



Virtual Property

Towards a General Theory

Przemysław Pałka

Thesis submitted for assessment with a view to obtaining
the degree of Doctor of Laws of the European University Institute

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Department of Law

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Thesis Summary

The primary contribution of the thesis is a theory enhancing the legal understanding of the phenomenon of virtual property, encompassing presentation of data and a new conceptual framework to interpret it. The author argues that the normative debates concerning the phenomenon have underestimated the importance of understanding and conceptualizing it first, and aims at amending this gap. The ‘virtual property phenomenon’ refers to the users of internet platforms and online computer games ‘possessing’ virtual items – digital objects that exist within these services – and getting into economic and social relations concerning these items, with other users, service providers and third parties. These relations are regulated by different types of service-specific rules – contractual and the ‘code’ – created unilaterally by the service providers, who additionally retain the ability to interpret and enforce them, using ‘digital force’, i.e. by modifying and deleting virtual items, and blocking users’ accounts. The primary challenge stems not from the fact that the phenomenon is not regulated, but from the fact that lawyers lack words – terms and concepts – to even conduct a meaningful debate about it, or how to respond to it.

The thesis consists of six chapters. Firstly, the author describes the phenomenon and analyzes the theoretical and regulatory legal challenges posed by its emergence. Secondly, he critically assesses the state of the art. Thirdly, a methodology to address these challenges is proposed, which can also be used in other research projects concerning law and technology. Fourthly, the author explains how the process of digitalization has fundamentally challenged the assumptions that private law held about the structure of reality, and proposes new doctrinal tools to conceptualize it. Fifthly, the author presents a legally useful concept of virtual items, and argues that granting users property rights over them might not be the optimal means of realizing the property goals. Finally, the author proposes a normative solution, a correction of private law, responding to the new type of inequality in relations, namely a user protection law.

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A risk that one faces in life, particularly when succeeding in something, is to come to believe that one has accomplished something on one's own. That it is one's own works and merits alone that led one to success. This is the risk I am facing now, and it is the risk I would like to acknowledge. There is no way I could thank everyone who helped me throughout the last four years, and there is no way I could thank them enough. This section is not a formality I included because I had to. It is my humble attempt to, at least to some degree, express my gratitude to all those who deserve it.

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*Likewise, no one pours new wine into old wineskins.
Otherwise, the new wine will burst the skins, and it will be spilled, and the skins will be ruined.*

Luke 5:37

Die Grenzen meiner Sprache bedeuten die Grenzen meiner Welt.

Ludwig Wittgenstein, „Tractatus Logico-Philosophicus”

Pomyliłaś się. Pomyliłaś niebo z gwiazdami odbitymi nocą na powierzchni stawu.

Andrzej Sapkowski, „Krew Elfów”

Introduction

This dissertation is about ‘virtual property’, a social and technological phenomenon of people ‘having’/‘possessing’/‘controlling’ and ‘trading’ digital items *within* online computer games and Internet platforms, seen through the lens of private law. It is also about the fact that so many words in the previous sentence needed to be written in inverted commas.

Put differently, this dissertation is about the way that private law relates to the world through words, through its conceptual framework and, in consequence, necessarily assumes a particular structure of the reality it aims to govern. It is about the fact that, due to mass digitalization, this reality has transformed in a way that makes private law currently unable to fully comprehend it, in many more spheres than just online gaming. It is about the reasons for and consequences of this inability. It is about a method of reconciling the mismatch between the model of reality assumed by law and the reality itself. It is about new types of social relations, highly mediated by technology and regulated by the ‘code’, new types of goods traded on new types of markets, the role played in social relations by the artificial agents, about new types of factual inequalities in these relations, about ‘digital force’ and about theoretical and regulatory challenges that these transformations pose to law and legal thought. It is about many things, and about the fact that to understand any single one of them, one has no choice but to at least briefly confront all of them. It seeks to provide guidance, both to scholars and to practitioners. But most of all, it seeks understanding.

The single most important article for the field of cyberlaw – a legal scholarly reflection about the intersection of law, society, Internet and new technologies – has been Lawrence Lessig’s

*The Law of the Horse. What Cyberlaw Might Teach.*¹ Lessig argued that by engaging in cyberlaw studies, we might learn something new about the world and about law. We might learn that individual behavior is influenced not only by law, social norms and economic needs, but also by the ‘architecture’ of the space in which it occurs. The architecture of cyberspace is ‘code’, a fourth ‘modality of regulation’. Law might regulate behavior of individuals directly, or indirectly through the regulation of the other three modalities. However, these modalities also evolve organically, influencing each other, and if law does not regulate the ‘code’, something else will.

This brilliant argument, which in many ways paved the way for dozens of scholars to come², and for the entire field of research, was offered by Lessig as a response to someone being wrong.

That (un)fortunate lawyer was judge Frank Easterbrook who, at a cyberlaw conference taking place in 1996 in Chicago, argued that it makes no sense to study and teach cyberlaw as a separate field.³ Lawyers, Easterbrook claimed, should study and teach *general rules* of property law, tort law, contract law and others, and then they will be best equipped to confront new, specialized legal problems. Easterbrook compared cyberlaw to ‘the law of the horse’, a course that, despite a high social importance of horses at some point, has thankfully never been taught at any law school, and never emerged as a separate field of scholarly inquiry. Cyberspace, Easterbrook continued, is just like horses: when one knows the general legal principles of private law, one will easily deal with particular problems posed by concrete cases.

It is fundamental to understand why exactly this claim is misguided.

Each and every legal rule, general or concrete, legal principle, branch of law, and entire legal systems, emerged as responses to concrete social challenges at a given time. These challenges, occurring in a specific political, social, cultural, economic and technological context, change over time, and so does the law. Therefore, the wisdom of law, both on the level of goals (what should we strive for?) and on the level of means (how to achieve it?) is the wisdom of the *past*. Obviously, the world seldom transforms dramatically overnight, and so this wisdom very often can be, and is, helpful and indispensable in both adjudicating new types of cases, and regulating new phenomena. However, sometimes the social or technological reality evolves so fundamentally that law, backwards looking in nature, will not give us the answers.

¹ Lawrence Lessig, ‘Law of the Horse: What Cyber Law Might Teach, The’ (1999) 113 Harvard Law Review 501.

² Roger Brownsword mentions Lessig’s ‘Code and Other Laws of Cyberspace’, a monograph in which Lessig further developed the arguments from ‘The Law of the Horse...’, as one of two most important books that shaped his intellectual development, next to Fuller’s ‘The Morality of Law’, and before Hart’s ‘The Concept of Law’. See: Roger Brownsword, ‘Whither the Law and the Law Books? From Prescription to Possibility’ (2012) 39 Journal of Law and Society 296.

³ The address has later been published in: Frank H Easterbrook, ‘Cyberspace and the Law of the Horse’ [1996] University of Chicago Legal Forum.

Moreover, law is not just a body of norms (rules and principles), backed by institutions and existing as a part of a wider social practice. Law is also a language, a conceptual framework, a type of consciousness, a particular way of thinking and talking about the world. When the reality changes, when it transforms on a deeper level, ‘law lagging behind’ might not only signify that existing norms do not provide guidance on what to do, on how to adjudicate cases and on how to regulate the new phenomena. ‘Law lagging behind’ might also mean that the conceptual framework which law uses to make sense of reality is inadequate and insufficient. That law does not have words (terms and concepts) to even talk about it. That is because the words law has, the conceptual framework offered by law to lawyers, just like the norms expressed using these words, have been crafted earlier, when these new phenomena were not around. ‘What is a computer file in terms of law?’, ‘What is an artificial agent in terms of law?’, ‘What contract is an in-app purchase of a virtual item?’ are the types of questions where we do not know the answers not only because there are no rules. More fundamentally, there are no legal concepts for these entities. And it is futile to believe that these concepts can be found *in* law.

In other words, horses have been around for quite some time, and over hundreds of years humanity developed a commonly shared understanding of what they are, what they do, and what can be done to them and with them. Lawyers can limit themselves to debating regulatory problems concerning them; problems largely already solved by the general rules that were created with horses, and our experiences with horses, in mind. On the other hand, online platforms, digital objects, artificial intelligence, regulation by ‘code’, and ‘digital force’ are recent phenomena that came about *after* general rules and conceptual frameworks of private law had been settled. And before one can propose what to do about them, one must understand what they are. Before regulatory challenges can be embraced, theoretical challenges need to be tackled first.

Understanding is not just a matter of knowing the facts. It comes from an application of a theory, of a conceptual framework, to these facts. *A contrario*, a lack of understanding, a misunderstanding, might result from not knowing enough about the facts, but also from an application of an inadequate theory to them. A ‘theory’ that lawyers use to understand the world is the law itself. Legal concepts and categories. The argument of this thesis is that the legal community does not yet have an understanding of the phenomenon of virtual property. Furthermore, that prescriptive claims about something one does not understand are prone to be inoperable at best and flatly wrong at worst. The legal community does not understand it both because some important facts have been overlooked and because we lack a proper theory to interpret those facts.

The ambition of this thesis is to propose such a theory.

Easterbrook's claim was misguided because it was based on the belief that all wisdom to be learned is with us already, and we can just limit ourselves to applying it. Following this logic, one could imagine someone saying, one hundred years ago: 'I do not know much about cars, or how to drive them, or how to take care of them. But I know a group of people who know everything about horses: how to feed them, how to manage them, and how to ride them. Let them handle it. Stop pretending that a car is anything new and just study the horse-rancher's manual'.

Lessig's claim, on the other hand, was right, because indeed there is much to still learn from studying cyberspaces from the legal perspective. However, there is *more* to be learned and understood than just the modalities of regulation of individuals' behavior. In cyberspaces, there are new types of objects, digital objects, neither material nor immaterial in the traditional sense. There are new types of subjects, artificial agents on one hand, and 'digital natives' on the other, children understanding the environment better than their legal guardians. There are new types of power centers, i.e. platform owners, who not only have the ability and the right to regulate the cyberspaces by 'code' and contract, but also to interpret contracts and different social rules, apply them, and execute them, using 'digital force', by deleting users' content and blocking their accounts. There are completely new types of social relations. When 'force' shifted from physical to digital, the stronger party in the relationship is now also a lawmaker, a court and the police. However, since 'property' and 'bodies' in cyberspaces are not material, but digital, the use of that 'force' is not limited by fundamental rights to property or bodily integrity. To be precise, it is not treated as 'force' at all. Moreover, all that exists in proprietary cyberspaces, exists in a secondary mode. The moment providers shut the platforms down, all disappears. The concepts of property and contract, of rules and regulation, of factual inequality, and of spaces themselves, must take all of this into account and be fine-tuned, if they are to be applied in the context of cyberspace.

There is more for a lawyer to see in cyberspaces than just the rules governing them.

Roger Brownsword, who has taken up Lessig's insight and over the years and thoroughly developed and refined it, has recently, within the context of a heated debate about the methodology of legal scholarship in the contemporary age, proposed to shift legal scholarly focus from law to 'regulatory environment' as an adequate object of inquiry⁴. The 'regulatory environment', according to Brownsword, should be understood as a range of signals guiding individual conduct, both normative and non-normative. This is what lawyers should study. Fully agreeing with this view, I would suggest we should expand it slightly. If we are to talk about an 'environment', then apart from asking 'what regulates conduct?', we should also ask: '*whose* conduct is being

⁴ Roger Brownsword, 'Field, Frame and Focus Methodological Issues in the New Legal World' in Rob Van Gestel, Hans-Wolfgang Micklitz and Edward L Rubin (eds), *Rethinking Legal Scholarship A Transatlantic Dialogue* (Cambridge University Press 2017).

regulated?’ (who are the subjects and what are their characteristics?), for regulating behavior of artificial agents or children might need new means and principles; and: ‘conduct regarding *what* is being regulated?’ (what are the *objects*?), for new types of objects, particularly digital ones, if they are to be objects of rights, might need new types of substances of these rights. Objects not as much in the sense of ‘technologies’ being regulated: reproductive technology, artificial intelligence etc. (this obviously is extremely important as well, though arguably has attracted scholarly attention already), but in the sense in which tangible things, or literary works, or trademarks, are objects of social relations. For we lack words for digital entities – computer files uploaded to cloud services, cryptocurrencies like bitcoin, Facebook posts or virtual items in online computer games.

So what is it that we do not understand? The virtual property phenomenon will be presented thoroughly in Chapter 1, but in short it could be defined as the situation of users of online platforms, including online gaming apps, getting into relations over virtual items – entities that exist *within* these platforms – with the providers, other users and third parties. For example, in a game that attracted a lot of media attention last year⁵, and brought its developer a revenue of \$1.2 billion, with 752 million downloads in less than a year⁶, *Pokémon Go*, a user needs pokéballs – virtual items – to catch Pokémon. One can ‘find’ them inside the game, but one can also purchase them from the provider, for real money. The money is spent, the pokéballs appear at the user’s account, but the contract with the provider states they can modify and delete the items at any time, for any reason or no reason. The provider claims they have a right to do so, which could be debated, but they definitely have the *ability* to do so, since the items exist *within* the platform they fully control. In other games, users can ‘give’ items to each other, which has led to unintended emergence of secondary markets in which users ‘sell’ them to each other on platforms like eBay. Providers often oppose such practices and block accounts of users suspected of such conduct. Further, there are cases of ‘robbery’, in which some users use actual physical force to coerce other users to ‘give’ them virtual items⁷. However, many games, including the core case study of this dissertation, *Clash of Clans*, ‘allow’ users to ‘steal’ virtual items, worth real money, from each other, through the in-game mechanics. Owners of the platforms can change the rules of the game, both by modifying the ‘code’ (when some items suddenly become more or less valuable in functional terms), and by modifying the contract and the rules of conduct. Providers can also enforce the latter by deleting

⁵ See, for example: G. Hinsliff, *Why Pokémon Go really is a national health service*, 22nd July 2016, available at: <https://www.theguardian.com/commentisfree/2016/jul/22/pokemon-go-health-service-silly-mobile-phone-game-parenting-holy-grail>, last accessed: 17th October 2017. More media coverage will be invoked in Chapter 1.

⁶ Mike Monti, *Pokémon Go passes \$1.2 billion in revenue and 752 million downloads* 30th June 2017, available at: <https://venturebeat.com/2017/06/30/pokemon-go-passes-1-2-billion-in-revenue-and-752-million-downloads/>, last accessed: 17th October 2017.

⁷ See, for example, the criminal case invoked in: Arno Lodder, ‘Dutch Supreme Court 2012: Virtual Theft Ruling a One-Off or First in a Series?’ (2013) 6 *Journal of Virtual World Research*.

items and blocking users accounts, if they infringe the rules, if the providers simply believe the rules were infringed, or, actually and according to most terms of service, at will. Providers often exercise the ‘digital force’ not through the actions of humans, but through decisions and actions of artificial agents.

It could seem that traditional problems of property, contract and tort are at stake here. Indeed, scholarly responses to the phenomenon have concentrated chiefly on the normative debates about whether users should be granted property rights over the virtual items they purchase (and in consequence have rights to sell them, and receive tort-based protection), and whether the freedom of contract should be limited on the side of the providers, who unilaterally draft the terms of service of these platforms, reserving all possible rights for themselves⁸. However, as mentioned above, the objects of the relations in question – virtual items – are very different from the ‘traditional’ objects of relations governed by private law. They are neither tangible nor intangible, but digital. They exist in a secondary way, only as parts of these platforms. When someone ‘gives’ a virtual item to someone else, it is not *the same* item, just the entries in the databases get modified. What can be done with them, and what can be done to them, chiefly depends on the ‘code’, and is quite distinct from the actions which can be undertaken upon tangible or intangible items. Hence, property law, contract law and tort law are the questions to be asked, not the answers to be given.

The phenomenon, on the general level, gave rise to two types of puzzles: regulatory (what should be done about it?) and theoretical (what is actually going on here?). The debate that took place within legal academia concentrated on the former. Having, unfortunately, underestimated importance of the latter. Before normative questions can be asked – ‘should users have property rights over the items they purchase?’, ‘should the exercise of ‘digital force’ by service providers be limited in some regard?’, ‘should service providers be allowed to use artificial agents while forbidding users from doing so?’ etc. – all the terms used in these questions should be clarified. Understanding should come first. What is a virtual item? What is the user’s factual relation to a virtual item, can we speak of ‘possession’ here? What are the providers factually doing when deleting users’ accounts? What would a property right over a virtual item even mean?’, etc. The theoretical challenge must be tackled first.

This dissertation proposes a *general* theory of virtual property. By ‘general’ I mean three characteristics. Firstly, the phenomenon will not be studied from the point of view of any particular national legal system, nor will be this an exercise in comparative law. The aim is to approach the object of inquiry with a general mindset of private law, what is possible given the fact that national

⁸ Two most important articles within this debate are: Greg Lastowka and Dan Hunter, ‘The Laws of the Virtual Worlds’ (2004) 92 California Law Review 1; Joshua Fairfield, ‘Virtual Property’ (2005) 85 Boston University Law Review 1047 The literature is extensively studied in Chapter two.

legal systems within the Western world share common foundations, have for a long time evolved together and are fairly similar on the conceptual and systemic level⁹. This is not to say that there are no differences, there obviously are, but on the level of abstractness this thesis wishes to remain at, they can be disregarded. One of the first conversations I had after coming to the European University Institute, with a Portuguese colleague of mine, was about the striking similarities and subtle differences between the Portuguese and the Polish property law. He never read anything about the Polish system, neither had I read anything about the Portuguese one, but the knowledge we shared was sufficient to have a meaningful discussion. This is telling. As anecdotal as this argument can be, given that this experience is shared by so many legal scholars attending international conferences, it seems to be strong enough to at least shift the burden of proof. This said, my way of thinking is without a doubt strongly influenced by Polish law and legal thought on the one hand (that is where most of my legal education and practice took place), and American and English law and legal thought on the other (given that the transnational legal academia operates in English, many legal debates stem from, or speak about, legal systems of these two countries). When I need examples of civil and common law traditions, these are my natural points of reference. However, the ambition of the proposed theory is to be of equal usefulness to readers from Germany, Italy, France or any other jurisdiction. I will let the reader be the judge of whether I succeed.

