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## Sniffer Dogs

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Sniffer dogs, or K9 units as they are commonly known, have been assimilated into law enforcement agencies since the middle ages (Bonfanti, 2014). Sniffer dogs' primary role is to detect hazardous odors, detect concealed weapons, and to protect society (CBP, 2016). There are many different units who support canine programs. Sniffer dogs "are known for their incredible ability to detect odors, extracting them from a 'complex' environment and recognizing them" (Bonfanti, 2014, p. 792). According to (CBP, 2016), the U.S. Border Patrol Canine Training Program and the office of field operations canine training program, were combined, to establish the Customs and Border Protection Canine Training Program. The CBP canine program's main mission is to detect terrorist and apprehended the threats (CBP, 2016). The border protection canine training program's headquarters are located in El Paso, Texas. Training programs are the foundation for successful sniffer dogs (CBP, 2016). Training programs have been shifted to meet the exact requirements of the office of field operations (CBP, 2016). Their incredible sense of smell is what makes them valuable. The headquarter unit in El Paso oversees training sites in El Paso, Texas and Front Royal, Virginia (CBP, 2016). The CBP canine program trains canine handlers, instructors, and canines that help customs and border protection in certain missions (CBP, 2016). Involved in the training course, the handler and the canine are taught to be able to follow routes after an individual, or groups of people (CBP, 2016). This training assists the canine develop tracking techniques. Tracking is very important in the field of border security. Being able to track narcotics or individuals involved in the drug trafficking and drug smuggling world improves the chances of capturing them.

In the 1980s there was an increase in illegal drugs throughout the United States. Dogs were brought in to help deter the drug trafficking. The very first group of canines were trained in San Antonio, Texas (CBP, 2016). They were trained to detect illegal drugs (heroin, marijuana,

methamphetamine and cocaine) and concealed humans (CBP, 2016). In April 1987, the canine teams mentioned entered duty and over the next five months discovered over an estimated \$150,000,000 in narcotics (CBP, 2016). There were also countless amounts of concealed people discovered and apprehended, and because of the success there was an additional 75 certified canine teams towards the end of 1988 (CBP, 2016). The State of Texas was chosen as a central location for the U.S. Border Patrol Canine Training Center, and due to the climate of El Paso, Texas, that city was chosen as the headquarters. Much of the training techniques stemmed back to the Europeans and how they handled dogs (CBP, 2016). The basic handling of canines has not changed much over the decades. The mutual respect of dog and trainer is key to success in their relationship and training.

In 1991, Congress passed the funding for the second location of the CBP canine training facility in Front Royal, Virginia (CBP, 2016). The addition of the new facility allowed for more canine handlers and instructors to be trained simultaneously. The facility trains canines and handlers on how to detect explosives, process criminals, currency, odors of narcotics and firearms,” (CBP, 2016). Currently, these facilities are still active and have been known to produce extremely adequate canines or sniffer dogs which have participated in countless missions of confiscating illegal drugs, humans and protecting Americans.

Canine teams have become the paramount choice to distinguish and apprehend people planning entry to motivate and perform acts of terrorism (CBP, 2016). CBP canine programs also detect and seize controlled substances which may include contraband like money for illegal organizations (CBP, 2016). CBP canine units work alongside law enforcement agencies when needed (CBP, 2016). CBP canine training programs uphold strict breeding programs to ensure dogs with specific traits are produced prior to transferring dogs into their facilities (CBP, 2016).

