

The Right to Attentional Privacy

Anuj Puri*

Privacy debates conventionally tend to focus on information. In this paper, I argue for a novel formulation of right to attentional privacy, which protects individual autonomy from the continuing onslaught of intrusive, immersive, persuasive and addictive technologies. I contend that the harvesting of an individual's attention through hypernudges and supernormal stimuli deployed in form of behavioral targeting undermines an individual's autonomy. I construct a Razian justification for interest in attention that needs to be protected against sophisticated technological practices such as A/B Testing and Real Time Bidding carried out by Big Tech. I invoke dual conception of right to attentional privacy as a negative liberty to safeguard against intrusive technologies and as a positive liberty to keep at bay immersive, persuasive and addictive technologies.

Introduction

What does a judge presiding over her court, a researcher working in an astronomical observatory¹, and a monk observing monastic silence have in common? The answer is that they are all members of a small group of adults who go about their day without being continuously distracted by a smartphone, although admittedly on account of varied individual commitments and institutional constraints. Unlike this unusual group, most of us spend our day in a continuous state of technology induced distraction. Claudia Roda notes, "the advent of information and communication technologies has dramatically shifted the balance between the availability of information and the ability of humans to process information."² We have migrated, albeit not seamlessly, from an age where information was scarce to an age where attention is scarce.³ Scarcity of attention has led to a slew of warnings from both experts and regulators about the addictive and distractive nature of technologies.⁴

Against the backdrop of this growing recognition of the importance of human attention and technology's adverse impact on it, this paper seeks to formulate an ethical response to the challenges posed by the rise of the attention economy. In this paper, I highlight the vital role played by attention in preserving individual autonomy. I seek to protect this scarce human resource through a right to attentional privacy. Privacy has been traditionally understood in informational context. This paper's chief contribution lies in articulation of a dual conception of right to attentional privacy, which keeps intrusive, immersive, persuasive, and addictive technologies at bay. I begin by defining attention and then provide a brief account of previous attempts at formulating a freedom or right to attention. I then highlight the techno-commercial practices adopted by Big Tech firms to harvest attention by configuring an individual's choice

□ PhD Candidate at the St. Andrews and Stirling Graduate Programme in Philosophy (SASP), University of St. Andrews. For helpful discussion and comments, I am thankful to Kirstie Ball, Rowan Cruft, Colin Mclean, Akhil Puri and Ravi Thakral. I am grateful to the team at Rutgers Law Record for their editorial guidance and support.

¹ Wayne Drash and Evelio Contreras, *America's Quietest Town where Cell Phones are Banned*, CNN (2015), <https://edition.cnn.com/interactive/2015/07/us/quiet-town-american-story/>; Dan Levin, *No Cell Signal, No Wi-Fi, No Problem. Growing Up Inside America's 'Quiet Zone'* N.Y. TIMES (Mar. 6, 2020), <https://www.nytimes.com/2020/03/06/us/green-bank-west-virginia-quiet-zone.html>.

² Claudia Roda, INTRODUCTION, IN HUMAN ATTENTION IN DIGITAL ENVIRONMENTS 1, 1 (Claudia Roda ed., 2011).

³ See Michael H. Goldhaber, *The Attention Economy and the Net*, FIRST MONDAY (Apr. 1997), <https://firstmonday.org/ojs/index.php/fm/article/view/519/440/>.

⁴ See BERNADKA DUBICKA & LOUISE THEODOSIOU, ROYAL COLLEGE OF PSYCHIATRISTS, CR225: TECHNOLOGY USE AND THE MENTAL HEALTH OF CHILDREN AND YOUNG PEOPLE (2020); DIGITAL, CULTURE, MEDIA & SPORT COMMITTEE, HOUSE OF COMMONS, IMMERSIVE AND ADDICTIVE TECHNOLOGIES (2019).

environment through hypernudges⁵ and deploying supernormal stimuli⁶ to divert an individual's attention towards artificial target of advertisements.⁷ I analyze the various forms of intrusive and addictive technologies before formulating a dual conception of positive and negative right to attentional privacy.

What is attention?

More than a century ago, William James wrote, "Everyone knows what attention is."⁸ This may be true. However, in order to protect attention, a more precise definition is necessary. According to Britannica Encyclopedia, attention "is the concentration of awareness on some phenomenon to the exclusion of *other stimuli*."⁹ As per Wayne Wu, "attention is necessarily tied to agency."¹⁰ James Williams states that attention is "the full stack of navigational capacities across all levels of human life."¹¹ In contrast, as per Christopher Mole, "Attention is involved in the selective directedness of our mental lives."¹² He further states, "Attention . . . selects a subset of the information that has been processed by one part of our perceptual system in such a way as to make the information available for processing by a later part of the system, operating with a smaller processing capacity."¹³ Put differently, attention helps us make sense of the world. An object of our perception may have many properties. Our ability to focus on a particular property to the exclusion of others is an attentional exercise. As Nanay puts it, "[A]ttention makes the attended property more determinate."¹⁴ Sophisticated manipulation of attention results in depletion of this precious resource leading to indeterminacy of being and existence. Philosophers and psychologists vastly disagree upon a conceptual definition of attention.¹⁵ In an attempt to bridge this disagreement, while defining attention for the purposes of this paper, I focus on its functional aspects. It is my hope that a functional analysis of attention would result both in conceptual clarity as well as better understanding of the importance of attention in an individual's life. Hence, for the purposes of this paper, attention is defined as an individual's ability to filter out competing interferences and focus on select information.¹⁶

⁵ Karen Yeung, *'Hypernudge': Big Data as a mode of regulation by design*, 20 (1) INFORMATION, COMMUNICATION & SOCIETY 118, 122 (2017).

⁶ NIKO TINBERGEN, *THE HERRING GULL'S WORLD: A STUDY OF THE SOCIAL BEHAVIOR OF BIRDS* 206-208 (Revised Ed. 1960).

⁷ Yogi Hale Hendlin, *I Am a Fake Loop: The Effects of Advertising-Based Artificial Selection*, 12 BIOSEMIOTICS 131, 145 (2019).

⁸ WILLIAM JAMES, *THE PRINCIPLES OF PSYCHOLOGY* 403 (Harv. Univ. Press 1981) (1890).

⁹ W. Cheyne McCallum, *Attention*, ENCYCLOPEDIA BRITANNICA (2015) (Emphasis added.), <https://www.britannica.com/science/attention> (last accessed on March 27, 2021).

¹⁰ Wayne Wu, *Attention as Selection for Action*, in ATTENTION: PHILOSOPHICAL AND PSYCHOLOGICAL ESSAYS 97, 97 (Christopher Mole et al. eds., 2011).

