

# The Ethics of Persuasion in Technology

Nathaniel Zinda

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## **Abstract**

This essay is concerned with the issue of persuasion in our information and communication technologies. More specifically, it is a rebuke of the common practice in Silicon Valley of designing products with the intention of maximizing user “engagement” - in other words, the time that users spend with the product. This article’s normative contention is that this practice (i.e., persuasive technology) degrades the user’s capacity for freedom and autonomy. The argument is divided into three parts: 1) the causes, 2) the characteristics, and 3) the ethical effects of persuasive technology. Part 1 argues that Silicon Valley’s widespread adoption of the ad-based business model has produced a competitive marketplace for users’ attention, whereby companies compete to extract as much “time spent” as possible. Part 2 outlines the two primary methods by which they do this, differentiating between persuasive design (the behavioral method) and algorithmic persuasion (the technological method). Part 3 contends that these methods are responsible for producing both functional and existential distraction amongst users, both of which undermine their sense of well-being and threaten their capacity for freedom and autonomy.

## Introduction

It is becoming increasingly clear that the information and communication technologies that have revolutionized society *are not on our side*. This cynicism is well-deserved: from the rampant abuses of user data and privacy, to the abject failure of social networking sites to keep disinformation off their platforms, to the effect that these oligopolies have had on the economics of journalism and other industries, this past decade has been marked by an impressive set of failures, abuses, and consequences that have duly marred the public's optimism and trust. Some may take issue with this negative position. After all, there is much to be grateful for: we can connect easily and instantaneously with almost anyone we want, the world's information is immediately accessible to us from our pocket, and almost any consumer good we could ever want can be delivered to our doorstep in a remarkably short amount of time. Yes, there is much to be grateful for. And if the failures and abuses mentioned above were the only issues of consequence, then one would be hard pressed to justify the article's opening statement. Yet when I say that these technologies are "not on our side," I am speaking of something more technical. I am referring to the fundamentally adversarial relationship between the design goals of these products and our own. It is the problem of systematic persuasion, carefully calibrated to extract a resource that is inherent to the human capacity for freedom and autonomy; namely, our attention. This article explores the issue of persuasion in our information and communication technologies: its causes, characteristics, and most importantly, its ethical effects. Our attention is one of the most important resources we have. It is time for Silicon Valley's conception of professional ethics to acknowledge that.

### The Causes: The Attention Economy

Attention is one of the most valuable commodities in the Information Age. Our attention has always been valuable, in a sense. Any business - past or present - needs to capture a certain degree of it in order to continue to function. Certainly, the advertising and marketing industries are not unique to the digital economy. Yet since the development of the Internet and its related infrastructure (i.e., websites, mobile apps, etc.), the marginal value of our attention has risen dramatically. And as such, the *incentives* for companies to capture as much of it as possible have increased as well. This marks a distinction between the pre-Internet and post-Internet attention landscape, one that is mimicked by the *methods* used to acquire it. One is reminded of Vance Packard's *The Hidden Persuaders*, a book published in the late 50s that exposed the advertising industry's (psychologically) manipulative techniques for selling products.<sup>1</sup> Yes, ethically-suspect methods of persuasion are not new. But the Internet has likewise marked an important shift, one that has allowed these methods to be amplified and further distorted in a way that is fundamentally more intrusive. To be precise, it is not the Internet *proper* that is responsible for both the rising value of our attention and the expanding methods used to acquire it. Rather, it is the coalescence of two Internet-related phenomena: attention scarcity and attention commodification. The systematic persuasion that is embedded in our information and communication technologies is the product of these two forces.

Attention scarcity refers to the condition in which individuals are inundated by information, and thus must choose how to allocate their attention across a near endless stream of information sources. This concept was most prominently articulated by the economist and information scholar Herbert Simon back in the 1970s:

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1. Vance Packard, *The Hidden Persuaders* (New York: David McKay Co, 1957).

The wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.<sup>2</sup>

Simon was engaging with a world that was radically different than our own: a world without the global Internet, personal computers, smartphones, and technology conglomerates. Yet his words were remarkably prescient. Widespread access to the Internet and certain Internet-related technologies (such as the smartphone and personal computer) have fundamentally restructured our relationship with information and the environment in which we access it. The Oxford-trained philosopher James Williams describes why this is: “For most of human history, we’ve lived in environments of information scarcity. In those contexts, the implicit goal of information technologies has been to *break down* the barriers between us and information. Because information was scarce, any new piece of it represented a novel addition to your life.”<sup>3</sup> On this front, our information technologies have been widely successful; they have indeed broken down the majority of barriers to information flow. Information is now cheap and easily accessible. In fact, it has become so abundant that each new piece *no longer represents* a valuable addition to your life. This results in a form of value-inversion between information and attention: as the marginal value of information falls, the marginal value of attention rises. In the age of information abundance, it is to *which pieces of information you attend to* that is in demand.

Attention scarcity would not be inherently problematic if our attention weren’t so directly monetizable. This is the second core feature of our attention economy; namely, commodification. What does it mean to say that our attention is “commodified?” Well consider the fact that the attention we pay to our information and communication technologies is not ephemeral - it does not simply fade into the ether with each passing moment. This is difficult to remember because *subjectively* it feels that this is the case. Every time the spotlight of our attention shifts from one task to another, the traces of that attention are mostly forgotten. Only particular details are relegated to working-memory and even less are relegated to long-term memory. But from the perspective of our information and communication technologies, this is not the case. Our attention leaves behind a breadcrumb trail of information known as *data*, which can then be scooped up and stored and used. Thus, the term “attention commodification” refers to the increasingly valuable process by which companies monetize user data.<sup>4</sup>

The natural corollary to this is to consider how these companies go about monetizing our attention. There are many ways this occurs, such as further personalizing a particular service (e.g., Netflix’s Recommendation feature) or training artificial intelligence systems. However, the most relevant and consequential method of monetizing user data is through the advertising business model. The prevalence of this model is largely due to the socio-economic norms that emerged when the Internet began to scale. Jaron Lanier, a computer scientist who helped build Web 2.0, points to the norm of “free information” as the primary culprit. The norm of “free information” was borne out of a paradoxical commitment in Silicon Valley. Lanier writes: “there was this very strong culture in the 1980s and ’90s demanding that everything be free. But the problem

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2. Herbert Simon, “Designing Organizations for an Information-Rich World,” in *Computers, Communication, and the Public Interest* (Baltimore: John Hopkins Press, 1971), 40–41.

3. James Williams, *Stand Out of Our Light: Freedom and Resistance in the Attention Economy* (Cambridge: Cambridge University Press, 2018), 13.

4. I do not use the term “attention commodification” to be needlessly technical. Given this essay’s subject-matter, it is important to keep salient precisely *what* “data” is. And what “data” is is the natural by-product of our attention online. When companies collect and monetize our data, they are in fact tracking and monetizing our attention.

is, at the same time there was also this worship of Silicon Valley entrepreneurship. So it was a case of two ideologies that each, by themselves made sense, but combined created this third outcome”<sup>5</sup> known as the “finance through third parties” model, or in plainer terms, the finance through advertising model. This has since normalized a perspective among users in which they largely scoff at paying for Internet services (e.g., reading the news, searching the web, using social network sites, etc.). Of course, the natural consequence of this “finance through advertising” model is that the technology companies who operate these services must collect vast amounts of user data in order to be profitable. Thus, an economy of user data has emerged on a vast scale.

It goes without saying that there is some variation in *precisely how* different companies operationalize this concept. Given the complexity of the Internet ecosystem, this “model” is necessarily a generalization. Not all technology companies operate with sponsored content and advertisements; some companies have hybrid business models; and still others have a uniquely toxic relationship with user data (viz. Facebook). However, viewing this as a general trend in the Internet ecosystem remains valid despite the obvious qualification. Furthermore, this general trend is driven mostly by the behavior of a few key companies: companies like Google, Twitter, Facebook (and by extension Instagram), and Tencent (in China). Tim Wu, a lawyer and scholar on this subject, classifies them as “attention merchants,” or companies that must capture the attention of the user in order to sell it to their core customers: advertisers.<sup>6</sup>

