

# DOGS

## VISION AND OTHER SPECIAL SENSES

**Vision:** A dog's vision is generally inferior to that of man but it can see colour, static shapes and does not perceive detail. However, dogs are very sensitive to moving objects and can see a hand waving up to a mile away (Messent, 1979; Mery, 1970). The predominance of rod receptors allows the dog to see much better than humans do at night. Dogs are very sensitive to sudden or unusual movement, an asset made use of in guide dogs, retrievers and hunting dogs. The panoramic field of vision is 250-270° but binocular vision varies greatly in different breeds according to how far their eyes are set in the front of their head, e.g., the Pekinese or Bull Terrier have binocular vision about 85°, or a Greyhound about 75°, man has about 140° (Mery, 1970). Furthermore, the extent to which a dog has peripheral vision depends on its skull shape. A visual streak in the retina is required for peripheral vision, but this has disappeared in short-skulled breeds such as the pug (McGreevy et al., 2003).

Although it has previously been thought that dogs are 'colour blind', recent studies have shown that under bright light dogs are capable of detecting wavelengths within the blue and yellow portion of the light spectrum and are therefore dichromatic. However, they are incapable of distinguishing reds and oranges as they have only a few of the cones sensitive to the red/orange wavelengths (Neitz et al., 1989).

The visual colour spectrum of dogs can be seen in two forms: violet and blue violet, which is seen as blue and greenish yellow; and yellow or red, which is seen as yellow. Therefore, dogs are red-green colour blind and are also better at differentiating between shades of gray than humans (Miller & Murphy, 1995).

Night vision is assisted by a reflective layer of cells, known as the *tapetum lucidum*, which is located behind the retina and reflects light back through the retina (Plonsky, 1998).

The absolute threshold for the detection of light is about threefold lower than humans, allowing the dog to be three times as capable of detecting low light intensities (Bradshaw, 1992).

Puppies experience difficulty in identifying objects until 4 months of age when visual maturity is attained (Campbell, 1992).

**Smell:** This is a dog's predominant sense, and it can discriminate between complex mixtures of odours (Fox and Bekoff, 1975). The dog has approximately 220 million scent receptors in the nose, whereas humans have only 5 million (Dodd, 1980). Dogs can be readily trained to select objects associated with an individual and can follow trails of a specific person, although success can depend on temperature, humidity, wind and age of the trail.

The vomeronasal organ is an additional structure to olfaction that can detect pheromones for the identification of sexual behaviour. It is located in the roof of the mouth just behind the upper incisors (Case, 1999).

Anal sac secretions consisting of pheromones differ in the volatiles and constituent compounds between different groups of animals, suggesting possible age, sex and/or genetic differences that individual dogs could use in assessing others (Natynczuk et al., 1991).

**Hearing:** This sense is highly developed and dogs can hear high notes that the human ear cannot detect. Children can detect notes up to frequencies of about 20 KHz, adults rather less, while dogs are known to be able to hear notes up to 35 KHz, and it is suggested that their limit may be as high as 100 KHz (Messent, 1979). This ability to hear high notes enables dogs to detect the calls of many small mammals, such as mice and bats.

Sounds can be detected up to 40 KHz, but there is no evidence that dogs can communicate at such high frequencies (i.e. ultrasound). Such acute hearing is probably most useful for capturing small prey that emit high-frequency sounds to communicate (Case, 1999).

## SOCIAL ORGANISATION AND HIERARCHIES

Unlike cats, dogs are highly social animals and small troops have been observed in various cities. A group of three feral dogs in St. Louis was led by the female of the group but there were very few ritualized displays of dominance (Fox et al., 1975). In a pack the dog expects the presence of a leader and it is appropriate for a family pet to regard its owner as being in this role. Problems can arise when the dog attempts to become or succeeds in becoming the leader (Messent, 1979). If it does dominate a family it will refuse to obey orders and be uncontrollable on walks and may aggressively defend a favourite chair.

Wild wolf packs contain 2-12 members (Mech, 1975), urban dog packs form small groups of 1-3 members (Daniels, 1983) and rural dog packs form slightly larger groups of 2-5 members (Scott & Caisey, 1975).

Group behaviour has an obvious adaptive value in pack hunting and appears early in a puppy's development. Ranks within litters become established in tests of strength and competition during 'play fighting' which begins as early as five or six weeks (Fox and Bekoff, 1975). In previously unacquainted dogs rank is not necessarily dependent on fighting but may be decided on vocalisations and postures. Weight and sex are important factors in determining social status: in male pairs weight is important but in female pairs weight is not so decisive (Scott, 1958).

When breeds are of similar size, the breed temperament is a determinant for rank, for example, fox terriers tend to prevail over beagles and cocker spaniels (Houpt, 1998).

Different postures and facial expressions indicate changes in motivational state. Submission postures in a dog include crouching, tail wagging and rolling over on the back. If a dog is aroused it may become aggressive and put its ears back and tail up and begin to snarl, or it may show play-soliciting behaviour and become submissive.

