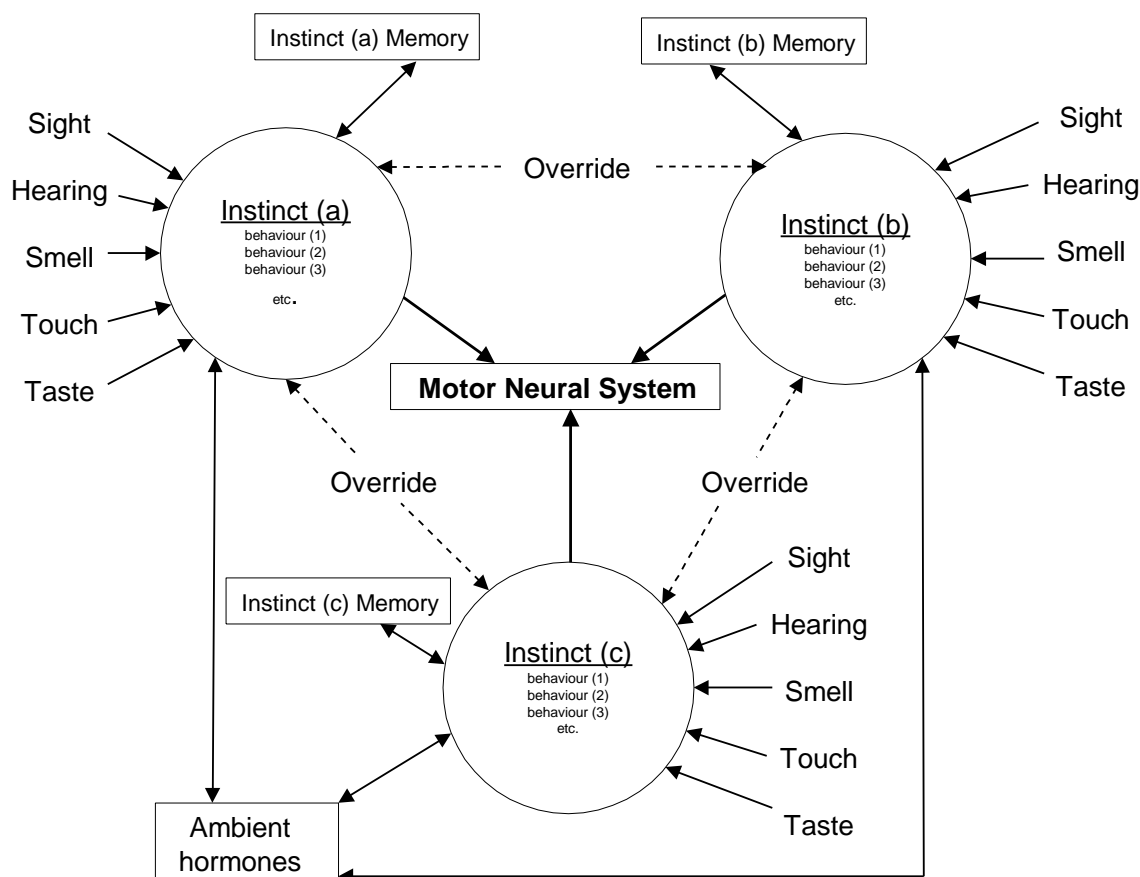
The sensory inputs to the instincts are, of course, not raw data from the organs concerned; rather, they are filtered and enhanced to varying degrees by other areas of the brain (visual motion sensors, edge enhancers, auditory enhancement etc.) before being presented to the various centres which require them. Likewise, the control signals to the motor neural system aren't actually directly driving the limbs but are presented to other areas of the brain which, in turn, control the limbs.

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The behaviours within each instinct are influenced in various ways by - and when activated, can in turn influence - the ambient hormone mix and other physical properties such as temperature, food-absorption etc.

The diagram omits the place of consciousness, emotion and intelligence in the scheme of things since these subjects bring the discussion into realms which are outside the scope of this document.