The two facts of attention scarcity and attention commodification have created a system of perverse incentives. The attention merchants must compete for the attention of users in order to make money. Yet attention is a finite resource, and the competition for it is zero-sum. Every second a person spends scrolling through their Facebook feed is a second *not* spent watching YouTube videos, and every second a person spends watching YouTube videos is a second *not* spent “snapping” their friends on Snapchat. As a result, these companies - along with blogs, new sites, etc. - are locked in an arms race for the attention of users. One could conceptualize this as a competitive marketplace for users’ attention. What is especially pernicious about this marketplace is that it is *all-inclusive*; it does not respect the boundary between our online and offline lives. Facebook, then, does not simply compete with other social networking sites, but with all the other methods of information and communication - both online and offline - that are not disseminated through its platform. To some, this may seem hyperbolic, but it is in fact an economic reality - one that is not lost on the technology companies themselves. The CEO of Netflix Inc. Reed Hastings, for example, recently remarked that the media-streaming giant’s biggest competitors were not merely Amazon Video and Hulu, but rather “sleep” and the other “range of things you did to relax and unwind, hang out and connect.”<sup>7</sup>

Every system or marketplace selects for certain behavior in order to be successful; think of this as a form of natural selection principle for agents within a social or economic system.<sup>8</sup> In light of this, consider the following questions: what corporate behavior does this “attention market” select for? What metrics would algorithms *optimize* for in such a system? How would companies in this marketplace *measure* the success of their user interface? The answers to these questions are reflected in the systematized methods of persuasion that these companies employ.

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5. Jaron Lanier, “We Need to Have an Honest Talk About Our Data,” *Wired*, 2018, <https://www.wired.com/story/interview-with-jaron-lanier/>.

6. Tim Wu, *The Attention Merchants* (New York: Alfred A. Knopf, 2016).

7. Reed Hastings, “Netflix Declares War On Sleep, Its Biggest ‘Competitor’,” *Newsweek*, 2017, <https://www.newsweek.com/netflix-binge-watch-sleep-deprivation-703029>.

8. Theodore Kaczynski, *Anti-Tech Revolution: Why and How* (Scottsdale: Fitch & Madison Publishers, 2016).

## The Characteristics: Persuasive Design and Algorithmic Persuasion

When considering the ethical issues around persuasion in technology, we need to differentiate between two types of persuasion: persuasive design and algorithmic persuasion. Persuasive design is when individuals or small groups of individuals (e.g., UI designers, products teams, UX researchers, etc.) incorporate specific design elements (e.g., an autoplay feature) into a technology for the purpose of maximizing “engagement.” As Williams puts it: “engagement,” in this context, refers to “the amount of time you spend with [the] product.”<sup>9</sup> Algorithmic persuasion is also designed to maximize engagement, although it differs in that it uses big data, machine learning algorithms, and other advanced digital methods to tailor content rather than merely lean on the shortcomings of human psychology.<sup>10</sup> Thus, persuasive design can be considered the “behavioral” method of maximizing engagement, and algorithmic persuasion can be considered, well, the “algorithmic” method.

Persuasive design relies on manipulating human psychology to achieve particular goals: the so-called “engagement” goals. And as Williams writes, “these ‘engagement’ goals are petty, subhuman goals,”<sup>11</sup> if nothing else. It would be impossible to list all the instances of persuasive design in our technology; however, former Google design ethicist Tristan Harris outlines several major principles of the practice.<sup>12</sup> The first is the concept of intermittent variable rewards, a phenomenon discovered by the psychologist B. F. Skinner in the 1950s. Specifically, intermittent variable rewards is a method of habit-formation in which a person’s action (e.g., pulling a lever on a slot machine) is closely connected to a variable reward (e.g., money). As Harris argues, “several billion people have a slot machine in their pocket.”<sup>13</sup> But in this case, rather than money, the variable rewards are often social or psychological rewards: notifications, likes, Tinder profile matches, etc. Every time a person navigates through their smartphone, the action of clicking, swiping, and scrolling is psychologically connected to the possibility of experiencing a reward: that quick dopamine hit when someone likes their photo, shares their post, matches with them, etc.<sup>14</sup> Sometimes this addictive reward environment is simply emergent, and other times it is consciously created. A disconcerting example of the latter is from the former president of Facebook Sean Parker, who recently remarked that at the company’s founding the objective was, “how do we consume as much of your time and conscious attention as possible?”<sup>15</sup> In pursuit of this, ostensibly simple features such as the “like” button were designed to give users “a little dopamine hit” in order to propagate further participation on the network, with the entire platform functioning as a form of “social-validation feedback loop...exploiting a vulnerability in human psychology.”<sup>16</sup> If anyone doubts the effectiveness of this approach, consider the fact that the average American checks their phone approximately once every 12 minutes; this averages to around 80 checks per day.<sup>17</sup> Millennials are