The presence of large packs of dogs in urban areas is usually due to the presence of an oestrous bitch (Daniels, 1983).

A hierarchy is formed regardless of the size of the pack, and a submissive dog, when approached by a high-ranking dog in a pack, will remain stationary and avoid eye contact in order to avoid an attack (Haupt, 1998).

In free-ranging dogs, inter-group agonistic confrontations are more common than intra-group agonistic confrontations (Pal et al., 1998).

Dogs can identify and show preference for their own breed and litter mates (Hepper, 1986).

Social manoeuvring is concerned with expressing social status (O'Farrell, 1992). The function of hierarchy is to provide stability to the group and reduce intragroup aggression (Serpell, 1995).

Establishment of rank occurs when puppies are 3–4 weeks old, however, pairwise relationships only become stable by the 11th week. During the intervening period there is considerable instability in the relationships between individual littermates leading to a progression towards a stable hierarchy that is not consistent and straightforward (Serpell, 1995).

Individual puppies move from top to bottom of the competitive hierarchy and back again within a number of days (Nightingale, 1991).

A combination of apparently dominant and submissive body postures may be shown in dogs that are extremely fearful and feel threatened (Serpell, 1995).

**Communication:** Dogs can communicate through body postures, vocalisations, facial expressions and scent marking. Patterns of communication, such as stares, body postures, tail-wagging and social interactions facilitate further social interactions and minimise chances of aggression (Serpell, 1995).

Allomimetic behaviour is common in dogs and can be seen through vocalisations where one dog will bark/howl and others join in (Abrantes, 2000).

**1. Scent marking** When a dog goes for a walk it will cock its leg and urinate on bushes and lamp posts. With the urine, scent from the anal glands is deposited. In this way a dog marks out its territory and also indicates its presence to any dogs in the neighbourhood. When a male dog goes for a walk in town he distributes his scent when marking, often excessively. This is because the scent markings become covered and he must continually re-establish his territory (Messent, 1979).

The frequency of urine marking is related to status seeking as more assertive animals demonstrate raised-leg urination (RLU) more frequently than subordinate individuals. Therefore, if this becomes a problem, solutions should involve reducing the dog's status seeking in the household (O'Farrell, 1992).

Urine marking in females, increases during oestrus as the urine contains pheromones capable of attracting male dogs from great distances (Serpell, 1995).

There is no evidence that faecal droppings in domestic dogs have a function in communication, unlike in wolves where faeces marks the periphery of their territory (Serpell, 1995).

Males coyotes tend to be more responsive to the

urine of other males than to the urine of females when maintaining and establishing their territory (Wells & Bekoff, 1981).

**2. Scratching** When a dog scratches the ground he is leaving a visual cue as well as a scent cue from the sweat glands in the toes and footpads.

**3. Rolling** A dog will sometimes roll vigorously in a foul smelling substance. Wild dogs, especially alphas will also do this, and it seems that by making themselves strong smelling they may indicate to other dogs that they are high ranking (Messent 1979).

**4. Tail wagging** The role of tail wagging when dogs meet is not completely understood, but may serve to distribute odours for recognition. It may also function as a visual cue signaling peaceful intentions (Fox and Bekoff, 1975).

Tail-wagging is a context-specific behaviour, which signals excitability or stimulation, such as friendliness/confidence, anxiousness/nervousness and even a threat of aggression (Serpell, 1995).

The secretions of the ears are sometimes sniffed when dogs meet; this is believed to aid in the identification of an individual (Haupt, 1998).

## SEXUAL BEHAVIOUR

Male puppies as young as five weeks old may show sexual mounting even with pelvic thrusting. This can be considered a normal part of play behaviour and is necessary for development of sexual response in adults (Hart, 1980b). A problem may arise if older puppies, stimulated by play, mount and clasp inappropriate objects, including children and other animals. If this is not prevented it may become a behavioural problem (Fox and Bekoff, 1975).

Individual males show great variation in intensity and degree of 'courtship' behaviour. The male is continually checking scent posts for evidence of an oestrous female and if he finds one he remains in the area or tries to follow her trail. When he finds a receptive female he investigates her head and body and then her anogenital region. The female responds by elevating her rump and lifting her tail to one side then standing while the male mounts. The male grips the female's thighs and copulation occurs with pelvic thrusting. Sometimes the male mounts several times before intromission is achieved. Then the male turns and lifts one hind leg over her back so that they stand tail to tail. This is the tie or lock, and may last for 5-60 minutes (Hart, 1980b). Ejaculation begins at about the same time as locking and continues until nearly the end of the lock.

The first portion of the male dog's ejaculate (within 1 minute of intromission) contains sperm-free prostatic fluid, with the sperm-rich portion of semen ejaculated during the first five minutes of the animals being locked together in a tie (Serpell, 1995).

Most bitches accept the approach of the male and will stand to breed several days prior to ovulation (Serpell, 1995).

Bitches are promiscuous and tend to mate with more than one male so that litters usually have multiple paternities to increase the genetic diversity. Young

adults copulate more successfully than old adult males (Pal et al., 1999).

