INFERENTIAL FOCUS

*in*THOUGHT

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# THE ATTENTION-INDUSTRIAL COMPLEX AND ITS DISCONTENTS:

## CAPABILITIES OF AND CHALLENGES FOR THOSE SEEKING TO GRAB OTHERS' ATTENTION

***All of humanity's problems stem from man's inability to sit quietly in a room alone.***

**–Blaise Pascal (1623-1662)**

## QUESTIONS TO CONSIDER

- *Why are social media so commanding of users' attention?*
- *What are the differences between "polls" and "ratings" and what do they say about the ability of humans to concentrate?*
- *What do constant distractions do to the brain's ability to focus and concentrate?*
- *What do such distractions do to the brain's eventual output?*
- *Is there a correlation between advancing capabilities to distract people's attention and the concomitant development of machines' "deep learning"?*
- *Will artificial intelligence (AI) make it unnecessary for humans to focus and concentrate?*
- *How can individuals overcome digital technology's capabilities to grab people's attention, secure engagement and then personalize content to meet their biases?*
- *Why has boredom (or nonactive time) become stigmatized?*
- *Are adolescents more biologically prone to distractions?*
- *Is there a remedy for the brain's tendency to turn to distractions?*

## HAVE WE LOST CONTROL OF OUR ATTENTION?

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# Error and Misunderstanding

When White House Chief of Staff John Kelly explained to the public that "the lack of an ability to compromise led to the Civil War," historians were disturbed. For the ones doing the research on that domestic battle, slavery was the core cause of the Civil War. Chandra Manning, professor of history at Georgetown University, said she sees this perspective during her lecture tours. "It starts with somebody who already thinks they have an answer…and who is only interested in insisting on the answer they already have." Such a perspective is known to psychologists and those studying decision-making as the **confirmation bias**, and it involves seeking new evidence to support already-held beliefs and ignoring contrary evidence. With so much information – true and false – available on the Internet, confirmation bias has become more prevalent recently. Such a bias has also hit Edna Medford, professor of history at Howard University. After finishing her lectures, she tells those challenging the idea that slavery was the core reason for the Civil War to "go do the research for yourself and see what the people of that time were saying about this." She adds, "And if we paid more attention to our past, then perhaps we could better understand our own time." (*Chronicle of Higher Education*, 11/10/17)

More attention, better understanding – that thought has resonance today, given society's discussion of the risks and opportunities of digital media. Attention is valuable. For instance, the larger the audience watching a television show, the more money the programmer can charge advertisers wishing to sell things to that audience. The more attention a program, video, email, text, tweet, article, game or whatever can grab, the more monetarily valuable that entity becomes.

Medford's idea that more attention leads to better understanding works only when sufficient concentration gets focused on one topic for an extended period of time. But extended focus has been undermined by the desire to steal a person's time, which has led to a proliferation of attention-grabbing tactics, some less honorable than others.

We first discussed attention-grabbing as a critical business enterprise when we wrote about the Battle for Consumer Time. The increased competition among those in the hardware and video-distribution industry, including cable and satellite companies, wireless outlets, online providers and streaming sites and apps, was forcing a restructuring in the industry. This competition was a microcosm of what has become common across society. Getting the attention of employees, consumers, citizens and others has become more and more difficult and, therefore, more and more valuable (see **IF 3601**).

Successfully distracting an individual means that person is **not** focusing on one issue for an extended period of time, and that can lead to the kinds of easy-to-make and incorrect-in-detail conclusions that Kelly cited about the Civil War. If little focus is needed to make an opinion known, then why put in the time to understand something, when there are so many other more fascinating distractions available? The successful efforts to distract and the wealth of distractions available online have led, in part, to the massive number of young people – and increasingly adults, as well – to be diagnosed with attention deficit disorder (ADD).

Overall, with so many places to turn one's attention, the value of that attention has increased, and that has made the ability to distract become more profitable. How did this happen?