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9. Williams, *Stand Out of Our Light*, 8.

10. There is some overlap, however. For example, many persuasive design features are tested using algorithmic methods such as an A/B test.

11. Williams, *Stand Out of Our Light*, 8.

12. Tristan Harris, “How Technology Hijacks People’s Minds,” 2016, <http://www.tristanharris.com/essays/>.

13. *Ibid.*

14. One can even see the similarity between pulling down a level on a slot machine and swiping down in order to refresh your email or social media feeds.

15. Sean Parker, “Ex-Facebook president Sean Parker: site made to exploit human ‘vulnerability’,” 2017, <https://www.theguardian.com/technology/2017/nov/09/facebook-sean-parker-vulnerability-brain-psychology>.

16. *Ibid.*

17. Harris, “How Technology Hijacks People’s Minds.”

even worse in this respect, checking their phones approximately 150 times a day. Harris asks: “Why do we do this? Are we making 150 *conscious choices*?”<sup>18</sup>

There are several other principles of persuasive design, all of which collude - in some form or another - to make for an addictive technological experience. Social reciprocity, for example, is a natural human instinct that is often exploited by technology products in the name of engagement. The social media app Snapchat does this primarily to teenagers through so-called “snapstreaks.” These streaks occur when friends exchange photos with each other for three consecutive days, and they continue to build for each additional consecutive day the friends snap photos to one another. If a day is missed, the streak disappears. Features like this prey upon young peoples’ sense of social reciprocity in order to keep them using the platform. There are some reports of kids turning to their parents and friends to keep up their streaks when they are unable to do so themselves. Psychologists have gone so far as to warn that this feature may cause kids to create a friendship-hierarchy, “that can leave some teens afraid to disappoint others if they drop a streak - or petrified about any change in status.”<sup>19</sup> A feature like snapstreaks not only addicts users, but it fundamentally redefines what it means to be a friend by, in the most literal sense, quantifying and gamifying friendship.<sup>20</sup> There are a litany of other examples of persuasive design, such as infinite feeds and autoplay features. Harris cites the infamous “bottomless bowl” study conducted by Brian Wansink from Cornell. In this experiment, some participants were eating soup from a bowl that was being slowly and imperceptibly refilled from the bottom. He demonstrated that these participants consumed 73% more soup than the control group despite the fact that they did not believe they had consumed more.<sup>21</sup> Harris argues that tech companies utilize this same “bottomless” principle in their product design: “News feeds are purposely designed to auto-refill with reasons to keep you scrolling...It’s also why video and social media sites like Netflix, YouTube or Facebook *autoplay* the next video after a countdown instead of waiting for you to make a conscious choice (in case you won’t).”<sup>22</sup> Of course, this is not an exhaustive list of examples. However, they should be sufficient to illustrate the extent to which these features are meticulously designed with the goal of persuasion in mind.

Whereas persuasive design is primarily a “behavioral” method of persuasion, algorithmic persuasion is a “technological” method. It is persuasion made possible through big data, machine learning algorithms, and other digital techniques. Sometimes the effect is indirect, as is the case with curated content and recommendation features. Other times, it is more direct, as in A/B testing. Consider the indirect case first. When designed to optimize the “time spent” metrics, curated content feeds (e.g., Facebook’s NewsFeed, Apple’s News App, etc.) and recommendation engines tend to tailor content that will keep users on the platform. As Lanier points out, most algorithms used in Big Tech are “adaptive,” meaning that they make use of randomness to see if small changes result in behavior that maximizes a given metric. He provides the following example:

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18. Harris, “How Technology Hijacks People’s Minds.”