¹¹ JAMES WILLIAMS, *STAND OUT OF OUR LIGHT: FREEDOM AND RESISTANCE IN THE ATTENTION ECONOMY* 47 (Chris Harrison & Sarah Payne eds., 2018).

¹² Christopher Mole, *Attention*, STAN. ENCYCLOPEDIA PHIL. (Sept. 1, 2017), <https://plato.stanford.edu/entries/attention/>.

¹³ CHRISTOPHER MOLE et al., *Introduction*, in ATTENTION: PHILOSOPHICAL AND PSYCHOLOGICAL ESSAYS xi, xii (Christopher Mole et al. eds. 2011).

¹⁴ Bence Nanay, *Attention and Perceptual Content*, 70 ANALYSIS 263, 266 (2010).

¹⁵ See MOLE, *supra* note 13, at xi.

¹⁶ See generally Dima Amso & Gaia Scerif, *The Attentive Brain: Insights from Developmental Cognitive Neuroscience*, 16 NAT. REV. NEUROSCIENCE 606 (2015); Klaus Oberauer, *Working Memory and Attention – A Conceptual Analysis and Review*, 2 J. COGNITION 36, 1 (2019).

Attention in Scholarship

Attention has been the focus of wide-ranging scholarship from the perspective of psychology¹⁷, perception,¹⁸ and consciousness¹⁹ to name a few. However, the attempts to formulate a right to protect attention have been limited. In the 1950s, when the courts in the U.S. grappled with the issue of individual privacy in public spaces in the form of a challenge to the broadcasting of radio songs and commercials in street cars and buses regulated by the government,²⁰ there was a brief spurt in the scholarship on the “freedom of attention.”²¹ Russo has critically analyzed this Transit Radio and individual attention debate from a historical perspective.²² There have been occasional calls for attentional privacy amongst other forms of privacy.²³ The debate was recently revived in the context of attention economy.²⁴ Tran has sought to articulate a right to attention in form of a legal right.²⁵ The key differences between Tran’s articulation of right to attention and my formulation of right to attentional privacy are as follows:

- i. I understand the right to attention to be a broader right than the right to attentional privacy.²⁶ A larger discussion regarding the difference between “a right to something” and an underlying privacy right would require a greater segue than the scope of this paper permits. Various scholars have sought to attack and defend ‘right to privacy’ as a cluster of rights as opposed to an independent right.²⁷ I take the right to privacy to be an independent right. The right to privacy is integral to the formation, protection and exercise of the autonomous self. Right to attention, as I understand it, includes the right to deploy the attention as per the individual’s will. My focus is narrower. My analysis of right to attentional privacy is focused on protecting attention from the onslaught of intrusive, addictive, immersive and persuasive technologies.
- ii. Tran’s articulation of right to attention is from a legal perspective. He seeks the formulation of right to attention as a statutory right or as a common law right based on

¹⁷ See generally HAROLD E. PASHLER, *THE PSYCHOLOGY OF ATTENTION* (1998).

¹⁸ See generally Anne Treisman & Gina Geffen, *Selective Attention: Perception or Response?*, 19 Q. J. EXPERIMENTAL PSYCH. 1 (1967).

¹⁹ See generally Christopher Mole, *Attention and Consciousness*, 15 J. CONSCIOUSNESS STUD. 86 (2008).

²⁰ See *Pub. Util. Comm’n of D.C. v. Pollak*, 343 U.S. 451, 455 (1952).

²¹ See generally William C. Beatty, *Freedom of Attention for Transit Riders*, 9 WASH. & LEE L. REV. 46 (1952); Della K. McKnew, *Freedom of Attention*, 2 CATH. U. L. REV. 84 (1952).

²² See Alexander Russo, *An American Right to an ‘Unannoyed Journey’? Transit Radio as a Contested Site of Public Space and Private Attention, 1949–1952*, 29 HIST. J. OF FILM, RADIO, & TELEVISION 1 (2009).

²³ David Friedman, *Privacy and Technology*, 17 SOC. PHIL. & POL’Y. 186, 187 (2000); see also Krzysztof Motyka, *Prawo do Prywatności*, 85 ZESZYTY NAUKOWE AKADEMII PODLASKIEJ W SIEDLCACH 9 (2010); Bert-Jaap Koops et al, *A Typology of Privacy*, 38 UNIV. OF PA. J. OF INT’L L. REV. 483 (2016).

²⁴ See WILLIAMS, *supra* note 11.

²⁵ See generally Jasper L. Tran, *The Right to Attention*, 91 IND. L. J. 1023 (2016).

²⁶ Tran states, “Specifically, the right to attention’s much larger, as-yet-poorly-defined bundle of rights includes, for example, the right to deny attention when demanded, the right to be left alone, the right not to be spammed and the right not to receive ads when such advertisement is unwanted or uninvited, the right to waive the understanding of an agreement, the right to give consent without being informed, and the right not to be required to receive information against one’s will.” *Id* at 1048-49.

²⁷ Judith Jarvis Thomson, *The Right to Privacy*, 4 Phil. & Pub. Affairs 295, 299 (1975); Thomas Scanlon, *Thomson on Privacy*, 4 PHI. & PUB. AFFAIRS 315, 315 (1975); JULIE C. INNESS, *PRIVACY, INTIMACY, AND ISOLATION* 28 (1996).

the U.S. Constitution.²⁸ I agree with much of Tran’s formulation. However, my approach is based on moral philosophy and not common law.

- iii. Tran primarily articulates right to attention as a negative right.²⁹ In my articulation of right to attentional privacy, I conceptualize it both as a negative and positive right in line with Berlin’s conception of negative and positive liberty.³⁰

Before I elaborate further upon my conception of right to attentional privacy, it is important to understand the process behind the harvesting of individual attention through hypernudges and supernormal stimuli.

Hypernudge: design-based control

When it comes to Big Data Analytics, Karen Yeung has flagged the extensive harvesting of personal data, which is then “being utilized to shape individual decision-making to serve the interests of commercial Big Data barons.”³¹ “Hypernudging” as defined by Yeung is “the algorithmic real-time personalization and reconfiguration of choice architectures based on large aggregates of (personal) data.”³² Yeung states that Big Data deploys hypernudges that “are extremely powerful and potent due to their networked, continuously updated, dynamic and pervasive nature”³³ as a mode of design-based control.³⁴ According to Lanzing, hypernudging compromises individual autonomy by violating informational and decisional privacy.³⁵ Yeung argues:

By configuring and thereby personalizing the user’s informational choice context, typically through algorithmic analysis of data streams from multiple sources claiming to offer predictive insights concerning the habits, preferences and interests of targeted individuals (such as those used by online consumer product recommendation engines), these nudges channel user choices in directions preferred by the choice architect through processes that are subtle, unobtrusive, yet extraordinarily powerful.³⁶

While challenging the legitimacy of deployment of hypernudges by Big Data, Yeung states, “[T]he algorithmic analysis of data patterns dynamically configures the targeted individual’s choice environment in highly personalized ways, affecting individual users’ behaviour and perceptions by subtly molding the networked user’s understanding of the surrounding world.”³⁷ As per Yeung, the hypernudges are aimed at channeling an individual’s

²⁸ Tran, *supra* note 25, at 1027.

