



Does a Person Have a Right to Attention? Depends on What She is Doing

Kaisa Kärki¹ · Visa Kurki²

Received: 25 July 2023 / Accepted: 11 October 2023 / Published online: 23 December 2023
© The Author(s) 2023

Abstract

It has been debated whether the so-called *attention economy*, in which the attention of agents is measured and sold, jeopardizes something of value. One strand of this discussion has focused on so-called *attention rights*, asking: should attention be legally protected, either by introducing novel rights or by extending the scope of pre-existing rights? In this paper, however, in order to further this discussion, we ask: How is attention already protected legally? In what situations does a person have the right to attention under current law?

Unlike (Chomanski, *Neuroethics* 16:1–11, 2023), who discusses an overall right to attention, or (Puri, *Rutgers Law Record* 48:206–221, 2021), who discusses an overall right to attentional privacy, in this paper we focus on two types of situations in which a person's attention is already protected by legal regulation. Sustained attention-requiring tasks can be jeopardized by distractions whereas attentiveness to certain kind of stimuli can be jeopardized by immersive stimuli. That is why distractions are regulated in situations where an agent has what we call a concentration right and immersive stimuli are regulated in situations where an agent has what we call a duty to be attentive. The further analysis of these situations provides an understanding of the legal means by which attention is already regulated, which can be helpful when thinking about how it should be regulated in the future.

Keywords Attention rights · Attention law · Immersive stimuli · Attentiveness · Concentration · Distraction

✉ Kaisa Kärki
kaisa.karki@helsinki.fi

¹ Practical Philosophy, University of Helsinki, Helsinki, Finland

² Faculty of Law, University of Helsinki, Helsinki, Finland

1 Introduction

It has been debated whether the so-called *attention economy*, in which the attention of agents is measured and sold, jeopardizes something of value. One strand of this discussion has focused on so-called *attention rights*, asking: should attention be legally protected, either by introducing novel rights or by extending the scope of pre-existing rights? Chomanski, (2023), on the one hand, grounds a right to attention in a person's right to mental integrity. On the other hand, Rainey, (2023) offers an almost opposite argument, arguing that the putative *neurorights* are, in fact, no rights at all, but at most Hohfeldian privileges¹ that cannot be subject to violation or enforcement.

Unlike Chomanski, (2023), who discusses an overall right to attention and Puri, (2021), who discusses an overall right to attentional privacy, we treat attention rights as a cluster of various rights, following Tran, (2016). However, we argue that attention rights already exist in contemporary legal systems and can be identified within the existing legal regulation. We focus on two types of situations in which attention is already regulated. In our view, a fine-grained understanding of the already existing attention regulation can be useful because it can inform when novel attention rights should be introduced. However, in this paper, we focus only on analyzing how attention is already legally regulated.

First, we look at situations in which an agent's success in a cognitively challenging task requires sustained attention. An example of such a situation is a student sitting an exam. Then, we look at situations in which an agent needs to remain attentive to certain stimuli because she has a duty to respond appropriately to such stimuli. An example of such situation is a driver who needs to stay attentive to road safety. These situations show that attention regulation, due to the bottom-up nature of attention grab, tends to be situational in two regards. First, when a student, for instance, has a right to concentrate on studying, the regulation of her attention happens through regulating her study environment. Thus, we argue that the protection of attention often involves regulating the agent's immediate environment. Secondly, attention regulation tends to be situational in a second sense because the regulation of attention is deeply entwined with the agent's task. Whether an agent's attention is legally protected depends on what she is supposed to do, or what she wants to do. The regulation of attention promotes and protects an agent's ability to carry out a certain task in a certain situation. This is due to the close connection between attention and agency that has been brought forward in the philosophy of attention.

Instead of a right to cognitive liberty² (for doubts, see Rainey, 2023), or a right to mental integrity (in attention law, see Chomanski, 2023), we argue that legal regulation of attention can be found from the right to be free from distractions in certain situations in order to be able to concentrate on a task or in a duty to be attentive to certain stimuli in order to be able to act appropriately. Furthermore, sustained

¹ As Rainey (2023), we rely here on the analysis of normative relations introduced by Wesley Newcomb Hohfeld. See Hohfeld (1913).

² Williams (2018) has argued that cognitive liberty could protect attention as well.

attention-requiring tasks can be jeopardized by distractions, whereas attentiveness to certain stimuli (or a field of stimuli) can be jeopardized by immersive stimuli. This is why distractions are regulated in situations in which an agent has a right to concentrate on something and immersive stimuli are regulated in situations in which an agent has a duty to be attentive.

The article is structured as follows. In Sect. “[Central distinctions](#)”, we introduce central distinctions that help us understand different ways in which attention is already legally regulated and how attention is central to various tasks. Section “[Concentration rights and attentiveness duties - an elaboration](#)” takes a closer look at attention regulation by focusing on situations in which an agent has a right to concentrate on a task and on situations in which an agent has a duty to be attentive to certain stimuli. In the conclusion, we suggest that understanding attention regulation benefits from our theorizing based on what the agent wants to do or is supposed to be prepared to do. The agent may have a right to concentrate on what they are doing, and then others have a duty not to distract her. The agent may have a duty to be attentive to certain stimuli so that she can act appropriately if needed. This duty is typically accompanied by others’ duties to protect her from certain immersive stimuli. As a result, the agent has both the right and the duty to be attentive.

