

PRIVATE LAW AND COGNITIVE SCIENCE

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Introduction

Imagine a beach in Cuba. Amidst the calming sound of the sea, gentle gusts of wind, and a pleasant coconut smell, Melanie and Nikolas experience the warmth of the coral sand. It no longer burns their feet; the afternoon is about to turn into evening. “Just in case” – says Melanie, urging Nikolas to apply some more sun cream – “we are not used to the sun yet!” The two spent the last week swimming in the crystal-clear water, drinking mojitos, dancing, laughing, and smoking cigars. Melanie, a corporate lawyer from New York, and Nikolas, an aspiring legal scholar from Berlin, discovered a way to earn large sums of money by mostly chilling at the beach. I have learned their secret. In the next few pages, I am going to share it with you.

Well, of course, I am not. The previous paragraph exemplifies some findings of cognitive science. To get your point across, grasp the audience’s attention. To grasp attention, tell a short story (Vaughn, 2012). Make the characters relatable, invoke the senses, and promise something exciting. This knowledge, even if not always backed by scientific publications, is common to marketers, salespersons, or negotiators. The people whose job it is to make you buy something, want something or agree to something, know a lot about human psychology and behavior. Arguably, they know much more than the lawmakers did, when forging the foundations of private law centuries ago; and more than legal scholars know even today. Does it matter? I argue it does.

This chapter addresses the question of how cognitive science can inform the theory and practice of private law. I suggest seeking the answer along two dimensions. First, cognitive science challenges the presuppositions about human beings enshrined in the law. Lawyers often employ notions like “meeting of minds,” “free will,” or “expression of intention.” Contract and tort law presupposes a lot about persons’ reactions to incentives, the ability to reason and to make decisions. A discipline seeking understanding of human cognition can help evaluate the correctness of these, often implicit, assumptions. Moreover, as a source of knowledge about human

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psychology and behavior, cognitive science can serve as a resource for rule-makers, both of the rules enshrined in (state) law and in privately drafted contracts. When trying to empower consumers by imposing new information duties on traders, attempting to guide people's behavior through private fines, or drafting a contract that the other party is supposed to (not) understand and accept, lawyers benefit from the knowledge created within cognitive science. When critically assessing private law from these two perspectives, conceptual and practical, cognitive science can help lawyers refine their understanding of what human beings *are* – what qualities they have and how they behave in various situations.

Second, cognitive science can help us understand the changing nature of the private law society (Böhm, 1966) in the digitally-mediated, cognitively driven marketplace (Zuboff, 2019). Private law presupposes not only certain features of natural persons, but also the types of actions they undertake, types of relations they engage in, and types of objects they control. These elements, in turn, are contingent upon the state of technology, culture, and science. Currently, new types of activities occur, like micro-targeted behavioral advertising (Mik, 2016); and new types of commodities, like humans' attention (Wu, 2017; Newman, 2019) and future conduct (Zuboff, 2019) form objects of private law relations. These transformations result directly from the application of cognitive insights by corporations, and their will to develop new knowledge about people's preferences and behavior. Consumers' growing reliance on technology, paired with developments in data analytics techniques (Alpaydin, 2016), expands the locus of creation of "cognitive knowledge" from universities to corporations (Lustig, 2017). Firms operating online can continuously "experiment" with human subjects (Kramer et al., 2014), yet remain free of (formalized) ethical duties and incentives to publish the results. Along this dimension, cognitive science can help private lawyers understand what private persons (humans and firms) *currently do*, and update the law's conceptual framework and axiological backbone, to account for these changes.

The genre of a research handbook dictates the style of presentation in this chapter. I want it to be a valuable resource both for private law scholars wishing to incorporate insights and methods of cognitive science in their work, and for cognitive scientists wanting to study the law and the law-affected human practices. Moreover, I want it to be useful regardless of the jurisdiction and the specificity of local private law doctrines. For these reasons, I include numerous citations to the existing literature, but seldom directly challenge the views I invoke. In addition, I prioritize

breadth over depth in problem presentation and leave the reader with questions instead of arguing for any specific normative solutions.

The chapter consists of three sections. Section 1 clarifies my understanding of “private law” and “cognitive science,” as well as offers an overview of the literature that could be qualified as the emerging field of (private) law and cognitive science. Section 2 explains how private law presupposes various characteristics of human beings, demonstrates what these presuppositions are, and shows how cognitive science can help scrutinize them. I show how the law presupposes the *homo legalis privatus* to have free will and intentions, rationally guiding her behavior to pursue these intentions, and understanding the consequences of her actions to a degree sufficient to hold her responsible for them. I scrutinize these assumptions in the light of what cognitive sciences tell us about human behavior and show how one’s assessment will differ depending on the role one believes the private law to play in our society. I also exhibit how these findings can be used instrumentally, to make contracts more readable and information conferring more effective. Section 3 maps the transformations in the private law society triggered by the development and application of the cognitive science, demonstrates what novel elements exist in the cognitively-driven world, and scrutinizes the role played by private law in these changes.

1. Meet the Field: Conceptual Clarifications and the State of the Art

To begin, let me introduce and clarify the concepts of “private law” and “cognitive science,” as well as provide a bird-eye overview of the scholarly field of (private) law and cognitive science.

By “private law” I mean the legal and social rules and institutions structuring and governing the relations between formally equal persons: property, contract, and tort law, as well as economic regulations shaping market conduct (Micklitz, 2009). I will not pay attention to dispute resolution, i.e. adjudication of private law cases in courts or via arbitration.² Instead, I will focus on the ways these rules shape social life, how transformations in social life challenge these rules, and the role that cognitive science is, and could be, playing in these processes.

² Litigation, evidence and cognitive science make up a fascinating, but different, area of inquiry. It encompasses questions like the role of bias and prejudice and adjudication, strength of evidence based on memory, novel types of possible evidence etc. These questions are common to all types of judicial proceedings, not just the civil procedure.

By “cognitive science” I mean a social effort aimed at understanding how humans think and behave. In this sense, I employ both notions quite liberally. In “cognitive” science I include behavioral studies (treating brains/minds as “black boxes”), cognitive neuroscience (trying to “peek inside” those boxes), psychology, anthropology, evolutionary biology, philosophy, and anything else that might be illuminating. Similarly, by “science,” I mean not only the “proper” endeavors of scholars working at universities and publishing in peer-reviewed journals, but also the knowledge amassed by private corporations and trading communities. The reason for this (potential over-)inclusiveness is that when dealing with novel phenomena, striving at terminological purity might cost us missing something unexpectedly fundamental outside the established drawers.

1.1. Private Law

The term “private law” belongs to the basic legal vocabulary of European lawyers, but might seem far from natural to Americans and non-legal scholars.³ Moreover, the discipline itself is currently undergoing rapid transformations, and so one cannot assume that a consensus exists even among those who consider themselves private law scholars. To avoid misunderstandings and unwarranted assumptions, I want to address two issues at the outset: (i) what branches of law can the term “*private law*” refer to?; (ii) what dimensions of social reality can be designated by the term “private *law*”? I do so primarily to clarify what I mean by these terms and why I do so, without the pretense of “solving” any exiting scholarly disputes, or arguing for “the correct” viewpoint.

First: what branches of law make up the “private” law part? The simplest definition involves enumeration: traditionally, “*private law*” encompasses the rules of property, contract, and tort.⁴ In Continental Europe, these areas are governed by civil codes, while the Anglophones refer to them as “common law,” given these rules’ judiciary origin. Disputes arising about property,

³ One should note that, ever since the legal realist movement in the first half of the 20th century, many American scholars openly challenge the usefulness of the private/public law distinction, and as a result, do not even employ the term.

⁴ Many would also include family law, inheritance law and rules on unjust enrichment. Note that “private” law thus understood is still state-administered. We do not mean *privately created* rules (though we do not exclude them), but rather state-backed rules governing relations between legally equal persons.

contract, and tort are adjudicated within civil procedures (as opposed to criminal or administrative ones). One could say that “private” law is the body of law governing relations between formally equal persons (individuals and corporations⁵). “Public” law, on the other hand, governs the functioning of public authorities, and the relations between individuals and these authorities (like criminal law, administrative law, and constitutional law). The distinction dates back to Roman times (Mousourakis, 2015), and as far as books (in Europe) are concerned, it stood the test of time.

