University of Waterloo

Psych 306 A1

Summary of “ Daniel Kish: How I Use Sonar to Navigate the World”

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People use their five senses every day to interact with each other and explore their environment. As a person who lost his ability to see shortly after birth, Daniel Kish's talk entitled, “How I use sonar to navigate the world” (Kish, 2015), discusses how a person missing his or her sense of sight is able to maintain an active life. Daniel suggests that the blind need to be encouraged by society to feel that they are not helpless and suggests that there are other ways to understand the world around them. He proceeds to explain that people can use echolocation as an effective way to determine their surroundings. He concludes that while the challenge of overcoming this limitation can appear frightening, through the use of other senses, the blind can be confident and proud of their ability to see differently.

Daniel was born with a condition called retinoblastoma, a cancer that targets a part of the eye called the retina. Light entering the eye travels through the front and is refracted onto the retina. Photoreceptors in the retina chemically respond to this light and pass this information to cells that process the activated photoreceptors in order to determine shapes, colors and movement. Without the retina, people would not be able to see and Daniel's eyes were removed because of his retinal cancer. Despite the challenges of growing up without the use of his eyes, Daniel chose to not be afraid. Society, as he puts it, “is more dangerous to blind people than their blindness” in how it influences the way that blind perceive their own limitations. Daniel argues that there are many tasks that blind people can do if they learn to take advantage of their different senses.

Daniel navigates using echolocation, a process that uses sound to determine the location of objects. When a sound is made, it bounces off of multiple objects and return at different times depending on the respective distances of the objects from the point of origin. This principle enables bats and submarines to navigate their surroundings and Daniel has used the same technique for people.

He makes a clicking sound that he calls “flash sonar” because of of how the sounds he hears are perceived as pulses of images in his visual cortex. Although the visual cortex is primarily associated with visual information processing, this claim by Daniel is supported by research showing that the visual cortices of blind children can be activated by sound alone (Bedney M., & Richardson H., & Saxe R, 2015). Daniel has trained many people to use flash sonar and provides examples of people who have improved how they interact with their environment as a result of using this technique.

In his talk, “How I use sonar to navigate the world”, Daniel suggests that blindness is an obstacle that should be challenged and stresses that society must change how it imposes limitations on the blind. Through techniques such as flash sonar, he illustrates how members of the blind community can learn to navigate the world more effectively.

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