The very first proestrus and oestrus of a bitch is shorter and levels of luteinising hormone and oestrogen are relatively low (Ghosh & Choudhuri, 1984). Males are more attracted to the second or later oestrous periods in bitches (Pal et al., 1999).

During proestrus, which occurs just before oestrus, the bitch will exhibit more play behaviour to the male but will bark and growl and not allow the male to mate (Haupt, 1998).

The urine from an oestrous bitch is more attractive to a dog than vaginal secretions (Dunbar, 1990).

The alpha female is usually more aggressive to other females in her pack. This is believed to be an attempt to reduce or inhibit the mating of other females. Males not preferred by the alpha female also experience agonistic responses (Bradshaw & Nott, 1995).

### **MATERNAL-OFFSPRING BEHAVIOUR**

Just before parturition the bitch often becomes restless. At birth the mother breaks the sac and begins to lick the young. She consumes the waste and nursing begins. During the first few days after birth the mother leaves the nest only for feeding or defecation. By about five weeks the mother's milk supply is beginning to decrease and she restricts her nursing to a few short periods daily (Fox and Bekoff, 1975).

A common occurrence in females is false pregnancy in which there is mammary development and, in extreme cases, characteristic behavioural changes and lactation. It has been suggested that this behaviour is one of the ancestral behaviours seen in the wolf. The alpha female wolf may be the only one in a pack to breed. The male plays a part in protecting and caring for the young, and the females in the pack that have not bred, may go through pseudo pregnancy and produce milk at the same time as the bitch with offspring. These are wolf 'aunts' and can serve as nurse maids (Hart, 1980b), thus contributing to the survival of the young.

The mother feeds the puppies with regurgitated food for about four weeks after birth and teaches the young to hunt.

The bitch regurgitates her food to the puppies in order to wean them (Malm, 1993).

In domestic dogs, lack of regurgitation can occur and complicate the weaning interaction between mother and pups as well as the transition from milk to solid foods for puppies (Malm, 1995).

Play behaviour develops in the young puppies about five to six weeks after birth and they communicate their intentions by crouching on the fore-limbs and elevating the hind end. Play sequences are important, so the young can learn to control the intensity of their bite (Fox, 1977) and also to maintain social relationships within the group.

Unless dystocia occurs during parturition, the bitch is usually silent. If males are present during this process they may whine. The length of parturition is normally 15 minutes to one hour (Haupt, 1998).

A bitch will commonly lick her puppies, which encourages them to eat (Haupt, 1998) and, in the first

three weeks of life, the mother licks the pup's genitals and anus to stimulate elimination in the pup (Campbell, 1992).

Dogs are an altricial species, which means that they are born in a relatively helpless state. Maternal care is needed in early development as newborn puppies are unable to see or hear, and their motor capabilities are limited to a crawl (McGreevy, 2001).

When puppies suckle there is no set teat order or preference and they tend to suck for as long as possible. No consistency in milk intake occurs over weeks within a litter (Malm & Jensen, 1996). In contrast to this, piglets have a set teat order/preference and milk production in various teats differs greatly (Boe & Jensen, 1995).

If the puppy is removed from the litter at six weeks or earlier, it is deprived of social interactions, which can lead to disordered behaviours towards other dogs later in life (O'Farrell, 1992).

Primary socialisations in puppies require not only exclusive access to the desired bonding partner in order to achieve correct socialisation, but also interactions with the entire litter and exposure to the social hierarchies (Serpell, 1995).

Puppies between the ages of 4 and 16 weeks experience a crucial developmental period, whereby exposure to many different people, places, animals and environments will enable them to more readily accept changes in later life and be less fearful, defensive and aggressive (Voith and Borchelt, 1996).

### **BEHAVIOURAL PROBLEMS AND ABNORMAL BEHAVIOURS**

Most dogs display at least some form of undesirable behaviour and as many as 25 per cent engage in activities that constitute a severe nuisance.

1. *Problems in pregnancy.* Inhibition of labour has been noted, failure to attend to the first-born puppy, and the bitch who refuses to eat the afterbirth. It is difficult to determine what factors in the environment cause these problems.

Abnormal nursing behaviour may result if the bitch has had a difficult birth or has caesarian-born puppies, or if the puppies cannot suck strongly. Also, if the puppies' vocalisations are abnormal and continuous the bitch may become distressed (Freak, 1968).

2. *Flank sucking.* Seen almost exclusively in Dobermans and difficult to treat (Hart, 1980b).

3. *Feeding problems.* In a group of puppies the higher-ranking animals may get more than their share and the subordinate animals may suffer from malnutrition. Some dogs over-eat and become very fat; the problem is often due to the owner offering excessive amounts of highly palatable food.

4. *Coprophagy.* Dogs eating their own faeces can be a problem and one suggested remedy is to place a foul-tasting or smelling substance such as kerosene or tabasco sauce on the faeces (Hart, 1980b).