However, the world consistently refuses to align itself with the neat typologies of black-letter lawyers. Think about the legal relations you have with other humans and corporations. When you buy clothes, food, or books, you act as a consumer, within the realm of consumer law. Labor law governs your relationship with the employer or the workers. The contents of your telephone, banking, energy, and insurance contracts stem from the regulations and decisions of various administrative agencies. Probably, you seldom conclude a “pure” contract of sale, as envisioned by the civil codes. Similarly, the limitations on the exercise of property rights often stem from regulations (environmental law, food law, zoning laws, etc.). For these reasons, paradoxically, one cannot grasp the full content of contract/property/tort norms by focusing solely on these branches of law. All this led some scholars to expand the meaning of “private” law to “*regulatory* private law,” encompassing both the traditional triad of property, contract, and tort, and the administrative norms shaping the market and social relations (Micklitz, 2009). In this chapter, I adhere to this view, and to account for rules, principles, and concepts foundational for the private law society in the 21st century, employ the term “*private* law” in a broader, inclusive manner.

Second: what elements of the social reality are we talking about when invoking the term private “law”? The classical view, still pervasive in the European scholarship, would concentrate primarily on *norms* (rules and principles) and their *sources* (legislation and judicial decisions). From this perspective, private law scholarship is a domain of humanities: philosophy and interpretation, taking as an object of its study (i) texts and (ii) abstract entities, “created” by these texts, like rules, principles, and concepts. A private law scholar might ask positive questions (What is the content of the law?), explanatory questions (Why is it the way it is, what led to its adoption?), or normative questions (Is this law good, could it be better?) but she will still focus on what she

⁵ By “corporations” I mean both the private entities like for-profit firms and non-profit foundations and associations, as well as public bodies exercising their *dominio*, as opposed to *imperio*. In this sense, when a police department purchases paper for their printers, they are treated as a private person for the purposes of the law.

can read, or imagine while reading. Law, thus understood, is an intellectual system, presupposing a particular structure of the reality it aims to govern. This is a valid and important perspective, and I adopt it in many places throughout this chapter. Nevertheless, limiting one's analysis solely to legal texts on one hand, and norms and concepts on the other, leaves out a significant portion of the legal reality.

Private law is a domain of everyday life, not just the lawyerly treatises. Individuals constantly conclude contracts, exchange goods, provide and receive services, injure others and get injured themselves. Relations among persons exist not (only) because law constitutes them, but primarily because social life gives rise to them. Hence, to appreciate the insights that a(n empirical) discipline like cognitive science⁶ can offer to private law, one needs to concentrate on the empirical aspects of the law's domain: real-world *practices* and *phenomena* of advertising, trespassing, contracting, etc. This expansive view, sociological in nature, compels us to include in the scope of inquiry not just the "law-in-action," i.e. what judges and other officials do; but primarily *what persons do*: how contracts get concluded, what do they stipulate, what commodities get traded, etc. Therefore, when speaking of "private law" in this chapter, I refer not only to norms, concepts, and institutions of black letter law, not only to the practices of the officials, but also to the practices of persons themselves.

1.2. Cognitive Science and (Private) Law

Cognitive science is an "interdisciplinary study of mind and intelligence" (Thagard, 2018), concerned with perception, emotions, attention, decision-making, and behavior (Passingham, 2016). As an interdisciplinary endeavor, it employs methods of philosophy, neuroscience, biology, evolutionary psychology, anthropology, and social science. Cognitive scientists are interested in a diverse set of questions, and study themes like, among others, free will (Balaguer, 2104), relations between brain and mind (Passingham, 2016), cognitive biases (Kahneman, 2012), consciousness, creativity or persuasion. Various competing communities of discourse exist within cognitive science itself; many of them have views on what types of questions and methods belong inside and

⁶ Cognitive science, just like legal scholarship, includes both philosophical reflections and empirical findings. I explain this in more detail in Section 1.2. below.

outside of the field. Without taking side in these debates, I adopt a broad and inclusive understanding of the term.

What fascinates many scholars about cognitive science is its merger of philosophy and humanities with empirical data and natural sciences. The unexpected encounter of centuries-old-questions (Do humans have free will? Is it possible to think rationally? How to understand the relationship of body and mind?) with modern experimental methods and sophisticated tools like the fMRI brain imagining (Passingham, 2016) brings about a refreshing breeze both into the dusty libraries of philosophers and the sterile laboratories of hard scientists. Certain questions that intrigue philosophers sometimes require consulting data; while many empirical findings collected via experiments need to be interpreted with philosophical sensitivity, caution, and diligence. I discuss several examples of such questions, regarding free will and culpability, in the next subsection (2.4.)

Moreover, the types of questions posed by cognitive science can be illuminating, almost by definition, to any discipline concerned with humans doing things, thinking about things or trying to make a decision. In *Thinking, Fast and Slow*, Daniel Kahneman (2011) recalls how, after publishing “Judgment under Uncertainty: Heuristics and Biases” (1974) with Amos Tversky, both were surprised with the breadth of its reception:

Our article attracted much more attention than we expected, and it remains one of the most cited works in social science (...) Scholars in other disciplines found it useful, and the ideas of heuristics and biases have been used productively in many fields, including medical diagnosis, legal judgment, intelligence analysis, philosophy, finance, statistics and military strategy (Kahneman, 2011).

Once one notices that our presuppositions about human thinking and behavior not only might be wrong, but actually can be productively tested and refined, broad application of cognitive science should no longer come as surprising. One of many disciplines that have benefited from its encounter with cognitive science is law.

The dialogue between cognitive science and law is not exactly a new endeavor. As an anecdotal example: already back in 1989, George Lakoff presented a paper titled “Cognitive Science and the Law” (1989) at the Yale Law School Legal Theory Workshop. Since then,

numerous articles and books have been published, though not necessarily in dialogue with one another. Several communities of discourse have emerged, among them law and psychology (Bartol & Bartol, 2019; Granhang et al., 2016; Miller & Bornstein, 2016; Sales & Kraus, 2015), law and neuroscience (Brożek, 2017; Blitz, 2017; Jones et al., 2014; Hirstein et al., 2018; Patterson & Pardo, 2016; Pardo & Patterson, 2013), law and artificial intelligence (Sartor, 2006; Hage, 2011), and behavioral law and economics (Sunstein, 2000; Rachlinski, 2009; Zamir & Teichman; 2018). The subjects and questions tackled within these discourses range from judicial legal reasoning (Brożek, 2019) to cognitive biases (Fruehwald, 2018), from subjects of liability and culpability to applications in specific areas of law, like criminal law, antidiscrimination law, family law, and others. All these efforts can illuminate the law as “cognitive science” broadly understood, though it would be a stretch to say that “law and cognitive science” has already become an established scholarly field in its own right.

Regarding private law and cognitive science, the most robust contributions have been offered within the field of behavioral law and economics. Classic works include studies by Akerlof (1978), Williamson (1989) and Kaplow and Shavell (2009). More recently, Oren Bar-Gill authored an insightful monograph, titled *Seduction by Contract*, exploring various ways in which psychological, behavioral and cognitive processes play in consumer markets (Bar-Gill, 2012). An entire handbook devoted to research methods in consumer law has been published, drawing heavily from the behavioral insights (Micklitz et al., 2018).

The success of this angle is hardly surprising, given both the popularity of the law and economics as a discipline and the fact that economics has traditionally been the most outspoken discipline regarding the assumptions it makes about humans (see the next section 2.1.). However, one should bear in mind that, as many disciplines with evaluative ambitions, behavioral law and economics has an underlying political project, or at least assumes a set of implicit normativities. The focus on “efficiency” or “consumer welfare” tacitly crawls into the supposedly “scientific” considerations, sometimes blinding us to other goals pursued by the private law (see Section 2.3.). Hans Micklitz has well-argued for caution in this sphere (Micklitz, 2018).