19. Jodi Gold, “Experts warn parents how Snapchat can hook in teens with streaks,” 2017, <https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-streaks/story?id=48778296>.

20. To be clear, this is not to say there are malevolent engineers at Snapchat seeking to addict teenagers. Most are simply trying to create a fun product. But one should acknowledge that the incentives of their business model lead to features that may be unintentionally harmful.

21. Brian Wansink, “Bottomless Bowls: Why Visual Cues of Portion Size May Influence Intake,” *Obesity Research* 13, no. 1 (2005): 93–100.

22. Harris, “How Technology Hijacks People’s Minds.”

Let's suppose an algorithm is showing you an opportunity to buy socks or stocks about five seconds after you see a cat video that makes you happy. An adaptive algorithm will occasionally perform an automatic test to find out what happens if the interval is changed to, say, four and a half seconds. Did that make you more likely to buy? If so, that timing adjustment might be applied not only to your future feed, but to the feeds of thousands of other people who seem correlated with you because of anything from color preferences to diving patterns.<sup>23</sup>

As this example illustrates, the advancements in big data and machine learning algorithms mean that persuasion can be systematized in a near universal way. Everyone's behavior on these platforms is useful in persuading everyone else. It is a round-the-clock experiment and we all are unwitting participants. What is perhaps more concerning, at least in the context of social media, is that this occurs even if it plays to the worst of human nature. Lanier makes note of the (obvious) fact that outrageous, negative, and sensationalized content tends to get more clicks and views than gracious, positive, and nuanced content.<sup>24</sup> Is it a surprise to anyone, then, that social media has become a profoundly toxic place? While the dark-side of human nature certainly deserves its share of the blame, the persuasive techniques of the attention economy are not in the business of minimizing it. Quite the contrary, maximizing it is good for business.

The second, more direct, feature of algorithmic persuasive is A/B testing. A/B testing is what Silicon Valley calls a randomized controlled experiment. Users are divided into two groups: the control group sees the standard user interface, while the treatment group sees a slightly modified version. The modification is slight enough for engineers and researchers to identify a treatment effect. According to author Seth Stephens-Davidowitz in his book *Everybody Lies*, the A/B test was first used by Google engineers back in 2000 to determine the optimal number of search results to display per page.<sup>25</sup> They ran a simple test where the treatment group was shown twenty links per page, while the control group was shown the standard ten. Crucially, "the engineers then compared the satisfaction of the two groups based on *how frequently they returned to Google* [italics mine]."<sup>26</sup> This is the key point of A/B testing. The metrics by which technology companies identify a treatment effect - or in other words, the metrics for which these tests optimize for - are once again oriented around "time spent." What makes this worse is that these tests have numerous advantages over traditional randomized experiments: they are fast, cheap, and easily replicated. Engineers do not need to recruit or pay participants, a simple program can ensure perfect randomization, and this can be done to thousands upon thousands of users without them ever realizing it. All of this made possible thanks to the world of big data and the benefits of the digital environment. Naturally, this process has been taken to the extreme. According to Davidowitz, Google engineers ran approximately seven thousand A/B tests in 2011. One designer even quit "after Google went through forty-one marginally different shades of blue in A/B testing." Facebook is even worse. Currently, the company runs around "a thousand A/B tests per day."<sup>27</sup> Once again, the experiments we all unwittingly take part in are designed for a purpose. As Davidowitz concludes:

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23. Jaron Lanier, *Ten Arguments for Deleting Your Social Media Accounts Right Now* (2018), 14.

24. *Ibid.*, 20.

25. Seth Stephens-Davidowitz, *Everybody Lies: Big Data, New Data, and What the Internet Can Tell Us About Who We Really Are* (New York: Dey Street Books, 2017).

26. *Ibid.*, 263.

