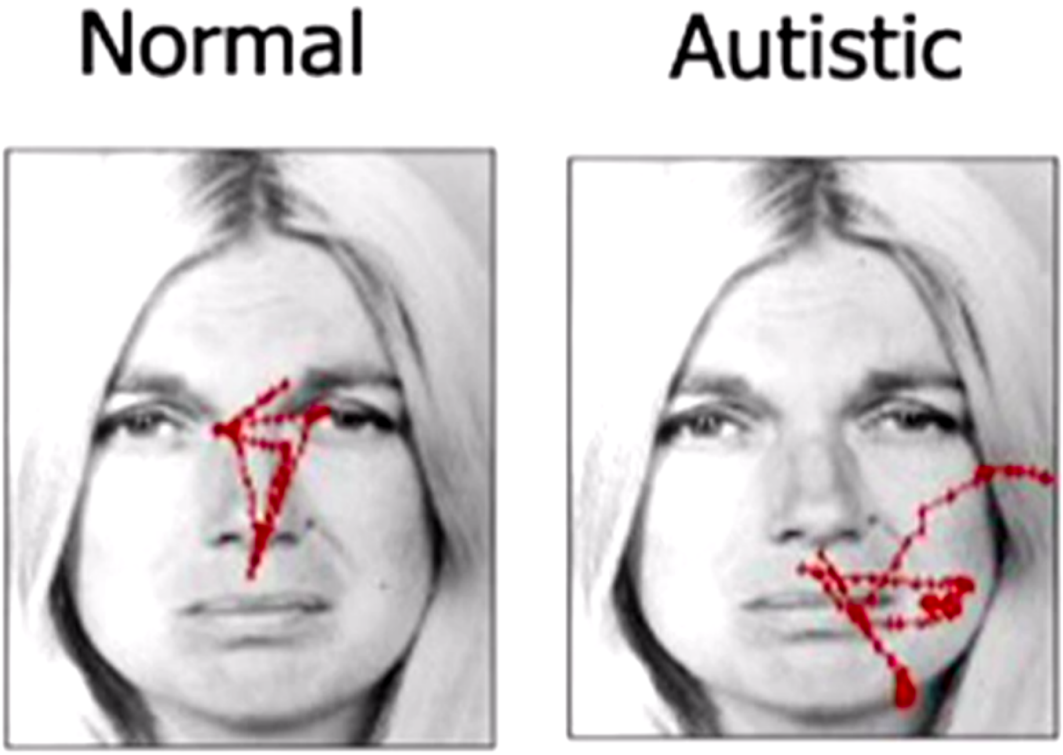
Assignment-1

Question 1

Those suffering from Autism generally try to look away from a person's eyes, whereas a normal person would look straight at a person's face and eyes



Referring to this image, a person who doesn't suffer from autism looks at a person's eyes and nose and their features.

However, a person who suffers from autism looks away from their face, and doesn't focus on the eyes and mouth.

Hence we can see symptoms of autism from their eye movements

Question 2

The Superior Temporal Sulcus region performs the action of distinguishing between biological and non-biological motion. It is the region colored in blue in the picture provided. It reacts very strongly to biological motion when compared to mechanical motion.

Question 3

Mirror Neurons are responsible for the social traits of having a common experience between two people. Mirror Neurons provide an internal experience kind of knowledge/learning which is different from learning through instructions as Mirror Neurons immediately provide the information/experience as though you had did it. Thus, it enables us to communicate emotions and feelings a lot easier.

It is because of mirror neurons, we can effectively imitate, and consequently culture among humans exist. We discover and learn culture through imitating it, which preserves the culture throughout the ages.

Question 4

Initially before Giacomo’s Discovery, everyone had thought that the sensory system and the motor system were completely disjoint.

However, after Giacomo’s discovery of mirror neurons, they realised that the understanding of your movement through his motor system by processing visual information through your sensory system connects the two systems. Simply put, on seeing someone do something through our sensory system, our motor system also responds.

This means that the motor systems have sensory cognitive capabilities.

It is because of this that humans can perform imitation to a high level. While monkeys can imitate some actions, humans have a much higher level of mirror neurons that allow us to imitate much better than them. While imitating another, we can also understand the other person. Because we can imitate, we have culture as we can pass it down through imitation.

We also learn language through imitation. Babies learn language often by observing how their mother moves their mouth, hence intuitively learning language.

Question 5

The paper, “Autistic Aspects of Affective Disorders”, written by Leo Canner, describes a few observable, cardinal symptoms of autism related to social behaviour such as:

- Being withdrawn from social contact
- Not looking people and engaging them by looking at them in the eyes
- Repetitive and sometimes uncontrollable motor behaviour
- Language issues
- Being happier alone rather than during socializing

Question 6

The social behaviour of worms and other animals vary from preferring to stay together with others of its species, or only those of its own gender in its species, or not be together at all. It depends on the genes of the animal. In the case of worms, those with a high level of a gene called MPR-1 tend to be more alone, while those with a lower level of this gene are more social. This gene is a neuro-peptide receptor which is part of the system that lets neurons communicate with each other in the brain.