In addition to behavioral law and economics, the literature one could label as private law and cognitive science has been growing under the labels of the psychology of tort law (Shuman, 1994; Robbennolt & Hans, 2016) as well as, indirectly, in various philosophical accounts of contract law (Benson, 2001; Kraus, 2002).

The literature surveyed here is, at the same time, broad and not fully representative. Obviously, there is more to discover, once one dives deeper into the debates within a particular community of discourse. My goal so far was to give the reader an overview of the “menu” and to highlight the works I consider fundamental or most interesting. Having done so, without a pretense of being right or fully comprehensive, I would like to move to two substantive dimensions where I believe cognitive science can inform the theory and practice of private law. In the following sections, I will show how cognitive science can help challenge the presuppositions about humans engrained in the legal discourses and serve as a resource to private rule-makers; and help us understand new types of activities that persons engage in and new types of objects that persons enter into private law relations over. Let us start with the presuppositions.

2. Cognitive Science and Private Law’s Presuppositions about Humans

Law is a normative creature, instructing people on how to behave, and in a sense telling a story about how the world *should* be. However, as any normative system, the law is also a repository of assumptions and presuppositions about how the world *is*. These presuppositions stem from our joint experiences of social life, from culture and philosophy, and have made their way into the law through the vision of the world of the lawmakers, broadly understood. As any assumptions, they might true or false, useful or harmful. However, making the assumptions explicit does not belong to the traditional legal methodology. Law and lawyers seldom *make assumptions*, they rather *hold presuppositions*.⁷

In this section, I bring some of these presuppositions to the fore and reconstruct the qualities of a human agent presupposed by private law: *homo legalis privatus*. I show how the law assumes her to have a free will and intentions, to act rationally in accordance with these intentions, and to understand the consequences of her actions to a degree sufficient to hold her responsible for these actions. I scrutinize these assumptions in the light of findings of cognitive science and show how, even though they are not untrue, human cognition is much more complicated than an unabridged

⁷ “Making an assumption” is a conscious act, while “holding a presupposition,” is an unconscious state. In other words, assumptions are always explicit, while presuppositions are implicit. They can be made explicit, and then they become assumptions.

version of these qualities. I further discuss the role these assumptions play in private law and argue that whether we should assess their *usefulness* or *correctness* will depend on one's normative take on the private law's role in the society. I further take a closer look at three fundamental aspects of *homo legalis privatus*: free will, rationality and culpability. The section finishes with a discussion of several examples of how cognitive science can be used to increase effectiveness of private rule making: contract drafting, consumer disclosure and guiding behavior through private fines.

2.1. *Homo Economicus* and *Homo Legalis Privatus*

If you have ever taken an introductory class in microeconomics, you are familiar with the concept of *homo economicus* – the economic human. *Homo economicus* is perfectly rational, self-interested, and utility/profit-maximizing. She has a fixed set of preferences, which she can always order coherently. Microeconomic models are stories about economic humans. If a more affordable alternative is available, economic humans will switch to it. If the cost goes up, the amount of purchases goes down. If we put a price on some harmful activity, the occurrence of this activity will become less frequent. In this view, human behavior is mostly predictable. And if it is predictable, it can be modified, to a certain extent.

Those assumptions are not entirely in line with our everyday experience. One can easily point to situations suggesting that humans are not perfectly rational, and much more complex than self-centered profit maximizers. The existence of fair-trade coffee or volunteering would suggest that people care about more things than profit, or at least understand “utility” in much broader terms. On-the-spot purchases that we later regret suggest that not all our decisions are well thought-through. An economist's answer to these objections would be that economists do not claim that humans *factually are* like this; they rather *assume* that humans *act as if they were*, to construct models. If a model has high explanatory and predictive power, i.e., if people end up behaving the way economists thought they would, their *actual* features or motivations are irrelevant. And it just so happens that assuming that people are economical leads to the high predictive power of many economic models. The claim that economic models always have high predictive power is not entirely accurate, hence the booming field of behavioral economics (Thaler, 2016). However, what I want to draw the reader's attention to is that traditional economic theory: (i) makes assumptions

about humans, (ii) in an explicit manner, (iii) to increase the explanatory and predictive power of economic models.

The traditional legal approach is different. If you ask a contract lawyer about his assumptions about *homo legalis privatus* – a private law human, a member of the private law society – a chance is that he will not be able to answer. If you are dealing with an American, she might describe someone akin to the economic human, given the omnipresence of law and economics in the US-scholarship. However, a continental colleague might look at you startled. The lack of a clear answer stems not from the fact that the law does not contain assumptions or construct models. Rather, we are not used to making them explicit and critically scrutinizing them. We often simply presuppose a set of facts about human beings and the world. Possibly, these presuppositions are correct, or at least useful. However, to assess that, we should bring them to the fore.

How to go about making these assumptions explicit? One can start by looking at provisions expressing particular norms, and ask: “What factual claims are presupposed by a given (normative) statement?” (Levinson, 1983). Consider a simple example. A sentence: “*Children must not eat ice cream before dinner*” expresses a norm, but also contains several assumptions about the real world. For example, it holds ontological commitments to the existence of children and ice cream; a prediction that children *might* want to eat ice cream, and judgment that children *are capable* of refraining from eating ice cream, despite having an urge to do so. These statements might strike you as too-obvious-to-mention, as they are obviously true. However, consider an example on the other extreme: “*Whenever a person sees a unicorn, he or she must refrain from breathing for an hour.*” Such a norm would presuppose existence of unicorns, and humans’ ability to stop breathing for an hour. Both of which are, clearly, not true. Hence, it is possible for a meaningful sentence expressing an imperative statement to presuppose factual statements which are untrue. As the law is a product of our common experience of reality, it probably will seldom contain presuppositions that are flatly false. However, it might contain some that are questionable.

Provisions expressing legal norms can be analyzed in the same way as the two examples in the previous paragraph. Below, I consider a few private law examples, concerned with capacity for performing juridical acts, with the conditions for successful concluding of contracts, and with stipulating what actions should be treated as torts. I take them from the Polish Civil Code, as this is the legal act that I am most familiar with. However, one can repeat the same exercise regarding

other legal systems, and the results should not differ significantly. This is due not only to the fact that many Western private law systems have common roots (Gordley, 2006) but also to the fact that our image of the world has been shaped by transnational phenomena like science and philosophy. Let us take a closer look at four examples of private law norms containing presuppositions about humans.

First, consider the capacity for legal actions. In Western liberal democracies, every human being enjoys a legal personality, i.e., the quality of being the subject of one's own rights and duties (Brożek, 2017). However, not everyone (in particular not: children and persons with mental disabilities) enjoys the ability to perform juridical acts (ger. *Rechtsgeschäfte*, fr. *actes juridiques*) in one's own name (Hage, 2011). As a rule, the Polish Civil Code attributes full capacity for juridical acts to all persons of 18 years or older. However, it also states:

Art 13.1: *A person (...) might be legally incapacitated, if due to mental illness, mental underdevelopment, or any other type of mental disorder, in particular substance addiction, he or she is unable to control [lit. direct] his or her behavior.*⁸

Therefore, the Code assumes that *unless* an adult suffers from a mental disorder, he or she *can control his or her behavior*. A human being, in this view, understands the reality around her, can make decisions, and understands the meaning and the consequences of these decisions. These abilities are so crucial to the proper functioning of a society based on private law that, once a person loses them, the law provides for a mechanism of limiting one's legal capacity to perform juridical acts. Moreover, this norm presupposes that somewhere around the day of one's eighteenth birthday, persons generally become more capable of controlling their behavior than before.⁹ Regardless of whether those assumptions are factually correct or not, their existence can be made explicit.

⁸ Translation by the author.

⁹ Assuming that persons' ability to understand and direct their behavior changes profoundly on the day of 18 birthday would be, obviously, not true. There are good reasons for the existence of this rule, having to do, among others, with protection of minors and legal certainty. The persons' legal status of capacity should not be confused with their psychological status of rationality. However, from a purely formalistic perspective, the Code presupposes that as a matter of a general rule: persons younger than 18 are not capable of fully controlling their behavior, while people 18 or older (subject to exceptions) are.