Secondly, by ‘general’ I mean that the argument will remain on a higher level of abstractness, without getting into details about concrete questions that could (and have) been asked about the phenomenon of virtual property. As fascinating as these debates are, I will not touch upon questions of inheritance, bankruptcy of providers, copyright in user generated content, e-sports, nor will I dwell on the details of different contractual settings regarding transactions having virtual items as their objects. I do not address questions from outside the domain of private law, like criminal, competition or tax law implications. This is because these questions cannot be answered without a general theory clearing up the basics, and clearing up these basics has proven hard enough in itself. This is not only a question of labor-intensity, but also a question of academic prudence. I would like to get the foundations right, before building on top of them. And the best way to get them right is to expose them to review and criticism already at this stage.

Thirdly, I did my best *not* to approach the question from any concrete political point of view. This is not supposed to be a liberal or socialist theory of virtual property, a utilitarian or deontological analysis, or a view from a Marxist or a Catholic Social Teaching perspective. The ambition of the thesis was to a large extent not to be normative, if one understands ‘being

⁹ Franz Wieacker, ‘Foundations of European Legal Culture’ (1990) 38 *The American Journal of Comparative Law* 1; Reinhard Zimmermann, ‘Savigny’s Legacy. Legal History, Comparative Law, and the Emergence of a European Legal Science’ (1996) 112 *The law quarterly review The Law Quarterly Review* 576.

normative’ as trying to sell a particular political view together with the conceptual analysis. I would like anyone to be able to pick up the tools that I provide here and use them to offer such accounts. There are two reasons behind this choice. Firstly, in an ethically pluralist society, as ours is, I believe that it is not up to academics to offer answers to questions ‘what exactly should be done about X?’. Rather, in a social setting with competing ethical positions, and equally important, though often contradictory, interests of different actors to be balanced against one another, such questions belong to political deliberation, not to libraries. This is not to say that I would not consider ‘an analysis of X in the light of Y normative theory’ to be an unscholarly endeavor. There is a difference between the claims: ‘This should be done!’ and ‘If we take this normative theory as the threshold, this should be done’. The first is politics, the second is political science. However, and this is the second reason, just like laws, established normative theories have been developed as responses to different social and technological settings, and to different types of challenges. Hence, they cannot be applied directly to the phenomenon of virtual property. Adapting some of them to this new setting would be a fascinating endeavor. However, a different one, in methods and structure, from the one offered here. And arguably, possible only after the conceptual analysis is conducted.

To already address an unavoidable objection, I do not claim that this theory is fully apolitical, absolutely objective and purely positive. Firstly, private law, even on the conceptual level, is normative. It is law, after law. Hence, a view from the private law perspective will necessarily differ in accents and in what it considers important from the point of view of an economist or an ethnographer. Secondly, our political beliefs and positions are so deeply engrained that quite possibly I did not manage to avoid some of mine crawling into the analysis here. This said, I believe that such ‘normativity’ is different in kind from an attempt to advocate a particular outcome or argue for a concrete legal or social setting. Such claims will be present in the thesis, though only in the last chapter, and only on a general level of a systemic analysis of law.

The primary object of the inquiry of this dissertation is online computer games, and the relations that their users get into over virtual items within these games. However, to say what I wanted to say, I could have just as well written the thesis about Facebook, Google, YouTube and Twitter. On the structural level, the puzzles addressed in the thesis are very similar to those that occur in these ‘online platforms’. To use them, users must create accounts¹⁰. They must accept terms of service and codes of conduct. The providers retain the right to interpret these documents, and have the ability to use ‘digital force’ to block accounts of users who violate them, or to modify/delete the content posted by these users. The providers have a right and ability to change the

¹⁰ To be fully precise, some of the functions of Google and YouTube are available to the users who are not ‘logged in’.

‘code’ of the platforms. Users get into relations over the digital objects: they ‘like’, share and comment on posts, pictures and videos. The platforms are called ‘services’ but are not services in the traditional legal sense – where one would *receive* a service of having hair cut or legal counsel given – rather, they are cyberspaces where people are ‘digitally present’, and acquire a ‘license to use’ them. We call them services, because a ‘service’ is a residual category where everything not fitting in other drawers gets placed. The social importance of these platforms have been noticed and studied¹¹ and the ‘power’ their owners enjoy has started to be addressed¹², most recently in the aftermath of the ‘echo chambers’ and ‘fake news’ scandals surrounding the American 2016 elections¹³. In cyber law discourse, the question of platform owners’ liability is slowly shifting to their responsibility; and responsibility comes with power. This power, though different in magnitude given the exceptional social role played by these platforms, is the same in structure as the power enjoyed by the providers of online games.

There were four reasons why the final choice was to stay with online games and not the online platforms, one silly and three serious. Firstly, I like online games. It was just pleasant to open *Clash of Clans* on my smartphone in the library from time to time (much less often than you might think!), and when seeing disregard in colleagues’ eyes, utter: ‘hey, I’m doing my fieldwork here!’. Secondly, I believe that video games, despite being an important part of lives of hundreds of millions of people on this planet, and despite being worth, as sector of entertainment business, more than ‘serious’ sectors like music and movies¹⁴, are still not given the scholarly attention they deserve. Thirdly, though many phenomena are structurally similar in online games and online platforms, games are just more ‘plastic’ on the level of the imagination. ‘Changing the rules’ or ‘deleting one’s items’ serve better as examples of what I want to talk about than blocking videos on YouTube or adding more ‘reactions’ than simply ‘likes’ inside Facebook’s code. Fourthly, precisely because video games are seen as peripheral and not central to the socio-economic life, they do not trigger such strong political opinions. They are better suited to be an object of a cold and rigid study, in which I was interested, as opposed to scholarship quickly dissolving into activism.

¹¹ Daniel Trotter and Christian Fuchs, *Social Media, Politics and the State: Protests, Revolutions, Riots, Crime and Policing in the Age of Facebook, Twitter and YouTube* (Routledge 2015).

¹² Jonathan Zittrain, ‘Facebook Could Decide an Election Without Anyone Ever Finding Out’ [2014] *The New Republic* <<https://newrepublic.com/article/117878/information-fiduciary-solution-facebook-digital-gerrymandering>> accessed 18 September 2017.

¹³ Joel Winston, ‘How the Trump Campaign Built an Identity Database and Used Facebook Ads to Win the Election’ <https://medium.com/startup-grind/how-the-trump-campaign-built-an-identity-database-and-used-facebook-ads-to-win-the-election-4ff7d24269ac> last accessed 17th October 2017.

¹⁴ More Money Is Spent on Games than Movies and Music Combined, Says IHS’ (MCV UK) <http://www.mcvuk.com/news/read/more-money-is-spent-on-games-than-movies-and-music-combined-says-ihs/0151059> last accessed 17th October 2017.

Finally, before I move to the roadmap of the thesis, there is one more contentious concept to be clarified. And that is ‘private law’. The last decades have witnessed a heated debate about the need and/or necessity to abolish the private/public law divide¹⁵. Different arguments have been put forward: that private law is no longer private as the result of fundamental law rights intrusion (that would be the European perspective); that private law never was truly ‘private’, and that the concept of a state-backed ‘private law’ is incoherent in itself (that is what Americans would say) etc. I do *not* wish to partake in this debate. Having a view on that matter, which I briefly signal in Chapter four, in the section devoted to legal relations, I want to state here that I use the term ‘private law’ as a label to denote a specific branch of legal systems, and not as a way of saying anything about the ‘nature’ of this branch. When speaking of private law, I have in mind property law (including intellectual property), contract law and tort law, so the matters that would usually be regulated in civil codes (in the countries that have them) and adjudicated in accordance with civil procedure, as opposed to criminal or administrative one. This also includes, to a certain extent, consumer law. This term is a term of the art, and scholars studying these fields share a certain mindset, revolving around subjective rights on one hand, and party autonomy on the other. They also share a particular way of conceptualizing reality and a common framework that they use to make sense out of it. This framework is what interests me.

The thesis is divided into six chapters. The aim of the first chapter is to familiarize the reader with the virtual property phenomenon, to present the case studies and the gathered empirical material, and to highlight the theoretical and regulatory legal puzzles to which its emergence gave rise. The argument is that one should distinguish the *core* of the challenges, namely the virtual objects and the relations that persons get into concerning these objects; and the *background* of the challenge, namely all the other phenomena that make up the context in which the core occurs, and for which private law currently also lacks concepts. The theoretical challenges in the core are: what is a virtual item? What types of virtual items are there? What can be done to them and with them? What is the factual relation of a user to an item (‘digital possession’)? What types of relations regarding virtual items can persons get into? The regulatory challenges in the core boil down to the question: what should be the legal entitlements (rights) that different parties to these relations have over virtual items? For example, should users be allowed to sell virtual items to other users? Should the providers retain the right to modify or delete them at will and for no reason? These challenges, the argument goes, cannot be properly addressed without embracing the challenges posed by the background. These are, on the theoretical level: what is an online platform (a service? A

¹⁵ Hans-Wolfgang Micklitz, ‘Rethinking the Public/Private Divide’ in Miguel Maduro, Kaarlo Tuori and Suvi Sankari (eds), *Transnational Law. Rethinking European Law and Legal Thinking* (Cambridge University Press 2014).

cyberspace?)? What is an account? What are the ‘terms of service’ documents? What do platform owners actually *do* when they engage in modifying the rules expressed in the ‘code’, or when they deploy ‘digital force’ to enforce the codes of conduct? What are artificial agents used by the service providers and sometimes by the users? These challenges need to be theorized before one can move to the normative level: should there be limits to the providers’ freedom in changing the code and deploying the digital force? Should there be limits to freedom of contract and the content of the ‘codes of conduct’? Should there be limits to providers’ discretion in their interpretation? How to regulate the conduct of artificial agents? Etc. The thesis, for the most part, limits itself to addressing the theoretical challenges.

The second chapter is devoted to the literature review, and the justification of the thesis’s research question, which is: *How to describe and explain the phenomenon of virtual property from the perspective of private law, and how could and should private law respond to that phenomenon?* The argument is that the body of literature about virtual property, generated by scholars over the last decade, though mostly in the context of the so-called ‘virtual worlds’, a phenomenon of rather historic relevance today, can be a source of valuable insights to researchers, though it suffers from several unfortunate shortcomings. Regarding the insights: virtual property scholars have spotted the phenomenon and signaled many of the challenges, even if only indirectly, by proposing concrete (though questionable) solutions. If one reads these contributions sympathetically, without dwelling too much on the concrete proposals, but rather trying to understand what had been the challenges that these scholars were trying to address, one can see that they anticipated the debates that currently take place about online platforms¹⁶ almost a decade earlier. Unfortunately, these insights have not been taken up by mainstream legal scholarship, for a few different reasons. At the most general level, the scholars who engaged in the debates about virtual property remained at the normative-prescriptive level of the arguments about law, overlooking several important facts, and relying on inadequate conceptual frames. Since many of these prescriptions turned out to be inoperable and ignored, the problems remained not understood. Moreover, as a result of the conceptual confusion, the scholars assumed certain characteristics of the reality that were incorrect, and ended up talking not about the actual entities, but rather their idea of these entities. Further, the scholars relied on a bizarre ‘virtual worlds’ narrative, speaking of ‘game wizards’, ‘magic kingdoms’ and ‘game gods’, instead of the understandable notions of service providers, online

¹⁶ See, for example: Stefan Grundmann (ed), *European Contract Law in the Digital Age* (Intersentia 2017); Reiner Schulze and Dirk Staudenmayer, *Digital Revolution: Challenges for Contract Law in Practice* (Nomos/Hart 2016); Alberto De Franceschi, *European Contract Law and the Digital Single Market: The Implications of the Digital Revolution* (Intersentia 2016).

platforms and regulation by ‘code’. Hence, the research question’s insistence on understanding and surveying options, before making any normative statements.

The third chapter is concerned with methodology and metatheory. The fundamental switch that recently occurred in the law and new technologies scholarship (both in the branch concerned with virtual property, as this thesis is, and in others, concerned for example with artificial intelligence, sharing economy etc.) is that the *object of inquiry has switched*, from law, to socio-technological phenomena seen from the perspective of law. The traditional methods that lawyers implicitly learn were developed to study *law*, understood as norms expressed in textual provisions. These methods cannot be directly applied to study objects with a different ontic status, like virtual items or cyberspaces. Possible types and objects of legal scholarly claims are elaborated, and the traps awaiting scholars who do not treat methodology seriously enough are briefly signaled. The argument is that a new method is needed, and such a method, consisting of five steps: 1) description of facts; 2) conceptualization and theorization; 3) evaluation; 4) proposing the goals; and 5) proposing the means; is presented. The modest purpose is to explain the methodology of answering the research question of the thesis. However, the ambitious view is that this method can be helpful to other legal scholars studying law and technology, and in this sense, the methodology itself is a secondary contribution of the thesis. Having explained the method in general, the chapter moves to the meta-theory, a theory explaining the dialectical relationship between law and the reality it aims to govern. The argument is that law refers to the reality through legal terms, which are given meaning by the concepts¹⁷, which acquire meaning from the totality of legal norms that contain the terms expressing them, norms which, to be effective, need to take into account the reality as it actually is. In this sense law, through its conceptual framework, necessarily assumes the structure of the reality it aims to govern. The paradox of conceptualization is such that, in order to have a meaningful debate about regulation of new phenomena lawyers need concepts, but these legal concepts will not exist until the regulation actually takes place. The proposed method of addressing this problem is to engage in an intellectual exercise of assuming that a legal dispute takes place, and asking what *could* be the norms, if an entity was placed in an existing concept of the closest of kin (that virtual items *are* objects of property, that artificial agents *are* persons in terms of law, that ‘code’ *is* law etc.). Such an exercise allows the researcher to spot all the critical similarities and differences between the new and ‘standard’ entities, and allows one to coin new, legally useful, concepts. Further, the role of law in evaluation of the reality (of the conceptualized facts), in proposing the goals of potential regulation, and being a part of the range of available means to

¹⁷ In the sense explained by: Giovanni Sartor, ‘Understanding and Applying Legal Concepts: An Inquiry on Inferential Meaning’ in JC Hage and C Jaap (eds), *Concepts in Law* (Springer 2009) and; Bartosz Brożek, ‘On Tū-Tū’ [2015] *Revus. Journal for Constitutional Theory and Philosophy of Law / Revija za ustavno teorijo in filozofijo prava* 15.

achieve these goals, is explained. Regarding the last, it is stressed that one must take into account results of regulation, both feasibility of achieving the goals, and the unintended consequences of regulatory choices.

The fourth chapter is devoted to solving the theoretical puzzle of the background of the virtual property phenomenon. The argument is that private law currently assumes that the reality it aims to govern consists, on the ontological level, of two layers: the material and the social. This assumption, the argument goes, was largely correct until the phenomenon of digitalization, i.e. the high-paced development and broad spread of personal computing devices connected to each other through the global Internet network, as well as of services and entities that supervene on these systems, took place. Currently, the reality that law aims to govern consists of three layers: the material, the social, and the digital. The last, encompassing digital entities, artificial agents, cyberspaces, regulation by ‘code’ and ‘digital force’, cannot be fully reduced to any other layer; while at the same time posing new challenges to law, which might require new means to be addressed (the ‘recoding of law’, in the words of Urs Gasser¹⁸). This transformation is analyzed in five dimensions: of objects (a switch from material/immaterial to material/digital/immaterial); of subjects (a switch from fully capacitated adults acting in their own name, or as guardians of minors and/or bodies of companies, to adults/artificial agents/‘digital natives’¹⁹, i.e. children who understand the digital reality better than their guardians); of spaces (an addition, on top of public/private spaces in the material world, of cyberspaces, where the platform owners have the ability and right to regulate by code, and by contract, and to interpret the latter, to take decisions and to enforce them, using ‘digital force’); of rules (an addition, on top of human-made and contingent social rules resulting in prescription, and human-independent and necessary laws of nature resulting in possibility/impossibility of regulation by ‘code’, being human-made and contingent, but resulting in possibility/impossibility²⁰); and of relations (an addition, on top of private horizontal and public vertical legal relations, of private vertical legal relations, where the stronger party is stronger not only factually, but also legally, given their right to administer the rules governing the relation). All this needs to be acknowledged, the argument goes, as well as concepts of ‘digital possession’ (a person’s relation to their digital object), also in the secondary form; ‘digital presence’ and ‘digital force’ which are indispensable to understand the context of the virtual property phenomenon.

¹⁸ Urs Gasser, ‘Recoding Privacy Law: Reflections on the Future Relationship Among Law, Technology, and Privacy’ [2016] Harvard Law Review Forum <<https://harvardlawreview.org/2016/12/recoding-privacy-law-reflections-on-the-future-relationship-among-law-technology-and-privacy/>> accessed 20 September 2017.

¹⁹ The concept proposed in: John G Palfrey and Urs Gasser, *Born Digital: Understanding the First Generation of Digital Natives* (Basic Books 2008).

²⁰ See: Brownsword, ‘Whither the Law and the Law Books?’ (n 2).

The fifth chapter is devoted to solving the theoretical puzzle at the core of the virtual property phenomenon, namely the conceptualization of virtual items as objects of social relations. It is argued that the *idea* of property, i.e. that an owner of an entity can enjoy the object and exclude others from enjoying it, gets first and foremost concretized by the *features* of that object, and only later through social and political decisions on scope and limitations. A property right in tangible objects differs, when one considers the ‘sticks in the bundle’, from property rights in literary works, or inventions, or plant varieties, because different actions can be performed upon these entities. Hence, to coin a concept of a virtual item, one should assume a fullest potential property right, and see what sticks would be in that bundle, as well as how the procedural law on adjudication and enforcement, if these sticks were to be exercised, would have to look. It is argued that virtual items are digital objects, service dependent (what differentiates them from digital copies of artistic works, or files uploaded to a cloud), and performing in-service functions (what differentiates them from cryptocurrencies like bitcoin). If one were to grant a property right on them, this would result in a positive obligation in the negative dimension of the right (an obligation, on the side of the provider, to keep sustaining the objects), what would be a complete *novum* to private law. This would result in substantial costs. Also, the enforcement of such a right, given the virtual items’ service dependence, would necessarily have to involve the service provider. Given these findings, it is argued that scholars wishing to ponder the property problem in virtual property, should be explicit about the goals they want to achieve, and survey all the possible options for achieving these goals. Granting property rights to users, given the entire context of virtual items’ mode of existence, might not be the optimal solution. Finally, a comprehensive list of relations that persons might get involved in regarding virtual items is provided, as a presentation of facts that could later be evaluated. In short, one should distinguish between provider-user relations, user-user tort-like relation, user-user contract-like relations, and user-third party relations.