New treatments for coprophagia involve addition of various enzymes to the diet to break down more of the

nutrients in the dog's food to provide a proper influx of nutrients. Veterinary prescribed chemicals such as Forbid (powder supplement) or Deter (pill) can also be added to the dog's food to make the faeces distasteful. Both these methods should be used in conjunction with positive reinforcement when the dog leaves faecal material alone (Hofmeister, 1995).

**5. Destructive behaviour when owner is away.** This may take many forms such as chewing furniture and rugs, tipping over garbage cans, stealing things, defecating or urinating in inappropriate places (Voith, 1980). This misbehaviour may be due to boredom, fear of abandonment, loneliness, lack of attention or other factors. To treat the problem may take a long time and involve the owner in a program, which includes play sessions, exercise, planned short departures and returns, and rewarding the dog for good behaviour.

In separation-related disorders, fears are adaptive behavioural responses that are learned and so can be extinguished by gradual exposure to the fear-inducing stimulus using non-associative learning (desensitisation) in conjunction with therapeutic drugs such as anxiolytics to relieve the symptoms (Mertens, 1999).

Separation anxiety develops over time, through negative experiences. It has been postulated that it is a result of a distancing from the social partner (Mertens, 1999).

Destructive behaviour that occurs when an owner is away is known as separation anxiety and other behaviours of this type include aggression when an owner is leaving, constipation, diarrhoea and vomiting. Drugs may help in treating these problems but they do not cure them (McKeown, 1994).

**6. Sexual problems.** Mounting activity directed towards humans may reflect lack of opportunity for the dog to play with other dogs, or over-attachment to people in early life which has not been corrected. Punishment may eliminate the problem but is not always effective. Castration may reduce the behaviour. Sometimes a male will only mate with a certain female, and a female may prefer a special male.

**7. Aggressive behaviour.** This is one of the most common problems encountered in dogs. There are different types of aggressive behaviour and to treat them requires identification of the different types. Hart (1980b) gives a review of the types.

a. Competitive aggression may occur over food and if one dog is clearly of higher rank than another; actual fighting does not occur and conflicts are resolved by threats and submissive gestures.

b. Intermale aggression is an innate tendency and in some cases may be reduced by castration.

c. Fear-induced aggression (Voith, 1980) occurs in males and females and is seen in situations where an animal would escape if possible, e.g., in a veterinary clinic.

d. Pain-induced aggression.

e. Territorial aggression — this may be directed towards other dogs, people or both. It can become a serious problem when directed towards postmen or meter readers and the only solution may be tying

the dog up when these people arrive.

f. Predatory aggression may involve attacking sheep, cats and other small mammals. It may occur when a pack of dogs runs together or with an individual dog.

g. Maternal aggression is believed to be due to the hormonal state of the female during lactation, as well as the presence of the young.

h. Learned aggression is the type of aggression seen in guard dogs that have been trained to attack.

i. Aggressive behaviour (Voith, 1980) is often seen in dogs that are seeking status. They frequently threaten submissive individuals to maintain their position. In a household, a person may be the object of threats by the dog and if the person backs off, the dog's status is affirmed. A dog should never be allowed to assume the alpha role as the aggressive behaviour is reinforced and continues to occur.

Threshold levels for dogs displaying aggressive behaviour are influenced by environmental and genetic factors. These levels can be raised using medication and/or behavioural modification techniques, such as counter-conditioning and desensitisation to teach new non-aggressive responses (Borchelt, 1998).

The value of the resource (food, toy or attention from the owner) will determine the amount of effort and risk (the cost) the dog is prepared to make in order to gain and maintain the desired resource (Voith and Borchelt, 1996).

Status-related aggression toward humans occurs when the dog perceives the human as a threat or challenge to its social status (Serpell, 1995).

Poorly socialised dogs often show territorial aggression motivated by fear and the need to drive off intruders (Serpell, 1995).

Dogs that display territorial aggression towards a postman seem to believe they have been successful in chasing him away. Treatments include systematic desensitisation or distraction followed by a commanded alternative response, which should be positively reinforced (O'Farrell, 1992).

**8. Training dogs not to roam is another problem.** It is natural for dogs to roam away from the house (Hart, 1980b). They can be induced to stay close to home by:

a. castration

b. making home attractive by providing company

c. if all else fails, some dog owners may resort to confining their dog to a pen or kennel.

Dogs can have fears and phobias, including fear of new places or situations known as agoraphobia, fear of unfamiliar people and/or dogs. The most common fear-related problems are noise phobias, involving thunder, gunshots and fireworks (Case, 1999).

The majority of dogs that express status-seeking aggressive are either male and/or purebred dogs (Reisner et al., 1994).

**9. Self-inflicted wounds, known as psychogenic dermatoses, can result from licking, scratching, biting and rubbing.** Possible causes include stress, social isolation, fear and loss of a companion animal or human (Young & Manning, 1984).