# The Attention Economy

Where individuals place attention is their first critical and perhaps most valuable decision. Given the scope of available choices, from serious to frivolous, and the increased value of that attention, entire industries have come into being, designed to blur the lines between

what is essential for the individual and what is merely distracting. Candidate Donald Trump recognized this: "You have to keep people interested" – that is, grab their attention. "It's not the polls," Trump observed about the normal way of measuring a political candidate's chances, "it's the ratings." Power, Trump surmised, goes to those who attract the most attention, and attention can yield votes and revenue. (*Time,* 12/11/17)

During his campaign, Trump sustained his ratings by continually saying outrageous things, thereby providing voters with an endless array of things they, as citizens, felt they needed to consider. He distracted citizens from his own past, from other candidates' qualifications and from issues.

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So important has grabbing people's attention become to corporations and politicians that the entire enterprise has been given its own name, the Attention Economy, mostly because so much of the entire economy and elections depend on consumers' and citizens' decisions. And those routine decisions can be disrupted or altered only by first grabbing individuals' attention.

Digital technology has greatly expanded the possibilities of where individuals can place their attention, creating a vast array of resources, sales opportunities, games, entertainment, useful tools and other things to eat away at attention, the user's precious commodity. And those online choices are in addition to all kinds of other activities that vie for individuals' attention, including work, family, chores, finances, healthcare, television, concerts, festivals and reading. So many appeals to attention and so many effective tactics to grab an individual's attention have contributed to the shrinking of Americans' attention span…down to six seconds, according to one study.

Competition between those who wish to grab people's attention for the purpose of profit and their targets who hope to salvage some personal attention for their own needs has resulted in a **growth industry of distraction,** or what we are calling the Attention-Industrial Complex.

Generating information has become industrial, as information is being manufactured by all manner of professionals and their institutions as well as by amateurs and their followers. In short, information and distractions are being created in massive amounts. Some information, assembled in databases, can help diagnose disease, assess societal problems and identify risks. Yet other accumulated data about individuals enable companies to identify an individual's needs and desires in order to more effectively divert that individual's attention for the purpose of selling him or her something.

No matter how confusing, unnecessary, injurious or incorrect information might be, it joins the serious, necessary, helpful and correct information as part of the so-called information overload. "What information consumes is rather obvious," explained Nobel Prize-winning economist Herbert Simon. "It consumes attention… [A] wealth of information creates a poverty of attention." While "drowning" in the overload of information he or she comes across, an individual's attention span shrinks, his or her ability to focus and concentrate diminishes and distractions become the norm. (*Economist*, 11/4/17)

*"Everyone is downloading it! It's The 'Resistance is Futile' app."*

The less attention individuals have available, the more valuable that diminished personal resource becomes, as for any scarce resource. And so competitors for that attention – programmers, online sites, social media, live theater, movies, entertainment centers, retailers and all others vying for consumers' time – have gotten steadily more aggressive. For instance, Facebook created what Sean Parker, the company's first president, has called a "social-validation feedback loop." Specifically, a "like" posted by a user on some thought, photo or video triggers the body of the person posting that thought, photo or video

to deliver a dopamine shot – a neurotransmitter that feels good. As a result, a person receiving a dopamine fix is encouraged by his or her own body to do more of whatever triggers such a pleasant physical response (see **inThought, 11/20/17**).

As one pundit noted, "All the Internet wants is for you to be on the Internet," and evidently, to keep individuals online and grab their attention, social-media companies decided it was necessary (and acceptable) to install practices they knew would produce something akin to addiction in their customers (see **inThought, 11/20/17**).


**The Attention Economy is a dynamic among contenders vying for markets among individuals who have a seemingly endless number of options as to where they place their attention.** Partly because of this proliferation of attempts to grab attention for nefarious as well as honorable reasons, people's attention has become a most valued asset, especially to companies.