2 Central distinctions

In this section, we introduce distinctions that help us understand various ways in which attention is regulated legally and the ways in which attention is central to various tasks.

2.1 Attention and distinctly attentional phenomena

In the following, our argument does not rely on any specific philosophical theory of the nature of attention, but we draw from theories of attention that have emphasized the close connection between attention and the task that the agent is doing or wants to do (see e.g., Wu, 2016).

Even though philosophers of attention disagree on the nature of attention (see Mole, 2021 on discussion and Hommel et al., 2019 on doubts regarding attention as a unitary construct), there are common assumptions that most are willing to agree on. We rely on these common assumptions.

The assumptions are that:

- i) attention is a subject-level phenomenon (for an overview of the literature, see Watzl, 2023),
- ii) attention is inherently connected to selective mechanisms of cognition (see Jennings, 2020; Mole, 2021),

- iii) attention is inherently connected to *agency*, by which we refer to the agent's ability to choose between different cognitive and bodily tasks (see Wu, 2023 for the current literature on the matter),³
- iv) attention is divided into *top-down* and *bottom-up* attention (see e.g., Diamond, 2013 for the relevant empirical work).

Both top-down and bottom-up attention are of interest for a legal theory of attention. By *top-down attention*, here we mean an agent's attention that is guided by her own decisions – when she, for instance, decides to focus on listening to a lecture instead of thinking about lunch. By *bottom-up attention*, we mean instances in which an agent's attention is guided by something external to her – when, for instance, a siren draws her attention away from listening to a lecture.

Chomanski (2023, 4, footnote 7) says that because bottom-up attention is not usually under the agent's voluntary control, the agent cannot have a right to direct it as she likes. However, in our view, the situation is not so simple. Bottom-up attention is, indeed, not under the *direct* guidance of the agent. But we think that because attention is to a great extent externally driven, the legal regulation of an agent's attention concerns the regulation of the immediate environment of an agent, through regulating distractions, for instance. This is because people exercise control over their bottom-up attention in various ways. An author may rent an office so that her children's voices at home will not bother her writing. A surgeon can turn off her smartphone so that she will not be distracted during surgery by the beeping phone. If a smartphone were to beep, she would not be able to control her bottom-up attention in attending to the sound. However, here the protection of attention, as it often does, takes place through limiting the agent's possibilities for distractions.

However, a strict right to self-government regarding attention is difficult to even imagine. Attention is such a general faculty of a person's mind that it is difficult to conceive of a world in which everyone's attention is protected all the time. A person's attention is grabbed, for instance, when there is a loud noise on the street. This kind of attention grab is part of being human and cannot – should not – be legally or normatively prevented. To be completely sovereign in one's attention would require a severe dysfunction of the agent's brain, as attention naturally includes a variety of automatic processes, often guided externally by the world outside the agent. So for an agent not to be bothered by unwanted thoughts, or unwanted attention grabs by stimuli outside her, is in practice impossible. Furthermore, such complete protection is not desirable either. Attention grab can save lives, for instance, by warning an agent from an approaching car. However, even though total self-governance regarding attention is both undesirable and impossible, we argue that there are situations in which opportunities for attention grab are limited through the legal regulation of attention.

³ Inhibition of attention has been found to correlate strongly with the inhibition of action, for instance (see Friedman & Miyake, 2004).

Our analysis is based on the distinction between *concentrating on doing something* and *being attentive to something*.⁴

Concentrating on doing something is, in our view, a distinctly attentional phenomenon, because when concentrating, the agent's attention is intentionally sustained throughout a task. Attentiveness to something, is a distinctly attentional phenomenon as well, because the agent's attention is receptive to some features of her immediate environment, without being deeply immersed in any one stimulus. Whereas concentration involves sustained attention on often cognitively challenging tasks, attentiveness involves an openness to a broader field of stimuli without focusing on any task specifically, other than being attentive. Concentrating on the assignments can benefit students sitting an exam, whereas the invigilator of the same exam should instead remain attentive to what is happening in the entire room. Concentration and attentiveness are thus at least somewhat mutually exclusive: concentration will reduce one's attentiveness to a field of stimuli, and vice versa. Both these phenomena are centrally connected to what the agent is doing or what she is supposed to do, which will be more closely elaborated in the next sections.

2.2 The legal regulation of attention and attention rights

This article is about the legal regulation of attention and the putative attention rights. These legal notions require elaboration as well. Next, we discuss, in turn, *regulation*, *attention regulation*, *rights*, and *attention rights*.

First, *regulation* is an ambiguous term. Basically, regulation can be factual or normative. For instance, in psychology, *attention regulation* can be used to refer to top-down attention, for instance, 'the ability to self-monitor one's deployment of attention, which includes maintaining attention, ignoring distracting or irrelevant stimuli, staying alert to task goals, and coordinating one's attention during a task.' (Harris et al. 2007, 25). Such an understanding of regulation is defined in terms of one's abilities and is therefore *factual*. Here, however, what we mean by *regulation* is *normative* regulation, which has to do with how an agent ought to or is permitted to behave in various situations, legally or morally.