## **DEALING WITH SOME PROBLEMS OF AGGRESSION: DOG/HUMAN**

More than 30% of dogs in animal shelters are abandoned because of behavioural problems (Wells, 1996). The chances of a dog developing a behavioural problem are increased by many factors, such as breed, sex, age, diet, relationship with owner and castration status (Jagoe, 1996).

### ***Nervous aggression***

This usually begins as a reflection of the dam's behaviour, which is why breeders will never let you see a nervous bitch with her pups when you go to buy one. Since this sort of aggression is defensive in nature, it is worse when the dog detects that its means of escape is threatened, for example, when it is restrained on a lead or when visitors try to enter the room or the house. The dog will be reasonably good in crowds but will become very different when approached by a single person, such as the vet.

*Treatment.* Therapy for these dogs should:

1. Present the dog with examples of its perceived threat without any of the associated preludes that have, in the past, alerted it to be challenged.
2. Eye contact and attempts to pet the dog should be avoided at all costs.
3. When receiving visitors at home, the dog should be fitted with a long trailing lead and kept in a separate room until the visitors are seated. When the dog can be let in to see the visitors, he will come and sit beside the owners. One visitor can pick up the lead and slowly pull the dog towards him without engaging eye contact or trying touch the dog. This should be done slowly so that eventually the dog is sitting beside the visitor and therefore becoming habituated to the presence and proximity of the perceived threat.

Be careful that the dog is taken out of the room before any visitors leave – if you don't, he may show aggression and associate that with the rewarding departure of the threatening visitors.

Remember that if you can control the games you can control the dog. Keep a prized toy beside the front door. The dog should soon learn to expect to play with it every time you open the door.

From the vet's point of view, these are dangerous dogs and, as such, they must be allowed time to become accustomed to the clinic. 'Dummy runs' that involve no challenge may help, as well as counter-conditioning by the owner offering a palatable supplement tablet once the dog is on the table or when a procedure has been carried out.

### ***Rank related aggression***

This initially presents as the threatening of family members by a young dog. It is usually a confident or even over-friendly dog and is typically described as a Jekyll and Hyde character. This dog wins most games of possession, sleeps in the bedrooms, usually eats before the family and tends to go through doorways first. The owner will complain that there are lots of things that the dog dislikes him/her doing, such as getting up to answer

the phone, changing gear in the car or switching the gas fire on. The dog also dislikes being groomed, is affectionate but only on its own terms (for example, likes its chest and head to be tickled but when it feels a hand move on to the back of its neck or shoulders it emits a menacing growl), resents visitors going upstairs and, as it matures, it will often allow only certain people into its house and territory. The effects of fear in these dogs may be important in understanding the motivation for and treatment of aggression problems.

*Treatment.* If owners challenge the dog, the moment they back away, perhaps because they have been bitten or because they think they have made their point by rousing on the dog, they send a dangerous message to the dog – that it is a worthy adversary and that they have backed down. Therapy is aimed at changing the dog's rank without it ever having to actively defend its status, i.e. without the owners ever having to 'enter into combat'. Why would a dog want to defend its position in the pack? Well it should be clear that in evolutionary terms the position one holds in a pack is not just a source of pride – it can also mean survival. The wolves that carry the genes that put up a fight for rank are the ones that survive in times of food shortages. Since domestic dogs are descended from the wolf, they share the same genetic traits that led to success in their ancestors.

The treatment strategy is to get the dog to see its owners as having higher rank. It can be:

1. dragged off furniture with an extra long lead,
2. made to go through doorways after the humans,
3. denied access to the bedrooms,
4. tied up short to be groomed,
5. made to lose all games of possession, and
6. fed to an adjusted regime, eating after the family has been seen to eat, with no titbits, poorer quality food and no bones.

### ***Territorial aggression***

This occurs only if the dog prevails in rank-related exchanges in that area, i.e., when the dog, not the owner, 'owns' the territory.

*Treatment.* Therapy is angled at making the dog more submissive relative to the owner as with the rank reduction program. It can be:

1. pulled off furniture with an extra long lead,
2. made to go through doorways after the humans,
3. denied access to the bedrooms,
4. tied up short to be groomed,
5. made to lose all games of possession, and
6. fed to an adjusted regime, eating after the family have been seen to eat, with no titbits, poorer quality food and no bones.

Also the owner should try to reduce the area that the dog perceives as being its territory by exercising it in different areas every day, pulling the dog off marking points and accompanying the dog on all its excursions into the garden.

### ***Sexual aggression***

This is aggression that is adopted as a strategy for coping with sexual frustration i.e., aggression that spills out

in the company of sexual precursors or in a sexual context.

*Treatment.* Treatment in all cases is castration.

## **DEALING WITH SOME PROBLEMS OF AGGRESSION: DOG/DOG**

### ***Rank related aggression***

This is more frequently seen in males, dogs that are also pushy with their owners, dogs that make a characteristically cautious approach with a number of ritualised advertisements of status, such as exaggerated tail carriage, dogs that inflict the worst sort of bites on their combatants, and dogs that behave the same regardless of the presence of their owners or the use of a lead. Such dogs often indulge in frequent urination and scent-marking.