Finally, the sixth chapter moves from the theoretical challenges to the regulatory ones, and proposes a normative account of the virtual property phenomenon. The ambition of this chapter is not as much to advocate a solution, but rather to test the conceptual framework developed in the previous chapters. More attention is paid to the evaluation than to the goals, and more to the goals than to the means. Firstly, different sources of normative theories to be used in the evaluation of reality are surveyed, with special attention paid to the distinction between normativity internal to law (resulting from legal higher-order principles) and external to law (different political, philosophical and economic normative accounts). The choice made in this thesis is to rely on a high-level private law principle, i.e. that when the socio-economic reality gives rise to striking factual inequalities in private relations, this should be balanced on the side of the rights and

obligations (as has been done in the case of the two most important ‘corrections’ of private law, i.e. labor law and consumer law). As said above, this is by no means the only possible normative choice, and should, at some later stage, be confronted with other normative accounts. However, this threshold leads to a negative evaluation of the situation where the platform owners’ position towards the users is stronger not only as a result of their economic power and unilateral drafting of contracts, but also because of the ability and the right to unilaterally interpret the contracts and the codes of conduct, make decisions based on this interpretation, and enforce these decisions using ‘digital force’, which might include deletion of virtual items and blocking of accounts (evaluation of the background). Moving from evaluation to the goals, this strong position, in many ways inevitable given the architecture of the systems, should be balanced by substantive and procedural constraints on the exercise of ‘digital force’. Moving to the means, one could conceive of a third grand ‘correction’ of private law, something that could be labeled ‘Internet user protection law’ (or ‘surfer law’, if we are to be a bit less formal). However, one must remember that law is not the only modality of regulation guiding the conduct of providers, and so depending on what precisely is the goal (providers not abusing their power vs. providers having no right to abuse their power), it might be sufficient to rely on market forces (as is the case currently, when not too many court cases about virtual property arise). Regarding the normative puzzle of the core, the evaluation is the same, and if the proposals were to be implemented, the puzzles on the user-provider right would be solved simultaneously. However, the other types of relations, namely user-user and user-third party, and the substances of these relations, remain. Should users be allowed to sell their virtual items? It is argued that in this regard the providers should retain the decision, as long as they are being consistent (if allowing to trade using their own auction-houses, they should allow third parties to offer auction houses as well). Further applications of the ‘surfer law’, particularly in the case of the giants among online platforms, are outlined.

The last issue I would like to draw the reader’s attention to, before the argument-proper starts, is the subtitle of the thesis: ‘towards a general theory’. Particularly, its first two words. Theory proposed here is *a* theory, not *the* theory, and I neither claim that it is the best possible, nor that other accounts are not possible. On the contrary, I can conceive of accounts different in structure and substance, and would welcome them rather than oppose them. The task awaiting is hard and most probably it should be tackled by more than one person. Secondly, ‘towards’ stands there to clearly signal that by no means do I claim that the theory proposed in this thesis is complete and finished. It needs criticism and without a doubt it needs to be refined. However, even if the conceptualizations proposed here are not perfect and if the tools could be made sharper, I am convinced that the challenges outlined here are real and that they will need to be tackled, sooner or

later, in one way or another, by the legal academia. This dissertation is one step, or a few steps, in that unavoidable process.

Chapter 1: The State of Play²¹: What Is (the Trouble with) ‘Virtual Property’?

The purpose of the chapter is to familiarize the reader with the virtual property phenomenon, to introduce the phenomenon in detail, and to clarify what types of legal challenges the phenomenon gives rise to. The argument of the chapter is that the emergence of virtual property confronts law and legal thought with two types of challenge: theoretical and regulatory. The former stems from the fact that existing legal concepts, deriving their meaning from rules enacted within a different structure of reality, do not allow lawyers to fully comprehend the phenomena they are confronting nowadays. The latter, concerned with the evaluation of the new reality, and proposals to potentially change it through regulation, can only be confronted when the former are settled. ‘What exactly is it that we do not understand?’ is the question this chapter aims to answer.

The chapter consists of three major sections. In the first section, only one game – *Clash of Clans* – is introduced in detail, together with the terms of service one needs to accept before playing it. This case study is used to illustrate what the subject of the thesis is. The communicative trouble with writing about the virtual property phenomenon is that, despite its widespread and high monetary value, a significant group of scholars is simply unfamiliar with it. Virtual property is unlike energy markets, financial regulation or environmental protection, where even if the reader is not an expert, a writer might assume some basic knowledge on their side – in the end, everyone knows what energy or environment is. Unfortunately, these scholars tend to be the most experienced ones, whose thoughts and opinions could enrich the debate significantly. Hence, the ambition of this section is not only to delineate the scope of the research and analyze the challenges, but also to give the reader a ‘feeling’ of what the phenomenon is really about. Then, the general understanding of the ‘theoretical’ and ‘regulatory’ puzzles, as well as the concepts of the ‘core’ and the ‘background’ of the phenomenon are explained.

The second section analyzes three more case studies: *Angry Birds*, *Pokémon Go* and *Hearthstone*, together with the terms governing them. In this section, a few more challenges are signaled. Then, the map of all the challenges, regulatory and normative, in the core and in the background, is provided. Finally, the third section introduces the context in which the virtual property phenomenon occurs. The historical context is the so-called ‘virtual worlds’; games like

²¹ ‘The State of Play’ has been a title of several early conferences dedicated to the problem of virtual property, as well as the first edited book on the subject: Jack M Balkin and Beth Simone Noveck, *The State of Play. Law, Games, and Virtual Worlds* (New York University Press 2006). Given that the book was published more than a decade ago, and the virtual property phenomenon has significantly evolved since then, as well as the fact that in this dissertation I will refer quite often to the works of the authors who contributed to that book, the same title for the first chapter, aiming at referring to where we are now, seemed the most appropriate to me.

World of Warcraft and *Second Life*, which have been the object of inquiry of the vast majority of scholars who wrote on the subject of virtual property during the last 15 years. Their relevance nowadays is marginal, but it is important to understand them before one moves to the review of the literature, which will be done in Chapter 2. The broader context are different online platforms, like Facebook, Twitter, or YouTube. The argument is that even though different types of social relations occur there, the underlying structure of the challenge is the same. Hence, the analysis of the thesis might be useful also for scholars studying these phenomena.

1.1. ‘Welcome to your village, Chief!’: Clash of Clans as the Primary Case Study

Released on 2nd August 2012 by the Finnish company Supercell, *Clash of Clans* is without a doubt one of the most popular mobile gaming apps. Downloaded over 100 million times²², played by people all around the world²³, it generates a revenue of \$1.5 million daily²⁴ and together with Supercell’s three other games – *Hey Day*, *Boom Beach* and *Clash Royale* – brought about \$2.3 billion (!) in revenue in 2016²⁵, chiefly through the in-app purchases (sales of virtual items). Apart from being a successful business, *Clash of Clans* is referred to as ‘cultural phenomenon’²⁶, with 23 million followers on Facebook²⁷ and 10 million subscribers on YouTube²⁸, spilling over to the real world²⁹ and other online platforms³⁰. It is the enormous popularity, strikingly high monetary value and mechanics that make the majority of aspects of the virtual property phenomenon salient that lead to choosing this game as the core case study of the dissertation.

²² *Clash of Clans* <https://play.google.com/store/apps/details?id=com.supercell.clashofclans&hl=en> last accessed: 17th October 2017.

²³ Eddie Makuch, ‘100 Million People Play Clash of Clans Dev’s Games Every Day’ <https://www.gamespot.com/articles/100-million-people-play-clash-of-clans-devs-games-/1100-6435433/> last accessed 17th October 2017.

²⁴ <https://thinkgaming.com/app-sales-data/1/clash-of-clans/>. Data for 18th August 2017

²⁵ Ric Cowley, ‘Supercell Sees Revenues Grow to \$2.3 Billion in 2016 Thanks to Success of Clash Royale’ <http://www.pocketgamer.biz/news/65090/supercell-financials-2016> last accessed 17th October 2017.

²⁶ Matt Suckley, ‘Five Years on: Supercell on the Evolution of Clash of Clans’ <http://www.pocketgamer.biz/interview/66328/five-years-on-supercell-evolution-of-clash-of-clans/> last accessed 17th October 2017.

²⁷ <https://www.facebook.com/ClashofClans/> last accessed 17th October 2017.

²⁸ <https://www.youtube.com/user/OfficialClashOfClans> last accessed 17th October 2017.

²⁹ Jeff Beer, ‘Why Supercell Brought The Builder From “Clash Of Clans” Into The Real World’ <https://www.fastcompany.com/40453190/why-supercell-brought-the-builder-from-clash-of-clans-into-the-real-world> last accessed 17th October 2017.

³⁰ Daen Takahashi, ‘Facebook and Supercell partner on Clash of Clans AR experience’ <https://venturebeat.com/2017/08/15/facebook-and-supercell-partner-on-clash-of-clans-ar-experience/> last accessed 17th October 2017.

1.1.1. The Game and its Rules

To play *Clash of Clans*, you³¹ need to have a smartphone or a tablet, and a connection to the Internet. You access the Apple's App Store (if you use an iPhone) or Google's Play Store (if you are an Android user), look for the app and click 'Install'. Just like with any other app – Spotify, Gmail, Amazon etc., a little icon will appear on your screen. The first time you open the app, you will have to confirm that you accept the terms of service, which you do most probably without reading them. Terms of *service*, because the game is not only the software you install (protected by copyright law), but also the service of connecting you to the Supercell's servers and through these servers to other players. You cannot play the game unless you are connected to the Internet. If you read those terms, you would know that, actually, you are now bound not only by that agreement, but also the privacy policy, different codes of conduct, and potential terms of service and policies of third parties that participate in the relation. You are asked to create an account, in the same way that you do for Amazon.com, Lufthansa.de, Facebook etc., either by providing your email and choosing a password (so creating a service-specific account), or by 'signing in' using Apple's Game Center or Google's Play Games. The game, both the software and the service, are free, at least in the sense that you do not pay Supercell any money. However, you are informed that '*you can speed up the progress with in-app purchases*'. This is the so-called 'freemium' business model, where downloading and playing the game is free, but one can get additional experience by spending money. Having done this, let us play the game.

When you open the *Clash of Clans* app, on the screen of your smartphone you will see a virtual village, from a bird's eye view. From this moment on, it is not just *a* village, but *your* village, as the virtual assistant within the game informs you. The task you face is to expand it by constructing different types of structures, and to lead it to glory by assembling an army of barbarians, goblins and wizards that will help you raid and loot villages of other chiefs. If you choose to, you can also join a clan – a community of players – that will help you with the strategy, send you back up troops and together with you engage in the 'clan wars' – multiplayer tournaments, where several of you together attack another clan. But first things first: what does it mean to expand the village and 'construct' structures?

³¹ Since the purpose of the Chapter is transfer an experience of playing the game, the author has decided to use first person-second person narrative for most of the time.

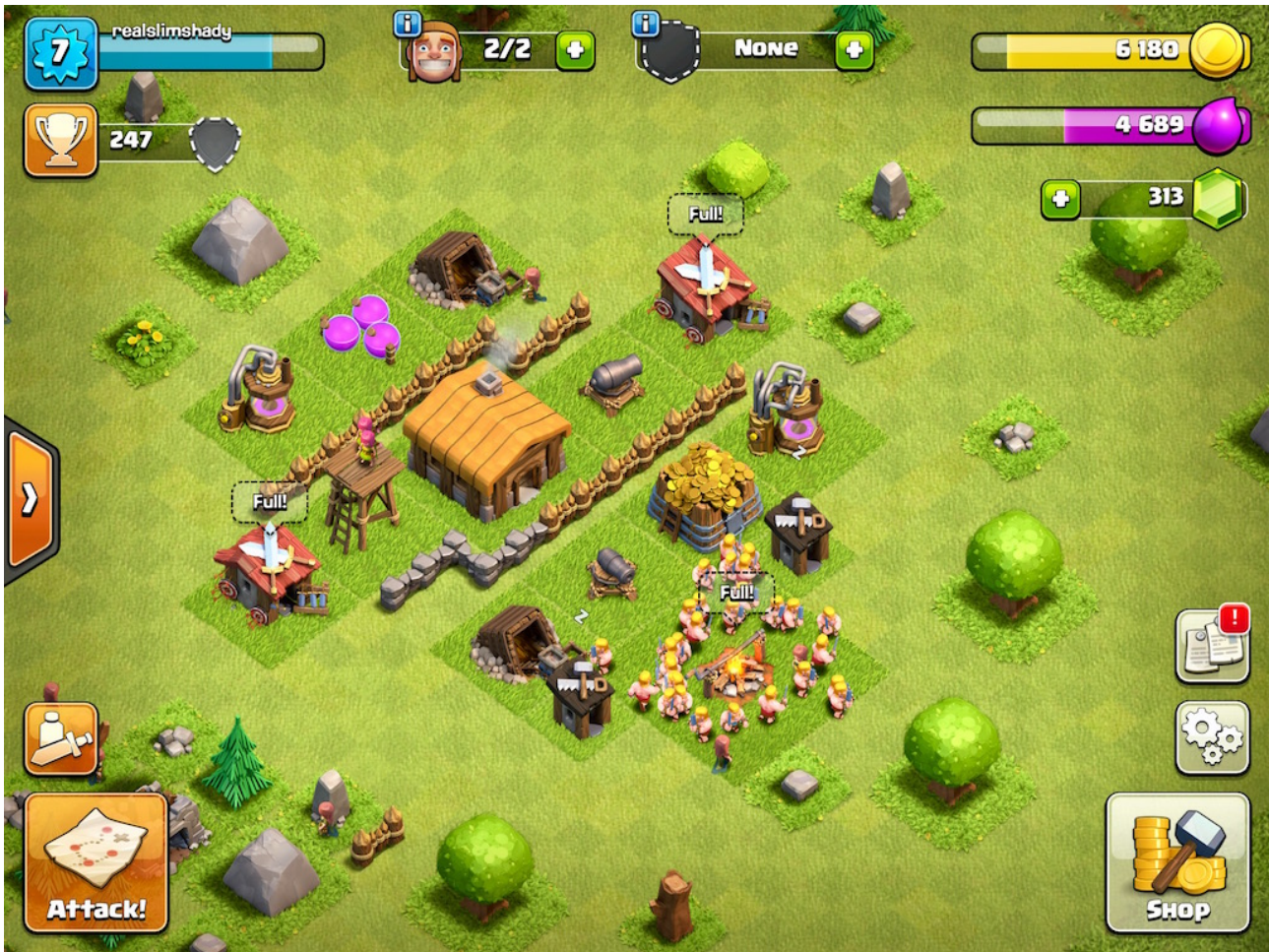


Figure 1 The interface of Clash of Clans

In the bottom-right corner of the interface, you can see a button signed ‘shop’, with a suggestive picture of a hammer and a pile of coins³². When you click on it³³, you will see a list of buildings you can erect. Those encompass structures generating resources (like gold mines), buildings allowing one to train an army (barracks and army camps) and defensive structures (like cannons and archer towers). To ‘build’ a building you simply choose one from the list, and then decide where in the village you would like it to be raised. However, construction consumes resources and takes time. For example, you see that to erect a cannon, you need 250 pieces of gold, and it will take 10 seconds. When you have enough gold, and decide on the location (by touching the screen), you see little 10-seconds countdown, and when the time passes, here it is – your cannon ready to defend your village. But what does it mean to ‘have gold’?

In the top-right corner of the interface you see the indicators of the resources you possess within the game, which in the *Clash of Clans* are gold (the yellow indicator) and magical elixir (the pink indicator). On the screenshot no. 1, you can see that right now I ‘have’ 6180 pieces of gold and

³² In the previous versions of the game, it used to feature a little barbarian pushing a shopping cart.

³³ Technically, when you ‘tap’ it, touch it with your finger, since the game runs on smartphones and tablets – devices equipped with touchscreens, not computer mouses.

4689 units of the elixir. Where do they come from? From looting other players (I explain this just below) and from resources-generating structures. Gold mines give you gold and elixir collectors give you elixir. How do they ‘give’ it to you? They generate a certain amount of a resource over a fixed timespan. For example, a gold mine level 1 generates 200 pieces of gold per hour. If you have no gold, and want to build a cannon that costs 250 pieces, you need to wait 1 hour 15 minutes and then it will take 10 seconds to erect the canon. Also, you can only build one structure at a time³⁴.

When you construct the barracks and the army camp, you can assemble an army. This works just like with the buildings – you click the army training button (on the left) and choose what type and number of soldiers you want to train. For example, training a barbarian costs 25 units of elixir and takes 10 seconds. With an army camp level 1, you are able to train up to 20 barbarians, hence assembling an entire army will cost 500 elixirs and take 3 minutes 20 seconds. When your army is ready, you can attack another player. You do so by clicking the button in the bottom-left corner that says ‘Attack!’. When you do so, the service will find a ‘match’³⁵ for you, and then you will see a village of another player.

Your task in attacking is to ‘deploy’ the troops in right places. When you click where and when to release your army, you will see the barbarians raiding the village. They will try to demolish as many buildings as possible, before the defensive structures bring them down (cannons and archer towers will constantly shoot at the troops in their range). Whenever your troops attack resource buildings, like gold mines or gold storages, they ‘loot’ some resources for you. After the attack, you will have more gold and elixir than you had before, and the opponent you attacked will have less. To win, you need to get at least one ‘star’, by either destroying 50% of the opponent’s village, or by bringing down the opponent’s town hall (the main building everyone starts with). You can get a maximum of three stars, when you destroy the entire village. When either your army or the enemy’s defense is defeated, you will see the victory screen (or a defeat screen), displaying your score in percentage (how many buildings you managed to destroy) and the amount of resources your troops ‘stole’ for you. Then you return to the village to spend the resources you got on assembling another army and further expanding the village. You can also be attacked by someone else, and that is why, apart from resources- and army-structures you should also erect good defensive ones.

³⁴ Or more, if you have purchased more builder huts using gems, but no more than 5. Let us not complicate the picture too much yet. What matters is that the number of structures you can be building at the same time is limited.

³⁵ A ‘match’ like in sports, not like in dating apps, when your profile ‘matches’ the profile of another person. However, the latter meaning is not completely misleading either, since the service will pair you with a player of more less equal level of development, to make the attack neither too easy, not impossible to win.