²⁹ *Id.* at 1049.

³⁰ Isaiah Berlin, *Two Concepts of Liberty*, in LIBERTY 167, 170 (Henry Hardy ed., 2nd ed. 2002).

³¹ Yeung *supra* note 5 at 119.

³² Marjolein Lanzing, “*Strongly Recommended*” *Revisiting Decisional Privacy to Judge Hypernudging in Self-Tracking Technologies*, 32 PHILOS. TECHNOL. 549, 553 (2019); Yeung *supra* note 5 at 122.

³³ *Id.* at 118.

³⁴ *Id.*

³⁵ Lanzing, *supra* note 32, at 549.

³⁶ Yeung, *supra* note 5, at 119.

³⁷ *Id.* at 130.

attention in the directions preferred by the choice architect.³⁸ The Big Data Analytics further exacerbate the problem by deployment of supernormal stimuli to divert an individual's attention towards artificial targets of advertisements.

Supernormal stimuli: The diversion of attention from natural to artificial targets

The American Psychological Association's (APA) Dictionary of Psychology defines "Supernormal Stimulus" as "a stimulus that by virtue of being larger or more intense than normally encountered natural stimuli has a greater behavioral effect than the natural stimuli."³⁹ The term supernormal stimulus was coined by Tinbergen while studying the behavior of Herring Gulls.⁴⁰ Tinbergen noted that newly hatched Herring Gull chicks pecked persistently at their parent's bill in order to receive food.⁴¹ This "begging behavior," as described by Tinbergen, was a reaction to the stimuli provided by the adult bird.⁴² Relying on previous studies, Tinbergen stated that the Herring Gull chick's "tendency to peck at red objects was in reality a reaction not to food, but to the red-patch on the bill-tip."⁴³ Tinbergen concluded that the most important features from the Herring Gull chick's perspectives "were the redness, contrast and thinness of the stimuli."⁴⁴ He then started experimenting with models of 'Dummy Herring Gulls,' which led to the creation of a "Super-Gull."⁴⁵ This resulted in Herring Gull chicks "pecking at a higher rate towards a long, thin, red rod with three terminal white stripes than they do towards the parental bill."⁴⁶ The enormous significance of Tinbergen's research lies in the revelation "that experimenters could create phony targets that appealed to instincts more than original objects for which they'd evolved."⁴⁷ Barrett states, "[T]he essence of the supernormal stimulus is that the exaggerated imitation can exert a stronger pull than the real thing."⁴⁸ She further cautions: "[A]nimals encounter supernormal stimuli mostly when experimenters build them. We humans can produce our own...Instincts arose to call our attention to rare necessities; now we let them dictate the manufacture of useless attention-grabbers."⁴⁹

While highlighting the implications of supernormal stimulus arising out of attention economy on human beings, Hendlin writes that the advertising industry firstly creates fake loops of mimicry that excite our instincts by "fusing ethological insights of supernormal stimuli together with the impact of marketing . . . but then fulfills them through commodities that fail

³⁸ *Id.* at 118-119.

³⁹ APA Dictionary of Psychology, *Supernormal Stimulus*, <https://dictionary.apa.org/supernormal-stimulus>

⁴⁰ Tinbergen *supra* note 6 at 206-28.

⁴¹ *Id.* at 184.

⁴² *Id.*

⁴³ *Id.* at 185.

⁴⁴ Michael T. Astolfi, *The Evolutionary Psychology of Video Games: The Digital Game as Supernormal Stimulus* 10 (May 2012) (Partial Fulfillment of Requirements for Master of Arts Degree, New York University) (on file with author).

⁴⁵ TINBERGEN, *supra* note 6, at 206.

⁴⁶ Viola Heather Ross-Smith, *Pecking Response in Lesser Black-Backed Gull Chicks Larus Fuscus* (Sept. 2009) (Ph.D. thesis, Cardiff University) (on file with Cardiff University).

⁴⁷ DEIRDRE BARRETT, *SUPERNORMAL STIMULI: HOW PRIMAL URGES OVERRAN THEIR EVOLUTIONARY PURPOSE* 3 (2010).

⁴⁸ *Id.*

⁴⁹ *Id.* at 4.

to satisfy—setting up a lifetime of addiction to various consumer products.”⁵⁰ As per Hendlin, Big Data allows advertisers to predictively offer advertisements to an individual on the basis of psychographics.⁵¹ Hendlin terms such individualized targeted advertisement as a form of supernormal stimuli.⁵²

The hypernudges and supernormal stimuli deployed by Big Data Analytics work in synchronization. While their functions overlap, the hypernudges are aimed at configuring the “individual’s choice environment”⁵³ and supernormal stimuli is aimed at ensuring that within this configured environment the individual’s attention gets diverted towards the artificial target of advertisements.⁵⁴ The algorithmic design of a social media platform that is aimed at users staying logged on for longer periods is a form of hypernudging,⁵⁵ the microtargeted advertisements that an individual is exposed to during this period is a form of supernormal stimuli.⁵⁶ The bedrock of this attention heist is the information curated by profiling an individual and other persons that are considered alike by Big Data Analytics.⁵⁷ The right to attentional privacy is aimed at preventing harvesting of attention through hypernudges and supernormal stimuli deployed on the basis of data aggregation and processing.

In the ensuing sections, I explore some of the sophisticated strategies that the Big Tech firms⁵⁸ deploy to harvest our attention through supernormal stimuli and hypernudges. In the age of Big Data Analytics, we are not all pecking at the same exaggerated “red patch on the bill-tip.”⁵⁹ By profiling our online behavior and behaviorally targeting us on its basis the “Attention Merchants”⁶⁰ offer us customized and personalized beak to peck at. The resultant peak shift effect⁶¹ moves us from our natural to artificial targets. While the beaks that we are pecking at may differ on the basis of our psychometric profiles, they are all united in purpose to ensure that our evolutionary instincts are exploited for commercial gains.

⁵⁰ Hendlin *supra* note 7 at 132. On the relationship between attention and self as well as the negative effects of hyperpalatable mental stimuli *see generally* Matthew Crawford, *THE WORLD BEYOND YOUR HEAD* (2015).

⁵¹ *Id.* at 145.

⁵² *Id.*

⁵³ Yeung *supra* note 5 at 122.

⁵⁴ Hendlin *supra* note 7 at 145.

⁵⁵ Yeung *supra* note 5 at 128.