## Attention Is Only the Starting Point

Attracting attention is one thing, but in the world of constant distraction, holding attention is something else. Online advocates refer to retaining users' attention as "engagement." To encourage engagement, social media have algorithms that interpret aggregated data on individuals so that the companies know what a specific user will read and enjoy. For instance, Zeynep Tufekci, a professor at the University of North Carolina, decided to follow all the viewing recommendations that the algorithm at YouTube (called Up Next) provided her – something akin to "If you liked that, then you might like this." She found herself getting moved along a pathway, eventually watching videos with perspectives quite extreme from where she first started: "It's like you start as a vegetarian and end up as a vegan." Tufekci concluded that YouTube's "search and recommender algorithms are misinformation engines." Guillaume Chaslot, who worked on that algorithm for Google's YouTube, described it this way: "YouTube is something that looks like reality, but it is distorted to make you spend more time online….[W]atch time was the priority [when we wrote this algorithm]." (*Economist*, 11/4/17)

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Tufekci concluded that large corporations are constructing a dystopia just to get people to click on ads. A journalist studied YouTube's Up Next, looking at the site's top 1,000 most recommended videos during the 2016 presidential election. Of the 643 videos relevant to the election, 551 favored candidate Trump. Essentially, YouTube was leading viewers to a pro-Trump video six times more often than to a pro-Clinton video. Tufekci noted that the misinformation videos worked best when they included fake and negative or even mean-spirited content because the algorithm had, on its own, "figured out that edgy and hateful content is engaging" – that is, it retains attention longer. Tufekci's conclusion was relevant to the entire Attention-Industrial Complex: "The question before us is the ethics of leading people down hateful rabbit holes full of misinformation and lies at scale, just because it works to increase the time people spend on the site – and it does work." (*Guardian*, 2/9/18)

The critical purpose of grabbing attention and sustaining engagement is to lead to persuasion. In this instance, persuasion is employed not only to get someone to do something he or she had not anticipated doing (*e.g.*, the purpose of advertising), it is also intended to persuade a user that a site agrees with his or her already held perspectives – in other words, to create comfort as a means to engage and sustain attention over time. For instance, Google's search engine does not provide the same answers to all searchers. In fact, an algorithm, having gathered data on the searcher and determined his or her likes and dislikes, organizes answers and advertisements accordingly. As an example, if someone types in "climate change," then the data collected on that user over time aligns the responses to what the algorithm has determined are the searcher's interests and biases. If the searcher is a climate-change denier, he or she might receive answers that include an article entitled "The Global Warming Hoax" or "Scientists Blast Climate Alarm."

Meanwhile, if the searcher accepts climate-change science as valid, he or she might, instead, find links to the *New York Times'* climate reporter. Neither searcher would ever know that the answers and accompanying ads were adjusted to her personal search histories. Such information bias exploits the confirmation bias and leads, it is hoped, to "engagement." (*New York Times*, 1/2/18)

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A site's historical data on individuals are valuable insights that can help a company sustain engagement. Such data are used to identify specific people and to target ads on products or services that the data say will please them – good or bad, true or false, but always engaging. This process is intended to convince them to buy something....All very efficient.

