

## Good Technique in Attention

*Might society be transformed by learning good technique in attention?*

In 2019, 3,142 lives were lost in accidents in the U.S. due to distracted driving. Yet, this tragic figure is likely to not alter driving behavior. While driving, we constantly glance at our phones, fiddle with the sound system or climate control while speeding along, typically with no negative consequences. We would adamantly attest to keeping our eyes well enough on the road, confident that if something were to demand our attention, we would automatically notice—or so we hope.

The negative costs of distraction have been much discussed in light of the expanding influence of social media. Yet distraction is just one symptom of the more fundamental *automaticity of attention*. Automaticity in behavior, meaning that which is independent of our intentions to act, has a pervasive impact. Take ballistic eye movements - saccades - that occur one to three times a second, what psychologists called *overt* visual attention. Each saccade is programmed by prior *covert* visual attention, attention independent of eye movement (a familiar example of covert attention is shifting auditory attention to a more interesting conversation at a party without moving a muscle). During the day, we automatically make between 86 to 250 thousand saccades, so hundreds of thousands of shifts of attention. Try to make similarly rapid eye movements intentionally, one to three times a second. In 10 seconds, you'll tire of doing so and probably feel dizzy. Thankfully, automatic visual attention flies beneath the radar of awareness. It happens without any effort.

These automatic (unintentional) saccades are not random, as the Soviet scientist Alfred Yarbus demonstrated over half a century ago. By developing precise ways to track eye movements, Yarbus observed unintentional saccadic patterns in his subjects' free viewing of pictures: in viewing a face, they automatically focused on specific features such as the eyes, and in viewing a scene filled with people, their eyes lingered on faces. Saccades reflect an implicit prioritization of different visibilia. They allow us to unthinkingly gather relevant information in a glance and in doing so, promote the success of our actions.

Attention is needed in action because action is often dependent on perception. Perception presents us with an overwhelming amount of information, much of it irrelevant to our concerns. Without attention, we would be paralyzed by wave after wave of information. Through attention, we selectively respond to aspects of those waves that are relevant to our actions. Think of the directedness of mundane acts like preparing lunch, driving to the store, undertaking a conversation or of portentous events such as life changing decisions or split-second responses to the pedestrian who appears before our hurtling car. In each case, attention picks out what we need to deal with and allows us to do so. When we fail to act, it is often due to a failure of attention.

This pushes us towards a paradox. Attention is often automatic but must integrate with our intentional actions. How can this be when automaticity contrasts with the intentional?

Fortunately, the brain somehow resolves the paradox. When Yarbus' subjects performed intentional tasks, their eyes would move in ways that served their goals even though they never planned those specific patterns of movements and were unaware of them. We need not think about how to move our eyes when driving, planning, or pursuing a conversation. The eyes, automatically, look where we need them to.

The key to this harmony is learning. Remember what it was like to learn something complicated. Part of the skill we acquired was how to attend in the right way, often without explicit instructions beyond the occasional "Watch out!" or "Pay attention!". The novice driver on a busy road for the first time is a cognitive mess, looking everywhere frantically, "waving" overt visual attention around like a frightened person holding a flashlight in the dark. Yet as time goes on, with appropriate training and practice, the subject learns to drive skillfully and to direct attention without thought. The eyes move skillfully, again without any direction from the driver.

Such visual expertise is our silent and skilled partner. This is vividly apparent in skilled behavior such as in athletes. The psychologists Michael Land and Peter McLeod showed that despite the familiar advice to "keep the eye on the ball", cricket batters move their eyes ahead of the ball, landing where the brain predicts the ball will hit the ground, arriving there before the ball does. Further, they observed different "latencies" in how fast those predictive movements were initiated by batters of different skill levels. Batters responded to these results with disbelief, for it felt to them that their eyes were locked on to the ball itself. Automatic attention functions without accurate awareness.

Appropriate practice leads to its improvement, but bad habits lead to attention's deterioration. This is familiar in everyday transactions. Some of this is mundane, some not: the roommate who always seems to overlook the mess made, teachers who call on their favorite students, the person glued to their phone as they miss the exit or clip a parked car—or worse. Poor technique in attention is not just about gaze or how we generally perceive the world, say who we tend to listen to in conversations. Biases in our attention occurs in thought as well, in things we do in our head. Consider what we remember when trying to solve a problem, make a decision or when building a team for work or play. Remembering involves things coming to mind, automatically, a form of cognitive attention. How well we do things in our head, how well we plan and make decisions, depends on the automaticity of memory and, here as in with our gaze, our performance can vary in skill.

If attention is a skill, how do we ensure that we are better at it? We know the answer: improvement requires concerted practice and training and learning from those who are adept. Where bad habits arise, we must recognize attending badly and correct it. The challenge to improving attention is the pervasive, automatic form – it would benefit most from training and correction, yet we rarely notice it. This is the fundamental challenge, the fundamental driver of human action floats freely beyond our awareness. We can do nothing when we do not notice.

Distraction by social media is merely one example of automatic attention done badly. The transformative power of a smart phone is that it increases the information available to us at any moment. Attention is necessary to help us deal with the challenge of too much information. We excel by attending well. At the same time, in repetitively deploying attention unthinkingly and poorly, we have trained ourselves to be easily distracted. This is just like the athlete who in poor practice solidifies poor technique. Thus, in fixating on Facebook or Tik-Tok, it is not just that we distract ourselves. We reinforce distraction, and as a result, we become poor performers in the activity of living.

In the *Nicomachean Ethics*, Aristotle theorized that a practical wise agent responds skillfully to the world by “perceiving” matters correctly. This “phronimos” has learned not only to see, but to appropriately attend to what matters, and in doing so acts well and lives the good life – in Aristotle’s language ‘*eudaimonia*’. Aristotle’s insight was that practical wisdom is a skill that we can acquire through practicing doing things right. As we have seen, acting well requires attending well, so really, the good life requires good attention.

Positive social change begins with individual and group acts of the right kind. Doing better requires doing the right thing, and doing the right thing requires seeing what is right. Not everything in the constant waves of information we perceive is the right thing, so having good attentional technique matters. Yet, attention is too often shaped by forces that do not reflect the best in us. It would be onerous to require that we find attention coaches. Still, we move closer to doing well when we recognize that how we attend is not just something that we can control as and when needed. That would be like a teenage driver assuring you that practice isn’t necessary since they will just make sure to pay attention when they drive. Such assurances of intentional attention do not inspire confidence.

Attention is a skill that we must learn to do well and that more often than not, we train ourselves, unwittingly, to do badly. In becoming aware of this automatic substratum of our lives, we reconceive what it would take to create a basic foundation of what it takes to do the right thing. The first step is to pay attention to attention.