The focus here is on legal norms and solely on positive law, meaning the law as it currently stands. Our argument does not focus on how the law should be. We use the term 'attention law' synonymously with the 'legal regulation of attention'.

Here we do not aim to offer an exhaustive analysis of all the ways in which the legal regulation of attention can happen. For our purposes, we focus on two distinct types of situations in which attention is legally regulated in this normative sense. Thus, for the purposes of this paper, we mean by attention regulation:

⁴ Watzl (2017, 39) makes a similar distinction between *focusing of attention* and *being attentive* when analysing how we ordinarily talk about attention. On the one hand, we talk about the focusing of attention ('Aliyah focused her attention on the red spot on the wall'); on the other, we talk about doing things in an attentive way ('Maurice observed the scene attentively').

- 1) the promotion and protection of an agent's ability to carry out a certain task in a certain situation through the normative regulation of the agent's immediate environment where a task is carried out, designed to increase the agent's factual ability to achieve the depth, the duration, and the locus of attention that is required to complete the task successfully, or
- 2) the obligation to be attentive to a certain field of stimuli.

Attention regulation can entail rights. However, when exactly such entailment occurs will depend on exactly how rights are understood, which is considered next.

The notion of a right has been subject to extensive theorizing. In legal theory, the framework developed by Wesley Newcomb Hohfeld, (1913) is understood as a central starting point for a theoretical discussion of rights. Hohfeld distinguished various meanings of the word *right*, noting that jurists often conflate these different senses.⁵ Here we employ only two central concepts introduced by Hohfeld: claim-rights and liberties.

A *claim-right* is correlative of a duty. For instance, if Ali has the duty to pay 100 euros to Maurice, then Maurice has the claim-right that Ali pay her 100 euros. A *liberty* to do something, on the other hand, means the permissibility of that conduct.⁶ Maurice has the liberty to walk around in her apartment, whereas she lacks the liberty to walk around in other people's apartments without permission.

Claim-rights are usually understood as the most central case of rights, but their exact nature is contested. Hohfeld did not provide a proper analysis of claim-rights, and scholars have debated the relationship between duties and claim-rights (Feinberg, 1974; Hart, 1955; Kramer et al., 1998; Thomson, 1990; Wellman, 1995; Wenar, 2013). Most answers fall under *the will theory* or *the interest theory of rights*. Will theorists emphasize the control that the right-holder has over the duty-bearer: a right-holder can, for instance, demand that their rights be fulfilled. Interest theorists, however, identify right-holders as those parties that would typically benefit from the performance of a duty.⁷

Here we employ the interest theory of rights, which is the mainstream theory of rights today.⁸ In the case of attention rights, the interest theory yields more rights than the will theory.⁹ However, even on the will theory, the examples we offer as

⁵ For a modern introduction to Hohfeld's scheme, see Kramer (1998).

⁶ Hohfeld used the term *privilege* for this normative position, but *liberty* has since become the standard term for it.

⁷ The question of how exactly one should benefit from a duty in order to qualify as a right-holder has become a subject of a rather technical discussion (see e.g., Sreenivasan, 2005; Kramer and Steiner, 2007; Kurki, 2018; 2021, McBride, 2020a; b).

⁸ For a defense of the interest theory, see e.g., Kurki, (2018).

⁹ The interest theory is generally more expansive about rights, meaning that it identifies rights in situations where the will theory does not. Hence, some of the cases where we identify claim-rights would likely not be classified as rights on the will theory. For instance, let us say that some law requires the inclusion of quiet working spaces in every public library, and that the governing body GB of library L therefore has the duty to provide such working spaces. However, if GB neglected its duty, library users would not be able to demand such a space (by, for instance, suing GB). On the interest theory, library users have the correlative right toward GB to be provided with such working spaces in library L, because having access to such a working space is typically in one's interests. According to the will theory, however, GB's duty does not entail a right for the library users because they cannot sue to enforce it.

attention rights can certainly be classified as the legal regulation of attention, even though they may not be rights.

Before moving on, we should note that the Hohfeldian version of interest theory employed here is *non-justificatory* (see e.g. Bowen, 2022). Such a theory takes the duties of some normative system as a given and then provides an account of the rights that are entailed by these duties. Rights, according to this non-justificatory version, do not by themselves generate *new* duties. Normally, rights admit of different levels of specification: they can be provided descriptions at a highly abstract level ('everyone has a right to life') and at a very concrete level ('X has a right not to be killed by Y except in self-defense'). Normally, descriptions at a higher level of abstraction cannot be transformed into descriptions at a lower level of abstraction without additional consideration of the legal norms in question. For instance, even if a constitution declared that 'everyone has a right to life', the exact meaning of this provision varies. It might, for instance, entail the right to free life-saving treatment or the prohibition of the capital punishment. These more concrete rights will depend on what other constitutional rights there are, how the courts have interpreted these rights, and other factors.