*Treatment.* This will be effective only if it can be applied by a human who is perceived as a leader by the dog. The first step is the introduction of a rank-reduction program. Then the dog can be obedience trained to perform a stay in the presence of other dogs, which will send submissive signals to the would-be protagonist. Castration is also known to help in these dogs (this may be because the reduced testosterone not only makes the dog less aggressive in itself but that other dogs perceive him as being less of a threat). However, spaying a bitch who shows rank-related aggression is unlikely to have this effect.

### ***Nervous aggression***

With this type of aggression the dog is likely to react similarly to any dog regardless of that dog's gender. The behaviour is worse when the dog is on the lead or is cornered. These dogs have sometimes been attacked as pups, often while on a lead and unable to escape. (This is why exercise off the lead during the socialisation period is particularly important. Being on the lead can trap a pup and stop it being able to express its innate submission signals.) In some cases the dog barks a lot in an attempt to warn approaching dogs rather than actually snapping. The dog's behaviour is, to some extent, a product of whoever is on the other end of the lead. For example, the dog may be better behaved with a stranger because it cannot be certain of that handler's ability to protect it from the threat of other dogs.

*Treatment.* This involves the use of stooge dogs that can tolerate aggressive advances by the nervous animal. The most common response to this sort of aggression, tightening the lead, is possibly the worst. Unfortunately, it serves to warn the dog that something unpleasant is going to happen and that there is limited chance of escape. The aim is to make the presence or approach of other dogs appealing. This can involve the use of either food or toys but either way it will be necessary to heighten the dog's need for whichever resource you have selected. This means that you will have to deprive the dog of all toys for a week before the program or of food for 24 hours before the program.

Strangely, owners often object to these periods of deprivation. They seem to forget that if their dog were orthopaedically (e.g. with an anterior cruciate ligament

rupture), rather than mentally, compromised, they might have to limit not just its access to toys but also its exercise for up to eight weeks. Equally, 24 hours of food deprivation is no more than the time a dog goes without food before coming round from a routine anaesthetic. A properly motivated dog can be trained to associate the appearance of another dog with the onset of a game or the presentation of the food it had been looking for during the previous 24 hours. Results with this sort of strategy are very rewarding.

### ***Chase or predatory aggression***

This behaviour is usually being worse when the dog is off the lead, with the outcome of the incident being highly dependent on the behaviour of the dog being chased. The dog is also badly behaved in the car when it sees other dogs through the side windows. The behaviour is the same regardless of the identity of the dogwalker.

*Treatment.* This problem is treated by establishing reliable retrieve and recall obedience, i.e. the dog must be taught to return when called and bring a ball back every time. In the best of all possible worlds, the recall in pet dogs would be much better than it is – if they could reliably be called back from a busy road, it could save their lives. The retrieve in pet dogs could also be much better – the payoff would be heaps more exercise for them, making them generally happier and less likely to develop unwelcome habits, such as barking when left.

A chase-aggressive dog can be taught to expect a game only when the appearance of its prey (e.g. another dog) signals that a ball will be thrown in the opposite direction. This game can be introduced on a long line or flexi-lead so that the new command can ultimately mean, 'Stop, turn around and prepare to chase this ball.' Obviously the attractiveness of the ball has to offset that of the free-moving dog. (Remember, the relative value of the toy as a resource can be exaggerated by limiting the access the dog has to the toy.)

Chase aggression can be made less rewarding if stooges are armed. For example, other dogs owners can be enlisted to use water-pistols; joggers can be persuaded to use starting pistols, rape alarms, and so on. It is very important to give the dog the command to come back before the deterrent is used.

For a dog that chases joggers, one of the worst outcomes is that the jogger does not run away or, worse still, runs away with the dog being made to come along. This can be set up with a stooge jogger who runs toward the owner and then takes the lead from the owner when the dog starts to chase. The chase will be rewarding until the dog realises that he is being taken away from the owner as a result of his predatory behaviour.

### ***Sexual aggression***

This is diagnosed in a dog that tries to mount dogs and bitches alike, and is totally oblivious to its owner when doing so. It may make squealing noises and 'high step' on the spot with its front legs. The behaviour is unaffected by being on or off the lead, and the dog is likely to deliver bites to the back of the other dog's neck or nose area when the recipient refuses to be manoeuvred into a position that could allow mounting.

*Treatment.* For such frustrated individuals, treatment should revolve around eliminating the cause of the frustration, not the frustration itself. So castration is more likely to work than allowing the dog to copulate to 'let off a bit of pressure'. If owners are reluctant to agree to this (and many, especially male, owners are, you can give an anti-androgen injection, which mimics the effects of castration and lasts for about a month. This is also a useful way of checking that a surgical approach to the problem will provide the desired result.