Second, consider two articles of the Polish Civil Code, governing the activity of performing a juridical act (concluding contracts, preparing wills, etc.), and the directive for contracts' interpretation, respectively:

Art. 60: (...) *The will of a person engaging in a juridical act can be expressed by any behavior of that person, if only it expresses his or her will sufficiently clearly ("declaration of intent").*

Art. 65.2: *When interpreting contracts, one should inquire into the joint intention and goal of the parties, rather than their literal formulation.*

These two provisions presuppose that human beings: have will(s) and intentions, can express these intentions through their behavior, including through language. They also assume that persons can achieve a common understanding of their intentions, but that they sometimes fail to express this understanding in an unambiguous manner. It assumes that the common intention can be retroactively established, and compared with the literal meaning of a contract. According to this image of the world, human cooperation involves negotiations of a *common goal and intention* by individuals who themselves have motives of their own, direct their behavior according to their will, and express their intentions about the future states of affairs.

Third, the Polish Civil Code foresees circumstances when an action that could look like a conclusion of a contract (or a performance of a different juridical act, like preparing a will) should not be treated as one. Consider the following provisions:

Art. 82: *A declaration of intent shall be null and void if expressed by a person who, for any reason, could not make a decision and express his or her will consciously and freely. This applies in particular to mental illness, mental disability, or any other, even temporary, distortion of mental faculties.*

Art. 87: *Whoever made a declaration of intent under the influence of an unlawful threat (...) may evade the legal consequences of that declaration, if the circumstances indicate that they may have been afraid that they or another person may be in serious danger to their person or their property.*

First, by studying these “exceptional,” states of affairs, we can discover what the Code treats as the rule, namely that adults can consciously make decisions and freely express their will. At the foundation of the Code’s vision of private law lies a presupposition that persons understand the world and the consequences of their actions, and upon this understanding act as free agents making choices about their legal situations. This is so crucial that a lack of these faculties, even if temporary, can render a contract null and void. Second, in addition to the need for “internal” freedom of will, the Code also makes it possible to annul contracts concluded under coercion. Note, however, the gradation of circumstances rendering contracts null and void – a lack of “mental faculties” necessary to act freely renders a declaration of intent null and void as a matter of law, while external coercion gives one a right to seek annulment.

Fourth, consider the basic provision establishing tortious liability in the Polish Civil Code:

Art. 415: *Whoever, culpably* [lit. through his, or her, fault], *has done harm to another, is obliged to remedy* [lit. repair] *that harm.*

This norm, apart from adhering to the most basic principle of restorative justice (Weinrib, 2012), also contains a set of presuppositions about the world. First, that humans can harm one another. Second, that the harms can be remedied somehow. Third, and crucially – that persons can be held *responsible* for their actions. That *fault* can be ascribed to an individual. This matters greatly, both in terms of practice, and in terms of theory. From the Code’s point of view, human beings are not like machines reacting to stimuli, but moral agents, who have the capacity to control their actions to such a high degree that, when directing their actions at harming another, they can be deemed normatively culpable of doing so.

The Code contains many more norms based on presuppositions about humans – that they can deceive one another, pretend to make promises, err with respect to the facts, etc. My goal in this section (and chapter) is not to reconstruct a full picture of a “private law human”, but rather to (i) demonstrate that the law *presupposes* such a picture; (ii) provide its general sketch; (iii) suggest that it might be counterfactual. Based on the analysis up to this point, let us see what qualities, in general, our *homo legalis privatus* has.

2.2. *Homo Legalis Privatus vs. Homo Sapiens*

The private law human – an abstract entity, a model agent presupposed by the law – has free will and intentions; can express them and understand others’ expressions; can control her behavior, regarding both choosing to contract and to harm others, and as a result, can be held responsible for her choices. She is rational, both in the sense of understanding the meaning and the consequences of her actions, and in the sense of acting in accordance with the goals and principles she adopts. She is both an economic actor and a normative agent. These qualities might be absent in case of “any mental disorder/ distortion of mental faculties”, but as a matter of rule, are common to all humans. According to private law, at least.

What does cognitive science tell us about these presuppositions?

Put simply: these assumptions are *not untrue*, but the *full truth* is significantly more complicated. Cognitive science teaches us that actual humans possess these qualities to a varying and sometimes limited degree, cautions us against adopting strong binaries (e.g. perfectly rational vs. irrational), and provides tools to test specific assumptions. It demonstrates not only that humans are different from one another, but also that the same person can be more rational/conscious/understanding when rested and happy than when tired and stressed about work. It explains how and why the simple binaries -- like free will vs. determinism, perfect rationality vs. irrationality, or full ability vs. inability to direct one’s actions – render us unable to explain many real-life situations.

Daniel Kahneman, in his *Thinking Fast and Slow* (2011), a book summarizing his lifetime work with Amos Tversky, proposes to conceptualize human cognition as metaphorical cooperation between System 1 and System 2. System 1 is responsible for quick, intuitive and automatic judgments, requiring little time and mental effort – the fast thinking. System 2 is the logical, deliberative and conscious “agent” in human mental processes, taking a lot of time and energy – the slow thinking. According to Kahneman, most human decisions, judgments, and activities are undertaken by System 1. It is responsible for “naturally automatic” processes, like breathing; acquired skills that become automatic (like moving your eyes when reading, moving your fingers when typing on a keyboard or playing instruments); and mental operations that we often conduct (like simple addition or deciding whether to take an umbrella by looking at the sky). System 2 is

the one that comes into play whenever no mental shortcuts (intuitions, heuristics, habits) are available.

To understand this relationship, consider a hypothetical example. Imagine going to a new supermarket, where you do not know what types of goods are being offered, nor where they are located. Shopping there for the first time will take quite some mental effort: you will need to compare prices and quality of goods you have not seen before, look for the things you need, you might change our mind when seeing yet another product. If you are listening to a podcast upon entering, you will turn it off – System 2 needs to be fully concentrated on the task. The fiftieth time you shop there, most of your movements and choices will be automatic, and you might be able to handle a phone conversation or listening an audiobook at the same time. All human activity could be understood as an attempt to optimize our actions by gradually reassigning them from System 2 to System 1.

However, System 1 often makes mistakes. Kahneman and many others (Fruehwald 2018) have demonstrated the existence of the so-called “cognitive biases”, i.e. mistakes humans are prone to make under some conditions. For example, when assessing a price of a product, we might be misled if a much higher “initial” price (for example, ~~\$99.99~~) is displayed next to the new, lower (but still too high) price (ONLY \$39.99!). We will assess not the *actual* value of the product, but the *supposedly new* price in comparison to the old one.

Moreover, System 2 is not a super-computer either. There is only a limited amount of work it can handle at the same time. Christopher Chabris and Daniel Simons (2011) describe an experiment where participants watched a video of two groups passing basketballs and were asked to count how many times one group passes the ball, while ignoring the other group. The video also featured a person in a gorilla costume entering the scene, banging its chest, and leaving. The experiment found that many people concentrated so much on the task of counting passes that they literally did not notice the gorilla. This finding indicates that when we focus our attention on something, we might completely ignore some other elements, even if it is fully “available” to our perception.

Importantly, the mistakes committed by Systems 1 and 2 are *inherent* and *natural* to human thinking. Our inability to fully understand the world around us, or to always act in the ways corresponding with our goals and principles (instead of based on emotions or impulses), is the typical human condition. On top of these limitations, obviously, we might be suffering from other

“distortions of mental faculties.” However, to get back to presuppositions enshrined in the Polish Civil Code, a person “who does not suffer from any distortion of mental faculties” is not “able to control her behavior.” Rather, she is able to control her behavior to a certain degree, subject to cognitive biases, and provided that she can concentrate on the task at hand.

In other words, private law’s presuppositions about human beings are not entirely correct. We seem to presuppose the existence of an agent who is constantly able to exercise their System 2 capacities to the fullest. Such situations *do* occur, but they do not always occur, and one could argue that their occurrence is an exception rather than a rule. “This is interesting” – one might say – “but does it really matter? And if so, why?” To answer this question, we might have to ask two more fundamental ones: “Why does private law hold presuppositions about humans?” and “What is it that private law tries to achieve?”