Hence, when we talk about the right to attention, this is an abstract rights-description for which we seek to provide a more concrete meaning by identifying some cases in which instances of such a right might be found. This more concrete meaning is, roughly, 'right-against-some-forms-of-interference-with-one's-attention'. However, our overall claim is *not*, that we could infer completely new norms based on this exercise. A fundamental right, enshrined in a constitution, typically has a *generative function*: judges will need to consider the meaning of this provision in new contexts (such as new life-saving treatments) and perhaps infer new rights from the provision. But we do not claim that the right to attention would be a fundamental right.¹⁰ Rather, our argument is that, based on the individual instances we have identified, we can provide a higher-level description: that in some cases, there is a right to attention and its exact content depends on the norms in question.

Hence, when we, for instance, argue that a student has the right to concentrate when sitting an exam, the expression 'right to concentrate' is an abstract rights-description: an encapsulation of the legal duties that others already owe the student. But such an encapsulation does not in itself generate new duties that might reasonably be covered by the expression 'right to concentrate'. For instance, even though the 'right to concentrate' could cover the right to neurotechnologies that improve one's ability to concentrate, we make no claim that students, under current law, enjoy such a right.¹¹

2.3 Which features of attention can be regulated?

Next, we map out central features of attention that can be regulated through legal means in order to better grasp the central elements of attention law. We argue that

¹⁰ Tran, (2016) seems to argue that the right to attention is a fundamental right.

¹¹ We thank an anonymous reviewer for making us clarify this point.

the protection of attention involves the regulation of the agent's immediate environment, through which the object, duration and immersion of an agent's attention as well as the degree of distraction can be regulated. It bears noting that the legal regulation of these is not mutually incompatible; rather, law often regulates several of these features at the same time.

First, the purpose of the legal regulation of attention often pertains to specific *objects* of attention. For instance, the legal regulation of a driver's attention is meant to ensure that the driver is attentive to the road and the traffic. However, such objects of attention need not always be specified. For instance, libraries often contain quiet working spaces meant to ensure that the users can focus their attention on an object of their choosing.

Second, the legal regulation of attention can be limited to cover only a specific *duration*. For instance, during a test, a school may require the strict observance of silence, to ensure that the students can focus on the test undisturbed.

Third, the legal regulation of attention is often designed to either facilitate or prevent the agent's *immersion* of attention. In some situations, immersive stimuli are unwanted or even dangerous. One example is driving a car: whereas some non-immersive stimuli – such as listening to the radio – are allowed, the presence of immersive visual stimuli such as movies is prohibited. This is because immersive stimuli slow the agent's reaction time even if the agent would still be able to attend to the road to some extent while being immersed in the flow of such stimuli.

3 Concentration rights and attentiveness duties – an elaboration

In what follows, we take a closer look at one central attention *right*, and one central attention *duty*: the right to concentrate and the duty to be attentive. Such already existing cases of the legal regulation of attention have been overlooked in the current discussion on attention rights. However, the discussion here is not intended to be exhaustive; investigating where else attention is legally regulated, and how, is an important topic for future research.

3.1 Right to concentrate

Let us now consider the student sitting at an examination in greater detail.

First, student A has the liberty to concentrate on the task at hand. In other words, her concentrating on the task is not prohibited. Furthermore, this liberty — and thereby her concentration — is protected by various claim-rights, most of which involve the regulation of her immediate environment. The student's concentration is protected from distraction because distractions can disrupt her sustained attention, which is necessary for her to succeed in the test. For instance, all students sitting the test are prohibited from acts such as making noise that could typically affect the concentration of other students negatively.

This is not to say that *all* distractions would be prohibited. First, the distraction must exceed some minimum threshold. For instance, a single sigh would likely not be prohibited, whereas constant or very loud sighing very well might be. We call this the *de minimis* threshold. Second, certain types of distractions are *appropriate*. For instance, consider a student getting up and walking to the teacher to hand in her exam. This might be a distraction to the other students, but nevertheless appropriate and therefore permitted. On the other hand, if the same student were to pace around the hall, this might be equally distracting but not appropriate.

All students in the exam situation, therefore, have the duty-not-to-distract-others-unless-minimal-or-appropriate. Such duties are correlated by the claim-rights of other students. Hence, for instance, student B has the duty not to intentionally distract others by making loud noises, and student A has the correlative claim-right to not be distracted. In the Finnish context, this legal duty is expressed indirectly — not by directly stating that such a duty exists, but by stating the legal consequences that may follow if a pupil ‘disrupts teaching or otherwise transgresses against school order or cheats’ (Finland’s Basic Education Act (628/1998), 36).

The invigilator has the duty to enforce these duties by, for instance, intervening if a student starts making inappropriate noises. Furthermore, more broadly, the organizing body, such as the school, can have various duties requiring the organization of the event in a manner that makes the concentration of students possible. For instance, the Finnish Matriculation Examination Board sets strict requirements for how the national high school examination should be organized including, for example, a rule requiring that the invigilators should be placed so that they can move in the room without disturbing the students (Finland’s General Regulations and Guidelines of the Matriculation Examination Board 2023). Depending somewhat on how claim-rights are understood, at least some of these organisatory duties can be seen as entailing claim-rights to the students affected.