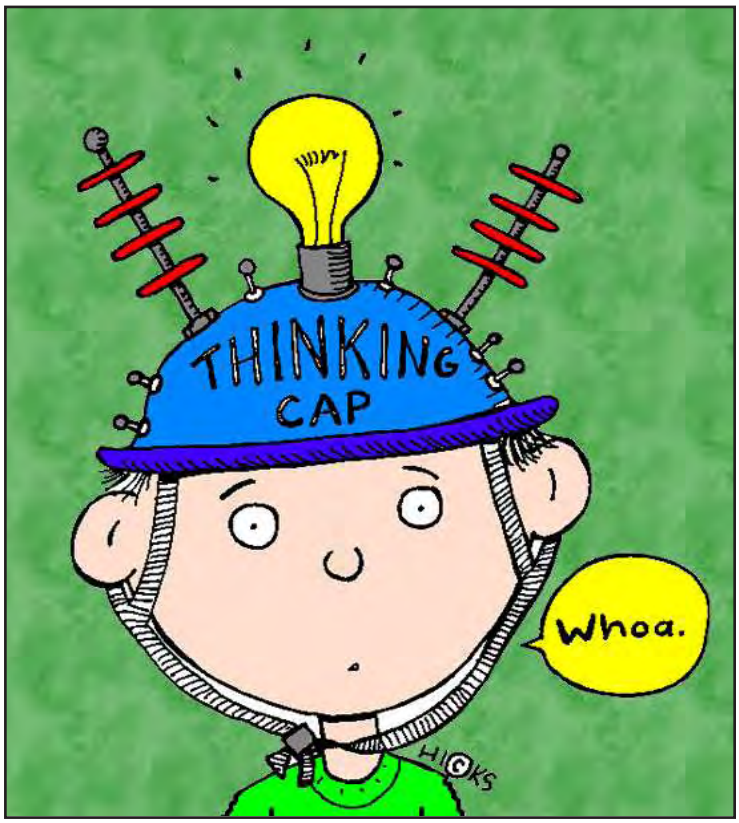

*"I'd hate to think there's a national discussion I'm not part of."*

## Attention Sorcery

These kinds of processes enable more precise communications for good as well as for ill. In performing what we might call Attention Sorcery, companies and individuals have created online robots, called bots, to independently generate content in great quantities or to act like online persons, thereby creating artificially high numbers of "followers" or "friends" (false attention numbers). Curiously enough, such bot tallies might have been behind Facebook's erroneous claim that it reaches 41 million Americans between the ages of 18 and 24 years of age. Unfortunately for that claim, the U.S. Census Bureau numbers have that cohort with only 31 million. (*New York Times*, 9/7/17)

The existence of such manipulation – Attention Sorcery – made it possible in 2016 for Russian hackers to buy advertising space on Facebook and thereby take advantage of the targeting algorithm that Facebook uses to identify particular people who might be susceptible to the messages that the Russians would send. From there, the Internet Research Agency (IRA), a loosely Kremlin-connected organization seeking to inject controversy and confusion into the American electorate, was able to identify susceptible "targets." As the recently handed down indictment of 13 Russians and three companies by Special Prosecutor Robert Mueller explained, the IRA set about creating artificial stories that would create outrage and anger in the targeted voters, or provide information that would not only distract the voter from other political stories but also confirm a bias the voter already had. Other messages sought to discourage voters, especially African Americans, from voting at all, stating that supporting current candidates was wasting votes. During the campaign, which included extensive use of Twitter and Snap, one in four Americans received an intentionally false message through Facebook and Instagram alone. (*Economist*, 11/4/17; *NBC News*, 11/6/17)

Such sorcery – making things seem different than they are – could become much more troubling. For instance, using current technology, videographers have created pornographic films with images of movie stars replacing images of the people who actually performed. Researchers at the University of Washington have turned audio clips of one person's voice into videos using someone else's image to make it seem as if the latter had said what the audiotape had on it. These kinds of fake videos with celebrities or elected officials seemingly saying and doing things they had not really done has led to creating fake events with images of actual people. By the same token, individuals in videos can be removed from those videos. This sorcery blurs the difference between fiction and reality, making true and false stories more and more difficult to tell apart. The more fantastic these artificial images and sounds, the more likely they will surface on YouTube's Up Next. Assessing these kinds of attention sorcery, Aviv Ovadya, chief technologist at the University of Michigan's Center for Social Media Responsibility, raised this question: "What happens when anyone can make it appear as if anything has happened, regardless of whether or not it did?" (*Buzzfeed*, 2/11/18)




# Taking Back Attention

The process of grabbing attention, securing engagement and sending personalized content has started to concern more and more individuals. For several years, individuals have been installing ad blockers on their digital devices, and many have taken weekend breaks from digital communications, whether at a paid-for "camp" or on their own. For instance, author Craig Mod said he felt "as if technology had sapped my ability to focus on anything," and in an essay entitled "Getting My Attention Back," he described how he took a month away from digital technology. In that month, he discovered that "there is a qualitative and quantitative difference between a day that begins with a little exercise, a book, meditation, a good meal, a thoughtful walk, and the start of a day that begins with a smartphone in bed." When Mod returned to the digital world, "the quietude of those disconnected days evaporated." And so, he set a significant limiting rule to live by: The Internet goes off before bed and does not go back on until after lunch. "That's it. Reasonable rule," he claimed. (*The Week*, 12/22/17)