2.3. What Threshold: Truth or Usefulness? Or: Does Private Law Aim to Guide Behavior?

Why does private law hold presuppositions about humans? Leaving aside the purely linguistic reasons,¹⁰ one should ask: what is the goal of private law? What is it that, as a society, we want to achieve by building our shared lives around the institutions of property, contract, and tort? Why do we choose to rely on private relations among formally equal persons, and not, for example, on centrally planned economy or an aristocratic society where one’s status dictates one’s possessions, occupation, and relation towards others? Economics, as a discipline, makes assumptions about humans to increase the explanatory and predictive power of their models. Economists are less interested in whether their assumptions are true, as long as they are useful for explaining reality. Neuroscience, on the other hand, tries to establish causal links between activations in various parts of a brain and human experience. Natural scientists will often seek the truth, not a useful fiction. What is it that private law, not as a scholarly discipline, but as a shared experience of practices enabled by norms, is doing for us?

Two general types of answers are available: consequentialist (we rely on private law because it brings about certain desirable results) and deontological (we rely on private law because

¹⁰ It might be impossible to formulate imperative statements that do not contain descriptive presuppositions.

it is a morally right thing to do, regardless of consequences). In other words, one could either claim that the role of private law is basically to guide human behavior, if not through direct commands, then by endowing them with property and providing institutions for resource (contract) and risk (tort) allocation (Posner, 2011). Or, equally plausibly, one could claim that the role of private law is precisely *not* to guide behavior, but rather to delegate choices on what to do to the individuals themselves. The former view, best exemplified by the field of economic analysis of law looks at the law instrumentally and will judge it based on how well it fares in leading us to the desired outcome. It is within this logic that in *The Law of the Horse* Lawrence Lessig (1989) wrote: “As the Legal Realists spent a generation teaching, and as we seem so keen to forget: contract law is *public law*” [emphasis original]. The latter view, typical for Europeans, would see the private law society as a value in itself (Böhm, 1966), be less concerned with its societal impact, and more with the actual realization of autonomy of private persons.

The difficulty is that both justifications hold at the same time. Or, to be less extreme: both viewpoints seem to be necessary to fully explain why the Western liberal democracies all decided to build their shared social lives on the institutions of private law. However, the roles of presuppositions about humans in both logics – *usefulness* in behavioral models’ construction, and *truth* in the quest of fully grasping the complexities of human condition – are different, and not always fully alignable. Consider some examples.

In a complex society, with a significant division of labor, we need to allocate the scarce resources somehow. We care about efficiency, both in the sense of maximizing overall wealth and in the sense of assigning resources to those who need/enjoy them the most. However, it is impossible to make a list of all available goods and all the existing demands – the nature of this type of knowledge proves to be local, dispersed and time-dependent (Hayek, 1945). You know what kinds of things you need and what you can contribute, I know what I need and can contribute. You need potatoes now, I need a bike within a week. I know that my uncle just had a bountiful potato harvest and needs workers to help him. I also know that my neighbor broke his hip and will be selling his bike. I can tell my unemployed friend about the work opportunity, you can buy the food, and I can purchase the bike. Decisions and transactions like this occur all the time, every day, and it would be literally impossible to aggregate this knowledge and distribute goods through a central plan. Hence, the state grants the people property rights and the competence to contract about labor and goods to *make them signal the knowledge and to engage in exchanges*. To choose

optimal rules of contract, and to enact food- and bike-safety regulations ensuring overall health without stifling commerce, we do not need to know much about how people really are. We just need assumptions that will increase the explanatory and predictive power of our models. For, within this view, rules are like models – the lawmaker, when pondering changing them, will inquire into the changes’ consequences on individual behavior.

However, at the same time, we would be cautious to strip people of their property or the right to contract once their behavior becomes inefficient. We might want to ponder various mechanisms to “nudge” them to behave more efficiently (Thaler & Sunstein, 2008), but there is something fundamental to everyone’s right to own assets and to choose where to work and what to do with the fruits of their labor. Ever since John Locke, many people in Western societies hold the view that everyone *deserves* to own property and enjoy the autonomy of choice. If we follow this line of thinking, a hypothetical situation where people *do* behave efficiently but cannot really exercise actual choices and freedom, becomes morally problematic. Within this view, where the goal of private law is not to guide anyone’s behavior, but rather to endow persons with full and conscious choices and autonomy, it very much matters whether they *actually* understand their decisions and pursue their subjective, personally defined, goals and intentions. Within this view, private law norms allow the state to step back and delegate the normative choices to the private law humans. The law only facilitates human conduct by granting powers (Hage, 2013), but does not prescribe how these powers should be used, let alone what citizens ought to do in general.

Similarly, one can think of tort law from both perspectives. In modern society, people can engage in certain inherently risky activities, like driving cars. There is a benefit to having traffic – people and goods can move around efficiently – but there is also an inherent risk – accidents will occur, some people will lose health, and some will lose lives. If we institute a liability regime where people need to compensate those that they harm, they will adjust their behavior to the optimal level of care and occurrence (Calabresi, 1965). On the individual level, if I know that I must compensate someone I harm through my negligent behavior, I will act with more care (the law would assume). In this sense, tort law is about guiding people’s behavior – do not harm others, and if the harm is inherent in the activity, exercise caution. However, at the same time, we believe in the value of corrective and restorative justice. Regardless of whether the money transfer is efficient, or what the broader societal implications are, we believe that if someone was harmed, she should be compensated. Seen from this perspective, the private law does not say: “do not

engage in activity X”, but rather “if you chose to do X, be ready to own your action and accept the consequences.” Tort law is both about guiding behavior *and* about leaving the decisions entirely to persons.

One should bear this inherent tension in mind when trying to evaluate the private law’s presuppositions about humans through the findings of cognitive science. Some assumptions might be untrue (when people sign contracts, they have read them) but useful. Before jumping to conclusions on how to change the law, in order to make it better reflect the human condition, one should carefully assess the role a particular presupposition plays in the broader picture.

With this in mind, let us take a closer look at two sets of particular presuppositions. First, I would invite the reader to ponder three fundamental assumptions about persons: that they have free will, that they are rational, and that they can be held responsible for their actions. Then, I will look at how challenging some specific assumptions can be useful in the process of rule-making (if one wishes to guide behavior through private law rules) and contract-drafting.

2.4. Fundamentals: Free Will, Rationality, Culpability

Free will might be the most central feature of the *homo legalis privatus*. Its importance is so great that (in some jurisdictions) contracts (and other juridical acts) concluded by a person who “was not able to act consciously and freely, even temporarily” are null and void *ex lege*. The significance of free will for the law should not come as a surprise in the Western world which, for good or for bad, has been forged in relationship Christianity, which treats the free will of humans as the fundamental quality of persons in its metaphysics. The question of whether humans are *actually* free has bothered philosophers for centuries now, with elaborate arguments offered for both affirmative and negative answers (Balaguer, 2014). All this amplified the shock everyone experienced when Benjamin Libett (1978) published the experimental findings supposedly proving that free will is an illusion.

In a neuroscientific experiment, Libett asked people to perform a simple task (pushing a button) and to also report the time when they made the decision to do so. Simultaneously, he measured the activation levels in the parts of the brain responsible for making the decision. He found that the brain activation occurred three hundred milliseconds *before* persons experienced making the decision to press the button. One way to look at this finding is to claim that our

experience of free will is simply a *post hoc* rationalization of an exogenous decision “taken” by our brain. Libett himself did argue for such a strong position, but added that, even though decision might be independent of our will, we still retain the capacity to “veto” our brain and refrain from undertaking the action (Libett, 1978). Others argued against these interpretations of his findings, pointing out that the activation levels of a brain should not be equated with “brain deciding”, but rather “getting us ready to decide” (Passingham, 2016). The societal reception of this experiment sparked a renewed interest in the intersections between hard science and philosophy, forcing many to reconsider the interpretation of experimental data within (implicit) metaphysical frames (Mele, 2014). Nevertheless, results like this should make us pause and ask us to at least clarify what is it exactly that we mean when assuming that actions of humans are “free” for the purposes of private law.

