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What is attention for, anyway?

Digital Devices in School

Recent debate has been focused on screen time in school. Children are reading less, and swiping more. Is this just a lack of adequate control measures over screentime, or is there a deeper problem with how screens affect us?

To understand the issue, we need to pay more attention to attention itself, and ask what attention functions to do in the first place. As a researcher studying the philosophy and psychology of attention, I am deeply concerned about the impact of smartphones and social media apps on our ability to pay attention well. They exploit attentional mechanisms to draw our attention in ways that do not ultimately serve our needs. To see how, we need to understand more about the function of attention.

What Does Attention Do?

Attention acts as an information-filter, determining what is relevant for further processing, and what can be ignored. It is also integral to action, helping to guide our behavior towards accomplishing our goals. But in general, I understand attention to have the function of guiding our cognitive processes so that they ultimately fulfil our needs.

Of course, we don't always successfully manage our cognitive processes in the best way. If you are like me, you check email, respond to texts, and scroll through twitter more often than you would like—perhaps even while trying to read this short article.

The point is that although attention clearly does not always succeed in guiding our focus to fulfil our needs, this is what it is supposed to do. Just as the heart has the function of pumping blood, attention has the function of managing active cognitive processes to meet our needs.

One might assume that paying good attention always means staying focused on a task despite distractions. This voluntary control of attention is what we often hope for in our students, for instance.

But sometimes it is good to be distracted. If you are cooking dinner and the fire alarm goes off, it is important to become distracted by the fire alarm. The phenomenon of 'attention capture' has deep evolutionary roots, for instance in the need to be alert for possible predators. It is no surprise that attention will tend to be grabbed by bright, loud, and novel stimuli.

To attend well, we must balance between controlling attention to focus on a task for extended periods and staying alert to novel stimuli.

The Attention Crisis

The trouble with our digital devices is that they are designed to drive us to perpetually to the distraction side of this balance. Digital media companies are incentivized to maximize screentime, and to do so, they often use highly salient stimuli—notifications, alerts, morally

and emotionally charged content, ‘clickbait’. Advertisers have long known how to exploit attention capture for commercial gain. But the omnipresence of digital devices in our lives raises the stakes significantly. We become literally addicted to our smartphones.

One important mechanism by which digital devices maximize screentime is attention capture. When a notification goes off on your phone, this is a cue that there is some novel information, purportedly relevant to your needs. Like Pavlov’s dogs, we are trained to expect a reward from responding to the buzz of the phone, or notifications alert when we open a new application.

What does this mean for the individual user? Constant connection, constant scrolling, constant tapping, and less sleep. We are hypervigilant for the latest content. Importantly, this is not a matter of self-control, but the function of attention, deeply rooted in our biology. Unfortunately, our automatic attention system is not smart enough yet to discriminate between genuine needs and manufactured needs.

Digital Oreos

It makes good evolutionary sense that we are attracted to sweet tastes—sweetness is a proxy for calorie-rich food. However, our predilection for sweets can be commercially exploited. The success of Oreos, no doubt, is due in large part to their sweetness, even though they lack nutritional value in our current environment. This is just one reason why some states choose to implement a sugar tax.

Our attention is naturally apt to be captured by novel stimuli, by social cues, and by morally and emotionally expressive social media posts. This also makes good evolutionary sense. But there are currently no significant restrictions in how companies can take advantage of our attentional biases for profit. As a result, we are bombarded by demands on our attention that, when satisfied, do not end up really serving our needs for safety and social fulfilment.

What does all of this mean for how we should approach the use of digital devices in school? To allow full access to digital devices without also introducing effective policy to regulate their use is as naïve as leaving a child with a package of Oreos and expecting them not to eat them all. At least when it comes to Oreos, it is possible for to have some control over how much access children have. But when providing children with digital devices, it is difficult practically to govern how that time is spent, and to implement effective measures to restrict internet access and content-filtering.

We know that digital devices can be addictive for adults. They are designed to capture attention, and as a result we are facing an attention crisis. Until we can address this problem as a society, we should question the wisdom of providing such devices to schoolchildren.