Google has recently offered some assistance for those seeking to block distractors online. The search giant installed ad-blocking software that eliminates full-page pop-up ads. But, of course, Google's action is intended to free users' attention so they can become more engaged with Google's content, which will generate more positive numbers for other kinds of ads. (*New York Times*, 2/19/18)

Essentially, individuals, and to a lesser extent some online companies, are pushing back against what Matthew Crawford in *The World Beyond Your Head* (2015) calls the "appropriation of attention." By creating distractions that are effective at grabbing a person's brain focus, the Attention-Industrial Complex is appropriating (or stealing) the individual's focus. Crawford characterizes such distractions as "a kind of obesity of the mind," thereby implying that such distractions are wasteful and unhealthy. But overcoming such a powerful distractor will not be easy, Crawford insists, because efforts to appropriate an individual's attention have become "the center of contemporary capitalism."

"You could say that it's my responsibility to exert self-control when it comes to digital usage" offered Tristan Harris and Joe Edelman in their work for their digital pullback group, Time Well Spent. "But that's not acknowledging that [there are] 1,000 people on the other side of the screen whose job is to break down whatever responsibility I can maintain." Essentially, the Attention-Industrial Complex – "the center of contemporary capitalism" – is much more powerful than most people comprehend. (*The Week*, 12/22/17)

Daniel Kahneman, a psychology professor emeritus at Princeton, in his book *Thinking, Fast and Slow* (2011), described the two systems the brain employs to think. The first system uses intuition and counts on heuristics; it is fast and is used without conscious or extended thought; for example, when hearing anger in a person's voice. The second system uses attention and memory; it is slow, and includes things like focusing attention on the clowns in the circus and not on other acts in the circus rings.

The Attention-Industrial Complex grabs attention by exploiting the fast system in the brain, the one that makes decisions quickly. As the pace of information overload increases, content that might require more time to consider and understand – that is, content that should be addressed by the slow brain – feels subject to time demands and is addressed by the fast brain. And that is how biases and errors become prevalent, such as General Kelly's statement about the cause of the Civil War.

Blaise Pascal, the seventeenth-century mathematician and philosopher, once observed: "All of humanity's problems stem from man's inability to sit quietly in a room alone." Take, for example, an experiment in which researchers placed participants alone in a room without phones, screens, books or anything except a

button on a table, and asked those individuals to sit quietly in the room and be with their thoughts. The button, they were told, would deliver an unpleasant shock to their bodies. Rather than sit by themselves with their thoughts, more men than women but a majority of both, pushed the button to give themselves a shock…essentially to get some sort of external stimulus. (*The Week*, 12/22/17)


How can humans break their need for external stimuli, their tendency to yield to every distraction and to keep busy, no matter how unimportant such busyness actually is? We have a few ways to dodge the influence of the Attention-Industrial Complex. While hardly a complete approach, it is, like the "reasonable rule" of Craig Mod, simple. And in line with the two brain systems of Daniel Kahneman, our practices seek to rebalance the brain's dual framework.

**Learn to Focus** – Focus is a delicate thing – too much focus can lead to missing important insights; too little makes a dilettante and an error-prone individual. In an example of the first instance, the now-famous video by psychologists Christopher Chabris and Daniel Simons had participants in white shirts and black shirts moving around a video set, those in the white shirts passing a basketball among themselves. Viewers were asked to count the number of passes the white-shirted participants made. So focused on the assigned task were the viewers that they failed to see a gorilla walk into the frame, beat its chest and exit. That is too much focus. Digital technology is teaching individuals to spend less and less time focused on any one thing and is exploiting a human evolutionary need to turn attention to any new distraction because it could mean danger. And in contemporary civilization, there is always another distraction. Such an environment has taught individuals to be impatient, as we have written on what we have called the Digitally Trained Consumer. As a result, humans are being trained by technology to change their focus often, to seek novelty. So learning to focus on things for an extended period of time without becoming obsessed is a capability needed to overcome the effects of the Attention-Industrial Complex.

As a result, humans are being trained by technology to change their focus often, to seek novelty.

