

painfully willed and anxious efforts with many defeats, and how at length they passed into actions as purely reflex and unconscious almost as breathing. The conversion of voluntary into reflex actions means passing to a higher plane because it leaves the organism free to use its will-power for new attainments, or in that necessary control which the physiologist terms inhibition and by which alone reflexes are made safe, for reflexes without inhibition are like the railroad train without brakes. An organism with perfect reflexes and adequate control is functionally a relatively complete and finished mechanism.

Sometimes, however, a reflex itself is inhibitive. We have a beautiful example of this in the mechanism for the movement of the limbs. The in-going impulses from the biceps when contracting result in a relaxation of the triceps, that is to say, a marked diminution of its *tonus* brought about reflexly. Inhibitory centres have for some time been known to exist in the cerebral cortex. The subject of inhibition, so closely allied to reflex action, is of vast importance, but has been so recently admirably discussed before you by Professor Lombard, that I shall not pursue it at length.

Most of the world are accustomed to maintain that their ears and their eyes have little connection, in fact, that they are functionally as far apart as the poles. But not only does observation show that they are nearer neighbours than they seem, but that they frequently if not constantly work together for the good or ill of the organism, mostly the former. When we turn the head or the eyes in the direction of a sound we imagine that this is done voluntarily, but a reference to two cases that came under my observation during the recent oral examinations in Psychology at McGill, will show that a connection of the kind in question exists of a purely reflex character.

A small gong fastened to a wooden upright, about 8 feet from where a student was standing facing me, was being used to mark off sharply the time limit of the examination. I was seated on a line with this gong, and, in the one case, the moment it sounded the student's eyes both seemed to fairly jump to the right in the direction of the sound, reminding me of the bolting of a team of horses across the street from fright caused by a loud noise. In the other case, a student in the midst of his answers suddenly turned his eyes, and to some extent his head, to the left towards a canary that was singing loudly at the time. Now, both these students were engaged at the moment in answering questions, and it was impossible that the movement referred to could have been voluntary. It is said that a deserter has been detected on the deck of a ship by shouting to him as he walked away from the observer, "Halt! Right about Face!"—the command being obeyed. Whether the story be true or not, it certainly rests on a good physiolo-