The theme of free will is linked to the question of human rationality. “Rationality” can mean different things, from “understanding our actions and their consequences,” to “acting based on cold reasoning rather than emotions,” to “aligning our choices with professed goals and values,” to “adopting utility-maximizing as the goal.” Findings of scholars like Kahneman (analyzed in section 2.2.) put into question the presupposition that any of these features (even if present in humans) are unconditional. “Fast thinking,” leading us to tortuous actions or purchases we later regret, is a natural element of the human condition. Acting upon emotions, or making mistakes, does not mean that humans are never rational. Rather, it means that our idea of rationality might have been an ideal never fully occurring in the real world. Should this be a reason to modify the assumptions of private law? It depends on how we see its role in society.

The problem of culpability best exemplifies the tensions between the presuppositions and reality, and between private law’s goal to guide behavior and to only facilitate actions persons choosing their own goals. Should we treat humans as agents responsible for their actions? On the one hand, one could argue that their actual features do not matter for this question. If, through behavioral studies, we can prove that tort law *does* have an impact on individual conduct, and having to compensate for causing harm *does* serve as a deterrent, it really is of no importance whether humans actually make free and rational decisions to act or to refrain from acting. What matters is that the policy goal is achieved. However, if what we care about is culpability of particular persons, and the question of whether they, in the light of what cognitive science teaches us, *really deserve* to be held liable, their mental states and processes might be *all* that we care

about. Taking both views to the extreme could lead us to exactly opposite results: whenever mental disorders are absent, culpability is always a useful assumption and should be employed; and: since we can (almost) never actually be sure if a person made fully free and conscious decision, holding persons responsible for their actions is always unjust.

Since private law is a matter of everyday life, societies do not have the luxury to leave questions like these to philosophers and scholars alone. Some version of an answer to this question is always given by the current state of private law. This answer impacts individuals' lives and social relations. The more prudent way of using cognitive science to question the fundamental presuppositions that private law holds about individuals seems to be to follow its own insights: embrace the complexity and avoid strong binaries. Instead of asking: "Do people have free will? Are people rational? Can they be held responsible for their actions?" we should try to square the competing visions of private law's role in our societies with the empirical findings. There will be no one, correct answer to the question: "what features of humans should private law assume?". A range of equally good answers (on top of many bad ones, of course) will always exist, and depend on normative choices taken by both scholars theorizing the problem and the societies living it.

"That's all interesting" – you might think again – "but *really*, does it matter? Or are we just talking about concepts that, in the end, have no bearing on everyday life?" I am tempted to argue that, paraphrasing a famous line by J.M. Keynes,¹¹ nothing has as much influence on everyday life than general concepts about human nature. That, however, is a subject for another paper. Let me then move to three concrete examples on how the findings of cognitive science can help with private rule-making: contract drafting, consumer empowerment through disclosure and information duties, and trying to use private fines as a means of steering behavior.

2.5. Cognitive Science and Private Law-Making

Imagine you are drafting a contract. Let us assume you want the other party to comprehend it fully. For example, it might be a non-disclosure agreement, carefully outlying what types of

¹¹ "The ideas of economists and political philosophers, both when they are right and when they are wrong are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct economist." See John Maynard Keynes (1936) *The General Theory of Employment, Interest and Money*. Keynes wrote about economics, but his insight is equally powerful regarding philosophy, law and political theory.

information she is (not) allowed to share with others. Or, it might be a specification of an intricate work you are procuring. Generally, when dealing with professional entities, the law assumes that signing a contract is equal to having read and understood it. If the signee breaches, she will have to compensate. However, you suspect this might not always be the case. Imagine a situation in which your preference for non-breach is high (because you want to minimize a chance of judicial proceedings or the other party is highly skilled, but not solvent enough to cover the damages of a breach); and you have reasons to assume that if the breach occurs, this will result from misunderstanding. What you want to achieve is a contract design that maximizes the other party's understanding. Cognitive science, dealing with attention, perception, and comprehension is a valuable resource in this regard. Daniel Kahneman reports how simply **bolding a part of a text makes readers concentrate on it** (Kahneman, 2012). Moreover, legal-design researchers studying contract comprehension empirically demonstrated how re-arranging form, sequence and visual layout of contracts can increase the speed of reading and contract comprehension (Passera, 2015). Stefania Passera measured understanding of the same contract arranged in different ways, and found that “*visual display of information (visually perceptible information design solutions in terms of layout, typography and iconic language) is necessary, in addition to a logical structure of the text, in order to make the meaning of contract clauses clearer to readers.*” (Passera, 2015). This finding has double significance for contract-drafters. First, adding elements like pictures or graphs might make a contract look less serious, but increase the chance of comprehension. Second, the understandability of a contract can be empirically tested. If a party has a strong preference for contract understanding, cognitive science offers the tools to compare how well various models fare.

However, one needs to be aware that this approach serves as a double-edged sword. A bad-faith business, who needs to meet transparency requirements, but at the same time wishes to preserve some information in the “fine print”, might also use cognitive science to achieve an equilibrium point between seeming clarity and factual non-comprehension. This is not to mention entities that might explicitly try to design hard to understand contracts, exploiting the assumption the law makes about professional parties. Nevertheless, even here cognitive science might provide tools for better understanding the strategies of bad-faith contractors.

Second, consider consumer-oriented disclosure duties as an example of private law trying to minimize the factual information asymmetry between formally equal parties. These duties

concern, for example, statements of risk given to consumers buying financial products (“Investing in X type funds comes with a risk of loss”), nutritional boxes found on food products (“a serving of this product contains 20% of an average persons’ daily need for sugar”), or privacy policies (“we collect and use your data for the purposes of improving our services”). Those duties are usually imposed by consumer law in situations where the lawmakers assume that individuals might need to know something in order to make a fully-informed decision, while the businesses will not have an incentive to provide this information on their own motion. Informational boxes on cigarette packets (“Smoking causes cancer”) or warnings read at the end of commercials of pharmaceutical products (“Before using this product, consult your doctor”) are another example of the same trend.

According to Omri Ben-Shahar and Carl Schneider, mandated disclosure is one of the most prominent, while at the same probably least useful, regulatory tool in consumer law (Ben-Shahar & Schneider, 2014). Sometime in the past, we assumed that if consumers “have” more information, they will make more “reasonable” or at least more “informed” market decisions. The problem, however, is that simply making some information available to consumers does not mean that they will read it. Moreover, even if they read it, that does not mean that they will comprehend it; and even if they comprehend it, that does not mean that they will be able to take it into account while making a complex decision (Solove, 2013). The assumption that making information available will lead to reasonable consumer choices is particularly strong in the American consumer privacy law, where consumers’ acceptance of a “privacy policy” when interacting with online traders is equated with their “choice” of a certain level of privacy in exchange for an optimal price (Palka, 2020). As Ben-Shahar and Schneider argue, certain types of knowledge are so specialized, and decisions so complex (which type of financing of a mortgage to choose? What cancer treatment to purchase?) that they should be taken away from the market and placed in the hand of specialists. At the same time, they argue, the existence of the disclosure duties, paired with the belief in the value of individual choice, and the presumption that humans are able to comprehend and reason with the disclosed information, takes away the responsibility from regulators who, instead of trying to solve complex problems, simply say that they “trust the choices of people.”

Such problems persist in consumer financial products, food or pharmaceuticals. These findings led some scholars to argue against disclosure as a means of regulation (Ben-Shahar & Schneider, 2014). Those are valid criticisms, especially when treating disclosure as the *primary*

regulatory tool. However, cognitive science can be of help with increasing the understandability of existing disclosure mechanisms. We could experiment with various forms of information conferring, and scientifically test how well they fare. For example, we could try to play with color, location, and font of certain vital pieces of information. Or, we could try to see if the tone of voice with which warnings are read affects comprehension, and if so, require a particular standard. Or, we could ponder using more visual forms of information conferring (sugar cubes on soda cans, for example). The fact that persons have trouble comprehending a lot of information might be a reason to regulate more; while at the same time should not be the reason to give up on conferring information at all.