Figure 2 Clash of Clans Victory Screen, displaying the amount of resources 'stolen' from another player

Now, in the paragraphs above I mentioned something about 'level 1' of a cannon or an army camp. That is because you are able not only to erect new structures, but also to upgrade the existing ones. To do so, you click on a building and select the 'upgrade' option. The higher the level of the building, the better it serves its functions. Gold mine level 3 will generate more gold per hour than level 2, a cannon level 5 will deal more damage to attacking troops than a cannon level 4, the higher the level of your barracks, the stronger types of troops you can train, etc. This, just like building, costs you resources and takes time. The higher the desired level, the more will it cost and the longer will it take. For example, to erect a cannon it costs 250 pieces of gold and takes 10 seconds, but to upgrade it to level 2 it will cost 1000 pieces of gold and take 15 minutes. The higher the level, the longer the time span. To upgrade your cannon from level 10 to level 11, you will need to spend 3 million pieces of gold and wait 5 days. You can also upgrade the level of the troops you can train, when you click the 'research' button in the laboratory building. The same rule applies here: it will cost you elixir and take time, and the higher the level, the more of both you will need.



Figure 3 Construction screen, informing the player that upgrading the Barracks will take 5 days 11 hours

The important thing to mention is that you do not need to be ‘playing’ the game for the time to pass. The app does not need to be open. When you command your villagers to build or upgrade something, the time count starts, and you can close the app to do something else. Hence, the gameplay, unlike with older types of games, does not mean looking at one’s screen for several hours, but rather checking-in every a few hours, or every few days, for about five minutes – see how the building is going, collect the resources, maybe raid someone. People do this on a bus, in a queue of a shopping mall, over a second breakfast etc. It becomes a background activity, a way to fill time, a part of the onlife world³⁶ (Kirkegaard’s nightmare).

What is the point of the game? Essentially the same as building models of ships and playing chess. You just construct a better and better village. It gives one satisfaction. The difference is that it exists virtually and not physically. You can show it to your friends and see their villages (either by showing them your smartphone or by ‘visiting’ them digitally – they can also see your village from their smartphones). And you play a ‘match’ from time to time, when raiding other villages – sometimes you win, sometimes you lose, over time you get more skilled and develop a better strategy. I also mentioned something about leading your village to ‘glory’. With every new structure one constructs or develops, one gets more ‘experience points’ and ‘levels up’ the whole village, not just some structures. There are quests, for which one gets rewards – build X amount of

³⁶ The term used to signify that there are not ‘two worlds’ - the online and the offline - but rather that, as the result of digitalization, both the physical and the digital mingle into one onlife experience. See, for example: M Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015).

buildings, win Y amount of attacks etc. Also, for every game one wins, one receives ‘trophy’, which then determine in what ‘league’ a player is. Getting to a higher league gives one higher bonuses to resources, and satisfaction. You can also ‘visit’ villages of other players in your league, and on the ladder, see how many people you have already beaten, and how many still are ahead of you. Really a lot of research about what people find enjoyable, attractive and addictive (unfortunately) has been put into the game’s development (this is so-called ‘fun theory’³⁷). An aside, this research led to the development of what is nowadays called ‘gamification’ – using the elements that people find engaging in games to improve non-game services³⁸. One more reason to take the game industry seriously.

As I hope seems clear right now, the game features, what could be called, a ‘virtual economy’, a simulation of an economy *within* the game. To develop the village, one needs resources. The higher the technology, the more expensive it gets; but also, the further into the game, the more the player is able to earn, either from the resource generators, or from raiding villages of other, equally powerful, players. This is nothing new – for a long time now many board games (like the *Settlers of Catan* or *Seven Wonders*) and computer games (like *StarCraft* or *Europa Universalis*) featured types of in-game economy³⁹, but they did not give rise to the ‘virtual property’ phenomenon. You probably played, or at least are familiar with, the classic board game of *Monopoly*. You start with some ‘game money’ (colorful pieces of paper), then buy streets, then construct hotels, which in turn give you even more ‘game money’. Yet, no one has ever written a serious legal article about the legal status of *Monopoly* money.

What is the difference? Imagine that a *Monopoly* game does not start and finish one evening, but is an ongoing enterprise – you keep playing and playing the same game, every night. And that you can call the developer of *Monopoly*, transfer 5 real dollars to them over the Internet, and the rules of the game say that this gives you a right to 500 monopoly dollars, which the player controlling the ‘bank’ is obliged to give to you. Or that it is fine for you to ‘sell’ 500 monopoly dollars to another player, sitting next to you, for 5 real dollars. Or that the developer might, any time, call the player acting as the ‘bank’ and command them to take some money, streets or hotels away from you. That is when an innocent in-game economy (just a *simulation* of an economy, created solely for the game purposes) turns into a real-world market. How does this work in *Clash of Clans*?

³⁷ Raph Koster, *Theory of Fun for Game Design* (2 edition, O’Reilly Media 2013).

³⁸ See for example: Torsten editor Reiners, Lincoln C editor Wood, *Gamification in Education and Business* (Springer International Publishing: Imprint: Springer 2015) or: ; Kevin Werbach and Dan Hunter, *For the Win: How Game Thinking Can Revolutionize Your Business* (Wharton Digital Press 2012).

³⁹ This phenomenon is analyzed, from the anthropological perspective, in: Adam Crowley, *The Wealth of Virtual Nations: Videogame Currencies* (Springer Berlin Heidelberg 2017).

As the reader who has examined the screenshots closely might have noticed, there is one more type of resource in *Clash of Clans* not yet discussed. Little green diamonds, or ‘gems’ as they are called. Gems can be used to *speed up* the timespans necessary to construct a building or train an army, or used to purchase other two types of resources, gold and magical elixir, *instantly*. For example, on screenshot no. 3 the reader can see that finishing the construction of Barracks level 10 will take 5 more days and 11 hours, *but* it can be finished *now*, at the cost of 814 gems. To raid another player with an army of dragons, one must wait 30 minutes for the dragons to be trained *or* one can have it *now* for 50 gems. In *Clash of Clans* time can be bought. That is what was meant by the initial message: ‘*you can speed up the progress with in-app purchases*’.



Figure 4 An offer on in-app purchase of gems

Gems, however, are not produced by any structure, and cannot be stolen in a battle. A player will get some from time to time for free, either as a reward for completing quests or by ‘finding’ them in trees or bushes. However, these methods give one a limited number of gems, insufficient to make any actual difference in the game. However, there is another option. One can *buy* gems from Supercell for real money. To do so, one should click the ‘shop’ icon – the same one that is used for building structures like barracks or goldmines – and choose the ‘treasure’ tab. There, one can purchase the gems, though the ‘resource’ one will spend is not virtual gold or magical elixir but quite real Euros or American Dollars (or any other currency). As the reader can see, the options include: 80 gems for \$0.99, 1200 gems for \$9.99 etc. When one clicks ‘buy’, a new message will

pop-up, reminding one that a real money is about the spent, and if one proceeds: here they are, shiny gems, 1200 more in the village's treasury. And 10 dollars less on the player's credit card.



Figure 5 An offer to exchange gems for resources

The gems can be used to speed up progress – to ‘buy time’ – but also to purchase other types of resources, like gold and elixir. This can also be done in the ‘treasure’ part of the ‘shop’. On screenshot no. 5, one can see that it is possible to buy 3 million pieces of gold for 1133 gems. Imagine you are playing the game, and want to construct something that costs 4 million pieces of gold. You do not have that much gold, so you decide to spend \$9.99 on 1200 gems, and then use the gems to fill up your gold and elixir storages. Now you have 3000000 more pieces of gold. From this, you can actually calculate how much money this gold cost you – since you spent \$9.99 on 1200 gems, and 1133 gems on 3000000 pieces of gold, then you effectively spent \$9.43 on these resources. However, you realize that another building is under construction now, and your builder will be free only in 5 days 11 hours. You could speed it up by spending additional 814 gems but decide to wait, exit the game and put your phone aside. When you look at your phone one hour later, you see a notification: someone raided your village! You quickly log back to your game, just to see your village in ruins. This is not a real problem, the village will be rebuilt over a course of seconds, for free. Nothing *really* happened to it, it is just a visual effect to add some drama. However, you also see that this player stole 400000 pieces of gold and some elixir from you! Stuff that you spent \$3 dollars on.

Still, this seems to be fine – in the end, all happened in accordance with the rules of the game. Even though you have never really *read* these rules, rather you simply inferred them from what is happening in the game. Actually, even if you wanted to read about this particular rule, you would not find it written down anywhere. The interesting thing about the rules is that you seem to be bound by five types of them. Firstly, there are the rules specified in the Terms of Service⁴⁰ – for example, forbidding you from reverse-engineering the game or, as shall be discussed shortly, sell any virtual items or game accounts. Secondly, there is a *Safe and Fair Play* code of conduct – a separate document that the ToS refers to, by which you are bound having accepted the terms – prohibiting, among others, hate speech, abusive behavior, and impersonating Supercell’s staff⁴¹.

Then, there is a third type of ‘rules’ – those ‘coded into’ the game mechanics, what Lawrence Lessig calls the ‘code’⁴² and what Roger Brownsword further developed as a part of the concept of the ‘regulatory environment’⁴³. It is a ‘rule’ of *Clash of Clans* that gold mine level 1 produces 250 gold per hour but it is also a ‘rule’ of the game that it is possible to steal resources from one another⁴⁴. Note that the ‘rule’ means is that it is ‘possible’, not ‘allowed’. The fact that this is permitted is somehow collectively derived and accepted from the fact that it is possible (Hume’s nightmare). In the end, if Supercell did not want players to loot each other, they would simply create the game in a way that makes it impossible. Indeed, there are games very similar to *Clash of Clans* in which one would build a village, collect resources and spend them on expansion and it is not possible to attack another player – like in *Hey Day*, Supercell’s first game, or Zynga’s *Farmville* or in Flashman’s *Smurfs’ Village*. Note that, unlike the with the rules of the first and second type, which you could easily ‘infringe’, it is not possible to ‘infringe’ the rules about looting – it just is the way it is. No matter how hard one tries, in Flashman’s *Smurf Village*, the Smurfs will not attack other Smurfs, neither will the farmers from *Farmville* or *Hey Day*. Obviously, if someone is sufficiently skilled, one could *hack* the servers in such a way that would result in someone having less resources and someone else having more, but this would only *infringe* the ToS (and probably

⁴⁰ Supercell’s Terms of Service, available at: <http://supercell.com/en/terms-of-service>. Effective Date: 1st August 2017, last accessed: 21st August 2017. The hard copy in the author’s archive. All the following references to this document will refer to the same URL and dates, and for the sake of brevity, simply mention ‘Supercell’s ToS’ and the number and title of the section.

⁴¹ The document can be found here <http://supercell.com/en/safe-and-fair-play/>. Interestingly, many provisions in the Terms of Service and the code of conduct overlap. The author’s hypothesis, though this is just a speculation, is that the Terms have been drafted by a professional law firm and could not be ‘touched’ by the developer’s team, while the code of conduct was drafted by the company itself.

⁴² Lessig (n 1); Lawrence Lessig, *Code Version 2.0* (Basic Books 2006).

⁴³ See, for example: Roger Brownsword, ‘The Shaping of Our on-Line Worlds: Getting the Regulatory Environment Right Editorial’ (2012) 20 *International Journal of Law and Information Technology* 249 Brownsword’s contributions will be discussed in more detail in chapters 3 and 4.

⁴⁴ One could say that the first is a ‘non-normative’ technological choice, while the latter is ‘normative’. See, for example: Brownsword, ‘Field, Frame and Focus Methodological Issues in the New Legal World’ (n 4) However, as we shall see, the choices about the first type of rules also might have normative consequences.

criminal law), not *change* the rules embedded in the code. However, it is the way it is only because the designers decided so. They *could* have decided otherwise. What these three types of rules (terms of service, code of conduct, and ‘game mechanics’) have in common is that they are all *made* by the service provider.

Further, there are two more types of rules, not created by the provider of the service. There is the *law*, by which you are, without a doubt, still bound when playing the game⁴⁵. If one threatens to kill another player using the game chat, that might, apart from violating Supercell’s rules, be a criminal offense. And finally, there are self-emerging social rules⁴⁶. Consider an example. If you become a member of a clan – a community of players, of which there are thousands, you can also start your own – a new type of functionality is activated. Players within the same clan can send reinforcement troops to one another. If we are in the same clan, I could send you 10 barbarians, which I have to train first (spending my resources and time), which you can later use when attacking someone else (making your army bigger than it would have been otherwise) or when defending your own village. Especially if I am higher level than you and the troops I am able to train are more powerful than those of your potential enemies this mechanic can make an enormous difference in the gameplay. It is supposed to make the game more fun, more engaging, and encourage players’ social interactions within it. So imagine that you ask me, using our in-game clan chat, to send you dragons for the clan war in which our clan is planning to take part. Dragons are expensive but I want our clan to win the war, so I send them to you. However, instead of ‘keeping’ the dragons (my dragons? your dragons?) for the war, you deploy them in a regular match, simply to get a lot of resources. This is possible according to the game’s mechanics, and not forbidden by any rules we are bound by but might be against the rules within our clan. There is no sanction for violating them, apart from social ones. Next time I will think twice before I send you any troops. And if you keep doing this, we might kick you out of the clan.

This is basically the entire experience one has in the game, a description that fits all of what the majority of players will ever encounter there. One downloads the game, establishes an account, and over the course of hours spent there during weeks or months of real-world time, one creates a stronger and stronger village, makes friends, gains more and more achievements, sometimes with the help of in-app purchases. One gets into relations with Supercell (providing the service, but also selling the virtual items) and other players (either friendly, within a clan, or ‘hostile’, while looting each other). An important thing to mention is that the ‘village’ is linked to the account. Even if one

⁴⁵ However, as we shall see in Chapter 2, this has not always been taken for granted in the virtual property scholarship. See, for example: Joshua Fairfield, ‘The Magic Circle’ (2009) 11 *Vanderbilt Journal of Entertainment & Technology Law*.

⁴⁶ Documented, for example, in: Joshua Fairfield and Edward Castronova, *Dragon Kill Points: A Summary Whitepaper* (2006).

uninstalls the app or changes a phone or tablet and, at some point, installs it again, after one logs in, the village will be there, waiting.

However, the game experience might get more complicated the moment one decides to *infringe* the terms of service, or the moment Supercell decides to do something extraordinary, something they claim they have a right to do, and definitely have an ability to do, though seldom actually do. Let us briefly go through the types of actions that Supercell finds unacceptable and a majority of players also do, in short: cheating.

Firstly, imagine that I have a high-level village, am able to train very powerful troops and lead a clan that promises to help beginner players to quickly rise up in the ladder of the leagues (clans can have short descriptions and the one above would be perfectly fine). You join that clan and I inform you that I would be happy to send you dragons level 5 every day, which would make you, as a beginner, significantly stronger *but* I will do this in exchange for ten euros a month. You agree, we have a deal, and, as long as I see 10 euros in my account every month, I keep sending you the troops. However, such an action is contrary to the Terms of Service, which states:

*The transfer of Virtual Items and Merchandise is prohibited except where expressly authorized in the Service. Other than as expressly authorized in the Service, **you shall not sell, purchase, redeem or otherwise transfer Virtual Items or Merchandise to any person or entity or attempt any of the aforesaid, including but not limited to Supercell, another user or any third party.***⁴⁷ [[emphasis added, P.P.]]

Hence, it is possible for us to conclude a contract, and perform obligations arising from it, that would be contrary to the Terms of Service of Clash of Clans. What is the sanction? The Terms state:

*Supercell reserves the right to determine what conduct it considers to be in violation of the rules of use or otherwise outside the intent or **spirit** of these Terms of Service or the Service itself. Supercell reserves the right to take action as a result, which **may include terminating your Account and prohibiting you from using the Service in whole or in part.***⁴⁸ [[emphasis added, P.P.]]

⁴⁷ Supercell's ToS, section 4.1. *Purchases.*

⁴⁸ Supercell's ToS, section 1.1. *Grant of a Limited License to Use the Service.*

And further:

*WITHOUT LIMITING ANY OTHER REMEDIES, SUPERCCELL MAY LIMIT, SUSPEND, TERMINATE, MODIFY, OR **DELETE ACCOUNTS** OR ACCESS TO THE SERVICE OR PORTIONS THEREOF IF YOU ARE, **OR SUPERCCELL SUSPECTS THAT YOU ARE**, FAILING TO COMPLY WITH ANY OF THESE TERMS OF SERVICE OR FOR ANY ACTUAL OR SUSPECTED ILLEGAL OR IMPROPER USE OF THE SERVICE, WITH OR WITHOUT NOTICE TO YOU.⁴⁹*

[[emphasis added, caps original, P.P.]]

When you buy any troops from me, or I sell them to you, we risk our accounts being terminated. With them we would lose our villages and all the progress we made there. Note that, if we do not communicate using the *Clash of Clans* chat, for example, through a private forum we established for our clan, Supercell will not really see a difference in our conduct between me sending you reinforcements as a good fellow clan member and me selling you the troops as a ToS violator. The contract could take place outside of the service. The payment takes place outside of the service. Supercell will not really *know* we do it, they might *suspect* this – hence the fragment about their right to determine what conduct is contrary to ‘*the rules of use or (...) intent or spirit (sic!) of these Terms*’. They also clarify that:

YOU ACKNOWLEDGE THAT SUPERCCELL IS NOT REQUIRED TO PROVIDE A REFUND FOR ANY REASON, AND THAT YOU WILL NOT RECEIVE MONEY OR OTHER COMPENSATION FOR UNUSED VIRTUAL ITEMS WHEN AN ACCOUNT IS CLOSED, WHETHER SUCH CLOSURE WAS VOLUNTARY OR INVOLUNTARY.⁵⁰ [[caps original, P.P.]]

Note that it is possible that you are *not* violating any rules, just paying for your gems, and then someone from China joins your clan and suddenly sends you a lot of troops – and as a result, Supercell deletes your account, you lose your village and virtual items, simply because they *suspected* that you were engaging in transactions contrary to the Terms of Service

Secondly, apart from selling you troops within the game, it is possible for me to sell you the entire account. Imagine a situation when I have been playing the game for several months but got

⁴⁹ Supercell’s ToS, section 1.2. *Suspension and Termination of account and Service*.