27. *Ibid.*, 265.

Through testing, Facebook may figure out that making a particular button a particular color gets people to come back to their site more often. So they change the button to that color. Then they may figure out that a particular font gets people to come back to their site more often. So they change the text to that font...Pretty soon, Facebook becomes a site optimized to maximize how much time people spend on Facebook. In other words, find enough winners of A/B tests and you have an addictive site. It is the type of feedback that cigarette companies never had.<sup>28</sup>

To conclude this section, persuasive design and algorithmic persuasion are the methods by which companies compete in the attention economy. These methods are not without their harms. The next section examines how the attention economy and its persuasive techniques affect our well-being, particularly in regards to our attentional capacities. When our attention is treated as a commodity to acquire, it threatens both our immediate capacity for completing tasks and achieving goals, as well as our broader capacity for constructing an identity anchored in higher-order goals and values.

### **The Ethical Effects: Functional and Existential Distraction**

Given the persuasive elements that are immanent in many of our information and communication technologies, it is not difficult to see how distraction is the natural result. But what is the nature of this distraction? And does it take on an ethical dimension? Williams outlines two distinct, yet not mutually exclusive, forms of distraction: functional and existential. Functional distraction is distraction in its most immediate and intuitive form. It attacks what Williams calls the “spotlight” of our attention, or the moment-to-moment direction of our cognitive focus.<sup>29</sup> It is this distraction that draws us away from the daily tasks and goals that we have set for ourselves, and replaces them with endless feeds, recommended videos, and just one more notification. This is what occurs when we cannot read for more than 10 minutes at a time without checking our phones, or when one YouTube video turns into an hour-long rabbit trail of videos with increasingly attenuated relevance. The consequence of this distraction is immediately clear: it crowds out our ability to pursue the tasks that we find important and valuable; it inserts “time spent” in the place of “time *well* spent.” What is especially pernicious about this distraction is that it creates *habits* in users that permeate into other aspects of their lives. According to a recent study, even when people avoid “the temptation to check their phones...the mere presence of these devices reduces available cognitive capacity.”<sup>30</sup> As Williams explains, “exposure to repeated notifications can create mental habits that train users to interrupt themselves, even in the absence of the technologies themselves.”<sup>31</sup> In other words, these technologies do not just distract us, but they *train* us to be distracted. Recall earlier in this article, when I mentioned the “all-inclusive” nature of the competitive marketplace for our attention. That these technologies do not just compete with other online sources for our attention, but with offline sources as well. Yet this functional distraction I’ve just described adds another dimension to this landscape; namely, that they do not merely compete with *external* (viz. online and offline) sources for our attention, but *internal* sources as well. It is a competition against the thoughts, tasks, and goals within one’s own mind.

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28. Stephens-Davidowitz, *Everybody Lies*, 275.

29. Williams, *Stand Out of Our Light*, 50.

30. Adrian F. Ward et al., “Brain Drain: The Mere Presence of One’s Own Smartphone Reduces Available Cognitive Capacity,” *Journal of the Association for Consumer Research* 2, no. 2 (2017): 140–154.

31. Williams, *Stand Out of Our Light*, 51.



This functional distraction, experienced day-in and day-out, gives way over time to a more serious *existential* distraction. Williams calls this “the ‘starlight’ of our attention, or our ability to navigate ‘by the stars’ of our higher values or...goals.”<sup>32</sup> Existential distraction occurs when we become so enamored with our technologies, so distracted with the dopamine hits, Facebook likes, and endless feeds that we begin to lose our ability to construct an identity anchored to higher-order goals and values. Consider, for example, a thought experiment of a person who is incapable of exercising even a modicum of self-control. What type of person would they be? Such a person would be entirely ruled by the haphazard and spontaneous impulses that continually and unendingly arise in their consciousness. They would be constantly tugged to and fro and every which way by short-term, petty desires, and would be unable to do otherwise because short-term, petty desires do not leave time to contemplate anything else. One thing is certain about such a person: they are not autonomous and they are not free. After all, autonomy “is an individual’s capacity for self-determination and governance.”<sup>33</sup> Without self-control, without the ability to construct and live according to a narrative centered around long-term, higher-order goals and values, a person becomes little more than an addict given over to impulse. In many ways, they would resemble the citizens of Huxley’s *Brave New World*, people who are so addicted to pleasurable distractions that they become slaves to them. This is the experience of existential distraction to the extreme. Obviously, our information and communication technologies do not produce behavior this extreme, but they play into the exact same dangerous circuitry. Davidowitz quotes Harris stating: “There are a thousand people on the other side of the screen whose job it is to break down the self-regulation you have.”<sup>34</sup> What could we be doing with our time if we did not check our phone 150 times per day? Functional distraction may be an irritation and inconvenience, but over time, as habits are formed and desires are molded, all according to technology’s “petty, subhuman goals,”<sup>35</sup> we begin to lose sight of the higher goals that should be guiding our lives.