Nursing and caring for the dogs takes a great amount of work and time. According to (CBP, 2016), the final assessment occurs anywhere from 7 to 14 months in the puppies' life so that a decision is made to see if they are ready to join a training program. There is an advanced technical training course for CBP canine programs. Trainers are responsible for supervising the canine program as soon as they enter it. The advanced technical training program trains experienced officers, and teaches them how to handle the canines so they are able to use them with their units (CBP, 2016). The advanced technical training program allows for advanced officers to come in and learn how to handle canines in order to be able to return to their unit and help with the mission. The bond between sniffer dogs and their handlers is important. Handlers should be speaking to their canines and physically touching them, high amounts of verbal communication, and moderate amounts of touch (White, McBride & Redhead, 2010). Again, a successful relationship for training canines is to be prepared for the demanding work environment where these teams work with the public. Canine teams have also been involved in specific search and rescue missions (Furton & Myers, 2001). Search and rescue missions can be tricky for canines because one never knows the exact climate, location, or details regarding the search and rescue during training. Therefore, canines are trained to be disciplined in three different ways: large area search, trailing or tracking, and obedience (CBP, 2016). These different locations are important because they help get the canine ready for any climate or situation possible. Preparing canines in the CBP canine program includes an organized expansion and development of canine teams experiencing training in simple detection, search and rescue, human corpses, currency, and distinctive response disciplines (CBP, 2016). The entire training process is very tedious and can take an enormous amount of time to fully train a canine for specific missions. For this reason, some breeds are more optimal than others. Law

enforcement canines are typically, German Shepherds, Belgian Malinois, and Labrador Retrievers (Gazit & Terkel, 2002). Border patrol dogs are typically Labrador Retrievers and Belgian Malinois (Gazit & Terkel, 2002). These breeds of dogs typically do well in most climates and respond well to commands (Gazit & Terkel, 2002).

Under the basic canine currency/firearms detection, canines are taught to detect great amounts of concealed US Currency and firearms (CBP, 2016). Canines are taught to search vehicles, freight, aircraft, luggage, mail, premises, and passengers (CBP, 2016). Special Response (Patrol) canine program was established as a result of 9/11. Their establishment was produced due to the growing amounts of violence alongside the border and the response (patrol) canine program is in support of the war on terror (CBP, 2016).

There have been tests conducted on puppies to determine if they will be good dogs for a household or therapeutic. However, sometimes it is important to study dogs at an early age to see if they will be efficient law enforcement dogs once they are adults. A study conducted by Slabbert & Odendaal (1999), is centered on making sure the dogs are selected carefully. In South Africa once a puppy is about 8 weeks old, they are exposed to certain conditions they would experience in the law enforcement service dog position. These conditions range from all different situations the dogs would experience if they became a law enforcement dog. It is important that sniffer dogs are assessed before joining a training program and released to help with missions (Slabbert & Odendaal, 1999). If a sniffer dog is not well behaved and attacks an innocent person there will be numerous lawsuits involving the agency, handler, and other parties involved.

Sniffer dogs are important because of their incredible sense of smell and their ability to work in the field. Their keen sense of smell is so prominent that they are able to detect human bodies which have been submerged in water for long periods of time. Sniffer dogs are not able to

smell scents through water, but human bodies are hosts for scents (Osterkamp, 2011). Not only do sniffer dogs detect human remains; they are also trained to detect explosive devices. Gazit & Terkel (2003), conducted a study which involved six sniffer dogs (two breeds) and low and bright lighting to see if they were able to detect explosives. The canines were tested in conditions inside and outside (Gazit & Terkel, 2003). Explosives are very dangerous to use in training in that they need to be kept under certain conditions, and sniffer dogs are expected to be able to endure those conditions. Canines are able to detect explosives because,

“(1) The odor(s) come into contact with the sensory apparatus most efficiently accomplished by the act of sniffing; (2) The odor chemicals, originating in vapor or possibly particulate form, are dissolved in the mucus layers within the nasal cavity, particularly overlying the olfactory mucosa, the epithelium within the nasal cavity containing the bulk of the olfactory receptors; (3) Interaction between the odor(s) and the appropriate receptors results in a second messenger cascade via a G-protein coupled reaction or an inositol 1,4,5-triphosphate (IP3) reaction; (4) The second messenger then sets up a receptor potential via opening sodium channels, eventually to the point of causing an action potential; (5) The action potentials travel to the brain via the neurons of the olfactory nerve to a variety of sub-cortical and cortical structures for further encoding and, eventually, perception; (6) The odors still present on the olfactory mucosa and elsewhere in the nasal cavity must then be purged, otherwise the stimuli would persist and the phenomenon of physiological adaptation would set in. This phenomenon is the lessening of the sensitivity of the system with continued stimulation; and (7) In addition to the olfactory system, the trigeminal nerve and the vomeronasal systems seem to be involved in the sense of smell, but their relative contributions are less well understood (Furton & Myers, 2001, p. 488).

