

the advent of the true agricultural phase, and the improved dog is envisaged as the vital agent that made this feasible by assisting in the large-scale and longterm herding of these animals. Studies of the driving behaviour of present-day sheepdogs and of wild wolves reveal many similarities in technique and provide strong support for this view.

During more recent times, intensified selective breeding has produced a whole range of symbiotic dog specialisations. The primitive all-purpose hunting dog assisted in all stages of the operation, but his later descendants were perfected for one or other of the different components of the overall behaviour sequence. Individual dogs with unusually welldeveloped abilities in a particular direction were inbred to intensify their special advantages. As we have already seen, those with good qualities in manoeuvring became herding dogs, their contribution being confined largely to the rounding up of domesticated prey (sheepdogs). Others, with a superior sense of smell were inbred as scent-trackers (hounds). Others, with an athletic turn of speed, became coursing dogs and were employed to chase after prey by sight (greyhounds).

Another group were bred as prey-spotters, their tendency to 'freeze' when locating the prey being exploited and intensified (setters and pointers). Yet another line was improved as prey-finders and carriers (retrievers). Small breeds were developed as verminkillers (terriers). The primitive watchdogs were genetically improved as guard-dogs (mastiffs).

In addition to these widespread forms of exploitation, other dog lines have been selectively bred for more unusual functions. The most extraordinary example is the hairless dog of the ancient New World Indians, a genetically naked breed with an abnormally high skin temperature that was used as a primitive form of hot water-bottle in their sleeping quarters.

In more recent times, the symbiotic dog has earned his keep as beast of burden, pulling sledges or carts, as a messenger or a mine-detector during times of war, as a rescue operator, locating climbers buried under snow, as a police dog, tracking or attacking criminals, as a guide dog, leading the blind, and even as a 192