The exam case shows that attention can be protected by regulating the external circumstances for a task to succeed appropriately. Noisy, distracting, chaotic, or unstable settings make certain kinds of tasks impossible for an agent. Attention is very liable to be disrupted by external stimuli, and sustained attention-requiring tasks are easily disrupted, or even made impossible, by distractions, even in a way that the agent cannot avoid being distracted by stimuli. A person may only be able to try to organize her surroundings in a way that reduces the likelihood of bothersome distractions, but in the event of a salient stimulus, mere internal control is not enough to guarantee that she can continue her task.

However, there can be a right to a distractionless space. In SAT tests, and admission tests to the university, the environment is designed to include as few external distractions as possible. It can even be a duty of the invigilator to make sure that no one disrupts other people’s concentration, or it can be a positive duty of a society to develop environments in which everyone can concentrate, if needed. In such situations, agents already have concentration rights. Even though the right to attention also contains a privilege, we argue that contra Rainey, (2023), in such situations it

seems to be a Hohfeldian claim-right – or a bundle of claim-rights – that should be respected by others.¹²

3.2 Duty to be attentive

Next, we look at cases in which the legal regulation of attention concerns duties to be attentive.

Chomanski, (2023) notes that one may, through the use of normative powers (e.g., consenting) become duty-bound to direct one's attention at certain objects. However, a variety of features related to attention can be regulated and the object of attention is only one such feature. Another is the depth of the immersion of the agent's attention. This type of the legal regulation of attention is apparent when we look at situations in which an agent has a duty to be attentive to something.

We often have duties that concern the agent's being attentive to some type of stimuli or a field of stimuli in order to be able to react appropriately to changes in this field or set of stimuli. Duties to be attentive regulate the agent's ability to react appropriately to certain kinds of events: to a drowning child in the case of a life-guard, and to a moose beside the road in the case of a driver. When something that the agent should be attentive to happens, the agent's duty to be attentive can transform into a more specific duty to perform an action, such as rescuing the drowning child.

Let us consider an agent driving on a public road. Attentiveness is central to driving because it mediates the reactions of the driver in traffic, so that if there is something unexpected on the road, she has sufficient time to react to it. Immersing one's attention in something else, however, jeopardizes this potential to react quickly to relevant stimuli. While driving the car, the driver is under a duty of attentiveness: she must observe the road and traffic without letting her attention become immersed by any particular object. The prohibition against using mobile phones while driving is an example of this more general rule.

While the driver has a duty to be attentive, her attentiveness is also legally protected. For instance, disturbing the driver in a way that 'is conducive to endangering the safety of another person' can constitute a crime under the Finnish Criminal Code (Finnish [Criminal Code](#), Chapter 23, Sect. "[Introduction](#)"). Hence, under the interest theory of rights, the driver has the claim-right not to be disturbed in a way conducive to endangering someone's safety: the prohibition against disturbing in such a manner protects her interest in not being disturbed.

¹² Rainey, (2023) argues that there cannot be a claim-right to self-determination regarding mental states. He does not explicitly address the legal regulation of attention but talks about mental states in general. We consider his contribution here, however, because mental integrity in his view is defined through mastery over mental states that can be seen as covering mastery over attention as well. Attention, however, is not strictly a mental state, but perhaps could be thought of as a *precursor* to mental states, or a mental process. Also, the integral connection between attention manipulation and the task the agent is trying to perform is not addressed in Rainey, (2023). See Kärki, (2022) for an analysis of various methods of attention manipulation that can happen at the autonomous (second-order), agentive, or automatic levels. Puri (2020) argues that online profiling, behavioral targeting, intermittent variable rewards, and real-time bidding are central techniques of attention manipulation on the internet.

Furthermore, the attentiveness of the driver is protected in various ways pertaining to the design and planning of roads and the surrounding environment, such as in Sect. 73 of the Finnish Road Traffic Act, according to which ‘[n]o sign, marking or device shall be placed on or in the immediate vicinity of a road which may be confused with a traffic control device or which may impair its visibility or effectiveness, dazzle road users or distract their attention’.¹³ Again, this can be understood as the right of the road users not to be subjected to such signs, markings, or devices.

As with the right to concentration, the duty and right to attentiveness comprise two important limitations: *de minimis* and pertinence. Let us consider a lifeguard at a beach. First, even if disturbing the lifeguard is likely prohibited, various minor distractions that do not significantly hamper the lifeguard’s ability to remain attentive to the events at the beach are likely permissible. Second, we can distinguish *pertinent* and *impertinent* sources of immersion. An agent may permissibly stop being attentive if they are distracted by a pertinent source of immersion. If the lifeguard finds out that a child is drowning, she will likely concentrate on rescuing the child and is no longer attentive to the events at the beach. Neither the lifeguard nor the child is to be blamed for this loss of attentiveness.¹⁴

We take attentiveness duties to be the clearest example of duties pertaining to attention. However, other types of attention duties – legally requiring the directing of one’s attention to some object – are possible.

For instance, some US states have required that abortion providers perform an ultrasound before an abortion, as well as displaying and describing the image to the patient. In Texas, under the 2011 Sonogram Law, the pregnant person may decline to view the image, but she cannot decide not to receive the description, even if she is a rape victim (Act Relating to Informed Consent to an Abortion, H.B. 15, 82nd. Leg. Reg. Sess. (Tex. 2011). However, even here it may be questioned whether she is, strictly speaking, duty-bound to train her attention on the description being read out. Even though she cannot e.g., leave the room during the description, she can assumedly ‘tune out’.¹⁵ However, it is beyond the limits of this article to analyze this issue further.