⁵⁶ Hendlin *supra* note 7 at 145.

⁵⁷ Lanzing *supra* note 32 at 554. *See also* Solon Barocas & Karen Levy, *Privacy Dependencies*, 95 Wash. L. Rev. 555 (2020).

⁵⁸ I use the term “Big Tech” to refer to conglomeration of dominant firms engaged in the business of search engines, online services, consumer electronics, social network and E-commerce.

⁵⁹ *See* Ross-Smith, *supra* note 46.

⁶⁰ “Attention merchant: an industrial-scale harvester of human attention. A firm whose business model is the mass capture of attention for resale to advertisers.” *See generally* TIM WU, *THE ATTENTION MERCHANTS: THE EPIC SCRAMBLE TO GET INSIDE OUR HEADS* (2016). Elsewhere, Wu has also used the term “Attention Broker” to describe an entity “who acts as an intermediary between the attention and cash economies.” Tim Wu, *Attention Brokers*, NYU LAW 1, 2 (2015). As per Wu, “The Attention Broker (sometimes called an Attention Merchant) is a reseller of human attention. It attracts attention by offering something to the public (entertainment, news, free services and so on), and then reselling that attention to advertisers for cash.” *Id.*

⁶¹ “Ramachandran and Hirstein define the peak shift effect as the use of supernormal stimuli to excite areas in the brain more strongly than natural stimuli.” Bruce Gooch, *Ramachandran and Hirstein’s Neurological Theories of Aesthetic for Computer Graphics*, UNIV. OF UTAH (2002); V.S. Ramachandran and William Hirstein, *The Science of Art: A Neurological Theory of Aesthetic Experience*, 6 J. CONSCIOUSNESS STUD. 15 (1999).

Attention: Measured, Manipulated & Exploited

If we conceptualize attention as a resource that is being “spent”,⁶² then we should be concerned about manipulation of our attention through hypernudges and supernormal stimulation for commercial exploitation purposes. As per Wu, the commercial exploitation of attention is a relatively new phenomenon.⁶³ While, the initial decades of the twentieth century demonstrated that attention could be harvested on a mass scale, the intervention of commercial advertisements in everyday life remained far and few.⁶⁴ Yet, this changed with the advent of Big Data Analytics and monetization of human behavior online. The first banner ad appeared on the World Wide Web in 1994; by 2017, digital ad spent was projected to surpass \$223 billion.⁶⁵ Today, the competition between marketing professionals for consumer attention is at an all-time high.⁶⁶ The profit margins and the resultant competition for harvesting attention for commercial gains, has led to development of sophisticated tools for measuring, manipulating and exploiting attention. In this section, I discuss few of them. The list is indicative and not exhaustive.

Attention: Measured

1. **Online Profiling & Behavioral Targeting:** Büchi *et al* define profiling as “the systematic and purposeful recording and classification of data related to individuals...”⁶⁷ Privacy International explains the dangers of profiling as, organisations, many you’ve never heard of, are able to learn about your habits, personality, sexual interests, political beliefs, and more to make predictions about your personality and behavior. This is true even if you have not shared this information with them.⁶⁸

Algorithmic profiling has many chilling effects relating to surveillance and censorship.⁶⁹ For the purposes of this paper, I focus on the relationship between online profiling and behavioral targeting, which is described by Wachter as:

User data, background databases and other information can be used to create predictive profiles from data collected by tracking technologies, and explicit

⁶² Wu, *supra* note 60, at 20.

⁶³ *Id.* at 21.

⁶⁴ *Id.* at 83.

⁶⁵ WILLIAMS, *supra* note 11, at 29.

⁶⁶ See generally KAREN NELSON-FIELD, *THE ATTENTION ECONOMY AND HOW MEDIA WORKS: SIMPLE TRUTHS FOR MARKETERS* (2020).

⁶⁷ Büchi *et al.*, *The Chilling Effects of Algorithmic Profiling: Mapping the Issues*, *COMPUT. L. & SEC. R.*, 2020, at 1, 2; Article 4(4) of the General Data Protection Regulation (GDPR) defines profiling as, any form of automated processing of personal data consisting of the use of personal data to evaluate certain personal aspects relating to a natural person, in particular to analyse or predict aspects concerning that natural person’s performance at work, economic situation, health, personal preferences, interests, reliability, behaviour, location or movements. *Art. 4 GDPR*, <https://gdpr-info.eu/art-4-gdpr/> (last visited Mar. 27, 2021).

⁶⁸ *Why We’re Concerned About Profiling And Micro-Targeting In Elections*, *PRIVACY INT’L* (Apr. 30, 2020), <https://privacyinternational.org/news-analysis/3735/why-were-concerned-about-profiling-and-micro-targeting-elections>.

⁶⁹ See Büchi *supra* note 67.

profiles from data provided by the user. These profiles are used to offer products to target groups and exclude others, or to offer products at different prices. The perfect match is then found via real time bidding in which advertisers compete against one another to place an advertisement on a publisher's website.⁷⁰

Attention Merchants measure every microsecond of human experience and then manipulate it for advertisement purposes. Patents serve as an excellent example to understand a company's strategy.⁷¹ A patent for internet profiling provides for a measure of a user's interest in various categories across the web in a standard unit called an interaction unit, which "is interpreted to mean 1 minute of attention paid by a user to an item of content."⁷² Merritt defines Attention Metrics as, "measures of website visitors' engaged time, determined by concrete evidence of their presence on a page, such as cursor movement, keystrokes, and scrolling."⁷³ As per Chen *et al*, "Behavioral targeting (BT) leverages historical user behavior to select the most relevant ads to display."⁷⁴ The individual's web history is combined with demographic and geographic data to establish a broad picture of the consumer, which is then used to deliver targeted messages.⁷⁵ In other words, we all receive a customized beak from Attention Merchants to harvest our attention and deploy it for commercial gains.

Attention: Manipulated

2. **A/B Testing and Intermittent Variable Rewards:** But how do Big Tech firms figure out which beak would work? The answer lies in A/B Testing. Davidowitz has emphasized a key power of Big Data in making randomized experiments, which can find truly causal effects, much easier to conduct.⁷⁶ In Silicon Valley, these randomized controlled experiments have been renamed "A/B testing."⁷⁷ As per Gallo, "A/B testing, at its most basic, is a way to compare two versions of something to figure out which performs better . . . A/B testing is now used to evaluate everything from website design to online offers to headlines to product descriptions."⁷⁸ A particularly troublesome feature of A/B testing is that most of these experiments run without the knowledge of the subjects.⁷⁹ Depending on the number of clicks, the variant getting more hits gets unleashed on the unsuspecting public.⁸⁰ Davidowitz states, "If Google wants to know

⁷⁰ Sandra Wachter, *Affinity Profiling and Discrimination by Association in Online Behavioural Advertising*, 35 BERKELEY TECH. L. J. 367 (2020).