⁵⁰ Supercell’s ToS, section 4.2. *Payment of Fees*.

bored and am no longer willing to do play. However, I have created a pretty impressive village in the meantime. You, on the other hand, just heard of *Clash of Clans*, while your friends have been playing it for a while, and you would like to join them in a clan but feel a bit ashamed to be so far behind. I offer to sell you my account for 50 euros, to which you agree. It seems like a good deal to everyone – I am 50 euros up, and you spent much less money than the time you would need to spend in the game is worth to you, and actually would cost you, if you wanted to ‘buy’ it using gems. The way we do this is that I send you the login information – the account name and the password – you log in, change the password, and suddenly it is your village, not mine. Such a practice is also prohibited by the Supercell’s Terms of Service:

*The following restrictions apply to the use of the Service (...) You shall not (or attempt to) purchase, sell, rent or give away your Account (...) You agree that you will not, under any circumstances (...) Solicit or attempt to solicit Login Information or any other login credentials or personal information from other users of the Service or any Supercell game.*⁵¹

The sanction for violation is the same – termination of the account and loss of all the content within it.

Thirdly, I might offer you a ‘service’ called ‘power-leveling’, where I would play the game, using your account, for you, against remuneration. You give me your login credentials, and I log there quite often to collect resources, train the army and raid others. So it remains ‘your’ account, but I spend my time and skill there for you. In this way, you would progress much faster, and when you log into your account, it would be much further within the game than if you simply play it yourself. This type of ‘service’ is not prohibited directly by Supercell, but the ToS state: ‘*You shall use your Account only for non-commercial purposes*’, and arguably it is against the ‘spirit’ of the agreement.

Finally, you might realize that since the game runs on a smartphone or a tablet (simply put, a computer), it is possible to install another computer program – a bot, an artificial agent – that will play the game for you. If you want to get some (semi/il)legal help, why would you pay someone else for their ‘labor’ in the age of automation? You might be unable to write such a software yourself but there are quite a few places online where you can find them easily. This is also forbidden by the ToS:

⁵¹ Supercell’s ToS, section 1.1. *Grant of a Limited License to Use the Service.*

*You agree that you will not, under any circumstances (...) Use or take part (directly or indirectly) in the use of cheats, exploits, automation software, **bots**, hacks, mods or **any unauthorized third-party software** designed to modify or interfere with the Service, any Supercell game or any Supercell game experience.*⁵² [emphasis added, P.P.]

However, Supercell explicitly says that they are using artificial agents in monitoring the platform:

*At our discretion, our representatives **or technology** may monitor and/or record your interaction with the Service or communications (including without limitation chat text) when you are using the Service. By entering into these Terms of Service, you hereby provide your irrevocable consent to such monitoring and recording.*⁵³ [[emphasis added, P.P.]

This means that what you do will be monitored and assessed by artificial agents, who might just as well take a decision to suspend your account or alert a human who will do so. A year ago, after Supercell had deleted thousands of accounts of players who were suspected of violating the terms, an online petition to bring them back was started, with more than 32 thousand signatures to date⁵⁴. The petition had no effect.

Up to this point three types of relations have been discussed: relations between the user and the provider (providing/receiving the service, but also in-app purchases of virtual items); in-game relations between the users, which occur in accordance with different types of rules (players helping each other within the clan, but also ‘stealing’ resources from each other in the battles) and relations between players that violate the terms of service, hence where there is agreement between two users though contrary to the will of the provider. Two more types of relations remain: actions that one user can take towards another against his or her will *and* at the same time against the rules of the ToS; and actions that the provider might take towards the user against (or contrary to) his or her will.

Starting with the former, this generally means hacking. Imagine that someone, through whatever means contrary to your will, gets into possession of your login information, logs in and changes the password. They have basically ‘stolen’ your account. You had a village, now you do not have it anymore. Or imagine that someone uses physical force against you (approaches you and

⁵² Supercell’s ToS, section 1.1. *Grant of a Limited License to use the Service.*

⁵³ Supercell’s ToS, section 3.1.1. *Content Screening.*

⁵⁴ See: <https://www.change.org/p/supercell-supercell-clash-of-clans-permanent-ban> last accessed 17th October 2017.

threatens you with a knife) to make you give them this information. There are criminal law cases regarding these types of actions, though in different games, where the courts pondered whether such an action could be qualified as ‘theft’.⁵⁵

Regarding the latter, i.e. Supercell doing something that could be against the will of the players, one should distinguish changing the mechanics (‘rules’) of the game, and interventions *within* the game itself, with the use of ‘digital force’. The former would mean, for example, that one day Supercell decides to change the ‘rules’ in such a way that canons suddenly deal less damage, or that barbarians get more powerful, or that gold mines at certain levels produce less/more gold than previously. This, in *Clash of Clans*, is not particularly important when virtual property is concerned, since the progress within the game is quite linear – but we shall see that this matters a lot in other games, like *Hearthstone*, *Pokémon Go*, or *World of Warcraft*, where players get much more choice as to how to develop their accounts and how to spend their time and in-game, or real, resources. What is important is that such an action is not directed at any player in particular but rather changes the game experience for everybody, though the actual consequence might be graver for some players than for others. In Lessig’s and Brownsword’s terms, this could be labelled ‘re-writing the code’, changing the ‘rules’ within the code, changing the ‘physics’ of the game or the game mechanics.

When it comes to ‘digital force’, this is when the provider, here Supercell, does ‘something’ to a particular player, for example, blocks an account or takes some virtual items away. They write:

*Supercell may manage, regulate, control, modify or eliminate Virtual Items and/or Merchandise at any time, with or without notice. Supercell shall have no liability to you or any third party in the event that Supercell exercises any such rights.*⁵⁶

This means they can simply decide to take away from you anything on your account – some structures, resources, troops, even the gems for which you paid. What is important to note, at this stage, is not so much the fact that they claim they have a right to so, as the fact that they are *able* to do so, since they control everything happening within their service.

This is an overview of the virtual property phenomenon in a nutshell, reconstructed based on one game, the *Clash of Clans*. People, using a game service, come into ‘possession’ of some virtual items *within that game*, either by ‘earning them’ in accordance with the game rules, or purchasing

⁵⁵ See, for example: Lodder (n 7).

⁵⁶ Supercell’s ToS, section 4.1., *Purchases*

them from the provider (which is allowed) or third parties (which is often possible, but usually not allowed). They therefore get into social relations over these items. These relations are ‘regulated’ by different types of rules, being both law, self-emerging social rules, and ‘rules of the game and of the service’, created and administered by the Service providers. Users are able to buy and sell these items, have them taken away in accordance with the rules of the game, against the rules of the game, or ‘outside’ the rules of the game, by the provider, relying on the factual control of the service and a legal right enshrined in the Terms of Service.

The purpose of this section was primarily to give the reader a ‘feeling’ of what the virtual property phenomenon is. That is why the legal problems were only signaled, and the attention paid to the experience of the lay person playing the game. Now, let us move to the question: what is the legal problem here?

1.1.2. Theoretical and Regulatory Legal Puzzles

Let us get back to the point where you purchase some gems from Supercell. You have the app opened, click the ‘shop’ button, enter the ‘treasure’ section and see an option to buy 1200 gems for \$9.99. You click ‘buy’, confirm that you are aware that real money will be spent, and then you see you have 1200 more gems and, if you log into your bank account, you will see that you have \$9.99 less there. You can now use the gems to speed up building/levelling up/training and/or purchasing some gold or elixir.

What did you just ‘buy’? What *are* the gems? They ‘are’ a number on your screen, they ‘are’ pictures of little shiny green diamonds, they ‘give’ you a possibility to do something, but at the same time they ‘are’ recorded on the server in one form or another. So, what are they, where are they, do they actually exist, and in what way? Further, what are the gems *in terms of law*? Are they things (*Sachen, choses de possession, rzeczy*), since they seem to be an object of ‘possession’? Even if they are not, do you ‘possess’ them in some other sense? Or maybe they are copyrighted works, since there is a visual picture there? Are they rights, since they allow you to do something you could not do before? Are they information, since they exist digitally? Are they a service, since, well, they are a part of a larger service?

And what contract was that? For there clearly was a contract. There was an offer, there was acceptance, there was a meeting of minds, there was a *causa* (needed if you live in France or Poland), there was remuneration (needed if you live in a common law country). The contract was performed – one party agreed to pay and did, another agreed to ‘supply’ the gems, and did. The buttons clicked were signed ‘shop’ and ‘buy’ respectively, and the whole endeavor was called an

‘in-app purchase’. You paid for something and you ‘got’ it. So maybe this was a contract of sale? Draft Common Frame of Reference defines a contract of sale as:

*A contract under which one party, the seller, undertakes to another party, the buyer, to transfer the ownership of the goods to the buyer, or to a third person, either immediately on conclusion of the contract or at some future time, and the buyer undertakes to pay the price.*⁵⁷

Leaving the question of whether a virtual item could be qualified as a ‘good’ for the purposes of contract law (let us, for a moment, assume that it could – though this will differ from one jurisdiction to another), the problem of ‘transferring ownership’ remains. Does a transfer of ownership occur here? Supercell’s Terms of Service, in the section 2.3. titled ‘Virtual items’, state:

*Supercell owns, has licensed, or otherwise has rights to use all of the content that appears in the Service or in Supercell games. Notwithstanding any provision to the contrary herein, you agree that **you have no right or title** in or to any content that appears in the Service, **including** without limitation **the virtual goods or currency** appearing or originating in any Supercell game, whether earned in a game **or purchased from Supercell**, or any other attributes associated with an Account or stored on the Service.*⁵⁸ [[emphasis added, P.P.]]

This means that you have no right to the virtual items you just purchased. You got ‘possession’ of them, but have no right over them. That is a weird contract, and definitely not a contract of sale. There was no transfer of ownership, which is one of the *essentialia negotii* of a sales contract.

However, later in the Terms of Service, you can read:

*In the Service you may purchase, with "real world" money, a limited, personal, non-transferable, non-sublicensable, revocable **license to use** (a) "virtual currency", including but not limited to virtual cash or diamonds, all for use in Supercell games; (b) "virtual in-game items" (together with "virtual currency", "Virtual Items"); and (c) other goods or services ("Merchandise")*

(...)

⁵⁷ IV. A. – 1:202: Contract for sale.

⁵⁸ Supercell’s ToS, section 2.3. *Virtual items*.

*Supercell may manage, regulate, control, modify or eliminate Virtual Items and/or Merchandise at any time, with or without notice. Supercell shall have no liability to you or any third party in the event that Supercell exercises any such rights.*⁵⁹ [[emphasis added. P.P.]]

There seems to be some inconsistency within the terms. The passage above would suggest that you *do* have a right over the virtual items, namely a license. Quite a week license, to be sure, since Supercell might change it or revoke it at any time, for no reason, without notifying you in advance, and without compensating you in any way but, still, a license. So, is it that you have no right or that you have a license?

This inconsistency should not come as a surprise, since the purpose of the Terms of Service, which Supercell('s law firm) drafted unilaterally, was never to settle any doctrinal or ontological disputes but, rather, to simply limit Supercell's liability and retain Supercell's control over the platform to the fullest possible degree. However, assuming that indeed the contract above was a license, this would mean that Supercell owns (or has a sublicensable license, meaning someone else owns) the virtual items in question. A license presupposes ownership – one cannot license something that he or she does not own. Meaning, they *could* transfer ownership, or a sublicensable license, if they wanted. But could they? What would 'ownership' of a virtual item even mean?

Moreover, imagine a hypothetical situation in which the terms of service *say nothing* about the legal status of in-app purchases, both items and transactions. And that then there is a dispute, and one party goes to court. Legal qualification, in the contractual vain, needs to be conducted solely based on the statutory law (or case law, in common law countries; in general, based on the positive law). As what would the court categorize these objects and transactions?

Let us, however, stick for a while to the second option – you pay money, for which you get a license to use virtual items, and 'possession'/control of these items – whatever the legal status, the 'factual' situation changes. However, Supercell might revoke it, or modify the items, or take them away, at any point, for no reason, without compensation. Are they *allowed* to do that? Is this fair? Does this not create a '*significant imbalance in the parties' rights and obligations arising under the contract, to the detriment of the consumer*'⁶⁰? In the end, you just spent 9.99 dollars, and the 'seller' claims to have a right to take the virtual property from you at any point, also instantly. Is this enforceable? Should this be enforceable? Assuming it is not, will anyone go to court to quarrel about \$10? To Finland? The Terms state: *You agree that any claim or dispute you may have against*

⁵⁹ Supercell's ToS, section 4.1., *Purchases*

⁶⁰ Art. 3 of the Council Directive 93/13/EEC on Unfair Terms in Consumer Contracts.

*Supercell must be resolved exclusively by a court located in Helsinki, Finland.*⁶¹ If you reside in the EU, you might be covered, but let us not forget that people from every single country on Earth play *Clash of Clans*. And assuming it is *not* enforceable, i.e. unfair, what *would be* fair? If this particular clause is not binding, what would be the legal situation of the parties, since there is no statutory law to consult? And even leaving the consumer law aside, simply in terms of ‘regular’ private law, do we want a society in which these types of relations are constituted by contracts and protected by law?

As the reader can see, the list of particular legal questions is long and could be prolonged a few times more. And those are questions concerning only one particular relation, concerning one particular type of objects, in the virtual property phenomenon – a ‘purchase’ of a virtual item by the user from the provider. We have not yet mentioned relations concerning other objects (e.g. accounts) or between different parties (between users, users and third parties etc.). The purpose of this cacophony of questions was to throw the Lego bricks on the floor, from which I will now try to construct some order.

As a first step in bringing an order to the chaos, I would like to introduce two distinctions: between **theoretical** and **normative** legal challenges that the virtual property phenomenon gives rise to; and between the **core** of the phenomenon and the **background** of the phenomenon. Theoretical challenges concern the ‘what is?’ questions – what are virtual items? What is an account? What is a ‘service’? What are terms of service? What is ‘digital force’? And: what are all these phenomena in terms of law? In short: they are concerned with *understanding*. The normative challenges make up a more complex subset of questions: is the current situation within a particular sphere legally/normatively (depending on the theory) acceptable? If not, what would be the goal (or desired situation)? Shall one assume there is agreement about the goal, how to achieve it (what are the means available and which ones are preferable?). They are concerned with *evaluation* and *prescription*.

To better explain what is meant by ‘theoretical problems’ here, I would invite the reader to consider a situation where there could be a normative legal problem, but not a theoretical one. Consider a following passage:

Lawrence walked into a stationary shop and picked a black-ink pen from one of the shelves and approached the cashier’s desk. The cashier scanned the barcode, said ‘that’ll be 2 euros, please’, after which Lawrence handed him a two-euro coin, put the pen into his pocket, and walked out.

⁶¹ Supercell’s ToS, section 8. *Dispute Resolution and Law*.

The passage above could be rephrased as:

*Lawrence, a fully capacitated natural person, acting in his capacity as a consumer, entered the business premises of a Company X. From the goods presented for sale, he chose one (a black-ink pen) and made an invitation to negotiations to the employee of the business, properly authorized to conclude contracts in the name of the company. The employee made an offer of sale of the aforementioned thing for the price of 2 (two) euros, and Lawrence accepted the offer. Lawrence performed the contract by paying the price, while the employee performed it by transferring the possession of the thing. In that moment, also the ownership right was transferred. Lawrence left the business premises.*⁶²

If you are a lawyer, the second passage will give you two types of information. Firstly, the facts. After reading it, you know that there is someone called Lawrence, and that he bought a pen for 2 euros. That you would know also from reading only the first passage. However, secondly, this passage informs you as well about the *legal situation* that Lawrence and his pen are in right now. For example, since you know that Lawrence bought it as a consumer, you know that the contract was a consumer sale concluded in the business premises, and so you know which warranties and guarantees apply. If the pen does not work, or writes in blue, even though the inscription on it says ‘black’, you know exactly what rights towards the seller Lawrence will have (or at least you know where to check). You also know, since Lawrence is now the owner of the pen, that he has a right to sell it to someone. You know that he has a right to give it to someone. If someone tells Lawrence ‘hey, you have to pay me three euros for using that pen!’, you know why this is not true. You know that if someone takes the pen away from Lawrence, he has a right to go to court to claim an *in rem* action against that person (let us assume that it is a fancy pen, worth 100 euros, not 2). You know that the court will decide in favor of Lawrence. You know that if the thief refuses to give the pen back, Lawrence has a right to ask the court to enforce the judgment. You know that Lawrence will have no right to take the pen back by force himself but, with the order, he will have a right to ask an executor, accompanied by police, to take it using physical force if necessary. If the pen explodes and injures Lawrence, you know what recourse he will have and to whom, based on what liability rules. You know to whom the ownership of the pen will pass if Lawrence dies. You *know*

⁶² Given that the author and the readers come from different jurisdictions, and it is not the point of the story to speak of any concrete legal order, let us please leave aside the question of who actually made an offer here, and at what moment exactly was the ownership right transferred.

really a lot of things about Lawrence and his pen, simply from two pieces of information: a pen is a thing, and the contract was a consumer sale.

Apart from the legal situation, you also know quite a bit of facts about the pen, not really because you are a lawyer, but because you are a human being embedded in a culture and social life. For example, you can be quite sure that the pen will not disappear one day. If it goes missing, it will be because Lawrence lost it, or someone stole it, but it could not have just evaporated. Also, you know that even if the manufacturer of the pen says ‘ah, I wish I made these pens with pink ink’, Lawrence’s pen will not start to write in pink because someone remotely decided on that. That is just impossible. On top of that, you know that the pen will wear off after some time, that it will need to be refilled at some point, that if Lawrence stabs someone with it, that might result in a serious injury etc. You know *so much* about pens, even without ever having thought about this, just as regards the horses.

Imagine you are a researcher asking a question regarding consumer sales law, concentrating on the pen-market. You might wonder if the warranties available based on EU consumer law resulted in the price increase. You might want to claim that, based on data and the normative theory of your choice, the warranty term for pens is too short/too long. You might want to check whether there are standards for pens in EU and in Japan, and how a potential difference in standards impacts business practice, contractual practice, prices and the flow of goods. You might want to argue for a trade agreement that creates a body to enact such standards, or against such standards, to protect the local manufacturers. There are countless positive and normative questions you might ask. But you do not have a conceptual problem. You know what a pen is. You know the facts about pens, and the legal status of pens. Clearly, you might need to learn more about the specifics of the market, but you do have a good general understanding of what the chunk of reality you want to study is and what it is in terms of law.