¹³ Finnish Road Traffic Act (10.8.2018/729).

¹⁴ We thank an anonymous reviewer for pressing us on this case. The same reviewer’s comments also made us realize that there might be cases where it is not only *permissible*, but even the *duty* of others to distract an agent under an attentiveness duty. For instance, consider a driver who is not paying attention to something that is relevant to safe driving. Perhaps a back seat passenger knows the road better and would like to bring up a reverse camber that is not marked on the road in order to help the driver drive more safely. In this case, the passenger might even be under an obligation to draw the driver’s attention to what is happening on the road. Such an obligation would be moral; we remain uncommitted as to whether there might also be such legal obligations.

¹⁵ On the other hand, Tran, (2016) argues that a broad right to attention would in fact entail a right not to be required to focus on e.g., a description of the fetus. Tran seems to think that such a right would be a federal constitutional right. The most important legal consequence of such a constitutional right would be the legislative disability to pass laws requiring that the pregnant individual be required to receive a description of the sonogram. However, assumedly, such a right would also entail some claim-rights, e.g., the claim-right not to have to be subjected to a description of the sonogram without consent.

3.3 Discussion

We have shown that, instead of a general right to attention, the legal regulation of attention-related rights and duties is *situation-dependent*, in cases of both concentration rights and attentiveness duties, due to the bottom-up nature of attention grab. In both situations, the regulation of attention promotes and protects an agent's ability to carry out a certain task in a certain situation. Second, in both cases, the protection of attention involves the regulation of the agent's immediate environment. Through situation-dependent regulation, the legal regulation of attention seems to be about the proper interaction of the agent, her attentional environment and what she wants to do, or what she has a duty to do.

Is this distinction between concentration and attentiveness merely a matter of language, or are we talking about entirely different kinds of tasks here¹⁶? Even though attentiveness duties here seem to require some degree of concentration, we think that there are differences here between the kind of tasks that require the agent to continue concentrating on doing something, and tasks in which the agent needs to be attentive to stimuli in order to do something else if needed. However, even though we think there may be a difference in the tasks themselves, we do not mean to claim that legal regulation necessarily follows distinctions made in ordinary language or empirical research.

First of all, there seems to be a difference in the tasks themselves: when concentrating on doing something what is protected is that the agent's ability to keep doing her already pre-determined task. When staying attentive, on the other hand, the agent is ready to start a new task based on the incoming information. The person performing an attentiveness duty may not actually do anything else during an entire workday other than staying attentive in order to act if needed. The agent concentrating on doing something, however, completes the task once it is done. In the case of a distraction, a person being attentive may respond appropriately and start acting, whereas when concentrating, an agent continues with the same task, but it is made harder for her to perform by distracting circumstances.

In concentration tasks, what is protected is the agent's ability to finish her already pre-determined task.

Secondly, another perhaps useful difference between being attentive to something and concentrating on doing something, can be found in the difference between exploration and exploitation as utilized in the philosophy of attention. Whereas attentiveness entails exploration, concentration entails exploitation of pre-existing information. According to Sripada (2018, 36), whereas exploration 'increases informational stores and potentially opens up new opportunities', exploitation 'utilizes existing informational stores to take advantage of known opportunities'. Exploration involves a 'wider, more open-ended search, the main purpose of which is to increase the agent's information about the properties of

¹⁶ We want to thank an anonymous reviewer for pressing us to clarify this distinction.

the search space' (Sripada, 2018, 37). Exploitation, on the other hand, 'employs a narrower, more goal-directed search strategy' (Sripada, 2018, 38).

The student focusing on an exam need not find novel information about what is going on in the entire room; she needs to take advantage of what she already knows in order to finish the task successfully and quickly. The lifeguard being attentive to a whole field of stimuli depends on finding out novel information about what is going on at the beach in order to be able to respond appropriately, if needed.

Whereas distraction can even facilitate exploration tasks, it disrupts exploitation tasks. When being attentive, the agent's attention is free to be distracted by stimuli from the field that is chosen. When concentrating, on the other hand, distraction is avoided so that the agent can exploit the same informational resources, eventually completing the task. For instance, Jennings and Tabatabaen (forthcoming) argue that creative achievements suffer from digital distraction because the exploitation of ideas – making use of one's ideas and completing them – suffers in distracting environments, whereas exploration, arriving at new ideas through novel information, can even benefit from distraction. In the lifeguard's case, a bystander is allowed to distract her with relevant information about a child drowning. However, in the student's case it is difficult to imagine a case in which a person would be allowed to intentionally disrupt her concentration on finishing the exam, or at least it is difficult to imagine a case in which this would *help her* perform the task better.

However, it must be pointed out that these are not absolute categories. Most human endeavors include both exploration and exploitation. Also, according to Sripada, (2018), the difference between these tasks should not be seen in absolute terms but as relative to a particular context.