Consumer law, and in general the “behavior modification” part of private law, demonstrates that not all presuppositions about humans engrained in law are “descriptive” in nature, some are political. Consider the debate that the European private lawyers are having about the image of consumer that the law is, and should, adopt (Leczykiewicz & Weatherhill, 2016). Should we imagine a consumer to be “reasonable,” or “vulnerable,” or “well-informed”? Such a decision has far-reaching normative consequences. However, it will be based not only on how consumers “actually are,” but also on our political choices regarding the types of protection we want the law to offer.

Third, consider the problem of using private fines as a means of influencing behavior. We tend to assume that if the cost of a specific activity goes up, this activity will occur less often. However, this might not always be the case. In a famous study of Israeli daycares, Gneezy and Rustichini (2000) tested the impact of monetary fines on behavior. Parents were supposed to pick up their children from daycares at a specific hour, but many of them often came late. In part of the daycares, a fine was introduced for picking up children after hours. Instead of arriving in time more often, the parents started coming late more often and simply paid the fine. When the fine was dropped, their behavior did not return to the pre-fine levels. The authors explained this phenomenon by suggesting that whereas before the fine introduction, coming late (and so forcing a teacher to stay longer at work) was seen as a social wrong, upon introduction of the fine, parents started treating this as a price. The logic shifted, from a social relation to a market transaction. As surprising as this finding has been, it offers us a valuable lesson: sometimes, if people can pay for inflicting a wrong on someone else, they will choose to do so; even if they would refrain from doing so when they do not need to compensate.

This can be helpful when trying to minimize the undesirable behavior of clients. For example, when people call a taxi and make the driver wait, imposing a fine might be less successful a deterrent than sending a text “Being late is impolite; you are wasting someone else’s time now”. Or, if we want people not to use pencils on the pages of books checked out from the library, instead of fining them, we might include a description of a librarian who, instead of helping other readers, must now sit there with an eraser. Or, instead of fining people who litter in parks, place small pictures of sad people sitting on the grass lawn full of cans. Again, the lesson is dual: contrary to our assumptions, increasing the monetary costs might not necessarily lead to a decrease of some behavior; and alternative strategies (like those outlined above) can be experimentally tested, either as parts of scholarly studies or simply by using them and observing the impact.

3. Cognitive Science and New Types of Goods and Private Law Relations

Up until now, I have analyzed how private law could critically scrutinize its presuppositions about humans with the help of cognitive science. However, the vision of the world presupposed by private law consists not just of the actors, but also the types of relations they engage in, the types of activities they undertake, and the types of objects they control and trade. The reality of everyday life in the private law society has been rapidly transforming over the last couple of decades, largely due to the development of cognitive knowledge by private corporations. Meanwhile, private law still tries to make sense of the world using concepts and categories developed in a different era. Many of them are useful, granted. But to comprehend the world governed by private law in its entirety, an update may be necessary. And cognitive science can help us with this update.

Consider what are the building blocks of the private law society, as assumed by the law. Private persons (humans and corporations) own property, conclude contracts and (sometimes) harm one another. When they conclude contracts, one of them would usually make an offer, and another one will negotiate and/or accept it. Sometimes they will conclude a contract of labor or for a service, sometimes they sell and/or license goods. The goods they control are tangible objects (movables and immovables, or chattels and realty) and intangible entities. Intangibles can be further divided into rights, company shares, intellectual property (works, inventions, trademarks). Whenever making offers, persons should not deceive one another – they are required to provide

true information, or otherwise risk the consequences stipulated in rules regulating unfair commercial practices.

What is missing from this picture, if we compare it to our shared experience of everyday life? First, knowledge. The law assumes that knowledge about the world and about market actors is generally available to the public, and in situations when it is not, it requires market actors to disclose it (see the previous section). Second, advertisements. Classic private law almost does not notice ads, and if forced to classify them somehow, would usually treat them as “invitations to make an offer”. Third, private coercion. Law assumes that the only entity which can legitimately force persons to do something is the state. However, as we shall see, big chunks of consumer markets rely on the business model of behavior modification. In the next two subsections I would like to show how cognitive science can help us understand two new phenomena: emergence of “private cognitive science” and of “cognitive goods” currently traded as commodities.

3.1. The Emergence of the “Private Cognitive Science”

George should not have stayed at the party that long. And he probably should not have drunk that one last beer. Or three. Now, awoken by a deafening sound of the alarm clock he forgot to turn off, he is lying in bed, too tired to get up, yet too restless to fall back asleep. George grabs his smartphone, opens a social media app, and scrolls mindlessly through the feed featuring photos of his friends, news stories, and Star Wars memes. Suddenly, he sees a video ad – marked as one, though gently incorporated into the whole experience – of a mouthpiece robotic toothbrush. Pretty and well-rested people place the device in their mouths, and proceed to do something else with their hands – text a friend, make tea, or just relax on a sofa – while this fantastic product, by itself, provides them with the experience of clean teeth and a fresh mouth. “That’s exactly what I need right now” – thinks George while tapping the ad. His smartphone auto-fills the address and the credit card number, and in less than two minutes, George becomes an owner of a robotic mouthpiece toothbrush, on its way to his place with “free” one-day delivery.

Consider what in this story is familiar and what is novel, from the private law perspective. Some company invents a new product and tries to market it skillfully – nothing new. A consumer engages in a long-distance purchase, without examining the product first – the law grants him

protection (Luzak, 2014). He does not even have to call anyone, only taps his smartphone – this we might consider an important change, though arguably quantitative rather than qualitative. The ad he sees is specifically tailored for him, in this very moment – this is where our focus should sharpen.

Though audience segmentation in marketing has become established practice (Draper & Turow, 2017), the ability to fine-tune the timing, form, and content of an ad to maximize choice of a *single* purchase is a qualitative shift in how the advertisement business operates. Not only are the ads based on data about a particular consumer, seen against the data about everyone else (Palka, 2020), but also, companies can continuously experiment with timing, form, and context of the ads they display, through trial and error procedures. It is possible to show an ad with the pink font to random 1000 people, and with the blue font to another random 1000, and see how this change affects their behavior. The ad-delivery systems have become their own feedback providers, capable of assessing the success and failure of a given strategy in real-time. The online marketplace is, in a way, the biggest observatory a cognitive scientist could ever dream about. Corporations have constructed an environment where they can conduct studies on both consumer behavior, and their emotions and thoughts.

In 2014, Facebook’s core science team published a paper summarizing the effects of the experiment conducted on a group of 689,003 platform users, titled *Experimental evidence of massive-scale emotional contagion through social networks* (Kramer et al., 2014). The researchers demonstrated, on the sample of 0.7 million people (sic!) that emotions are contagious, that based on what users see on their news feeds their feelings will change, and that this process can be consciously directed by the team running the platform. This paper was not only a contribution to cognitive science but also a show of strength by Facebook. Amidst criticism, company’s executives apologized for not obtaining properly informed consent from the experiment participants, though argued that it was consistent with their terms of use and privacy policies (Gibbs, 2014). Nevertheless, the lesson learned by Facebook was not to stop engaging in these experiments; the lesson was to stop publishing the results, or conceptualizing them as “science.”

Cognitive scientists, when experimenting on humans, need to abide by codes of ethics, secure the informed consent of participants, and in most cases obtain approval from an ethics committee. A private corporation testing its abilities to engage in “successful marketing,” faces no such requirements. Clearly, there are rules on what is not allowed in advertising, but the threshold

pertains to the potential “misleading” nature of commercial communications (Howells et al., 2016). One could argue that the personal data protection law enacted in the EU (the GDPR) places significant constraints on the traders, who now need to obtain consent for such practices as a matter of law, regardless of whether they call their activities “research” or not. However, the extent to which the GDPR will really affect the corporate behavior is yet to be seen, with no spectacular changes happening within the year of its applicability. As we begin the third decade of the 21st century, the largest entities capable of conducting cognitive experiments are not universities, but corporations; and their primary intentions are not “contributions to a field,” but money.

3.2. Markets in the “Cognitive Goods”: our Thoughts and Behavior

The emergence of “private cognitive science,” paired with the promise of high returns upon its “application” in product design and marketing, tacitly transforms the digital marketplace, i.e. the very domain of private law’s governance. The trade concerning new types of “commodities” is booming and power-relations shift. Private law both played a role in the creation of this world and could be one of the tools used to tame its negative effects. Let us first take a closer look at the phenomena, and then ponder their relation to private law.