⁷¹ CARISSA VELIZ, PRIVACY IS POWER: WHY AND HOW YOU SHOULD TAKE BACK CONTROL OF YOUR DATA 32 (2020).

⁷² U.S. Patent No. 6,839,680 B1 (issued Jan. 4, 2005).

⁷³ Brent Merritt, *The Rise of Attention Metrics: Can a New Digital Currency Help Sustain Journalism?*, GEO. WASH. SCH. OF MEDIA AND PUB. AFFAIRS, at 1, 4-5 (2017).

⁷⁴ Ye Chen et al., *Large-Scale Behavioral Targeting*, ACM Conference on Knowledge Discovery and Data Mining, 1 (2009).

⁷⁵ H. Li & A. Nill, *Online Behavioral Targeting: Are Knowledgeable Consumers Willing to Sell Their Privacy?*, 43 J. CONSUMER POL'Y 723, 725 (2020).

⁷⁶ SETH DAVIDOWITZ, EVERYBODY LIES: BIG DATA, NEW DATA, AND WHAT THE INTERNET CAN TELL US ABOUT WHO WE REALLY ARE 211 (2017).

⁷⁷ *Id.*

⁷⁸ Amy Gallo, *A Refresher on A/B Testing*, HARV. BUS. REV. (2017), <https://hbr.org/2017/06/a-refresher-on-ab-testing>.

⁷⁹ *Id.*

⁸⁰ See generally Blake Hallinan et al, *Unexpected expectations: Public reaction to the Facebook emotional contagion study*, 22 (6) NEW MEDIA & SOCIETY 1076 (2020).

how to get more people to click on ads on their sites, they may try two shades of blue in ads—one shade for Group A, another for Group B. Google can then compare click rates.”⁸¹ He further argues that A/B testing may play a role in making the internet so addictive.⁸² Some “of the world’s brightest psychologists, statisticians, and designers are now spending the majority of their waking lives figuring out how to tear down your willpower[.]”⁸³ Tech designers use intermittent variable rewards to maximize addictiveness.⁸⁴ Harris states that an average person checks her phone 150 times a day.⁸⁵ When we check our phone for notifications or our emails or social media profiles, we are playing slot machines for intermittent variable rewards.⁸⁶ Sometimes, we may receive something worthy of our attention. Most times we don’t. But we are hooked, nevertheless. Pecking at our personalized beak, waiting for the reward.

Attention: Exploited

3. **Real Time Bidding (RTB):** In its report on adtech and RTB, the UK Information Commissioner’s Office describes adtech as “a term used to describe tools that analyze and manage information (including personal data) for online advertising campaigns and automate the processing of advertising transactions.”⁸⁷ The report further states that RTB uses adtech to “enable the buying and selling of advertising inventory in real time[.]”⁸⁸ Privacy International explains RTB as, “an automated process that enables advertisers to target very specific groups of people on different websites, videos, apps without having to negotiate prices directly.”⁸⁹ The essence of RTB lies in tracking an internet user as she moves through the Web and creating an intricate profile of her activities that can be bid on in real time and commercially exploited for advertisement purposes. The web and cross-device tracking deployed by adtech and RTB give rise to profiling concerns from an informational privacy perspective. From an attentional privacy perspective, micro-behavioural targeting aimed at constantly surveilling and distracting a consumer, as she browses through the Web, for commercial purposes undermines her autonomy. The constant hypernudging and supernormal stimulation for commercial goals metamorphizes an individual into a means for an end.

One effective way of protecting individual attention may be to ban targeted advertising.⁹⁰ However in the absence of such a restriction on targeted advertising, it is

⁸¹ DAVIDOWITZ, *supra* note 76 at 211.

⁸² *Id.* at 219.

⁸³ WILLIAMS, *supra* note 11, at 101.

⁸⁴ Tristan Harris, *How Technology is Hijacking Your Mind — from a Magician and Google Design Ethicist*, THRIVE GLOBAL (May 18, 2016), <https://medium.com/thrive-global/how-technology-hijacks-peoples-minds-from-a-magician-and-google-s-design-ethicist-56d62ef5edf3>.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Update Report into Adtech and Real Time Bidding*, Office of Information Commissioner (June 20, 2019), <https://iapp.org/resources/article/ico-guidance-update-report-into-adtech-and-real-time-bidding-june-2019/>.

⁸⁸ *Id.*

⁸⁹ *Why Am I Really Seeing That Ad? The Answer Might Be Real Time Bidding (RTB)*, PRIVACY INT’L (May 21, 2019), <https://privacyinternational.org/explainer/2974/why-am-i-really-seeing-ad-answer-might-be-real-time-bidding-rtb>.

⁹⁰ “The market for such ads creates incredible demand for users’ attention on both the front and back ends: the more time you spend on Facebook, the more finely it can target you and the more ads you’ll see. Combine that

important that we explore other avenues in form of attentional privacy. The three techno-commercial practices discussed above are not the only challenges that we need to be concerned with from an attentional privacy perspective. In the next section, I divide techno-commercial practices into various categories on the basis of their impact on human attention before embarking upon the formulation of a right to attentional privacy.

Techno-commercial practices: Intrusive and Addictive

Intrusive

The existing scholarship largely classifies technologies as addictive or intrusive on the basis of their technical imprint. However, this analysis would be incomplete. The addictive or intrusive nature of the technology is not just driven by technological specifications but also by commercial logic.⁹¹ A technology's intrusiveness vis-à-vis privacy also varies depending on context. For instance, an inconspicuous face recognition technology would be considered intrusive from informational privacy perspective but perhaps not from attentional privacy perspective. Incessant but anonymous marketing phone calls that an individual ignores would be considered intrusive from an attentional privacy perspective but perhaps not from informational privacy perspective. However, adtech which creates a comprehensive profile to be exploited at an Ad exchange by demand-side and supply-side platforms for the purposes of RTB would be considered intrusive both from an informational and attentional privacy perspective.

Addictive

Experts disagree on whether attention sapping technologies qualify as addiction. The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) placed internet gaming disorder (IGD) into the section of conditions warranting further study.⁹² Colloquially, "addictive technologies" refers to platforms or devices that people perceive themselves to have a dependency on.⁹³ From attentional privacy perspective, I include both immersive and persuasive technologies in this category. As per the House of Commons Digital, Culture, Media and Sport Committee report, "Immersive technologies integrate virtual content with the physical environment, thus 'immersing' the user in a simulated experience."⁹⁴ Persuasive technologies have features such as "likes," and notifications that "direct, nudge and influence individual behavior for extending engagement."⁹⁵

Alter defines addiction as a deep attachment to an experience that is harmful and difficult to do without and which brings the promise of immediate reward or positive reinforcement.⁹⁶ As Alter regards behavioral addictions, he states, "they arise when a person can't resist a behavior, which, despite addressing a deep psychological need in the short-term,

with the fact that users gravitate toward provocative content, and you can see where things might go." Gilad Edelman, *Why Don't We Just Ban Targeted Advertising?*, WIRED (March 22, 2020), <https://www.wired.com/story/why-dont-we-just-ban-targeted-advertising/>.