It has been argued that a person's attention is protected from distraction in some situations based on what she is doing — because the performance of the task may be jeopardized by distraction, in some cases even bearing serious consequences to others. We have not defended ascribing a novel *pro tanto* right to control the direction of attention; instead we have focused on analyzing situations in which disrupting a person's concentration or attentiveness prevents her from doing something meaningful. In the cases we have presented, the existence of a rights violation is never solely determined by whether the distraction itself is significant but also on what the agent is trying to do. Even a minor distraction for a pilot when landing an airplane can induce major risks for the people on the flight. It is also interesting that, in our view, when it comes to concentration rights or attentiveness duties, the key issue is not whether the distraction is coercive or not, whether it uses questionable means, or whether it includes the agent's consent; the key concern is what kind of a task it disrupts. Distractions and other forms of attention manipulation can be wrong for a variety of reasons, but one line of normative reasoning of the wrongness of distraction focuses on the task that is made difficult or impossible for the agent by the distraction.

3.4 Attention rights and neurorights

As a result of the rapid development of neurotechnologies – which have the potential to read and manipulate a person’s brain activity – scholars have recently started discussing *neurorights* as new human rights that protect against the potential abuse that neurotechnologies may enable. Should we think of attention rights as neurorights¹⁷? The answer depends partly on whether distractions (and other forms of manipulating a person’s attention) are considered *neurotechnologies*. On our view, distractions are not neurotechnologies in the sense that they would induce interventions on the brain other than through traditional means in which the brain and the world interact.

In a sense, however, attention rights do protect something that happens in the agent’s brain. Attention is a cognitive process that requires a healthy brain in order to function normally. However, in our view, attention rights are centrally concerned with the proper interaction between the agent and her environment, which entails the environment always having effects on the organism. Thus, attention rights are not neurorights more than any rights that deal with the agent’s proper interaction with the world. However, this does not mean that the external environment would not have an influence on the brain of an agent *through* attention. Moreover, in our view, the legal regulation of attention not only happens through claim rights to attention but also through duties to be attentive.¹⁸

4 Conclusion

We have argued that the legal regulation of attention can already be found in existing legal regulation that focuses on the protection of cognitively challenging tasks and specific attentiveness-related duties. This protection is not reducible to, for instance, the protection of bodily integrity, but instead is deeply ingrained with the protection of the agent’s carrying out of tasks, or the potential actions that the agent has a duty to perform.

These two bundles help us perceive central ways in which attention is already being regulated legally, and hopefully help us better understand how they could be regulated in the future in novel situations where either the agent’s attentiveness to what they are doing is threatened by immersive stimuli, or their concentration on what they want to do is threatened by distraction.

This is not a conclusive analysis of the legal regulation of attention; instead, we think that there is more to attention law. For instance, attention and attentiveness are liable to external stimuli, and they are to some degree controllable by the agent

¹⁷ In Rainey, (2023) putative neurorights consist of a right to mental integrity and a right to cognitive freedom.

¹⁸ However, liberties to attend are of course central components of any analysis of attention law. For instance, a person may have a liberty to attend to writing at a busy cafe but does not have a claim-right for others to respect this by staying silent around her. Here however, we focus only on the claim-rights to concentrate or be attentive, but the further analysis of liberties of attention is also an important area for future research. We thank an anonymous reviewer for pointing this out.

herself, depending on the executive functioning, as well as other aspects of her cognition and the physical conditions that affect her cognition. Attention control is affected by lack of sleep and degree of stress – even the degree to which the agent has access to natural environments. Thus, it is also possible that the legal regulation of attention extends to the degree to which the agent has a right to develop attention regulation skills. Whether agents have such *indirect* attention rights is an interesting question for future inquiry.

Acknowledgements We are grateful to two anonymous reviewers of this paper, Maija Aalto-Heinilä and Esko Yli-Hemminki for carefully commenting a previous version of this paper. Kärki's research for this article has been funded by Kone Foundation and Emil Aaltonen Foundation.

Authors' contributions Both authors KK and VK contributed to the study conception and design. The first draft of the manuscript was written by KK and VK wrote parts of the manuscript. Both KK and VK commented on previous versions of the manuscript. Both KK and VK contributed to revising the article. Both KK and VK read and approved the final manuscript.

Funding Open Access funding provided by University of Helsinki (including Helsinki University Central Hospital). Kärki's research for this article has been funded by Kone Foundation and Emil Aaltonen Foundation.

Data Availability No data or materials were used.

Declarations

Ethics approval and consent to participate Not applicable.

Consent for publication Not applicable.