Let me use this example to also clarify a bit better what I mean by the core and the background of a phenomenon. The *core* here is what you will directly study and argue about. Entities like pens, persons, shops, factories, and concepts like a thing, a consumer good, a product, a consumer, a seller, a manufacturer, standards, health and safety, etc. The *background* is all the entities and concepts that you simply presuppose, do not even bother to mention: procedural law, courts, executors and police, physical force and physical possession etc. You might postulate a new consumer right, without having to mention that this right, to be effective, needs to have a court system in place, good procedural law, reliable police forces, etc. Clearly, you *might* want to study this but you do not have to if you want to just be concerned with the substantial law.

Now, consider the following passage:

Johnathan opened his Clash of Clans app and decided to buy 1200 gems for 9.99 dollars. He clicked the 'shop' icon, clicked on the offer that interested him and saw that the virtual items appeared on his account. The transaction was executed by artificial agents on the side of his bank (who transferred money), the payment processor (like PayPal), and Supercell. Happy about it, he spent some of them on developing the village, and bought gold and elixir with the rest. The next morning, however, he saw that the gems were gone, as a result of Supercell's decision to 'balance the game'; and half of his resources were stolen by a player named 'Zack777'.

This passage cannot be rephrased into the legal language the same way as the passage about Lawrence and his pen could. Law does not have words for virtual items, an in-app purchase contract, artificial agents, 'digital possession', 'digital force', mechanics of the game that legalize taking some else's virtual items, etc. One can learn about the facts from it but all the legal knowledge one had about a consumer sale and transfer of ownership resulting from it is absent here.

Therefore, if one wanted to ask a normative question: should service providers have unlimited rights in modifying or eliminating users' virtual items within a service? Should there not be guarantees on refunds? Should the rules that allow someone to 'lawfully' take virtual items from someone else be written down and accepted? etc., one would immediately bump into a significant obstacle, that is: not really knowing what all these entities are, not having concepts that encompass them, and having to use a language created to talk about different types of phenomena. Regarding the core and the background: the core would be virtual items, users, providers, and rights they all have and/or should have. But the background also consists of a series of phenomena that one cannot simply presuppose: 'digital force', 'digital possession', a platform, a virtual agent, game mechanics, etc. It is difficult to understand and argue about a smaller part of a complex phenomenon that one does not really fully understand.

Consider an example: imagine someone would like to argue that providers should not have an unlimited right to delete virtual items that the users have purchased. He or she would take the facts, apply some normative theory, and conclude that users should have a right to know in what cases the virtual items *might* be deleted, and a right to be notified at least 180 days ahead, and that otherwise the service provider should have an obligation to 'return' them. But where would this right come from if the phenomenon is global? Would it be enforceable in court? What court? And if the court decides that indeed a user should be 'given' the items back, and the provider would still

refuse to give it back, how would the *in rem* right be enforced? Since police cannot use ‘force’ on the server to do it? Plus: would the application of the normative theory in the first place not overlook too much, like the costs of such a right, slowing down the development of the services etc.? This makes policy oriented research in the area quite tricky.

However, until now we have seen only one instance of virtual property. Before enlisting the concrete conceptual and normative puzzles that this thesis wishes to solve, let me introduce the reader to three more games-services, in which the virtual property phenomenon is present. This time, I will introduce the concrete legal problems along the way.

1.2. Further Case Studies: Angry Birds, Pokémon Go, Hearthstone

In this section three more case studies: Rovio’s *Angry Birds*, Niantic’s *Pokémon Go* and Blizzard’s *Hearthstone* will be introduced and analyzed. Each one of them has proven extremely successful market-wise and each highlights different ways in which virtual items might become subjects of social relations.

1.2.1. The License to... What? The Angry Birds Saga

Released in 2009, *Angry Birds* is yet another classic mobile gaming app, also downloaded over 100 million times, with a visible overspill to other spheres of socio-economic life. The reader might have seen examples of tangible merchandise featuring the birds – notebooks, toys, board games – or the *Angry Birds Movie*. Rovio, the developer and the IP rights holder, reported a revenue of 190 million euros in 2016 and 142 million euros in 2015⁶³. Unlike *Clash of Clans*, which remained a single app with new features emerging within it, *Angry Birds* also grew in the number of apps, with addition of, among several others, *Angry Birds Seasons*, *Angry Birds Space* and *Angry Birds 2*. As of 2015, fourteen games by Rovio, all featuring the birds that are angry, though some based on different mechanics (like a racing game of *Angry Birds GO!*), have been downloaded over 3 billion times⁶⁴.

Why are the birds angry? Because pigs, little green round creatures, stole their eggs and plan on eating them. The task of the player is to ‘win the eggs back’, by destroying pigs’ fortifications and the pigs themselves. This task never gets fully realized, because every time the birds manage to rescue some eggs, the pigs are already fleeing with new ones. If the birds succeeded, that would be

⁶³ ‘Rovio returns to profitable growth’, <http://www.rovio.com/news/rovio-returns-profitable-growth> last accessed 17th October 2017.

⁶⁴ Andy Robertson, “‘Angry Birds 2’ Arrives 6 Years And 3 Billion Downloads After First Game” <https://www.forbes.com/sites/andyrobertson/2015/07/16/angry-birds-2/> last accessed 17th October 2017.

bad for business. Fortunately (for Rovio), they never do, and more and more apps, and levels within these apps, can be created. A never-ending struggle continues. How does one play the game?



Figure 6 Angry Birds interface

Angry Birds has seemingly simple mechanics of a ballistic type. It feels like shooting from a slingshot to a target. On each level, a player will see some ‘fortifications’ erected by the pigs and have a fixed number of birds, who behave like bullets, to bring the fortifications down. A level is ‘cleared’ when all the pigs hiding in these fortifications have been ‘popped’, i.e. hit with a bird, or if they fall from a collapsing structure. The fortifications are built from different types of ‘materials’ – wood, ice, rock etc. – and different types of birds are more effective against different types of materials. The birds also have different ‘skills’ – blue bird can triple in quantity, yellow bird can speed up and fly further, black bird can explode, etc. What is necessary for a player to succeed is to develop the skill of, first, being able to shoot the birds properly, i.e. not too high and not too low, so that they ‘hit’ the fortification exactly where the player intends them to hit, and secondly, to know which bird to use where. A player will, like in *Clash of Clans*, receive from one to three stars for completing each level, depending on how much of the fortification he or she manages to bring down, and how many birds he or she has left (the less birds one needs to use, the better).

Completing levels grants one points, and unlocks new levels. It is a dream of each player to get three stars at each level. Again, the theory of fun was put to thorough use here.⁶⁵

Unlike the *Clash of Clans* game, *Angry Birds* did not start as a freemium app featuring virtual property. At the beginning, Rovio's way to monetize it was to, either, sell the app for some symbolic amount of money (99 cents, 3 euros); or to enable downloading 'lite' versions of the app, which were free, but featured commercials (advertisements) every now and then. That was a 'newspaper' strategy of making money, complemented with sales of merchandise to which Rovio holds copyright and/or trademark rights⁶⁶. However, when it became clear the micro in-app purchases were such a promising way to make money from mobile games, Rovio introduced so-called 'power-ups' into the mechanics of the game. Suddenly, the player could use additional features, that would allow him or her to, for example, make the bird bigger and so to deal more damage; get a laser-pointer and so to see where exactly the bird will hit, etc. The game would 'give' the player a power-up from time to time, but just like with gems in *Clash of Clans*, slightly too little to make a difference. However, it was also possible to buy them, for real money. When the game was first studied by the author, in 2015, the game had no in-game economy, just a possibility of real money transactions.

In the meantime, this mechanic has also been amended. Currently, it is possible to 'buy' some power-ups for 'gems', which can be paid for using coins, which in turn can be 'won' by completing levels, or can be purchased in a 'shop', with a suggestive shopping-cart icon. There is no 'space' that would be 'the player's', like the village in *Clash of Clans*, there are just 'matches' one plays 'against the computer' but, in between those matches, the virtual items – either the power-ups or the virtual currencies for which they can be bought – remain in the player's 'account'.

In the sequel, *Angry Birds 2*, the whole scheme got much more complicated. In this new version (both versions are still available in the App Store and the Play Store; actually all the Rovio apps are), there is a whole variety of mechanics and resources that make game more exciting. Apart from gems and 'spells' (featured instead of the power-ups) a player can also win 'pearls', for which one can purchase 'hats' for their birds (which do not do anything, just look cool); a player can combat against other players in 'player vs. player' (PvP) matches, for which one needs 'tickets', which can be bought for gems. There are quests, rewards, and 'clans', where one can be social. A proper 'in-game economy' has been created, with an option of 'playing without paying', but also an option of buying the gems. What makes it different from *Clash of Clans* is that gems in *Angry Birds 2* do not simply 'speed up' the progress, but rather make the player 'more powerful' in a given

⁶⁵ Koster (n 37).

⁶⁶ Dan Crawley, 'Rovio awarded \$4.3M over fake Angry Birds toys' <https://venturebeat.com/2015/04/07/rovio-awarded-4-3m-over-fake-angry-birds-toys/> last accessed 17th October 2017.

moment. In the PvP matches (in the ‘arena’) I played while researching the game, the difference boiled down to how many spells one has purchased. Essentially, the more one pays, the stronger one is, the more often one wins. The game balances this out with a very interesting single player campaign, and several more features – however, I will spare the reader a description as detailed as in the case of *Clash of Clans* – I believe, for our purposes, this should be sufficient. What matters is that the game can be played for free, though if a player wishes to be more successful, he or she can buy virtual items from Rovio, for real money.

There are a few more differences between the virtual property phenomenon as featured in the *Angry Birds* saga and *Clash of Clans*. Firstly, to play *Angry Birds* one does not have to create an account. This means that when one deletes the app, the progress is lost (including virtual property). However, it is also impossible (in the sense of: players are unable to) to sell an account. Nevertheless, the app allows one to connect the game with one’s Facebook profile. If this is done, the progress will be kept track of by Facebook (what makes the relation even more interesting, by adding a third party with their own Terms of Service, code of conduct etc.), and one will be able to compete with one’s Facebook friends. It is, on the one hand, a smart marketing strategy, for one can ‘invite’ Facebook friends to play the game as well; on the other, a smart way of preventing ‘sales’ of the accounts – to do so, one would need to give another person access to one’s Facebook profile, which can be incredibly sensitive and dangerous.

Secondly, previous versions of the app demonstrate that for a virtual property phenomenon to emerge, an in-game economy is not necessary, and neither is users’ ability to ‘give’ virtual items to each other. Thirdly, unlike with *Clash of Clans*, one does not need to be connected to the Internet to play the game; only to access some features (like PvP matches in *Angry Birds 2*) and to conclude an in-app purchase.

The contract one concludes with Rovio by using the apps (unlike *Clash of Clans*, *Angry Birds* will not ask a user to explicitly click that one agrees with it, simply state that there is an agreement), titled *Terms of service and end user license agreement (“EULA”)*⁶⁷ [[abbreviation original, P.P.]], is common for all the Rovio games, as well as its website (the same is the case with Supercell). There are significant similarities with the Supercell’s ToS – rules specifying what one is not allowed to do, including using bots (artificial agents), hacking the service etc.

The conceptual and normative puzzles are similar. Regarding the core puzzle, i.e. the transfer and legal status of virtual property, the Terms state:

⁶⁷ Terms of service and end user license agreement (“EULA”), further Rovio’s ToU, available at <http://www.rovio.com/eula>, in force as of 7th May 2013, last accessed 25th August 2017

*Rovio may **license to you certain virtual goods** to be used within Rovio Services. Unless otherwise specified, these virtual goods shall be deemed an integral part of the Software. These virtual goods may be licensed both for a fee using “real world money” and without any separate fee, as applicable from time to time. (...) Any and all virtual goods are licensed to you on limited, personal, non-transferable, non- sublicensable and revocable basis and limited only for non-commercial use.*

Rovio may manage, regulate, control, modify or eliminate virtual goods at any time, with or without notice. Rovio shall have no liability to you or any third party in the event that Rovio exercises any such rights.

SUBJECT TO MANDATORY LEGISLATION, YOU ACKNOWLEDGE THAT ROVIO IS NOT REQUIRED TO PROVIDE A REFUND FOR VIRTUAL GOODS FOR ANY REASON, AND THAT YOU WILL NOT RECEIVE MONEY OR OTHER COMPENSATION FOR UNUSED VIRTUAL GOODS, WHETHER YOUR LOSS OF LICENSE UNDER THIS EULA WAS VOLUNTARY OR INVOLUNTARY.⁶⁸ [[caps original, P.P.]]

As one can see, Rovio, just like Supercell in one part of their Terms, claim to be *licensing* virtual goods to the player. The situation is therefore similar: there are objects of a certain social relations, i.e. virtual items, which in the case of *Angry Birds* will be almost entirely ‘vertical’ relations, i.e. between the service provider and the user; and these objects exist *within* the service. A user can purchase them for real money, and the service provider claims to have a right to ‘modify or eliminate’ them, and clearly has a power to do so. What is interesting in this passage is that again, even the provider acknowledges that they are separate objects of separate social relations – i.e. licenses – and since they are licensable, that someone holds an original property right on them. Again, too many doctrinal conclusions should not be inferred from a contract, but, as we shall see in the ‘service fallacy’ (discussed below), such an approach, on the provider’s side, is telling.

There is one more passage in the Terms that I would like to draw the reader’s attention to:

SOFTWARE LICENSE. Subject to this EULA and its terms and conditions, Rovio hereby grants you a non-exclusive, non-transferable, non-sublicensable, limited

⁶⁸ Rovio’s ToU, section 5, *Payments and purchases of virtual goods*.

right and license to use one copy of the Software for your personal non-commercial use for gameplay on a single computer or gaming (...)

*SERVICE LICENSE. Subject to this EULA and its terms and conditions, Rovio hereby grants you a non-exclusive, non-transferable, non-sublicensable, limited right and **license** to use the Services as provided by Rovio, for your personal non-commercial use, in the manner permitted by this EULA. The rights granted herein are subject to your compliance with this EULA.*⁶⁹ [[emphasis added, P.P.]]

The license to use the software is clear and understandable – since computer programs are protected by copyright as literary works⁷⁰, and one of the acts restricted to the right holder is ‘*the permanent or temporary reproduction of a computer program by any means and in any form, in part or in whole*’⁷¹, namely: installing such a license granted to the user is necessary for the use to be lawful. However, the second license – a license to ‘use the Services’ – should make a private lawyer frown.

For this is not the typical meaning in which a word ‘service’ would usually be used, at least within the private law doctrine. The word, interestingly, is rarely defined as such. Even ‘contracts for service’ are not always explicitly defined by national legal systems (the Polish Civil Code, for example, only states that contracts for service should be governed *mutatis mutandis* by the provisions about the mandate). There is a definition in DCFR, which states: ‘*A contract for services is a contract under which one party, the service provider, undertakes to supply a service to the other party, the client*’⁷², later giving examples of services, namely: construction, processing (of a thing), storage, design, information and advice, and (medical) treatment. Note that ‘service’ is not defined here. From this, one can only deduce what a service is. And service is about doing something. One party performs an action – gives advice, constructs something, stores something, cuts one’s hair etc. – and the other party receives it. A contract for service gives one party a right to demand an action to be performed, against remuneration, and allows a court, should a dispute arise, to assess whether that action was in compliance with the agreement. In this sense, a ‘contract for service’ became a residual category for all the contracts that were not about transfer of rights over objects or other contracts specifically defined in the law. The word is also not defined by the e-Commerce Directive⁷³, which refers the interpreter to Article 1(2) of Directive 98/34/EC as

⁶⁹ Rovio’s ToU, section 1. *Licenses*.

⁷⁰ Consider, within the EU, the DIRECTIVE 2009/24/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 on the legal protection of computer programs (Codified version), art. 1.

⁷¹ Art. 4 of the Directive 2009/24/EC.

⁷² DCFR IV. C. – 1:101.

⁷³ Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (‘Directive on electronic commerce’).

amended by Directive 98/48/EC, which in turn states that ‘services’ should be understood as: ‘*any Information Society service, that is to say, any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services*’. Again, what a ‘service’ is get presupposed. However, it again shows that services are about performing actions.

This interpretation of the word ‘service’ – someone doing something for someone else – seems to be consistent with the primary law of the European Union, which, however, also does not define the word ‘service’ itself. Article 57 of TFEU, delineating the scope of the freedom to provide services – one of the four freedoms of the single market – states:

Services shall be considered to be "services" within the meaning of the Treaties where they are normally provided for remuneration, in so far as they are not governed by the provisions relating to freedom of movement for goods, capital and persons. "Services" shall in particular include: (a) activities of an industrial character; (b) activities of a commercial character; (c) activities of craftsmen; (d) activities of the professions.

This is not a definition of ‘services’ in themselves but, rather, a definition of the term for the purposes of the Treaty. In this sense, the Treaty also presupposes the meaning of the word ‘service’. The case law of ECJ provides further examples of what counts as services, including tourism, medical and financial activities, debt-collecting work, insurance, etc.⁷⁴ All this suggests that services are activities performed by someone and contracts for service are about creating obligations to provide these activities.

In the light of this, Rovio’s EULA stating: ‘*Rovio retains all right, title and interest in and to the Rovio Services (...) Rovio hereby grants you a non-exclusive, non-transferable, non-sublicensable, limited right and license to use the Services*’ is atypical. ‘Service’ is an activity to be performed and received, not an entity to be owned, licensed or used. Clearly, there are activities on the side of the provider – sustaining the servers, matching players with other players etc. – but this is not what the providers mean. What they mean is a right to access the platform, which they call a service, for a lack of better word.

Hence, there is yet another block in the background puzzle – what actually *is* the ‘service’ (the platform) that one is entitled to use? As will be claimed in Chapter 4, this is the cyberspace that the providers claim they own and within which they retain full factual and legal control. The

⁷⁴ See: Catherine Barnard, *The Substantive Law of the EU: The Four Freedoms* (Third edition, Oxford University Press 2010) 356–361 and the cited case law.

question of ‘spaces’ gets even more complicated, when other types of games – based on the so-called augmented reality’ technology, are concerned. A good example of such an app is Niantic’s *Pokémon Go*.

