Dog Breeding: History and Current Situation

The History of Dog Breeding

Dogs were one of the first species to be domesticated by man, approximately 15 to 30,000 BC (Zeder, 2008). Dogs which acted favourably towards humans being brave enough to approach but not aggressive enough to attack were not killed and were instead fed forming a symbiotic relationship with humans where the dogs in turn provided a guard and helped alert them to and ward off other animals and humans that may attack. Eventually, they no longer needed such predatory features such as strong jaws, sharp teeth and long noses so these features regressed and instead humand selected for dogs better suited to a diverse range of functions such as hunting, herding, guarding, carrying etc. Dog breeding was hence initially to better enable dogs to carry out the jobs they were used for. Thus we evolved many of the breeds we see today; setters, pointers, retrievers, terriers, hounds etc. We bred for short, bowed legged dogs for burrow work and wide snouts with nostrils set further back in the head for baiting dogs to enable them to breathe while holding prey in their mouths.

Eventually we also began to breed them to be more appealing to us by looking and acting more like puppies, thus we bred them to be more neotenic and ‘cute’. According to studies, we bred out their ability to fend for themselves, avoid hazards and forage and instead bred them to display neotenic behaviours such as play, begging, soliciting care and lacking desire to be pack leader (Coppinger & Schneider, 1995). This correlates with a reduced brain:body mass ratio when comparing adult dogs with wolves. We developed a wide range of breeds which have no other impressive abilities than this such as pugs and chihuahuas. Dogs characteristics can change a lot in only a few generations, as is evident in modern day dog breeding, giving us the plethora of sizes, shapes and colors from Irish wolfhounds to miniature dachshunds that we see today and the constant development of new breeds such as the ‘labradoodle’.

Dog breeds were only formalized in the 19th century Victorian era when pedigree dogs, dog shows and breeding became increasingly popular (Wilcox and Walkwicz, 1995) and Kennel Clubs were founded in the U.K. and U.S.A. to govern these activities by beginning the registering of dogs and establishing stud books. Microsatellite data shows that breeds now have different allele frequencies and distributions making them genetically distinct from one another (Parker et al. 2004). The U.K. Kennel Club currently classifies dog breeds into seven groups according to the breeds original function.

The shift towards dogs mainly being kept as companion rather than working animals has resulted in breeding being primarily focused on aesthetics rather than health and ability. Many previously functional traits reason have now even been exaggerated to such an extent in the modern-day breed standards that they pose welfare concerns. Comparing photos of breed champions in the past to now, it is evident that there has been selection towards exaggeration of anatomical features in many breeds. For example, the English Bulldog was used for bull-baiting in the eighteenth century. Today, their large, brachycephalic faces, bowed limbs and low-slung body pales in comparison to athletic build of their ancestors.

In 2008, a BBC documentary entitled ‘Pedigree Dogs Exposed’ led to public concern and

debate about the health of Purebred dogs. As a result, the Kennel Clubs were forced to somewhat alter their breed standards to try to appease the public.

The Current Situation

There are approximately 900 million dogs in the world. Over 70 million of these are in the U.S., over 40 million in Europe and approximately 10 million in the U.K. (Asher et al. 2011). There is scarce data for South America, Asia and Africa. However, in China alone, there is about 110 million dogs (world atlas, ref 1). Within the United States and the United Kingdom, approximately 50% of households own a dog (APPA 2017, Goodwin et al. 2018) and over half of these dogs in the U.K. are reportedly pedigree. This trend is increasing, with the number in Europe having increased by a massive 11 million between 2010 and 2018.

There are currently over 340 dog breeds in the world. However, the American Kennel Club only acknowledges 192. Pedigree defines a dog that has a traceable ancestry and breeding line. Purebred dogs appearing in dog shows are required to conform to strict breed standards. Even if a dog is not to actually become a showdog itself, its value is incomparable having come from showdog lineage as opposed to being non-pedigree, hence it is in the breeders interest financially to conform to these breed standards as much as possible and breed from within the narrow pedigree dog pool for the breed. Thus the implications of these breed standards stretch much further afield than just to showdogs.

There is a lack of transparency in the dog breeding world. The absence of systems for routine collection of morbidity and mortality data means that the true prevalence of genetic disorders are very difficult or impossible to ascertain or monitor (McGreevy 2007). It is estimated that on average, each breed has an increased risk of between four and eight disorders (Brooks & Sargan 2001). Some authors quote much higher figures listing Labrador Retrievers as being prone to 95 disorders (Gough & Thomas 2004). There is of course fewer reports of heritable diseases in breeds that are rare or poorly studied.