



## **Darwin and Evolution**

### *Dogs and breeding*

#### **VOICE OVER**

The Dog.

There are up to 500 breeds of dog, each with a set of physical features that breeders select for in their breeding programmes. But this desire to accentuate certain physical features is quite recent in our relationship with dogs.

We have a long association with them – around 40,000 years. But as recently as 200 years ago there were very few separate breeds. What's more, those breeds were bred for their ability to work with us – to hunt, guard, to work with livestock, or help us in some other way. What they looked like was purely functional.

We have this unique relationship with dogs because of the social nature of their main original ancestor. The descendants of this ancestor, still around today, live in packs, and communicate by means of visual signals, and sounds. It is the wolf.

Dogs also use visual cues to communicate – as do we. And because we share this means of communicating, we've been able to form this close and trusting relationship.

Evolution under artificial selection is rapid and not always adaptive.  
The Walter Rothschild Museum at Tring in Hertfordshire.

As well as the permanent collection on display, it also has special exhibitions. This one, on dogs, features the bulldog as an example of selective breeding.

A particular feature of this breed is marked variations in the shape, and size of the head. Over time, it's even become fashionable for breeders to attempt to deliberately shorten muzzle length, and the whole geometry of the head, by selective breeding.

Deliberately selecting for a shorter muzzle and a longer lower jaw has resulted in all modern bulldogs being beset with breathing difficulties and an inability to bite properly.

No wild animal, with such features that are so badly fitted to survival, would be able to compete against other individuals.