### **Separation anxiety**

Here we have to consider the whole question of what it is like to be a dog that is left alone. Dogs are pack animals and as such they need to be active together. As pups, dogs tend to investigate things readily on their own. As juveniles, dogs become rather passive in that they rely on the initiation of experimental activities by the pack leader. This is because in a wolf context, juveniles are expected to assume a role in hunting parties, and so on. So when the leader rests, the rest of the pack does, too. (Contrast the activity of hamsters at night to that of dogs!) When the leader is active, so are the other members of the pack. As you observe a dog maturing, you will see that it may become more reliant on you for initiation and follow you from room to room, waiting for coordinated activity.

Ultimately this room-to-room following seems to subside if the dog arrives at the point where he finds that indoor activities are not very interesting and he waits until he is allowed outside before he lets off steam. So we have a dog that is accumulating energy. These are the dogs that are over-energetic or hyperactive when given the chance to go outside – a perfectly normal response to modern canine management. These are often also the dogs that are over-energetic or hyperactive in response to minor activities at home, for example, particularly sensitive to the doorbell or visits from the postman.

Do dogs know that their pack will return? How does this impact on short-term stays at a clinic or boarding facility? Anxiety about this is most commonly encountered in rescued dogs and dogs that have become dependent on the company of their owners. Incidentally, if they are told that this is a sign of the dog's affection, owners are better able to cope with the damage these dogs do. And they are capable of enormous destruction when left. For example, a rescued terrier owned by a member of my undergraduate year destroyed eight car-seat belts during the vet's first year in practice at a cost of \$200 each. A Great Dane I saw recently effectively trashed an entire kitchen, chewing handles off drawers, pulling the cupboards off the walls and emptying the freezer. Luckily, it cheated death while chewing through an electricity cable.

Along with barking, defecation and urination (often in several different spots, i.e. not through a real need to eliminate waste) are the other main symptoms of separation anxiety. The main point to remember here is that this is not the dog's way of punishing the owner. When an owner reports that the dog appeared to have known that it had committed a crime and therefore meted out

what they considered to have been a suitable punishment, they were only serving to confirm what the dog had suspected:

Me + Damage + Owner = Imminent thrashing

The power of association dogs have does not stretch far enough to remember that they personally chewed the article in question two hours previously. In fact, powers of association are thought to be effective only within a time-frame of about four seconds. This should be borne in mind when any negative or, for that matter, positive association is built up with a given behaviour.

*Treatment.* Therapy must revolve around getting the dog used to being on its own and to behaving in an acceptable fashion while on its own. So again, the owner should wind down, but only very gradually, the attention the dog can successfully demand. Departures should be swift and not protracted with lots of attention being given to the dog – this only accentuates the fact that the owner is good to be around. Arrivals should not be stressful for the dog. If he thinks he is going to be hit after every period of isolation, his stress levels will rise every time he is left.

Next, teach the dog to spend five minutes by itself confined to a room adjacent to where the owner is sitting. This room can be used as the room in which the dog can be left. When whimpering occurs, an aversive response can take the form of a check chain flying into the room to impact on a metal tray. Only when a full five minutes has been achieved is the session over, so generous time budgeting is obligatory on the first day. The dog should have three of these treatments per day. When the five minute period is easily relied upon, it can be gradually lengthened to 30-minute sessions performed only once a day.

The associations that the dog may have built up with the owner's imminent departure from the house, such as picking up the car keys, or putting on a coat, must next be broken down. The owner should go through this ritual having left the dog in the room in which it has become accustomed to being left. The idea is then to make the sound of the door being shut without the owner actually leaving. This technique breaks down associations with the sounds while still allowing the owner to administer the aversion treatment.

Leaving a piece of recently worn clothing OUTSIDE the door of the room in which the dog is left may help to maintain a feeling of normality. Leaving the radio on outside the room may also help.

The use of indoor kennels for these dogs also has a place in therapy. However, such a den must be introduced into the dog's life very positively, so that the kennel is where the dog gets tickled, receives its food and can find its toys.

### **Phobias**

What we think of as irrational fears are often related to particular noises, such as thunder, fireworks or hot-air balloons. But as you may be able to guess, it's not the actual sound that has hurt the animal to the extent that it will do virtually anything to escape. Rather, it is the associated stimulus.

Taking thunder as an example, the first time this noise was encountered it may have been associated with dramatic changes in lighting but also the presence of humans. The majority of phobic dogs have been 'comforted' during an episode of the fear-eliciting stimulus and so have been rewarded for their fearful response.

*Treatment.* Breaking down these associations can be done by flooding, habituation or counter-conditioning. Flooding, as the name suggests, is a process of saturation where the dog is exposed to a concentrated form of the challenge in the hope that it will learn to cope. An example would be taking a gun-shy dog out and tying it up to a tree and leaving it to experience a really busy day of duck shooting. Then taking it home when it had 'sorted itself out' and expecting it to behave completely passively the next time you took it out to work on a shoot. As you may have worked out, this approach is outdated and probably inhumane.

Habituation is a better version of the same thing, and involves the dog living with unaffected companions and being played quiet tapes of the sound of gun-fire. Systematic desensitisation is achieved by slowly increasing the volume. Once the dog exhibits no response to the sound at a certain level, the volume can be very gradually increased. If the panic response is shown then one can presume that the step being taken was too large.