1.2.2. The Augmented Space: Pokémon Go

Released in July 2016 by Niantic, *Pokémon Go* was the next step in a long-lasting evolution of the Pokémon concept. Pokémon – an abbreviation for ‘Pocket Monsters’ – are fantasy creatures, something between animals and monsters. They have been around since 1996, when the first Gameboy game featuring them was released, and since then made it into TV shows, comics, a trading card game, and countless instances of merchandise, ranging from toys to pictures on essentially everything that can be covered with one. The reader might have heard of Pikachu, or at least seen the images somewhere. As of February 2017, *Pokémon Go* itself has been downloaded over 650 million times⁷⁵ and, at the same time, in less than 9 months, generated a revenue of 1 billion dollars⁷⁶. What is special about the game is not only its popularity and astonishing worth but also the revolutionary way of playing that it introduced – a successful implementation of what is called ‘augmented reality’. When playing *Clash of Clans*, *Angry Birds* or any other major mobile game, all one has to do is to operate on a smartphone’s screen. One can be wherever, sitting, standing, at home, at a lecture, on a bus, but it is the smartphone (or a tablet) and the server where all the ‘action’ takes place. *Pokémon Go*, on the other hand, forces one to get outside and walk around the city.

⁷⁵ Samit Sarkar, ‘Pokémon Go hits 650 million downloads’ <https://www.polygon.com/2017/2/27/14753570/pokemon-go-downloads-650-million> last accessed 17th October 2017.

⁷⁶ Jon Russel, ‘Report: Pokémon Go has now crossed \$1 billion in revenue’ <https://techcrunch.com/2017/02/01/report-pokemon-go-has-now-crossed-1-billion-in-revenue/> last accessed 17th October 2017.



Figure 7 Interface of *Pokémon Go*

The player's role in *Pokémon Go*, just as in any other Pokémon game, is to catch all the Pokémon and train them. 'Gotta Catch 'Em All', states the ubiquitous motto. At the beginning, 'all' means 150 but the further one goes into the adventure, the more types there are. To catch a Pokémon, one first needs to find it, then lure it with some berries, and then throw a pokéball at it. Where does one find them? Everywhere. When one opens the app, one will see a character (an 'avatar'), being the player's representation in the game. The character is standing on a 'map', showing the streets, the squares, the pokéstops and the gyms – the last two being places where a Pokémon trainer (this is the player's title in the game) definitely wants to go. Should one examine the map a little closer, one will notice that it quite adequately mirrors the place in the real world where one actually is. And to 'move' the character, one needs to move in the real world. Hence, what the reader can see on the screenshot no. 7 is actually a map of a part of Florence, where I happened to study the game. To move from one street to another *within* the game, one actually needs to *walk* from one street to another, in the real world, with the smartphone in one's hand. When one walks around, Pokémon will appear on the map. When one clicks on it, the smartphone screen will transform and start behaving like a photo camera, just with the Pokémon added on the space. As the reader can see on the screenshot no. 8, I was trying to catch a Pokémon next to the the entrence of Villa Salviati, and

in front of and ATAF bus. To ‘catch’ the Pokémon, one needs to throw a Pokéball – a special device serving the purpose – at that Pokémon, which one does by swiping one’s finger on the smartphone screen. Sometimes this will be enough, sometimes one will need to give the Pokémon a berry or two. When caught, the ‘wild’ Pokémon becomes ‘your’ Pokémon, gets featured in the Pokédex (Pokémon Index) and can be made to fight.

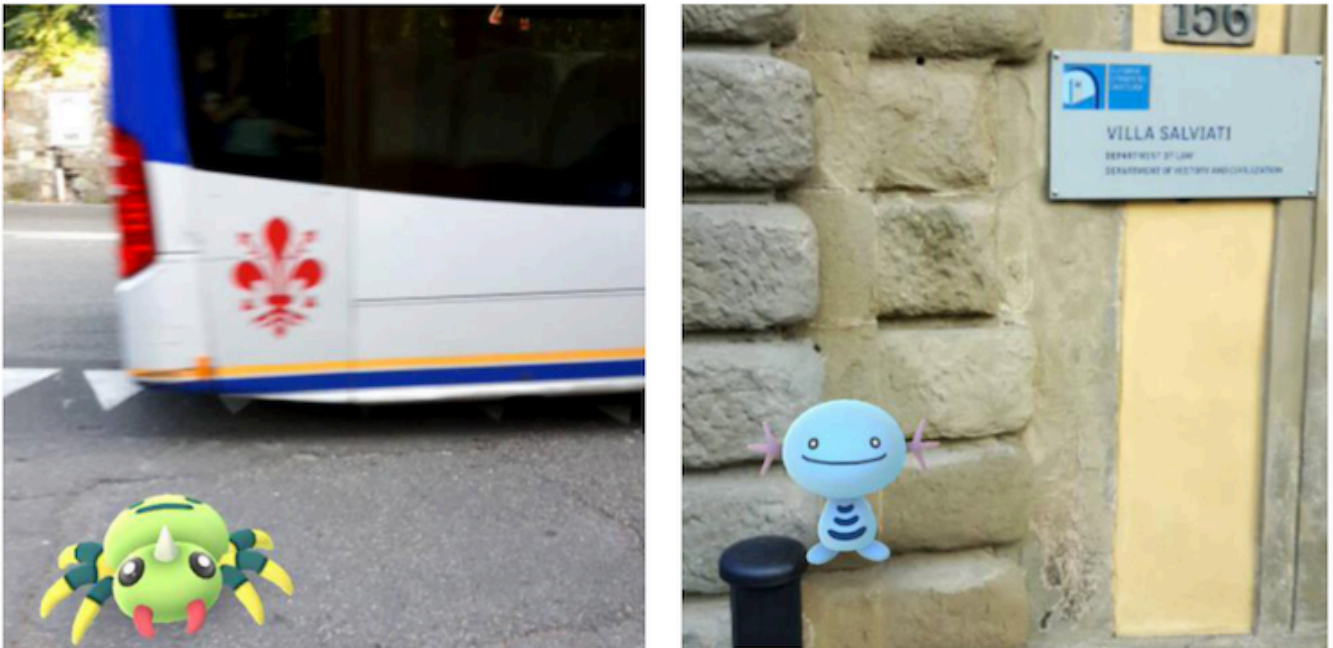


Figure 8 Augmented Reality in Pokémon Go

There are initially 150 types of Pokémon (at the moment of final submission, updated to 250) but many more ‘tokens’, instances – it is possible to catch more than one Pokémon of the same type (one can have two, or five or ten Pikachu). When having more than one Pokémon of the same type, one can ‘trade’ the Pokémon for ‘candy’ (that is the in-game economy), which can later be used to ‘level up’ – ‘train’ – the Pokémon one has, to make them stronger. One wants to make them stronger in order to defeat other Pokémon trainers in the ‘gyms’ – special places, where PvP matches are possible. Different genres of Pokémon can be caught in different areas – forest Pokémon in a forest, water Pokémon by the sea, ghost Pokémon around graveyards, etc. That is why, to ‘catch ‘em all’, one actually needs to travel a bit. The feature that makes the game more ‘social’ is that when someone sees a Pokémon and catches it, another player can catch it as well, in the same place – in this sense, they are not ‘scarce’ or ‘rivalrous’.



Figure 9 A Pokéstop located at a local business

As I mentioned, to catch Pokémon, one needs Pokéballs and berries – and these are scarce. There are two ways to obtain them. Firstly, one can visit ‘Pokéstops’, specially designated places, featuring what actually happens to be, in the real world, in the spot where the stop is located. On the screenshot no. 9, the reader can see a Pokéstop located at a pastry shop in Florence. There, every now and then, one will receive pokéballs, berries and ‘potions’ (necessary to revive a Pokémon after a battle) for free. That gives one an incentive to walk around the city, and visit as many places as possible. Secondly, as the reader probably has guessed by now, one can buy these virtual items from Niantic, the service provider. The game interface features a little icon called ‘shop’, where one can purchase Pokéballs for coins, and coins for real dollars.

The mechanics according to which one needs to walk around to catch Pokémon and collect virtual items *within* the game while at the same time *in the real world*, led to quite a few real-world overspills. On the one hand, there are negative externalities. Sometimes Pokémon will appear in public places, like parks and streets, but sometimes on private property. Cases of trespass have been

filled⁷⁷, and the question of whether placing a virtual item on one's private property constitutes a trespass has been raised⁷⁸. The case is not yet decided. Unfortunately, cases of death and/or severe injury while playing the game have been reported. One man has been shot while trespassing in order to catch a Pokémon in someone's house⁷⁹, two men fell off a cliff while trying to do so.⁸⁰ The *Pokémon Go* app now often displays a warning to players not to trespass, to be aware of their surroundings, and not to go to dangerous areas. Also, some Pokémon appeared in places that are public, but somehow incompatible with gaming, like the Washington Holocaust Museum⁸¹. On the other hand, positive effects of *Pokémon Go* have been reported as well. Apart from the fact that the game literally forces gamers to leave their computers and go to play outside, it has boosted local business⁸², which were given opportunity to pay Niantic to have a Pokéstop or a gym located at their premises or nearby⁸³ (as shown at the screenshot no. 9). At the screenshot no. X, the reader can see one such instance of a clothing store in Florence.

One additional feature of the game is a so-called 'raiding'. 'Raids' are activities that several players (usually up to twenty) would undertake together, where their role is essentially to defeat an extremely powerful Pokémon. In order to participate in raids, players need to purchase 'tickets', from the game coins, which must be purchased for real money. A reward for a successful raid comes in the form of virtual items – usually much more powerful berries or Pokéballs, which allow players to later catch the rarest and the strongest Pokémon. Lately, however, this feature has caused quite some controversy. In short, Niantic changed the 'rules' of the game embedded in the code, modifying what types of rewards players might get from successful raids, to much less attractive

⁷⁷ Cara McGoogan, 'Pokémon Go makers sued for encouraging trespassing' <http://www.telegraph.co.uk/technology/2016/08/03/pokemon-go-makers-sued-for-encouraging-trespassing/> last accessed 17th October 2017.

⁷⁸ Eriq Gardner, 'Will a Class Action Over 'Pokémon Go' Redefine What It Means to "Trespass"?' <http://www.hollywoodreporter.com/thr-esq/will-a-class-action-pok-mon-go-redefine-what-means-trespass-989042> last accessed 17th October 2017.

⁷⁹ Gerard Couzens, 'Pokémon GO 'sees its first death after 18-year-old breaks into house to catch virtual animal but is shot' <http://www.mirror.co.uk/news/world-news/pokmon-go-sees-first-death-8453153> last accessed 17th October 2017.

⁸⁰ Janissa Delzo, 'Men fall from cliff playing Pokémon Go' <http://edition.cnn.com/2016/07/15/health/pokemon-go-players-fall-down-cliff/index.html> last accessed 17th October 2017.

⁸¹ Andrea Peterson, 'Holocaust Museum to visitors: Please stop catching Pokémon here', https://www.washingtonpost.com/news/the-switch/wp/2016/07/12/holocaust-museum-to-visitors-please-stop-catching-pokemon-here/?utm_term=.ce96d1c64840 last accessed: 17th October 2017.

⁸² Jason Evangelho, 'How 'Pokémon GO' Can Lure More Customers To Your Local Business' <https://www.forbes.com/sites/jasonevangelho/2016/07/09/how-pokemon-go-can-lure-more-customers-to-your-local-business/#1dc0a4967cd4> last accessed 17th October 2017.

⁸³ See: https://support.pokemongo.nianticlabs.com/hc/en-us/requests/new?ticket_form_id=319928 last accessed 17th October 2017.

ones. Players who already spent real money on the tickets were not content⁸⁴. However, all this happened in accordance with Terms, which state, similarly as in the case of the previous apps:

*We have the right to offer, modify, eliminate, and/or terminate Trading Items, Virtual Money, Virtual Goods, the Content, and/or the Services, or any portion thereof, at any time, without notice or liability to you.*⁸⁵

Note that the word ‘services’ in the cited passage is used, just as in the case of *Angry Birds*, to refer to the platform. The remainder of the puzzles are similar to those in the two previous apps. Supercell reserves the right to terminate and modify the accounts and the virtual items:

*We may cancel, suspend, or terminate your Account and your access to your Trading Items, Virtual Money, Virtual Goods, the Content, or the Services, in our sole discretion and without prior notice, including if (a) your Account is inactive (i.e., not used or logged into) for one year; (b) you fail to comply with these Terms; (c) we suspect fraud or misuse by you of Trading Items, Virtual Money, Virtual Goods, or other Content; (d) we suspect any other unlawful activity associated with your Account; or (e) we are acting to protect the Services, our systems, the App, any of our users, or the reputation of Niantic, TPC, or TPCI. We have no obligation or responsibility to, and will not reimburse or refund, you for any Trading Items, Virtual Money, or Virtual Goods lost due to such cancellation, suspension, or termination.*⁸⁶

Note that the enumeration of reasons, following the words ‘in our sole discretion and without prior notice, including (...)’ is only an example of how Niantic plans to exercise their right through the use of ‘digital force’, and does not serve as a limitation to this power.

Finally, regarding the legal title to virtual items, Niantic makes similar claims to Rovio and Supercell, stating:

⁸⁴ Dave Thier, ‘Legendary Raid Rewards Got Nerfed In “Pokémon GO,” And People Are Not Happy’ <https://www.forbes.com/sites/davidthier/2017/08/20/legendary-raid-rewards-got-nerfed-in-pokemon-go-and-people-are-not-happy/> last accessed: 17th October 2017.

⁸⁵ *Pokémon GO Terms of Service*, in force as of 1st July 2016, last accessed 27th September 2017, available at: <https://www.nianticlabs.com/terms/pokemongo/en/>, further *Pokémon Go ToS*. Section: *Effect of Termination on Trading Items, Virtual Money, and Virtual Goods*.

⁸⁶ Ibid.

The purchase of Virtual Money grants you only a limited, nontransferable, non-sublicensable, revocable license to use such Virtual Money to access and purchase Virtual Goods in conjunction with your personal, noncommercial use of the Services. You acknowledge that you do not acquire any ownership rights in or to the Virtual Money, Virtual Goods, or other Content; any balance of Virtual Goods or Virtual Money does not reflect any stored value. You agree that Virtual Money and Virtual Goods have no monetary value and do not constitute actual currency or property of any type.⁸⁷

Hence, no ownership, a very weak license, and a right for the provider to do essentially anything. Especially the part stating: ‘You agree that Virtual Money and Virtual Goods have no monetary value’ is interesting, as if the question of whether something has a value for someone could be contractually settled. The Terms also include an interesting provision that seems to acknowledge the existence of the EU consumer law:

If you live in the European Union, you have certain rights to withdraw from online purchases. However, please note that once you download Virtual Money from us, your right of withdrawal ends.⁸⁸

Given that the ‘downloading’, i.e. performance of the contract, takes place immediately at the moment of its conclusion, this term may only make the reader frown in disregard. However, its function is clear – to pretend as if the company abides by the consumer law, while at the same time to limit any liability on their side.

The last feature I wanted to discuss, already ‘regulated’ by the Terms of Service, though not yet implemented in the game mechanics, is trading of Pokémon between the players. Exchanging Pokémon with other ‘trainers’ was always an important part of the Pokémon experience, both in the Gameboy games and the trading card games. Since, at the moment of submission of this dissertation, this feature is not yet available, I will not discuss it in detail. The only thing to mention is that the Terms state that players can only exchange Pokémon using the authorized platforms, and that they are not allowed to do this in exchange for real money. Hence, the same problem as in the case of *Clash of Clans* will arise.

⁸⁷ *Pokémon Go ToS*, Section: *Purchases of Virtual Money and Virtual Goods*.

⁸⁸ *Ibid.*

1.2.3. This Could be Paper: Hearthstone

The last game to be discussed before the argument moves to the discussion of the conceptual and regulatory challenges posed to private law by the virtual property phenomenon is Blizzard's *Hearthstone*. Released in March 2014 for PCs and Mac computers, and later that year for tablets and smartphones, *Hearthstone* generated a revenue of \$394 million in 2016⁸⁹, and in May 2017 reached the number of 70 million players worldwide.⁹⁰ The game is set within the universe of Warcraft, developed earlier by Blizzard in their classic strategy games, *Warcraft* (released in 1994), *Warcraft 2* and *Warcraft 3*, as well as in their phenomenal MMO RPG, *World of Warcraft* (discussed below, in section 1.3.1.1). Warcraft's universe is a fantasy one, which could be roughly compared to the one of *The Lord of the Rings* by J.R.R. Tolkien. It features elves, dwarves, trolls and orcs, wizards and warriors, resembling somehow medieval times, just filled with magic and magical creatures. Similarly to the previously discussed ones, this narrative also had a strong overspill to other spheres of socio-economic life, including numerous books, merchandise and a *Warcraft* movie.

Hearthstone is a digital version of a card collecting game. A 'card game' here means that it is played using cards, however, not the traditional ones that feature jacks of diamonds and queens of spades and are used for playing poker or bridge, but cards specifically created for the game's purpose. The reader might be familiar with *Magic the Gathering* or the *Pokémon Trading Card Game* – it basically employs the same concept. If not, the reader might be familiar with cards featuring football players, or cars, or pop-stars, that children would collect. The idea (behind collecting card games, not yet behind *Hearthstone*) is that one buys 'packs' of cards in a shop, without knowing exactly what cards are inside, collects them, and when having too many of a particular type, one can exchange them for other ones, on a card-barter-market (usually meaning: among friends). From these cards one would construct a 'deck', using which one can play against someone else. Each card has certain strength and certain 'abilities', and putting together a good deck requires some skill. *Hearthstone* is just about that, but digitally.

When one logs into the game for the first time, one will receive some 'basic' cards for free, or as a reward for completing tutorials. That is enough to compose a deck, but such a deck will be quite weak. A deck consists of 30 cards. There are eight 'classes' that a player might choose to play as – Warrior, Mage, Wizard etc. – and some cards can only be used in decks of a particular class. A

⁸⁹ Mike Minotti, 'SuperData: Hearthstone trumps all comers in card market that will hit \$1.4 billion in 2017' <https://venturebeat.com/2017/01/28/superdata-hearthstone-trumps-all-comers-in-card-market-that-will-hit-1-4-billion-in-2017/> last accessed 17th October 2017.