Competing interests The authors have no relevant financial or non-financial interests to disclose.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- An Act Relating to Informed Consent to an Abortion, H.B. 15, 82nd. Leg. Reg. Sess. (Tex. 2011)
- Bowen, J. (2022). The interest theory of rights at the margins: Posthumous rights. In M. McBride & V. A. J. Kurki (Eds.), *Without Trimmings: The Legal, Moral, and Political Philosophy of Matthew Kramer* (pp. 51–72). Oxford University Press.
- Chomanski, B. (2023). Mental integrity in the attention economy: In search of the right to attention. *Neuroethics*, 16(8), 1–11.
- Criminal Code (rikoslaki, Finland 39/1889)
- Diamond, A. (2013). Executive Functions. *Annual Review of Psychology*, 64, 135–168. <https://doi.org/10.1146/annurev-psych-113011-143750>

- Feinberg, J. (1974). The Rights of Animals and Unborn Generations. In W. T. Blackstone (Ed.), *Philosophy and Environmental Crisis* (pp. 43–68). The University of Georgia Press.
- Finland's General Regulations and Guidelines of the Matriculation Examination Board. Published Jan 27, 2023. (2023)
- Friedman, N. P., & Miyake, A. (2004). The Relations among Inhibition and Interference Control Functions: A Latent-Variable Analysis. *Journal of Experimental Psychology: General*, 133, 101–135. <https://doi.org/10.1037/0096-3445.133.1.101>
- Hart, H. (1955). Are There Any Natural Rights? *The Philosophical Review*, 64(2), 175–191.
- Hohfeld, W. N. (1913). Some Fundamental Legal Conceptions as Applied in Legal Reasoning. *Yale Law Journal*, 23(1), 16–59.
- Hommel, B., Chapman, C. S., Cisek, P., Neyedli, H. F., Song, J.-H., & Welsh, T. N. (2019). No one knows what attention is. *Attention, Perception & Psychophysics*, 81, 2288–2303. <https://doi.org/10.3758/s13414-019-01846-w>
- Jennings, C. D. (2020). *The Attending Mind*. Cambridge University Press.
- Jennings, C. D., & Tabatabaieian, S. (forthcoming). Attention, Technology, and Creativity. In D. G. Burnett & J. E. H. Smith (Eds.), *Scenes of Attention: An Interdisciplinary Inquiry*. Columbia University Press.
- Kärki, K. (2022). Autonomy of Attention. In V. C. Müller (Ed.), *Philosophy and Theory of Artificial Intelligence 2021* (pp.39-55). Springer. <https://doi.org/10.1007/978-3-031-09153-7>
- Kramer, M., & Steiner, H. (2007). Theories of Rights: Is There a Third Way? *Oxford Journal of Legal Studies*, 27(2), 281–310. <https://doi.org/10.1093/ojls/gqi039>
- Kramer, M. H., Simmonds, N. E., & Steiner, H. (1998). *A Debate over Rights*. Oxford University Press.
- Kurki, V. A. J. (2018). Rights, Harming and Wronging: A Restatement of the Interest Theory. *Oxford Journal of Legal Studies*, 38(3), 430–450.
- Kurki, V. A. J. (2021). The Interest Theory of Rights: Still Standing. *Legal Theory*, 27(4), 352–364. <https://doi.org/10.1017/S1352325221000203>
- McBride, M. (2020a). Preserving the Interest Theory of Rights. *Legal Theory*, 26(1), 3–39. <https://doi.org/10.1017/S1352325220000026>
- McBride, M. (2020b). The Unavoidability of Evaluation for Interest Theories of Rights. *Canadian Journal of Law & Jurisprudence*, 23(2), 293–315. <https://doi.org/10.1017/cjlj.2020.11>
- Mole, C. (2021). Attention. In E. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy*. Retrieved from <https://plato.stanford.edu/archives/win2021/entries/attention/>. Accessed 26 Oct 2023 .
- Puri, A. (2021). The Right to Attentional Privacy. *Rutgers Law Record*, 48, 206–221.
- Rainey, S. (2023). Neurorights as Hohfeldian privileges. *Neuroethics*, 16(9), 1–12.
- Road Traffic Act (tieliikennelaki, Finland, 729/2018)
- Sreenivasan, G. (2005). A Hybrid Theory of Claim-Rights. *Oxford Journal of Legal Studies*, 25, 257–274.
- Sripada, C. S. (2018). An exploration/exploitation trade-off between mind-wandering and goal-directed thinking. In K. Christoff & K. C. R. Fox (Eds.), *The Oxford Handbook of Spontaneous Thought: Mind-Wandering, Creativity, and Dreaming* (pp. 36–58). Oxford University Press.
- Thomson, J. J. (1990). *The Realm of Rights*. Harvard University Press.
- Tran, J. L. (2016). The Right to Attention. *Indiana Law Journal*, 91(3), 1023–1062.
- Watzl, S. (2017). *Structuring mind: The nature of attention and how it shapes consciousness*. Oxford University Press.
- Watzl, S. (2023). What attention is. The priority structure account Abstract WIREs Cognitive Science, 14(1). <https://doi.org/10.1002/wcs.1632>
- Wellman, C. (1995). *Real Rights*. Oxford University Press.
- Wenar, L. (2013). The Nature of Claim-Rights. *Ethics*, 123(2), 202–229. <https://doi.org/10.1086/668707>
- Williams, J. (2018). *Stand Out of Our Light: Freedom and Resistance in the Attention Economy*. Oxford University Press. <https://doi.org/10.1017/9781108453004>
- Wu, W. (2016). Experts and Deviants: The Story of Agentive Control. *Philosophy and Phenomenological Research*, 93, 101–126. <https://doi.org/10.1111/phpr.12170>
- Wu, W. (2023). *Movements of the Mind: A Theory of Attention, Intention and Action*. Oxford University Press.