### 1.1.3.1 Diagram: Relationships between instincts



To understand this diagram and get a gut feel for what it is showing, you need to do something which a lot of people find distasteful and imagine, for a moment, that animals are just machines, producing predictable behaviour responses to the minute by minute needs and influences they are exposed to in everyday life. You have to pretend that emotions and feelings don't exist and that reasoning doesn't happen and simply look at what the behaviour machine does. If you start from this standpoint then you can add all these other things back into your calculations later (much later), after you have fully understood the mechanics of behaviour. If you try to do it the other way round and start out by reasoning through with behaviour as the product of emotion, intelligence and consciousness then you will finish up in a mess and never properly understand why animals do what they do.

Emotions in particular as a motivation for behaviour are connected with several other interesting subjects such as Classical Association, hormones and brain chemistry etc. and these subjects are covered elsewhere. Just for now, rule them out.

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I shall not discuss every instinct but I shall give a brief description of some of the ones which contain the behaviours of most common interest.

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### 1.1.3.2 Self-preservation instinct

The term 'self-preservation' is used here to mean only the animal's avoidance of its natural enemies and any places, situations and activities which provide a sensory or memory-driven stimulus to

- fight or flight behaviours.

In wolves, these are virtually always the strongest behaviours and wolves are, in fact, very shy and cautious creatures. Shyness is built into their characters in greater or lesser degree genetically.

It is interesting to note that the conventional European dog breed which most closely resembles the European wolf in physical form – the GSD, is also known for a certain shyness and sensitivity. This shyness is a common temperamental problem with so-called "wolfdogs" – animals which are crosses between wolves and dogs.

Under the heading of self-preservation, it is useful to mention the so-called "fear periods" of both dog and wolf. These are times in the animal's development when it will suddenly become shy for a while or show fear of things it has never bothered about before. The early fear periods occur when the young animal in the wild would be changing its lifestyle and exposing itself to new natural hazards. None of them occur at exactly predictable intervals – for example, the 3.5 week one could occur at 3 weeks or 4 and the 13 month one could be as late as 17 months. These fear periods are quite marked and observable in young wolves but often much less observable in young dogs.

The 3.5 week fear period coincides with the time at which the cubs would first venture outside the den.

The 8 week fear period coincides with the time when the cubs leave the den for good and begin travelling with the pack, using rendezvous sites.

The 4.5 month fear period may coincide with the cutting out of the summer prolactin peak among the adults in the pack. This generally means that the adults will be showing increasingly less tolerance toward the cubs as they build up to the breeding season begins. It is also interesting that it coincides with the onset of teething.

The 7 month fear period probably coincides with the earliest time that the adults in a pack will normally allow the cubs to stop using rendezvous sites and join in hunting.

These (and one more, at between 13 and 17 months) are the most frequently observed fear periods in wolves – although wolves do seem to have occasional shy days on a more or less random basis for the first two years) - but the 7.5 month fear period seems to be the last one which dog and wolf puppies have in common.

### 1.1.3.3 The Prey Instinct

The following are all prey acquisition behaviours:

- Scent-tracking
- Orienting
- Stalking
- Prey-testing
- Prey-chasing
- Prey-killing.
- Prey dissecting

These are not 'learned' in any way; they are built into the brain – hard-wired - and once released will run inexorably to completion unless over-ridden by some other stronger behaviour. They operate normally in a chain such that the *outcome* of each serves as the *releaser* for the next.

Eating is not a prey acquisition behaviour, it is a social behaviour and therefore belongs under the Social instinct.

After the social behaviours, the prey-acquisition behaviours are probably the ones which our ancestors most intensively shaped and selectively bred for as they turned their dogs into ever more reliable companions. One imperative would have been to reduce the prey-size envelope of the ancestral wolf to exclude ourselves from it. For the first farmers, strengthening the prey testing and stalking behaviours whilst slightly blunting the prey-attack behaviours would have given them dogs better at herding cattle and led eventually to the modern herding breeds such as the Collie. Selecting for the strongest prey-chasing behaviour along with physical conformation for speed gave us the high-speed sight hounds such as the Greyhound.

Selective breeding has indeed weakened the overall, combined strength of the prey behaviours in dogs and very few dogs will aim maximum predatory behaviour at any human whether or not they have been socialised to humans. It is normally only very small babies and toddlers which would be at any risk.