⁹¹ Shoshana Zuboff, *THE AGE OF SURVEILLANCE CAPITALISM* 15 (2019).

⁹² Am. Psychiatric Ass'n, *DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS* (5th ed. 2013).

⁹³ HOUSE OF COMMONS, *supra* note 4, at 7.

⁹⁴ *Id.* at 6.

⁹⁵ ROYAL COLLEGE OF PSYCHIATRISTS, *supra* note 4, at 35.

⁹⁶ Adam Alter, *IRRESISTIBLE: THE RISE OF ADDICTIVE TECHNOLOGY AND THE BUSINESS OF KEEPING US HOOKED* 20 (2017).

produces significant harm in the long-term.”⁹⁷ Adverse impact of addictive technologies can be understood with examples of wearable tech that allow you to “track your workouts, but also discourage you from paying attention to your body’s internal exhaustion cues.”⁹⁸

A 2018 report by the UK Office of Communications found that people in the UK check their smartphone every 12 minutes.⁹⁹ Former Google Design Ethicist Tristan Harris in his evidence before the House of Commons stated, “There is a set of techniques that are used in the tech industry under the guise of creating engagement that mask other problems like addiction. They are basically about hijacking the deeper underlying instincts of the human mind.”¹⁰⁰

A study conducted by Twenge & Martin found that associations between heavy digital media use and low psychological well-being are larger for adolescent girls than boys.¹⁰¹ In January 2020, the Royal College of Psychiatrists noted that there is some evidence that digital technology may adversely impact Children and Young People’s attention.¹⁰² But is it possible to conclude that intrusive and addictive technologies have reduced our attention span?

Is attention span declining?

In 2015, a Microsoft Canada report stated that the average human attention span has declined from 12 seconds in the year 2000 to 8 seconds in the year 2013, which was less than the stated attention span of a goldfish which is 9 seconds.¹⁰³ The report, which initially generated a lot of interest¹⁰⁴, was subsequently sought to be rejected.¹⁰⁵ In 2019, a study by the researchers at the Technical University of Denmark again suggested that the collective global attention span is narrowing due to the amount of information that is presented to the public.¹⁰⁶ The declining attention span along with the host of behavioral and psychological concerns highlighted by experts merit an ethical response.

How can attention be protected?

⁹⁷ *Id.*

⁹⁸ *Id.* at 185.

⁹⁹ *Communications Market Report*, Ofcom (Aug. 2, 2018), https://www.ofcom.org.uk/_data/assets/pdf_file/0022/117256/CMR-2018-narrative-report.pdf; see also HOUSE OF COMMONS, *supra* note 4, at 5.

¹⁰⁰ HOUSE OF COMMONS, *supra* note 4, at 5.

¹⁰¹ Jean M. Twenge & Gabrielle N. Martin, *Gender Differences in Associations Between Digital Media Use and Psychological Well-Being: Evidence From Three Large Datasets*, 79 J. ADOLESCENCE 91 (2020).

¹⁰² ROYAL COLLEGE OF PSYCHIATRISTS, *supra* note 4, at 21.

¹⁰³ Alyson Gausby, *Attention Spans*, Consumer Insights Microsoft Can. 6 (2015).

¹⁰⁴ Timothy Egan, *The Eight-Second Attention Span*, N.Y. TIMES (Jan. 22, 2016)

https://www.nytimes.com/2016/01/22/opinion/the-eight-second-attention-span.html?_r=3; Jill Abramson, *Can Hillary Clinton convince in the age of the goldfish?*, THE GUARDIAN (May 17, 2016)

<https://www.theguardian.com/commentisfree/2016/may/17/hillary-clinton-policy-donald-trump-attention-span>; Kevin Mcspadden, *You Now Have a Shorter Attention Span Than a Goldfish*, TIME (May 14, 2015)

<https://time.com/3858309/attention-spans-goldfish/>.

¹⁰⁵ Simon Maybin, *Busting the Attention Span Myth*, BBC NEWS (Mar. 10, 2017),

<https://www.bbc.co.uk/news/health-38896790>.

¹⁰⁶ Philipp Lorenz-Spreen *et al.*, *Accelerating Dynamics of Collective Attention*, 10 NAT. COMMUN. 1759,1 (2019); see also Dream McClinton, *Global Attention Span is Narrowing and Trends Don't Last as Long, Study Reveals*, THE GUARDIAN (Apr. 17, 2019), <https://www.theguardian.com/society/2019/apr/16/got-a-minute-global-attention-span-is-narrowing-study-reveals>.

Having highlighted the importance of attention and the attempts to harvest it in previous sections, I will now examine some of the plausible responses to the challenge posed by intrusive and addictive technologies before I articulate my formulation of right to attentional privacy.

Neuroethics and Design Ethics

Williams has considered the possibility of invoking concepts of “brain privacy” and “cognitive liberty” from neuroethics to protect attention.¹⁰⁷ So far, brain privacy is understood informationally and in the context of mind reading through neuroimaging.¹⁰⁸ Cognitive liberty is a broader concept, not solely focused on attention. A well-sketched formulation of attentional privacy that protects individual autonomy from the onslaught of sophisticated manipulation by Big Data has previously not been developed. Williams has also sought to put the onus on tech designers to come up with ethical technologies that aid, and not exploit, our attention span.¹⁰⁹ But must we solely rely on the goodwill of designers? Overt reliance on the ethical compass of tech designers may lead to a situation akin to Feinberg’s *Nowheresville*, where the biggest casualty is human dignity.¹¹⁰

Market Forces & Emerging Technologies

Another alternative may be in the form of market forces providing a solution, following “Market for Lemons”¹¹¹—firms that promulgate technologies respecting individual attention gain market share over firms that diminish individual attention. But if the present state of the market is anything to go by, Big Tech seems to have made a collusive bid for our attention. Eric Goldman has advocated the use of emerging technologies as ‘*Coasean Filters*’¹¹² to help protect the individual’s attention by ensuring that only the relevant marketing material reaches the consumer.¹¹³ While this solution may work vis-à-vis spam and other intrusive technologies, the hyper-surveillance which would be required to make these technologies effective can itself potentially become the bedrock of persuasive technologies that undermine individual autonomy.