**Learn to Concentrate** – While this skill is related to Focus, it differs in the sense that Concentration brings the slow system of the brain's thinking to the fore. Concentration means to bring different ideas, perspectives and thoughts together, to play with ideas and to let the slower brain work on the issue at hand. Busyness and distractions undermine Concentration. In an article entitled "Routines of Geniuses," Sarah Green recounts the rituals that those historically credited with being geniuses did in their work. Essentially, they separated themselves from the flow of daily information, finding a quiet area where they could not be interrupted. They were often lucky enough to have a spouse or someone else to keep people away. One person removed the doorknob from his study to prevent anyone from entering the room to distract him or like Craig Mod, simply turn on the Internet link for extended periods of time. Clearing away distractions to make time and room for concentration means leaving the digital device in a different room. A study in Austin (TX) revealed that individuals performed cognitive tasks less well when their smartphones were in the same room, even if the phone was in a purse and turned off. Those whose phones were in another room exhibited higher cognitive skills in tests.

**Learn to Prioritize** – "Is this really activity critical to me?" or, borrowing from a book about decluttering the house (and mind), "Does this activity bring me joy?" – such questions can eliminate many distractions. Where do social media and interpersonal communications rank on a list of the most critical elements of my life? Diversions are entertaining, but are they critical? Research has shown that young people who use digital devices often are more likely to become sad or depressed and to have suicidal thoughts. Is that the kind of return on attention the young seek? In a more relative way, prioritizing duties, tasks and pleasures might depend on where one is situated – at work, with a group of friends, at school or by oneself. Another question might be: Is this

activity critical or just a habit or, worse, a dependency? Setting priorities requires slow thinking, and becomes a way around the distractions that force the individual to turn to fast thinking.

*"I finally got myself organized and unsubscribed from all those e-mails."*

# Willing Suspension of Disbelief

Samuel Taylor Coleridge, the nineteenth-century English Romantic poet, once wrote that readers go along with the fictional worlds in literature by means of a "willing suspension of disbelief." That is, they forego the impulse to be skeptical about the world being depicted in order to enjoy the fantasies laid before them in the work of fiction.

Coleridge did not suggest that such a willing acceptance of the fictional should be applied to real life. But that is what has driven the success of YouTube and its Up Next suggestions, as well as many of the fictions displayed on Facebook, Twitter, Instagram and other social media sites. Those following an algorithm's recommendations apparently are likely to forego their critical faculties and accept an array of fictions and inaccuracies presented. They end up, according to researcher Tufekci, "down hateful rabbit holes full of misinformation and lies at scale." They might say, in their defense, "The algorithm made me do it," but more and more individuals are taking a second look at what they are being fed online.

Americans are discovering that digital technology is not a neutral influence on their lives and that controlling its attention-grabbing capabilities is much more difficult than they thought. Those lucky enough to be able to take a month or even a week away from this invasive source realize that their minds are being changed (some insist manipulated) by forces they thought were friendly or, at least, neutral. Attention is one of the most valuable assets a person has, and the Attention-Industrial Complex knows that and knows how to capture it. Individuals need to shift from an overdependence on fast thinking, and recognize and raise the value (and time spent) in slow thinking.

## Some of our previous looks at this topic:

**inThought 11/20/17,** Digital On Defense: Negative Effects Of The Great Digital Experiment Challenge Silicon Valley

**IF 3808** Decision-Making In Uncertain Times: Emotion, Reason And Anxiety In The Human Brain…Today, 4/21/17

**IF 3802** Getting Our Heads On Straight: Finding Our Way Out Of The Noise And Into Reality, 1/23/17

**IF 3719** The Battle For Consumer Time Gets Messy: Offline And Online Competition Heats Up, And Cable Tries Market Jumping, 12/15/16

**IF 3717** The Great Digital Experiment, Part I: Disruptions And Two New Realms Of Digital Experience, 12/5/16

**IF 3702** The Raging Battle For Consumer Time Has Consequences, Part II: Advertising's Identity Crisis, 1/13/16

**IF 3701** The Raging Battle For Consumer Time Has Consequences, Part I: The Splintered Video-Media Market And Its Challenges, 1/13/16

**IF 3601** The Battle For Consumer Time (Forget Attention): Market Stresses Spread Across Screens And All That's On Them, 1/20/15