Counter-conditioning would involve the dog being given a liver treat every time it heard the sound. Obviously, the dog's need to stick around for the reward would have to outweigh its need to escape and, in this instance, we would have to be talking about a very hungry dog. However, there is no reason that habituation could not be combined with counter-conditioning, so that the dog begins to look forward to quiet versions of the noise as a prelude to a treat.

The use of anxiolytic drugs has a place in therapy only if they allow learning to occur. This is not possible when the dog has been given valium, for instance.

### **Food aggression**

This can lead to appalling injuries if the human recipient is a toddler who happened to have walked too close to the food bowl.

*Treatment.* Effective strategies should involve making the food less worth guarding and should be attempted in combination with a general rank-reduction program. It is equally important to break down previous associations that may have built up over time by moving the feeding site and changing to a really bland diet, e.g., mutton and rice or a complete dried diet. To teach the dog that when you are taking the bowl away is actually to its advantage, start feeding the dog at head height so that you do not have to lower yourself into its personal space to retrieve the bowl. Have two identical bowls the first containing just a spoonful of food, the second containing two spoonfuls. An accomplice is required to top up the bowls as they are partially emptied while the dog is feeding from them. The sight of the second bowl should accompany the handling and subsequent removal of the first.

### **House-training problems**

Fundamentally, housetraining a pup has to be a process that makes him actively want to empty his bladder and bowels outside. This means that he must know what praise is and that indoor elimination is not praiseworthy. He must also know that he must be outside when he is likely to eliminate and that his owner must be present to praise him when the event occurs. Failure to achieve this ideal is compounded by the fact that scent from previous eliminations tends to encourage voiding in the same sites. The temptation to leave a pup out in the garden to do its own thing is an invitation to problems in later life, since the pup cannot be praised for getting it right if the owner is absent and the isolation of the garden makes it an aversive rather than an inviting place in which to off-load. The pup will often spend all its time loafing outside the door in a bid to be reunited with its pack.

Training in established cases of adults that soil indoors often necessitates the introduction of an indoor kennel or den. Since one of the earliest behavioural traits in a young pup is to crawl away from its sleeping area to evacuate, the dog will be unwilling to make a mess near its nest, the kennel. Once it can go overnight without making a mess, the pen facility it lives in can be extended until the dog is eventually living in the entire room. During any attempts to re-educate a dog with this sort of problem, it should be receiving a great deal of exercise and it should certainly be accompanied on its missions outside last thing at night.

### **Barking**

Dogs bark for numerous reasons, including out of excitement, distress when left, stereotypic response and territorial defence. History-taking should be designed to identify the most likely of these motivations and therapy should be designed to meet the behavioural needs they point toward. For an excellent approach to the barking dog check out:

<http://www.apbc.org.uk/ARTICLE1.html>

### **Food stealing**

This activity can have dangerous repercussions for the dog if it is ever exposed to baited food, or considerable amounts of fat, chocolate or cooked onions. Training around food can teach the dog to eat only when told to (Food refusal training). Meanwhile, the booby-trapping of items that have not been given will tend to punish uninvited investigation. Booby-trapping can include taste-deterrents and even cap-gun detonators if the dog is particularly bold and has no history of heart problems.

### **Coprophagia**

The cause of this behaviour could be purely attention seeking, or it could indicate a dietary deficiency (cat poo is high in protein). The solution is to lace the turds with chilli or mustard, or booby trap them with spring-loaded caps under cardboard. If the dog eats its own rather than other animals' faeces there are techniques that seem to increase the repugnance of digested food. Add some pineapple chunks to the food - these taste terrible to dogs after they have been digested. Dosing with

cythioate, a systemic flea treatment, has the same effect.

### **Car travel**

There are several problems that arise with car travel. Barking has territorial components that can be difficult to treat because overexcitement linked to the car is often the precursor to the reward of a walk in the park. This is similar to the reward offered by the postman, who reliably walks away after the dog has barked at him. A process of extinction is called for whereby trips in the car become shorter and much more boring.

If the dog is fearful in the car, don't comfort (i.e. reward) it when it shows fear.

To accustom the dog to travel in a separate part of the vehicle to humans, e.g. behind a dog-guard, feed the dog in this part of the vehicle when it is stationary. When the dog is accustomed to that, start feeding in the vehicle after short journeys. When the dog responds to being in the car without showing fear, you can begin to make the journeys longer and longer.

Car sickness is often linked to fear so the approach will be the same as we have just discussed.

### **Stereotypies in dogs**

These include barking, tail-chasing, especially in Bull Terriers, Staffordshire Bull Terriers and German Shepherd Dogs, flank-sucking, especially in Dobermans, acral lick dermatitis (lick granuloma), especially in Labradors and Golden Retrievers. Bear in mind that environmental factors can lead to these behaviours. Therefore, look for and rectify any attention-seeking components in tail-chasing and the role of boredom in lick granuloma cases.

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