Attentional Nudge

Another way of countering the supernormal stimuli and hypernudges deployed by Big Data Analytics can be through a potential ‘Attentional Nudge’. The Royal Society of Public Health has called for “the introduction of a pop-up heavy usage warning on social media.”¹¹⁴

¹⁰⁷ WILLIAMS, *supra* note 11, at 112; *see also* Jesper Ryberg, *Neuroethics and Brain Privacy: Setting the Stage*, 23 RES PUBLICA 153 (2017); *see generally* NEIL LEVY, *NEUROETHICS: CHALLENGES FOR THE 21ST CENTURY* (2010). “Cognitive liberty is every person’s fundamental right to think independently, to use the full spectrum of his or her mind, and to have autonomy over his or her brain chemistry.” Wrye Sententia, *Neuroethical Considerations: Cognitive Liberty and Converging Technologies for Improving Human Cognition*, ANNALS OF THE NEW YORK ACADEMY OF SCIENCES 221, 223 (2004).

¹⁰⁸ *See* LEVY, *supra* note 107, at 149; *see also* Martha J. Farah, *Neuroethics: The Practical and the Philosophical*, 9 TRENDS IN COGNITIVE SCIS. 34 (2005).

¹⁰⁹ *See* WILLIAMS, *supra* note 11, at 106.

¹¹⁰ *See* Joel Feinberg, *The Nature and Value of Rights*, 4 J. VALUE INQUIRY 245, 245 (1970).

¹¹¹ George A. Akerlof, *The Market for “Lemons”*: *Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488 (1970).

¹¹² Eric Goldman, *A Coasean analysis of marketing*, WISCONSIN LAW REVIEW 1151, 1154-56. (2006).

¹¹³ *Id.* at 1202-09.

¹¹⁴ The Royal Society of Public Health, *Status of Mind: Social media and young people’s mental health* 24 (2017).

This can be one form of useful Attentional Nudge to counter the impact of supernormal stimuli and hypernudge deployed by Big Data Analytics. Anastasia Kozyreva *et al* have advocated use of cognitive tools to protect human autonomy against attention-grabbing techniques.¹¹⁵ Elizabeth Costa and David Halpern have called for mechanisms through which the community on a platform can ‘nudge the nudgers’¹¹⁶, enabling collective negotiation of appropriate practices and rules.¹¹⁷ The Attentional Nudges can be a useful device against persuasive technologies. However, thus far we have not seen deployment of any large scale meaningful technological measure that would act as an autonomy enhancing and attention protecting nudge. In the absence of meaningful intervention by market forces and not seeking to rely solely on the ethical compass of tech designers, I articulate a dual formulation of right to attentional privacy.

The Right to Attentional Privacy

So far, I have outlined the functional aspects of attention and how attention is harvested for commercial purposes. I shall now sketch a moral rights account for attentional privacy, beginning with a Razian formulation of interest in attention. From a moral philosophical standpoint, “*X has a right if and only if X can have rights, and other things being equal, an aspect of X’s well-being (his interest) is a sufficient reason for holding some other person(s) to be under a duty.*”¹¹⁸ Human attention is an invaluable and scarce resource, which is essential for making sense of everyday reality as well as formulating long term goals. Diminished attention span scrapes away individual autonomy - the capacity to chart one’s own course of action. Williams has identified three forms of attentional capacities that are targets of the “industrialized persuasion of the attention economy”¹¹⁹:

- a. Our immediate capacities for navigating awareness and action toward tasks.
- b. Our broader capacities for navigating life “by the stars” of our higher goals and values.
- c. Our fundamental capacities – such as reflection, metacognition, reason, and intelligence – that enable us to define our goals and values to begin with.¹²⁰

These attentional capacities clearly indicate that an individual has an enormous interest in protecting her attention. In view of the Razian formulation stated above, the right to attentional privacy can be formulated as

An individual has an interest in protecting her attention, which other things being equal, is a sufficient reason to hold the Attention Merchants to be under a duty.

At the present stage of technological development, the nature of this duty lies in Attention Merchants not deploying supernormal stimuli and hypernudges to harvest individual attention.

¹¹⁵ Anastasia Kozyreva, Stephan Lewandowsky and Ralph Hertwig, *Citizens Versus the Internet: Confronting Digital Challenges With Cognitive Tools*, 21(3) PSYCHOLOGICAL SCIENCE IN THE PUBLIC INTEREST 103 (2020)

¹¹⁶ Elizabeth Costa and David Halpern, *The behavioural science of online harm and manipulation, and what to do about it: An exploratory paper to spark ideas and debate* 57 (2019).

¹¹⁷ *Id.*

¹¹⁸ Joseph Raz, *THE MORALITY OF FREEDOM* 166 (1986).

¹¹⁹ WILLIAMS, *supra* note 11, at 48.

¹²⁰ *Id.* at 49.

The remainder of the paper is devoted to exploring this right's positive and negative formulation.

Negative Attentional Privacy

Calls for attentional privacy have sporadically surfaced.¹²¹ Like all other forms of traditional privacy, attentional privacy has thus far been defined as a negative liberty. Negative liberty answers the question, “[W]hat is the area within which the subject – a person or group of persons – is or should be left to do or be what he is able to do or be, without interference by other persons?”¹²² Koops *et al* state, “Motyka identifies a form of ‘attentional privacy’ that protects solitude and seclusion by ensuring against unwanted contact, for example disturbing a person’s rest or intruding upon a person through burdensome or unwanted marketing practices (phone, mail, email, etc.).”¹²³

This negative conception of privacy may keep at bay intrusive technologies but, it would do precious little in the face of addictive technologies such as social media, which classically condition us like ‘Pavlov’s Dogs.’¹²⁴

Positive Attentional privacy

Unlike negative liberty, positive liberty seeks to answer the question “[W]hat, or who, is the source of control or interference that can determine someone to do, or be, this rather than that?”¹²⁵ Carter states, “Positive liberty is the possibility of acting — or the fact of acting — in such a way as to take control of one’s life and realize one’s fundamental purposes.”¹²⁶ When one reads Berlin’s invocation of positive freedom, it almost reads like a testament to attentional privacy:

I wish, above all, to be conscious of myself as a thinking, willing, active being, bearing responsibility for my choices and able to explain them by reference to my own ideas and purposes. I feel free to the degree that I believe this to be true, and enslaved to the degree that I am made to realise that it is not.¹²⁷

As Carter succinctly puts, “To be free, you must be self-determined, which is to say that you must be able to control your own destiny in your own interests.”¹²⁸ One important challenge against attentional privacy is the effectiveness of such a right in light of the fact that attention is one of the fundamental faculties that is constantly deployed to make sense of the world.¹²⁹ How do we distinguish between necessary deployment and manipulated extraction of this scarce resource? The Razian formulation along with Berlin’s conception of positive and negative liberty helps us formulate a response to this challenge.¹³⁰ If we construe right to attentional privacy as a safeguard against attempts to undermine our autonomy, then we can

¹²¹ Friedman, *supra* note 23.