By contrast, it is interesting to note that one of the most common causes of attack incidents involving pet wolves and wolfdogs is the assumption by the owner that, just because the animal has a gentle, co-operative temperament it would not harm them. This is a dangerous misunderstanding. Any captive wolf, no matter how well socialised to humans, can have exactly the same predatory behaviour strength as a wild wolf. Social behaviour belongs only to the Social instinct and is not good at inhibiting the behaviours of the Prey instinct except toward other wolves. If the owner does something that releases predatory behaviour then the wolf will produce it and considerations of how long an animal has known a person or how much it appears to like them are not relevant as moderators of it. This is a good example of the way that instinct-specific memory works – the social memory may have the owners face in it but the prey instinct knows nothing of them; its memory holds only information about how to get food.

Having said this about wolves, you should note that unlike, for example, polar bears, wolves - captive or wild – do not regard humans as food and have no natural predatory interest in us whatever. Wild wolves are terrified of human beings and captive non hand-raised wolves are also

deeply afraid of us; Only hand-raised wolves can lose enough of their fear of us to have a chance of aiming predatory behaviour at a human being and they will not do so unless very strongly stimulated – they not only don't regard us as food anyway but they also extend their predatory inhibition to humans because of their early imprinting in the hand-raising process. In other words, you have to be pretty stupid to bring down a predatory attack upon yourself by a wolf in any context. Contrary to folk-lore and popular myth, predatory attacks upon humans by wolves are statistically in the infinitesimal neighbourhood of zero. Virtually all of the very few wild wolf attacks on humans are by brain damaged wolves which have rabies and the vast majority of the few predatory attacks upon humans by hand-raised wolves are a result of change of motivation during an interaction.

Change of motivation means that what finishes up as a predatory attack may not have started out as one and in various contexts, this concerns dogs as much as wolves. When a dog or (hand-raised) wolf interacts with people – or indeed, anything else – all the sensory information from the scene is being fed to all of the instincts; Each is monitoring for stimuli that it recognises and that tell it that it should take over and use one of its behaviours to take control of the situation. Play mouthing or social testing involving nipping is likely to produce reactions – especially flinching or squealing - in the mouthed / nipped person that the prey instinct recognises as the wriggling and squealing of a prey animal; If that particular stimulus is strong enough and/or the animal has strong instinct-specific memory of crunching wriggling prey animals then the prey instinct will assume control and what started out as a social interaction may convert into predatory attack; Referring back to the diagram of instincts and behaviours, the “social” bubble loses control and the “prey” bubble takes over.

Note that we are only talking about predatory attack here. There are, of course and as discussed elsewhere, other modes of attack.

### ***1.1.3.3.1 Orienting***

The dog or wolf turns to locate and may move towards whatever it is that has aroused its predatory interest. Walking backwards in front of a dog releases orienting behaviour and encourages the dog to follow. An animal backing away from a predator is, in effect, admitting weakness and presenting its credentials as lunch; if it wants to impress the predator with its strength and ability to fight then it will stand still, charge, run off at speed etc. – anything except walk backwards. This is rather useful in quite a few dog training contexts. Few dogs would ever escalate into predatory attack upon a human simply from the stimulus of walking backwards but walking backwards in front of other large predators is not advisable for obvious health reasons.

### ***1.1.3.3.2 Scent-tracking***

Dogs' and wolves' noses are sensitive enough to be able to pick up the scent of an animal many hours after it has passed by and discriminate between that scent and many others which may cross it and resemble it closely. A very high proportion of the canine brain is devoted to scent analysis and dogs appear to focus and relax relatively easily in following a scent. Scent tracking is one of the few things that most dogs are able to do equally well. Wolves do it even better.

### ***1.1.3.3.3 Stalking***

Dogs and wolves can hunt in both pursuit and ambush modes. For the ambush plan to work, the attacker must have the ability to stop its predatory chase no matter how strong the urge to get to the prey may be and simply freeze or move only slowly. This is one of the behaviours that sheep dogs use in herding sheep. When training a dog to do distant slam-downs, after the normal, initial training problems, most dogs seem to be happy with the idea – even ones which might be more difficult to

recall and that is doubtless because slam-down during a hunt is part of the natural, predatory sequence and less disappointing and anti-climactic than being recalled.

