



Pete Addis

The things we do to dogs

The squashed face of the peke, the drooping eye and long back of the basset, the giant size of the Great Dane—careful breeding perpetuates the special features of pedigree dogs in ever more exaggerated form. But the unfortunate hounds would be much better off without them

Simon Wolfensohn Man is apt to refer to dog as his best friend, but it's doubtful whether dog can return the compliment. Our strange ideas about the appearance of our canine companions have afflicted many breeds with physical deformities which at best cause the dogs considerable inconvenience and at worst result in a lifetime of visits to the vet. Some breeds have developed their own hereditary diseases because their short-sighted breeders have been more concerned with their appearance than their general state of health. Not content with breeding dogs into peculiar shapes and sizes, we have even taken to snipping off bits of their anatomy to make them conform to our misguided ideals.

Dog shows are taken very seriously by dog breeders, and winning at Crufts—the high point of the year—has a great deal of influence on the characteristics of a breed. When the judges exercise their discrimination sensibly, this can, with luck, be a good thing. However, when their selection tends to consolidate a preference for something that should really be considered an abnormality, it can have a long-lasting damaging effect.

Even when the champion is apparently a thoroughly good all-round specimen, the effects on a breed as a whole can be distinctly retrogressive. Because champions are in such demand for their services at stud, their genes tend to flood the market. In many cases the original stock of dogs introduced to the country to establish a breed was very small, or the original forebears of the breed came from a very small geographical area, so the resulting gene pool tends to be small. When you add to this the fact that highly incestuous matings over several generations are commonplace, it is easy to see how an undesirable characteristic can become deeply established if it happens to be the fashion for a time. Equally, it can easily happen that an unwanted recessive character becomes established within a very few generations as champion stock penetrate more and more strains of a breed. Champions tend to be chosen for their visible, fashionable characteristics, and because standard agricultural techniques such as progeny testing (in which sires are assessed on the basis of the quality of their offspring) have never been used seriously in dog breeding, many recessive characteristics have probably been incorporated into breeds by accident. In some breeds it may now be almost impossible to back-track and re-establish healthier genes in the population.

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Fortunately for the dogs in those breeds that retain an adequate degree of flexibility in their gene pool, breeders are now more aware of the harmful potential that exists. Some of the more extreme examples of bizarre physical features have become less common, as more people realise just what they are doing to their dogs for the sake of appearance. There is still, nonetheless, a lengthy catalogue of physical oddities which breeders perpetuate, often at the expense of more desirable characteristics.

There are essentially three types of pet-owner. There are those who keep the dog as a straightforward family pet or working dog, those who keep the dog as a status symbol and those to whom the dog substitutes for a child. It is mainly the last two categories who look for strange physical features in their dogs and who are collectively responsible for most of the trouble. To the average family that wants to keep a dog as a pet, along with the 2-4 kids, the most important single factor is usually temperament. These days owners also want their pet to be healthy so as to avoid more than a minimum number of visits to the vet. These factors certainly do not seem to be the main ones in the minds of the judges at dog shows.

It would be impossible to go through the full range of physical distortions found even in the more common breeds, but I can select some examples to illustrate the problem. It is interesting that many of the more obvious trouble spots are found around the head, affecting facial expression. Are these perhaps the breeds that appeal to those looking for a child substitute?

Everyone knows how charming the soppy expression of a St Bernard puppy or a young bloodhound is, but these are typical examples of dogs that can have severe eyelid problems, along with chows, basset hounds and many others. All these breeds, to a greater or lesser extent, have a deformation of the eyelids often known as a "diamond eye", from the shape produced. The upper lids tend to be distorted and the lower lids turned outward, giving an unpleasant appearance and causing a constant overflow of tears. Many of these dogs have permanently sore eyes and mild conjunctivitis. Often the condition is severe enough to require surgery. The opposite condition of *entropion*, in which the eyelids turn inward so that they rub on the surface of the eye, also occurs in specific breeds, eg Chows. Breeders regard this condition as a fault and as it is known to be inherited, most are careful to avoid it.

Pekingese and some other short-nosed breeds have eyeballs that protrude excessively and are constantly exposed

to drying and corneal injury. Sometimes the protrusion is so severe that the dog has great difficulty closing its eyes properly, even when asleep. In others the eyes are almost on the verge of popping clean out of their sockets and it takes only moderate trauma to make this happen.