¹²² Berlin, *supra* note 30, at 169.

¹²³ Koops *et al*, *supra* note 23, at 187; *see also* Motyka, *supra* note 23, at 9.

¹²⁴ Harris, *supra* note 84; *see also* A.C. Flory, *How Social Media Turns Us Into Pavlov’s Dogs*, TIKH TOKH (April 8, 2018), <https://medium.com/tikh-tokh/how-social-media-turns-us-into-pavlovs-dogs-8ee250a447e5>.

¹²⁵ Berlin, *supra* note 30, at 169.

¹²⁶ Ian Carter, *Positive and Negative Liberty*, STAN. ENCYCLOPEDIA PHIL., <https://plato.stanford.edu/entries/liberty-positive-negative/> (last visited Mar. 27, 2021).

¹²⁷ Berlin, *supra* note 30, at 178.

¹²⁸ Carter, *supra* note 126.

¹²⁹ Berlin, *supra* note 30.

¹³⁰ *See* Berlin, *supra* note 30; Raz, *supra* note 118.

escape the possibility of overreaching and construing every trivial distraction as a violation of the right to attentional privacy. Further reliance may be placed on Hendlin's distinction between supernormal stimuli and regular stimuli

Supernormal stimuli are "imperious" because they seek to grab the attention of those encountered in a violent, commanding way; whereas unassuming objects "plead" with the world, "begging our senses for meaning." The element of force and coercion is lacking in encounters with regular stimuli, whereas supernormal stimuli marionette our emotions, not giving us a choice. Regular stimuli invite, offering the freedom to choose.¹³¹

Thus, the right to attentional privacy exists to protect against attempts to undermine an individual's autonomy by harvesting her attention through supernormal stimuli and hypernudges. This formulation would require a paradigm shift, since privacy has been traditionally understood in context of information and decisional privacy.¹³² However, the enormous power that Big Tech wields over our daily distracted existence needs to be countermanded with a new conception of privacy, which is steeped in individual autonomy and protects attention.¹³³ This would involve placing a positive obligation on Governments and Corporations to produce technologies that respect individual attention and not abet its robbery. As Levy states, "[A]utonomy is developmentally dependent upon the environment: we become autonomous individuals, able to control our behavior in the light of our values, only if the environment in which we grow up is suitably structured to reward self-control."¹³⁴ I concur with Williams that the right of users to exercise and protect their freedom of attention by blocking any advertising they wish should be absolutely defended.¹³⁵ A positive account of attentional privacy makes it incumbent upon Big Tech Corporations to align their commercial interests with interests of the individual. Further, a positive formulation of privacy casts the onus on the State to introduce regulatory safeguards that prioritize individual autonomy over business earnings.

Before concluding, I wish to highlight the harm suffered on account of violation of attentional privacy. The slippery slope emerging from forcefully diverting people's attention is perhaps best illustrated by Justice Douglas' dissent in *Public Utilities Commission v. Pollak*.¹³⁶ Justice Douglas held that the broadcast of radio programs and commercials on street cars and buses regulated by the government in the District of Columbia violated passengers' privacy who used public transport.¹³⁷ While penning his dissent, Justice Douglas cautioned that

When we force people to listen to another's ideas, we give the propagandist a powerful weapon. Today it is a business enterprise working out a radio program under the auspices of government. Tomorrow it may be a dominant political or

¹³¹ Hendlin, *supra* note 7, at 146.

¹³² For a typology of privacy see Koops *et al supra* note 30. For the impact of hypernudging on informational and decisional privacy see Lanzing *supra* note 32.

¹³³ On Big Tech Dominance See, e.g., EDRI, *Big Tech's dominance: only laws can limit its power* (December 11, 2020) <https://edri.org/our-work/limit-big-tech-power/>

¹³⁴ See Levy, *supra* note 107, at 215.

¹³⁵ See WILLIAMS, *supra* note 11, at 112.

¹³⁶ *Pub. Util. Comm'n of D.C. v. Pollak*, 343 U.S. 451, 467 (1952) (Douglas, J., dissenting).

¹³⁷ *Id.* at 467-69.

religious group. Today the purpose is benign; there is no invidious cast to the programs. But the vice is inherent in the system. Once privacy is invaded, privacy is gone. Once a man is forced to submit to one type of radio program, he can be forced to submit to another. It may be but a short step from a cultural program to a political program.¹³⁸

While critically analyzing the Supreme Court's judgment in *Public Utilities Commission v. Pollak* from a historical perspective, Russo has pondered in his conclusion

What if the Supreme Court had decided that there was a right to attention? The industry at the time certainly feared that this would allow a general attack on advertising as a whole. What would our world look and sound like today if the 'freedom of attention' was a right?¹³⁹

A similar freedom was envisaged by Beatty while analyzing the judgment of Court of Appeals in the same dispute.¹⁴⁰ I hope this paper marks the beginning of the journey towards the freedom envisaged by Beatty & Russo.

Conclusion

I began this paper by drawing your attention to an unlikely trio, who on account of constitutional obligation, working in the National Radio Quiet Zone¹⁴¹ and spiritual vow, respectively were sheltered from the various distractions of technology. I am certain that the cynical enormity of the need for institutional intervention for protecting one's attention is not lost on the reader. Ironically, we are presently spending majority of our time in social media institutions created by Big Tech for harvesting our attention. If you need further intuitive proof of this realization, think of how many times you were distracted by the urge to check your phone or your mail while reading this paper. For far too long, instead of paying our attention, we have been paying with our attention.¹⁴² Time has come to protect it.

¹³⁸ *Id.* at 469; see also Russo, *supra* note 22, at 13.

¹³⁹ Russo, *supra* note 22, at 14-15.

¹⁴⁰ "Urban life necessitates the suffering of some noise, and a passenger of modern rapid transit cannot complain that those noises which are the ordinary incidents of such travel infringe upon his freedom of attention. Some discomforts may perhaps be inevitable, but the forced listening to a radio even if it does send forth only occasional music is 'neither incidental nor inevitable.'" Beatty, *supra* note 21, at 53-54

¹⁴¹ Levin *supra* note 1.

¹⁴² Matthew B. Crawford, *The Cost of Paying Attention*, N.Y. TIMES (Mar. 7, 2015) <https://www.nytimes.com/2015/03/08/opinion/sunday/the-cost-of-paying-attention.html>; See also Carl Richards, *What Is Our Attention Really Worth?*, N.Y. TIMES (Aug. 3, 2015), <https://www.nytimes.com/2015/08/03/your-money/what-is-our-attention-really-worth.html>.