First, the value of data about individual behavior is growing. As we have seen, such information can improve the accuracy of online advertising. Since the more information a company has, the better results it will deliver, and the more time a user spends on the platform, the more ads he or she will see, there exists an incentive to make users spend as much time on the platform as possible. Researchers have demonstrated how, in order to act upon these incentives, corporations deliberately design their products to be addictive (Balkin, 2018; Lanier 2018). This design, in turn, will be more effective given the data corporations can collect about the time users spend using their services, depending on various engagement strategies. Hence, the circle closes. There is value in data, so companies collect them whenever they can; and if they cannot obtain it themselves, they have reasons to buy it. As a result, markets in personal data emerge (Draper, 2019), data that, for a cognitive scientist, would look like research material.

Second, we begin to appreciate the market value of human attention. Online giants like Facebook or Google now act as “attention merchants,” to use a phrase coined by Tim Wu in his

tremendous account of the history of the marketing industry (Wu, 2017). With direct communication channels linked to our smartphones, the ability to experiment and to addict, these firms continually refine their “knowledge” about grasping attention, to later sell it as a commodity. In this view, users of Facebook and Google are not as much customers, as the “product” sold to the real clients, i.e. other corporations (Williams, 2018). Legal scholars have begun to reflect upon the relationship between attention and law, also from the perspective of property and contract (Newman, 2019). The legal scholarship could tremendously benefit from engaging with the work of cognitive scientists aimed at understanding how human attention works; while cognitivists might discover yet another venue to apply the results of their basic research.

Third, having users’ data, their attention, and the ability to influence their thoughts and behavior, online companies began trading these thoughts and behavior as a commodity too. Obviously, no one would explicitly characterize the service in these words, but effectively, this is what is happening. Already back in 2014, Jonathan Zittrain theorized how Facebook could “flip” the results of an election (Zittrain, 2014). By modifying what users (do not) see on their feeds, the company probably will not be able to turn liberals into conservatives or vice versa; but it might be able to convince supporters of one political party to stay at home instead of going to vote. Not all of them, not even a majority of them, but just enough (2%? 4%?) to change the ultimate result. Two years later, in the aftermath of the Cambridge Analytica scandal, we realized that precisely this happened in the American election which, contrary to almost all predictions, elevated Donald Trump to the presidency (Rosenberg, 2018), and in UK where, by a close margin, the Brits voted to leave the European Union. It was not that Facebook itself, in any way, supported one political option over the other. However, it created a tool, based on data collection, attention sales and refined marketing experiments, which got later exploited by a company working for the Trump and Leave campaigns.

Soshana Zuboff proposed to theorize the economy where this type of business models are allowed to flourish as “surveillance capitalism” (Zuboff, 2019). In her view, the most accurate classification of the business model based on data collection, attention grasping and monetizing both through revenues from micro-targeted behavioral advertising is to see it as a “market in behavioral futures”. Statistically speaking, an owner of an ad delivery system can promise that an X amount of people will act in a way wanted by the advertiser (purchase a product, change their mind on a certain issue, go vote or stay home). Since this future behavior is no longer a matter of

uncertainty but probability (Knight, 1921), even before the actual revenues occur, it can be traded as a security, akin to any other stock.

All these changes occur because tech companies are developing their “private cognitive science.” To fully appreciate them, lawyers need to rely on the methods and insights from cognitive science. And for cognitive scientists to theorize them properly, they need to understand the role played in these changes by the private law.

Even though classic private law does not “see” human behavior, emotions, and thoughts as “property,” it indirectly contributed to the emergence of these markets. Contract law serves as a legitimizing tool for practices that, otherwise, we could deem unethical or borderline illegal. When criticized for its 2012 experiment, Facebook apologized, yet claimed that everything it did was lawful, since the users have previously accepted the terms of service and privacy policies stipulating that the company has a right to engage in this type of behavior. And legally speaking, they were correct. One could imagine challenging these contracts as unconscionable in the US, or as containing unfair contractual terms in the EU (Loos & Luzak, 2016; Micklitz et al., 2017), but as of today, no binding case law or direct legislation makes this clearly unlawful.

Property law, on the other hand, contributed to the emergence of “private cognitive science” by refraining from stepping in. Since “data” is not treated as anyone’s property, upon capture, companies do not fear individual challenges towards data collection and usage. Julie Cohen calls this the “biopolitical public domain,” where anyone with factual capabilities is legally allowed to use data about individual behavior (Cohen, 2019). It just so happens that the only type of entities possessing such abilities is the tech companies, controlling the algorithms and contracts governing the platforms.

Understanding of the legal strategies employed by the companies to justify their engagement in “private cognitive science” seems to me as a step we should take before engaging in any prescriptive arguments on how to change the law. Many of those have been offered already, including calls to treat those companies as “information fiduciaries,” having obligations akin to doctors or researchers (Balkin, 2015); recognizing the *de facto* property status of personal data and granting individuals some *erga omnes* effective rights in such data (Purtova, 2015); moving away from individual consent and contract, towards full-fledged regulation (Palka, 2020); or treating data-provision as labor, worthy of proper remuneration and (potentially) labor protections (Posner & Weyl, 2018).

However, even though there might be reasons to act fast, there are never reasons to act hastily. Understanding how “private cognitive science” transforms the digital marketplace, either for its own sake or as a first step towards suggesting a comprehensive legislative response, will be one of the most fertile grounds for collaboration between (private) law scholars and cognitive scientists. Those dealing in our emotions, thoughts, and behavior are skilled legal and cognitive “engineers.” Their efforts should be met with equally interdisciplinary expertise.

Conclusion

Neither Melanie nor Nikolas have actually discovered any secrets about making money on the beach. Not directly, at least. Relying on their intuition, not backed by scientific publications, though supported by a general experience of young lawyers and other professionals, they went to Cuba to “re-charge their batteries,” relax, so that upon return to New York and Berlin, their work might become more efficient. Cognitive science, understood in one way or another, has a lot of insights to offer to legal scholars and practitioners.

In this chapter, I have argued that cognitive science can help us scrutinize the assumptions about human beings tacitly made in law, as well as help us draft more effective rules, in form and in content. The image of a human presupposed by private law – *homo legalis privatus* – is someone having free will, consciously directing her behavior to align with adopted goals and intentions, and understanding consequences of her actions to such an extent that she might be held responsible for the concluded contracts and the committed torts. Cognitive science does not compel us to deem any of these assumptions *untrue* or *incorrect* – but it does invite more caution when adopting strong binaries and assuming that humans always perform at the peak of their capacity. How to assess these presuppositions (in other words: what the findings of cognitive science mean for law?) will depend on one’s normative view of the role of private law in our societies. Those seeing private law as an instrument for guiding behavior might concentrate on whether these assumptions are *useful* for increasing the explanatory power of models and rules’ effectiveness in steering private conduct. Those concentrating on private law’s deontological character might be more interested in whether these assumptions are *true*, and whether they best reflect the human condition as it actually is. Given that private law, in reality, serves several functions at the same time, it will be up to individual researchers – including the reader! – to argue for the position they deem most

important. In the meantime, cognitive science can help us on the micro-scale, showing how to increase (or decrease) readability of contracts, how to best inform consumers about features of consumer products and the risks associated with them, or how to guide behavior through privately drafted rules and/or signals.

I have also drawn the reader’s attention to the emergence of a novel phenomenon – “private cognitive science” – partly caused by, and partly demanding response from, private law. Cognitive science not only teaches us more about what humans *are*, but also enables private corporations to engage in new types of activities (micro-targeted behavioral advertising) and has led to the emergence of new types of objects of private law relations (human thoughts, emotions, and future behavior).

Whatever research path we take, I am certain that countless illuminating discoveries await. Dozens of questions remain unanswered, and many more unasked. Should we succeed, the theoretical advancements and societal benefits might be significant. That is, of course, assuming that anyone will read them. What might be tricky, in the era of omnipresent addictive distractions, developed with help of cognitive science and green light from private law. Feel free to tweet about it!

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