The shape of the head itself is important in many breeds. Everyone is familiar with the laboured breathing of pekes, pugs and English and French bulldogs. Many of these short-nosed creatures have a jaw that is, in a sense, too small to accommodate the teeth, and dental problems often result. Also, their jaws almost inevitably fail to be the same length so that the upper or lower jaw protrudes, again leading to dental problems. In many of these breeds the basic shape of the airway is distorted, with a relatively prolonged soft palate that interferes with breathing, especially when sleeping. Chronic sinusitis and more serious respiratory infections are relatively common in such dogs. The folding of the skin often seen in short-nosed dogs also causes problems, and in pekes the facial folds are often so pronounced that they rub on the eye causing conjunctivitis and ulcers on the cornea. The folds around the mouth of many dogs trap saliva and debris causing a foul smell at the very least, while in bulldogs the folds around the tail are often very deep, trapping debris and bacteria in the depths and leading to severe skin infection.

Then there are the dogs with short legs, out of proportion to their bodies. Bassetts, for example, have legs so bent that they almost invariably develop arthritis, especially in their distorted feet. At the best of times these dogs have a shuffling gait that is an awful parody of the marvellous method of locomotion the greyhound enjoys.

Bassetts and, more especially, dachshunds, have absurdly long backs and are vulnerable to back injuries. In old age they almost always develop calcification of the intervertebral discs, and slipped discs are much more common in these breeds. The unfortunate basset also suffers from having those ridiculously floppy ears, but possibly the cocker spaniel is the worst example of this over-exaggerated characteristic. In this breed the ears are so floppy and hairy that they stop air circulating in the ear channel, creating the warm, sweaty conditions that bugs



Curly poodle

like so much; it is not at all unusual for these dogs to have distressing chronic ear infections.

This spectrum of physical peculiarities extends even to the size of dogs. At one end of the scale there are Chihuahuas and miniature Yorkshire terriers, which are so small that, even allowing for the fact that they are breeding with dogs of their own size, they often have problems in pregnancy. At the opposite end of the scale there are the giant breeds such as St Bernards and Great Danes whose general physiological inadequacy is surely borne out by their relatively short life-spans. Nine years, for example, is a good life for a Great Dane. There is no simple explanation for the short life-span of the giant breeds. They do not seem to be more predisposed than other breeds to disease in middle life, and, apart from those that are destroyed because of bone problems early in life or severe arthritis in later life, they seem to die of as varied a range of diseases as any other breed. In general we know very little about the factors that determine the length of a dog's life; it is easier to consider those factors that affect the quality of life. Between the large and the small there are also the excessively stocky breeds, such as bulldogs, which also have problems in giving birth. (Of course, this assumes that you can get

them to mate in the first place.)

We know little of the reasons for the immense variation in size between the miniatures and the giant breeds. Part of the answer must lie in straightforward selection for size, but it seems possible that this has also been combined over the years with selection for distortions produced by hormonal mechanisms. It is very likely, for example, that St Bernards and bloodhounds have a strong inherited tendency to acromegaly, a condition caused by an excess production of growth hormone in the adult, leading to bone structure which is heavier than normal, especially in the head and feet.

The list of health problems which may be hereditary that beset pedigree dogs is almost endless. It is hard to know where to start with these problems when there are few well-documented examples. In Chihuahuas and other toy breeds the incidence of hydrocephalus (too much fluid in the brain) is greater than normal; in white poodles, heart murmurs are common; Alsatians and cocker spaniels have a higher incidence of epilepsy than expected; and boxers seem to be unusually prone to several forms of cancer. Tibetan terriers, which are



The long, the short and the tall: however endearing, the basset hound (above), the St Bernard (below) and the "child substitute" chihuahua (below) may all be prey to hereditary defects



Homer Sykes



not actually true terriers, have recently become well known for their predisposition to dislocated eye-lenses.