### **1.1.3.3.4 Prey-testing**

When wolves decide which animal in a herd to attack, they prefer to select the old, the very young, the weak and the sick. When there are no obvious physical clues available to suggest a possible target, the only way they can find out which animals are weak or sick is to get them moving. The wolves will dart in, harass, nip and feint until the animals are unnerved enough to bolt. At this point, any sign of arrhythmic movement, stumbling or limping focuses the wolves attention upon that animal and reinforces the prey-testing response. Further nipping or circling may occur and the prey-chasing and killing behaviours may be released if the animal starts running.

Most dogs seem to display prey testing behaviour given the opportunity but few produce it as intensely as wolves. When sheep dogs are trained, a vital part of their training is to prevent actual contact with the sheep and damage from biting. Sheep dogs have therefore been bred to have their prey-testing behaviour easily released but weak enough to make stopping actual physical contact relatively easy. Very few dogs indulge prey-testing behaviour toward humans although most will sometimes aim social testing behaviour – which can look rather similar – at their owners. There are a tiny minority of dogs which will undergo the release of predatory attack behaviour if they see someone – especially a child - stumble and fall or go into fitting or seizures etc.

### **1.1.3.3.5 Prey-chasing**

Any object which moves rapidly, especially if it is running away and or flapping, wriggling or squealing will tend to release prey-chasing behaviour. It is what motivates a wolf to chase a hare or deer or any other moving animal. It is what motivates a dog to chase a sheep or rabbit that is already running and in combination with play motivation, it is what makes a dog chase a ball, a Jack Russell chase peoples' trouser turn-ups or shoes as they walk and it is often what makes a Collie chase bicycles and joggers.

Prey-chasing behaviour is what is responsible for the well-known fox-in-a-chicken-run scenario. This is where people will sometimes say that a fox killed all the chickens in the run just for enjoyment; What actually happens is that the chickens keep triggering prey-chasing behaviour by flapping around; if the chickens all stood still the fox might well only take one or two.

This is also the reason why a dog out of control can sometimes attack more than one sheep in a field.

With predatory motivation, stopping running cuts off the chasing behaviour and makes an actual predatory bite / attack less likely depending upon what stage of stimulation the dog has reached.

A dog chasing another dog is very unlikely to be prey-chasing except perhaps for situations such as a greyhound chasing a toy dog and this is largely why greyhounds have to wear muzzles all the time in public – they have maximum motivation to chase and catch small furry things.

Prey chasing is often not so easily released by objects moving directly *toward* a dog and other motivations can take over in this situation.

### **1.1.3.3.6 Prey-killing**

Once the prey object is within reach, prey-killing behaviour cuts in straight away. The object will be seized with strong jaw pressure and may be shaken if it is small enough. A wolf about to kill prey

## Instincts And Behaviours

gives no warning; there is no growl and no bark. A prey attack is the only attack mode in which the wolf gives no warning. When stalking small prey, they may stare intently at it prior to lunging, with larger prey they often go out of their way to 'look natural', soft-eyed and innocuous and not alarm their prey target until the moment when they whip round and dart in to bite

The prey-killing bite is of maximum pressure and sustained for as long as necessary in contrast to the much lighter, short snap of a social warning bite. A prey-killing bite is specifically designed to penetrate muscle and break bone and may involve shaking.

Dogs too tend to be silent as they launch a killing predatory attack. The exceptions are some breeds (Golden Retrievers spring to mind) which can have extremely low strength prey-killing behaviour and these sorts of dogs may well bark or appear confused when they catch a rabbit.

One of the differences between wolves and dogs is that whilst hunting, wolves are almost entirely silent whereas some dogs might bark or bay in excitement.

Prey killing will normally only be directed at the object which released it and will only be directed at anything else that gets in the way if that object also releases it. Nevertheless, frustration can intervene and cause a phenomenon called "redirection". A wolf or dog which is psyched up to kill a rabbit which is under its nose can feel strongly frustrated and become aggressive if it is somehow prevented from getting at it and this can result in it biting someone or something else. It does not mean that the animal will redirect the full force of the predatory attack but that it could end up biting someone or another animal quite hard in sheer frustration. Redirected aggression is discussed later.