Existential distraction not only obscures our ability to pursue higher-order goals, but it also *dilutes* these goals when we do manage to pursue them. This is predicated on the concept of co-shaping, in which society’s values shape technology and then technology in turn shapes society’s values. Consider the value of friendship. Friendship, after all, is essential to a person’s well-being. Yet what happens to the value of friendship in the face of Snapchat’s snapstreaks feature? Not only is this feature manipulative and addictive, but it re-shapes a teenager’s conception of what friendship *is*. Values, like friendship, are reduced to metrics and turned into a perverse social game. Standing in good relation to one’s peers is reduced to an obsession over likes, followers, and shares. It is no surprise then, that these technologies are associated with negative states of well-being. In the case of social network sites, studies indicate that usage is connected with worse academic performance, relationship problems, and a decrease in offline involvement with their communities.<sup>36</sup> Facebook use, in particular, was found to be expressly linked to symptoms of depression, and the amount of time a person spends on the site negatively predicts their moment-to-moment experience of well-being, as well as their satisfaction with their life over time.<sup>37</sup> Needless to say, when we are tricked into adopting technology’s goals as our own, we experience just how vacuous, unfulfilling, and petty these goals actually are.

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32. Williams, *Stand Out of Our Light*, 56.

33. Jane Dryden, “Autonomy,” Internet Encyclopedia of Philosophy, 2018, <https://www.iep.utm.edu/autonomy/>.

34. Stephens-Davidowitz, *Everybody Lies*, 275.

35. Williams, *Stand Out of Our Light*, 8.

36. Paul A. Kirschner and Aryn C. Karpinski, “Facebook and Academic Performance,” *Computers in Human Behavior* 26, no. 6 (2010): 1237–1245.

37. Ethan Kross et al., “Facebook Use Predicts Declines in Subjective Well-Being in Young Adults,” *PLoS ONE* 8, no. 8 (2013).

## Conclusion

The purpose of this article is to issue a two-way call. The first is to those institutions that create and manage our information and communication technologies: respect our attention. As I hope to have demonstrated here, there is a fundamentally adversarial relationship between the design goals of these products and our own (goals); it is a toxic relationship that threatens our ability to navigate life both functionally and existentially. As Williams concludes, “In order to do anything that matters, we must first be able to give attention to the things that matter. It’s my firm conviction, now more than ever, that the degree to which we are able and willing to struggle for ownership of our attention is the degree to which we are free.”<sup>38</sup> In other words, this is not merely an issue of inconvenience or irritation, it is an issue that strikes at the heart of our capacity for freedom and autonomy. And this ethical harm will not go away on its own; it will only continue to grow as our information and communication technologies become more and more ingrained in our everyday lives. It is time for Silicon Valley’s conception of professional ethics to acknowledge and account for this. The second call is to the users of these technologies (namely, all of us): remember that the companies that create and manage these technologies want something from you. This fact is all-too-easy to forget because so many people use these products, and use them so often, and perhaps most importantly, because they appear “free.” Yet these information and communication technologies are not some public service, and they are *not* free. They come at a cost to you. This fact is worth remembering and responding to accordingly. It is the first step in the fight to take back ownership of our attention.

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38. Williams, *Stand Out of Our Light*, 128.

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