Although few of these problems are fully recognised in the veterinary literature, they often raise some puzzling questions in the comparative medicine of dogs and humans. A good example is Perthes disease, which affects many children each year. In this condition the outer layer of bone at the head of the femur dies, leaving the victim disabled and in pain. There is little evidence that the disease is inherited in human patients. A very similar condition occurs in dogs, but in their case it is confined to certain breeds of smaller dogs, especially terriers and some poodles. This suggests that there is a hereditary link in their case. Children affected with Perthes disease are often skeletally immature and come from poorer homes; the condition is rare in Black children. In man the condition occurs only at the age when the blood supply to the head of the femur depends on blood vessels that run lateral to the bone. In breeds of dog that are



King Charles spaniel

inclined to develop the condition, the blood supply has more of the vessels running in the joint capsule, outside the bone itself, than is the case in mongrels, which are resistant to the disease. The damage caused by Perthes disease is due to failure of the blood supply to reach an area of the head of the femur, but the reason for this failure is not fully established. There is evidence

to suggest that a transient inflammation of the joint causes the damage. Such inflammation occurs in association with the disease in a few cases, but only in a few. This is a rich area for research where a comparative approach may help to provide some of the answers, and benefit both man and his dogs at the same time.

Many abnormalities occur in dogs' eyes, and a number of these problems are quite well understood. A recent analysis of the pedigrees of 27 cases has revealed that lens dislocation in the Tibetan terrier is related to an autosomal (not sex-linked) recessive gene (ie it is only expressed if inherited from both parents). All the cases could be traced

Hereditary defects found in some breeds of dog



1 **Boxer**: respiratory problems and dental problems due to short nose and jaw; higher than normal incidence of cancer

2 **Alsatian**: dwarfism due to failure of the pituitary gland to develop normally; higher than normal incidence of epilepsy; hip dislocation

3 **Great Dane**: short life span; bone problems; arthritis; curvature of the leg bones

4 and 5 **Collies**: over heavy coats in some breeds, especially the Shetland sheepdog; collie eye anomaly, which includes a variety of eye defects; progressive retinal atrophy

6 **Bassett hound**: eye and eyelid problems including glaucoma; arthritis due to bent legs and distorted feet; susceptibility to back injuries; slipped discs; ear problems due to over-long and floppy ears

7 **Cocker spaniel**: distichiasis (extra eyelashes on the inside of the eyelid) causing sore eyes; chronic ear infections resulting from floppy, hairy ears; higher incidence of epilepsy than normal

8 **Pug**: Protruding eyes; respiratory problems; dental problems both resulting from short nose

9 **Bloodhound**: eyelid problems leading to sore eyes and conjunctivitis; acromegaly (excessively heavy bone structure)

10 **Chow**: eyelid problems, with eyelids turning either inwards or outwards

11 **Dachshund**: susceptibility to back injury due to overlong back; calcification of discs in old age and slipped discs

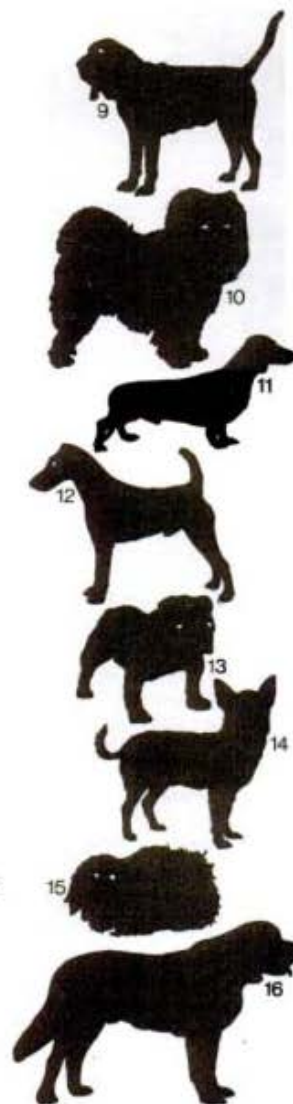
12 **Terriers**: avascular necrosis of the head of the femur, ie death of bone tissue due to failure of the blood supply; storage diseases in some breeds (due to failure to produce enzymes important in metabolism)

13 **English bulldog**: respiratory problems due to short nose; dental problems due to short jaw; protrusion of upper or lower jaw; skin infections due to bacteria trapped in folds of skin; problems giving birth

14 **Chihuahua**: susceptibility to eye injury due to protruding eyes; difficulties in pregnancy due to small size; retention of immature features such as milk teeth and open fontanelles (gaps between bones of the skull); higher than normal incidence of hydrocephalus

15 **Pekingese**: excessive protrusion of eyeballs leading to drying of the cornea and susceptibility to injury; respiratory problems due to short nose; dental problems due to short jaw; corneal ulceration and conjunctivitis due to folds of skin rubbing on the eye

16 **St Bernard**: eyelid deformations, leading to sore eyes and conjunctivitis; giant size, possibly leading to short life span; acromegaly (excessively heavy bone structure); hip dislocation



This is not intended to be a comprehensive list; it gives examples of hereditary problems which appear to be associated with some well-known and popular breeds

back to one or more of three animals born in the mid-1950s, all of which were champions of their breed. The number and distribution of cases fit well with the assumption that the condition is recessive.