According to Gazit & Terkel (2002), sniffer dogs cannot fully complete their tasks if they are panting because of intense climate conditions. Sniffer dogs are training in many different climates just for that reason (Gazit & Terkel, 2002). All dogs use panting as a cooling mechanism and their sense of smell is not as keen when they are trying to cool themselves off while trying to detect a particular smell at the same time (Gazit & Terkel, 2002). This is another reason why Malinois, German Shepherds, and Labradors make for great service dogs; they are able to endure tougher climates longer. Canine vision has been an asset used throughout the border patrol world, but actually canines do not rely solely on their vision, they rely on both their sense of smell and vision (Gazit & Terkel, 2003). There are many factors which come into play when sniffer dogs detect certain smells. A few examples of those factors: what is the current climate, how many odors is the sniffer dog trying to detect, and what is the range of security involved with the sniffer dog. For border patrol canines being able to detect human bodies, or drugs that are submerged in water, is very important. Dogs being able to detect certain chemicals has dated back to hunting dogs and their keen sense of smell (Furton & Myers, 2001). The vision of canines is not that different from humans when stationary objects are involved. However, some specialized sniffer dogs are able to detect certain materials under low lighting due to their great sense of smell.

Water search dogs were first used by the Navy in the United States around the mid-1980s (Osterkamp, 2011). Training sniffer dogs to be water dogs has helped solidify border security (Osterkamp, 2011). Drugs can be hidden in water, people can be hidden in water, or worse, a drug deal gone wrong can result with a corpse in the water. Sniffer dogs are able to detect corpse when body decomposition gasses are released to the atmosphere (Osterkamp, 2011). Sniffer dogs are able to detect VOC's from a body which includes, liquids, gases, bodily fluids, and

decomposition fluids (Osterkamp, 2011). Sniffer dog handlers must be adequately trained to handle situations like these. It takes a great deal of knowledge to be able to know which way to lead the dog so they can detect wind born odors (Osterkamp, 2011). In the U. S. there has been research to duplicate the nose of a dog into a device, called a chemical sniffer (Bonfanti, 2014). The idea of a chemical sniffer, or a body scanner, is to replace sniffer dogs in the field with hopes of producing them faster than the time it takes sniffer dogs to be trained. Sniffer dogs are limited to the amount of training they can receive at one time (Bonfanti, 2014). Canines tend to get fatigued after a short while, which elongates the training process as a whole (Bonfanti, 2014). According to Bonfanti, (2014) the only difference between sniffer dogs and chemical sniffers is that chemical sniffers do not have to come in physical contact with someone in order to detect odors. Chemical sniffers, or body scanners, would only be used at security checkpoints such as airport or train check ins. There has not been enough research to determine if chemical sniffers can be used in the field. For an example, on a mission tracking down a drug trafficker (Bonfanti, 2014).

Sniffer dogs happen to have better “canine vision” when compared to humans and sniffer dogs were more successful in detecting hazardous and illegal contraband compared to chemical sniffers (Gazit & Terkel, 2003). Chemical sniffers were a major threat to sniffer dogs’ main jobs, but chemical sniffers do not have the insinuations that sniffer dogs do, because they are not living species. However, chemical sniffers, or body scanners, were able to detect other smells from people. For example, anxiety, doubt, fear, or even sweat (Bonfanti, 2014). This feature is useful in airport security, baggage claim, border checkpoints, and air and sea containers. Chemical sniffers would be harder to maintain on missions, but they would help society stay safe if they included these at checkpoints, or airport security.



As for the future, sniffer dogs have been the most successful at locating illegal drugs, weapons, and finding people. Even though it may cost more for sniffer dogs to be trained, there is no better way to have a keen and exact detection method than the trained canine. There is less margin of error when sniffer dogs are involved. Sniffer dogs are trained in extreme conditions so they can be fully prepared before being used in the field and someone's life is on the line. Human and canine companionship is very vital in the beginning stage of training puppies and the training and solid relationships contribute to successful sniffer dogs.

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