It is important to note that redirected aggression is almost the only form in which aggression ever enters the predatory behaviour sequence. *There is no aggression in predatory behaviour and the sometimes-used term "predatory aggression" is really an oxymoron (like "plastic glasses")*. Predatory behaviours are strongly self-rewarding – pleasant - for predators and they do not hunt in anger. A wolf killing a rabbit is being predatory, not aggressive and is probably experiencing much the same pleasure and satisfaction as a tennis player playing tennis or a pianist playing the piano.

It is just possible that when a prey animal has consistently and frustratingly eluded a predator and caused it injury in the hunt that the predatory attack, when it is eventually released, might be compounded by some element of anger but it would be a mistake to assume that anger is always in there at the kill.

Because of these considerations, there is a semantic difficulty in describing to a layman, the herding / nipping behaviours which say, a Collie might aim at a human. To the uninformed, all biting aimed at humans is clearly the result of fear, anger, guarding, hate, malice, mental aberration or just plain sadism etc. and is therefore "aggression". Because the average person cannot conceive that their dog could regard a human as a prey animal in any way it is difficult for them to understand that might be exactly what lay behind the nip.

Most people, seeing a dog chasing a bicycle and biting the cyclist would simply assume that the dog must hate or fear the cyclist or be motivated by one of those other unpleasant reasons given above. This is the default assumption of the law in such cases and any kind of biting of a human by a dog is placed under the heading of aggression. As trainers, we have to give this matter some thought because inappropriate use of the word "aggression" can label a dog for life but there may be contexts in which we have no choice but to use it even though it is not accurate.

It is interesting to note that some observers have identified rabbit burrows or other prey-species sites located close to a wolf den or fox earth. It seems that the predatory behaviours may be attenuated within the immediate vicinity of the den and that the fox and wolf – and probably dog too - will not attack animals which would normally be targets for them in this area.

### ***1.1.3.3.7 Tolling behaviour***

This is a rather odd bit of behaviour that wolves, foxes and notably, the Nova Scotia Duck Tolling Retriever produce. It consists of erratic play antics – rolling, twitching, wriggling, springing - designed to puzzle a prey animal and enable the predator to sneakily close the distance between it and the prey.

### ***1.1.3.3.8 Terriers snapping***

One common problem with terriers is biting people (or dogs) that common-sense says they should know and be Ok with. The problem is that common-sense isn't actually in this equation, us humans are just presuming it is; what is actually in the equation is predatory stalking, chasing and biting.

The commonest form of this is terriers that chase trouser turn-ups or sleeves and nip them but they apparently don't realise that there is a human arm or leg inside. What is happening here is that the flapping of the sleeve or turn-up is triggering the same response as the wriggling or flapping of a small prey animal and terriers have traditionally been bred to lunge and snap instantly at such sights. Some will, some won't but the individuals which have more of their ancestral working inclinations will. These are the dogs that would catch a rat, the ones that don't do it wouldn't. If you're a farmer choosing which dog to breed from, you choose the one that catches the most rats. As generations go by, the breed becomes more snappy and hair-triggered by selective breeding and more likely to chase turn-ups and bite ankles.

Another fairly common instance is the terrier that looks as though it is approaching someone (or another dog) in friendly mode – slow and normal - easing in gently, close to their ankle (or the other dog's neck) and then, in a lightning-strike attack, bites them. This is actually predatory stalk-and-bite behaviour – no chasing involved. In this instance it is again triggered by some kind of similarity between trouser material and a furry prey animal. The proximity of a soft, mobile / skin-like surface *not-running away* speaks to the stalking-behaviour trigger in the dog's mind, reminding it of how terriers are supposed to sneak up to and deal with a wounded rabbit or rat lying on the ground.

In all these kinds of instances it is not relevant how well the terrier knows the person (or other dog). It is predatory behaviours that are being stimulated and released.

As mentioned elsewhere, the turn-up chasing behaviour is not confined to terriers but the sneaky, creep-in-and-attack behaviour does seem to be a uniquely terrier thing.

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