Collies, including the sheltie, suffer from a condition known as "collie eye anomaly", and this includes a variety of defects such as chorioretinal hypoplasia (abnormal development of the retina and choroid layer at the back of the eye), colobomas (localised structural defects), detachment of the retina and intra-ocular haemorrhage. The genetic basis for this condition appears to be complex, but again the signs appear well before breeding age. Although the condition is very common, and in the US the incidence is as high as 85 per cent, no scheme exists in the UK for its control.

A scheme does exist, however, for the control of progressive retinal atrophy, a condition that affects several breeds and for which the genetic basis is known in most cases. For border collies every entrants in the National



(Above) Border collies have to have their eyes tested before trials; (right) Dogs also suffer from something like Perthes disease

Sheepdog Trials has to have an eye examination, and only unaffected dogs are entered into the stud book. In this particular breed the condition is apparently regulated by a dominant gene with incomplete penetrance (that is, its effect does not always show up). But whatever the exact mode of inheritance, the scheme has met with a fair degree of success, and in recent years the incidence of the condition has been reduced from around 12 per cent or greater to about 2 per cent. The disease is untreatable and it progresses in many cases to complete blindness. It is encouraging that, at least in this instance, controlled breeding can have beneficial effects.

Another scheme that the British Veterinary Association runs in conjunction with the Kennel Club is that for the control of hip dysplasia, a condition that affects several breeds but is especially common in Alsations and Labradors. The disease involves a flattening of the head of the femur and the acetabulum (the socket of the hip joint), and progresses to severe osteoarthritis if left untreated. It can often be disabling. The inheritance of the condition is not as well



French bulldog

Vivien Fifield

understood as in the case of many of the eye diseases, and environmental conditions may also affect its development. Although the scheme has been in existence for some time, it has met with relatively little success and the incidence of the disease is still high. But at least the breeders are trying, and when the causes of the condition are better understood the scheme may be more successful than has been so far.

Apart from the problems that have been bred into dogs either by accident or by design, there remains the question of the things that vets are called upon to do to dogs on behalf of the breeders. While animal welfare organisations and concerned individuals have turned their attention to the more important issues of poultry production, veal calves and the export of live animals to Europe, and while the lunatic fringe is busily engaged in vandalising the homes of scientists, people seem to have forgotten the old debate about docking puppies' tails. In the US it is still common practice to cut the ears of certain breeds such as boxers and Dobermann pinschers (admittedly under anaesthesia) and strap them up so as to make them stand upright. Fortunately, ear-cropping is not carried out in the UK but it is still normal practice to cut off puppies' tails and dew claws, before their eyes are open but without anaesthetic. (The reason for doing it before the eyes are open is to limit the age at which operations such as these can be carried out.)

Not so very long ago the British Veterinary Association issued a statement after the manner of many professional bodies, condemning the practice of cutting bits off puppies without an anaesthetic. However, it failed to give any practical advice about how to avoid the problem. In most cases docking is done purely for the sake of appearance, although there may be one or two breeds in which it serves a genuine functional purpose. There is slightly more justification for removing dew claws as they very occasionally snag on furniture and carpets, and in any case the procedure is rather less painful on the whole. Dew claws are the almost vestigial claws found on the insides of dogs' front legs.

What, however, is the vet supposed to do about such practices? If he refuses to perform the operations two alternatives remain open to the owners. Clients who breed dogs may go elsewhere, taking their otherwise valuable business with them; or much worse, they may attempt to dock the tails themselves, generally using thoroughly unsuitable methods, and, through their lack of expertise, produce even worse mutilations while causing pups a great deal of pain. Clearly, docking, which many people

including vets find objectionable, is not going to stop until it is made illegal, and that will probably have to wait until the animal welfare organisations and the more sensitive and informed members of the pet-owning public take up the cause again.

A footnote to this part of the whole problem is that a few brave breeders, inspired perhaps by the lady in 1980 who tried to exhibit her full-tailed dog which was a Weimaraner at Crufts, have found it easier to sell their dogs with their tails on, or possibly up. □



Bereft of his tail and half of his ears, the Dobermann is forced to conform to an irrational ideal appearance