⁹⁰ '70 Million Players!' <https://us.battle.net/hearthstone/en/blog/20720847/70-million-players-5-1-2017> last accessed 17th October 2017.

player who spends some time in the game will therefore probably have at least eight decks – one for each class. The point of the game is to collect cards, and to play (and win) against other players. When one composes a deck, one can request that the service finds a match, a player to play against.

To briefly summarize the mechanics of the game: to win a match, a player must reduce the ‘hit points’ of the opponent from 30 to 0 (or below). One does this by playing different cards, which in one way or another deal ‘damage’ to the opponent, or restore one’s own hit points. One starts with 3-4 cards in one’s ‘hand’, chosen randomly from the deck, and will receive one new card each round. There are different types of cards – some feature ‘minions’ that a player can ‘summon’, which have their own hit points and an ability to attack, some are spells, some are weapons. Each card has a ‘cost’, i.e. the amount of ‘mana crystals’ necessary to play it – they grow from one to ten, by one, every turn. Whenever a player is out of crystals, it is the next player’s turn. If the reader does not really grasp it, there is no problem whatsoever, the game is quite complicated at a first sight, and as with every card game, it is much easier to understand it when one actually plays it. What matters, in short, is: to win a game, one needs 1) good cards; 2) a well composed, balanced deck; 3) a good strategy; and 4) a bit of luck, to have the cards come in a favorable order (the deck is ‘shuffled’ before the game, so a really good card might come as the first one, but also as the last one; cheap cards (with low mana cost) are more useful in first rounds etc.). Points two and three boil down to knowledge and experience, which one will acquire over time. Regarding point one, which is central from the argument’s point of view, from where does one get good cards?

One must purchase packs of cards. One does it in a ‘shop’ (suggestive gold purse icon), and a pack of cards costs 100 coins. 2 packs can be purchased for \$2.99, 7 packs for \$9.99, etc. One does not know what cards will be inside a pack – whether they will be really powerful, and whether they can be used by the player’s favorite class. One can see all the cards one has in the ‘collection’ segment. That is also where one would compose a deck. Dollars are pretty straightforward here, but from where does one take ‘coins’? They cannot be purchased, only won inside the game. A player would get some for winning matches and completing daily quests. As in all previous examples, it is possible to play the game without spending any money on it, but if one wants to be really successful, one will need to purchase more packs than is possible just with in-game-won gold.

What does it mean to be ‘successful’? When one plays against others, one can choose to do so either in a ‘casual’, or a ‘ranked’ format. The latter keeps the track of player’s victories and defeats, and specifies what ‘rank’ a player has in a given month (those range from 25 – the lowest – to 1 and Legendary – the highest). The more matches a player wins, the higher rank he or she will have. What also matters are so-called ‘winning-strikes’ – i.e. consecutive victories without a loss – when a player wins more than 3 times in the row, the ranking bonus will be higher.

As was mentioned above, the traditional (paper, tangible) collecting card games involved ‘trading’ with other players – either swapping some cards for another or selling them for real money. That was a typical secondary market, clear from the point of view of property law and copyright law (first-sale doctrine). In *Hearthstone*, however, this is not possible. The mechanics of the game simply do not allow to exchange cards with one another (there is no such option). To mitigate the problem resulting from not knowing what will come inside a pack – the problem of having too many useless card, from the players point of view, while missing one that a player really desires (which, in the case of paper card games, would be taken care of by the secondary market), ‘powder’ mechanics have been introduced in *Hearthstone*. Each card featured in the game has its own ‘value’ in magic powder. These can range from 40 to 3200. If a player wishes, he or she can ‘sell’ a card to the game, in exchange for powder. However, the price one gets is always lower than the price one needs to pay. For example, for a card worth 40 a player will get 5, for a card worth 1600 a player will get 400, etc. When one manages to create enough powder from ‘selling’ cards, one can ‘purchase’ a particular card that one desires. Meaning, there is no secondary market for the cards, only a simulation of one, with perfect fluidity (the ‘bank’ will always buy cards, and always has cards for sale), but fixed prices, quite unfavorable to the player. Note that this is not a real ‘exchange’, since from the point of view of the provider, deleting or creating new cards is just a matter of operation over the code – there is no need to ‘have’ something to give it to someone.

To get back to the matches: apart from ‘casual’ and ‘ranked’, there are a few more game formats (the ‘Brawl’, ‘solo adventures’), which are not really relevant for the thesis’s argument, apart from one – the ‘Arena’. When entering the Arena, a player does not use his or her own deck, but composes one from the cards available there one day. With this deck, he or she will compete against other players, and the more matches he or she wins, the higher the prize. That is where the cards one has matter less, only the strategy and deck composing skills matter. However, to play at the Arena, one needs to ‘pay’, either 150 coins, or €1.99. The prizes one can win are coins, powder and packs.

What is interesting, from the argument’s point of view, is that *Hearthstone* does not have its own Terms of Service. The game runs on Blizzard’s *Battle.net* platform, a software and a service from which one opens all the games of the provider. *Battle.net* has its own Terms of Service and End User License Agreement (in the case of Blizzard, those are two separate documents). They resemble the discussed ones quite strongly, with a small difference that separates a contract licensing the software from the terms governing the service. However, qualitative analysis of their content shows that the issues regarding virtual property are being discussed in both documents, with no visible pattern suggesting an explanation of choosing one over the other. Blizzard, just like the

previous providers, stipulates rules of behavior, reserves a right to terminate accounts, delete content, modify the game itself, etc. There are two things I would like to draw the reader's attention to.

Firstly, changing of the game's rules, including the mechanics. What distinguishes *Hearthstone* from previously discussed games is that the 'progress' of the player's account is not linear. In *Clash of Clans*, two players who spent a similar amount of time within the game, will probably have a similar collection of virtual property. In *Hearthstone*, players make many more decisions, concerning, for example, exchanging the cards. This means that two players who spent more less the same amount of time (and money) on the game, might have two, quite distinct, card collections. This would not really be problematic, if the rules were set at the beginning and remained stable. But they are not.

For, secondly, every now and then an 'expansion' to the game will be released. Players cannot 'opt out' of it, meaning that to continue playing the game, one must install the expansion. Each expansion will feature a new set of cards, previously not present in the game. A player will, from now on, get a choice of whether to purchase 'classic' packs, or packs including cards from a particular expansion. Imagine that a player (spoiler alert: yes, me) invests quite some time and money in collecting cards from a given expansion – say *Goblins vs. Gnomes*, released on 8th December 2014, and builds his or her strategy and decks on the cards from this expansion. He or she creates an extremely powerful deck based on a certain type of cards, i.e. 'mechs' (robots constructed by the gnomes). It was an original idea, and a successful one indeed. However, at some point, Blizzard announced that to 'balance the game', it will 'remove' the cards coming from earlier expansions from the standard ranked mode⁹¹. Meaning, a player will no longer be able to use them in the most important mode of the game. Two things to note are: they are able to do that, and seem to be allowed to do that, even though they never before announced such plans. Secondly, Blizzard also changes particular cards, also to 'balance the game'. Some cards, previously stronger, will now be weaker, or vice versa. If someone spent quite some time and money on getting a card that is now weakened, or got rid of cards that are now stronger, this will be quite painful. That is basically the average game experience. Hence, just as in the case of *Pokémon Go*, the changes to the 'code' that do not seem to be normative, have economic consequences.

The catalogue of options 'outside of the normal experience' is similar to the one discussed above. Players are also able, though not allowed, to 'trade' *Battle.net* accounts (like in *Clash of Clans* or *Pokémon Go*), though it is not possible to just trade a *Hearthstone* account. All the other

⁹¹ Alex Hern, 'Hearthstone retires 150 cards and introduces a limited format' <https://www.theguardian.com/technology/2016/feb/03/hearthstone-retires-cards-limited-format> last accessed 17th October 2017.

games, if there are some other games associated with the *Battle.net* account, will follow. Blizzard reserves the right to block and terminate accounts.

Hearthstone is indicative for one more reason. Arguably, in the case of the previously discussed games, the virtual items necessarily can exist only as a part of these games. However, in the case of *Hearthstone*, the cards players collect could, in principle, be used to play in an ‘analogue’ way. As has been reported in the literature, for some time, a different card-collecting game, namely *Magic: the Gathering*, which first existed as paper cards and only later added a digital component, featured an option allowing the players to exchange their virtual cards for paper ones and *vice versa*⁹². This shows that digital objects existing *within* online platforms are not ‘services themselves’ – it would be pretty absurd to claim that a file residing on one’s hard drive is a digital object, and the moment it is uploaded to the cloud, it becomes ‘a service’.

1.2.4. Puzzles Spelled Out: The Map of the Problems

At this stage, I hope, the reader has gone through enough ethnographic material to picture what the virtual property phenomenon is about, what types of objects, actors and relations occur there, and what types of challenges it has generally presented private law scholarship and practice with. The purpose of this section is to bring the pieces together and present a set of particular questions to which the law does not seem to have answers. Fortunately, these questions come hand-in-hand with many others to which the law *does* have answers. Hence, the puzzles – what we do not know – will be spelled out together with a specification of what we do know, and where exactly the problem lies.

Starting with the theoretical problems in the background of the phenomenon, there are at least four questions be posed. First and foremost: what is an online platform, or a ‘service’ as it is usually called in the Terms? On the terminological level, there are three types of entities to be distinguished: the company (service provider/platform owner), the platform (the infrastructure, including software, the domain name, databases etc.), and the service proper (the activity undertaken by the service provider, via the infrastructure). Regarding the case studies, the confusion of the company with the platform is not a real risk, for the simple reason that the names are different (Supercell – *Clash of Clans*; Rovio – *Angry Birds*; Niantic – *Pokémon Go*; Blizzard – *Hearthstone*). However, in the case of other online platforms, like Google, Facebook or Twitter, the company’s name is the same as the platform’s. Hence, it is important to remember that when one speaks of ‘Facebook’s responsibility’, those are obligations on the side of the company, not the platform. The company is not the platform, the company owns the platform. Regarding the

⁹² Edward Castronova, *Wildcat Currency* (Yale University Press 2014).

platform, there are several components the legal status of which are clear. There are servers (tangible things), owned by the provider. There is the software on the servers (protected by copyright) and databases (protected, at least within the EU, by the database IP right). There is the client software (the app), for which IP rights stay with the provider, which, however, must be licensed to the user, for the installation to be lawful. There is a domain name, protected via the *sui generis* domain names regime. The property and title to all of this infrastructure is clear and so is their legal status. In this sense one can speak of Supercell or Rovio as the *platform owners*, since they own all the components that exist if the platform exists. These components are used as tools to provide the service, which is the activity – connecting players with each other, storing their data, or in the case of other platform doing what these platforms do (storing files in the case of Dropbox, searching the web in the case of Google, etc.). In this sense, one can speak of Supercell or Rovio as *service providers*. However, it is important to remember that, even though these roles are obviously intertwined, from the legal perspective there are different. Within all this that we know, the question ‘what is a platform?’ gets posed.

For, the platform is a type of a ‘space’. A cyberspace. Your pokéballs exist *within Pokémon Go*, you post *on* Facebook or Twitter, you attack the villages of other player *in Clash of Clans*, etc. These spaces are regulated by five types of rules, that is where people are ‘digitally present’, where they ‘digitally possess’ objects. These are the spaces that people are *licensed to use/to access*. The experience of using a platform, and all the relations occurring within the platform, cannot be reduced to all the components enumerated above, and the relations concerning these components. It is this for which law does not have words. The concept of ‘a cyberspace’ is, as of today, a metaphor, but is void of legal meaning.

In connection with this, the second question in the theoretical puzzle of the background, is: what are the ‘terms of service’ documents? Are they contracts? Some parts of them definitely are, like licensing the software. But are they contracts *for* service? They include no obligation on the side of the providers to do anything, they usually stipulate that they are provided ‘as is’. Users have no rights to claim any action, based on these documents. What they do include, however, is a license *to use* the service (the platform), and rules stipulating what the users are not allowed to do ‘while there’. Maybe then, they are more like an exercise of a property right over these platforms? That is the second type of entity for which law does not have words. Simply stating that terms of service are contracts does not say much about what they are. Even if they are, what type of contracts?

Thirdly, there are the artificial agents. Again, what we do know is what they are from the property perspective – they are computer programs, protected by copyright. What we do not know

is what is their legal status as ‘subjects’ in legal relations? Are they merely ‘tools’ used by the service providers/platform owners and/or users? In such an interpretation, they would be transparent to law from the subjective perspective, their actions are treated as actions of the companies. However, they seem to be a bit different from hammers or screwdrivers – the providers do not know what they are doing precisely, or when – they have a certain degree of autonomy. What is more, to regulate their actions, it seems insufficient to simply regulate the actions of the providers – since there is a moment of ‘translation’ of rules directed at the providers into the code guiding the behavior of artificial agents. This matters, because if the phenomenon of virtual property is to be regulated, this regulation will need to take into account that it is supposed to, ultimately, guide the behavior of machines, not humans. And machines, in many ways, are not like humans.

Fourthly, what are the platform owners actually doing when they modify terms of service? Are they changing the contract, or rather something closer to legislating rules for the space? What are they doing when changing the game mechanics (the ‘code’)? Changing the service, the platform, or the rules? Or when they employ ‘digital force’? Are they enforcing the contract? Or just providing the service? Or something else? Addressing these issues seems to be necessary before the core of the phenomenon is theorized. And they will be addressed in Chapter 4.

Regarding the theoretical problems in the *core*, first and foremost, what is a virtual item – gems in *Clash of Clans*, or pokéballs, or the virtual cards one collects in *Hearthstone*? Just like in the case of the platform, one is able to distinguish different components of the items, and clearly define their legal status. There is the software (protected by copyright), the database (specifying who has access to what, protected by database rights), the hardware (tangible property), the visual component (pictures, animations, protected by copyright), etc. However, just as in the case of the platform, the experience of ‘possessing’ and ‘using’ virtual items cannot be reduced to using these components. They seem to be a new type of objects, supervening all of these entities, digital objects. In some ways, they are similar to other digital items, like cryptocurrencies or files uploaded to a cloud. But what are the similarities and differences?

Secondly, in connection with that, what is the factual relation of a user to an item? Just like possession is a factual relation between a person holding a thing, which might be in line or not in line with the legal title (ownership), can we speak of ‘digital possession’? Is ‘digital possession’ of a file residing on my own computer different from possession of a file in a cloud? Or ‘digital possession’ of a file in the cloud, which can be ‘taken out’, different from the ‘possession’ of a virtual item? The concept for that factual relation needs to be coined before the legal title can be assessed.

Thirdly, what is a contract of an ‘in-app purchase’? What is a contract of one user selling an item to another? What is the action, the factual activity, of performing these contracts? A transfer of possession? What is the factual action when a user ‘steals’ some of my gold in *Clash of Clans*? How do the rules embedded in the code ‘validate’ that action as lawful? Note that these questions, first of all, assume answers to the ones from the background; and, secondly, could be understood both as factual ones (what is, technically, going on), and as conceptual ones (how would, or should, the law conceptualize what is going on). These questions will be addressed in the Chapter 5.

On the normative level, the boundaries between the core and the background are a bit more blurred. In short, the questions boil down to the desired legal title in virtual items, potential limitations to freedom of contract (when drafting the terms of service), to changes of the game mechanics, and to the use of ‘digital force’. Regarding the title, not only the legal substance of the relations between the user and the provider need to be clarified, but also between users themselves, and users and third parties. However, any choices taken there, unless the choice is to completely refrain from regulation, will involve service providers to at least a certain degree (when evidence, or enforcement of potential decisions, are concerned, their participation is logically necessary). These questions will be addressed in Chapter 5.

Before moving to these issues, a method of addressing these concrete questions needs to be clarified, what will be done in Chapter 3. And before the method can be elaborated upon, the proper research question needs to be posed and justified. To pose it, I will first present a critical review of the literature concerned with virtual property (in Chapter 2). And before moving to the literature review, I owe the reader a bit of context – historical, in what setting the body of literature concerned with virtual property has been generated; and wider, i.e. how do the online games and the virtual property phenomenon within them, relate to other online platforms, like Facebook, YouTube or Twitter. Providing this context is the ambition of the remainder of this chapter.

1.3. The Context

The body of literature concerned with the virtual property phenomenon has been generated over the last fifteen years, to a large extent as a response to the phenomenon of so-called ‘virtual worlds’. Given the market share and social importance, ‘virtual worlds’ are rather of historical relevance nowadays (even though they still exist and are being used by people); but to properly understand the state of the art, one needs at least a general understanding of the concrete phenomenon it was responding to. That is why, in the next section, I want to briefly explain what these ‘virtual worlds’ were and are, with special attention given to the two most popular ones: *World of Warcraft* and *Second Life*.

The legal literature devoted to them suffers from several shortcomings, but can be a source of good insights for the researcher studying virtual property today. What is more, I would claim, it can be helpful for a much wider audience, i.e. scholars attempting to theorize the phenomenon of online platforms. I would like to draw the reader's attention to the fact that the schemes addressed here are not limited only to the phenomenon of online games, but structurally strongly resemble the phenomena taking place within online platforms like Facebook, Twitter or YouTube. In the last section of this chapter, I will attempt to briefly outline what these structural similarities are.

1.3.1. The Historical Context: *World of Warcraft*, *Second Life* and Other So-Called “Virtual Worlds”

The previous sections introduced the phenomenon of virtual property, and the legal challenges posed by it, as they stand today. However, the peak of scholarly interest concerning the questions about virtual property occurred earlier, in the wake of so-called ‘virtual worlds’. The purpose of this section is to provide the reader with a brief overview of that time – roughly a decade ago – before the scholarly literature is reviewed in chapter 2. Two services – Blizzard's *World of Warcraft* and Linden Lab's *Second Life* will be introduced. The account is historic not in a sense that these services no longer exist – actually they do, and still generate profit – but rather in a sense that it is more or less clear by now that this model will not become mainstream, though there was a time when many believed that it would.

As we shall see in the next chapter, whole cohorts of scholars believed that virtual worlds – simulated 3D environments in which players are represented by avatars – were the future of Internet⁹³, and that people's “migration” there was inevitable.

These predictions, however amusing today, were not *entirely* false. For, in many ways, people *do* spend large parts of their lives in different ‘virtual-places’ – on Facebook, Twitter, YouTube, etc. People do keep ‘their stuff’ in ‘virtual-places’ like Google Drive and Dropbox. People do ‘live their lives’ on Instagram, Snapchat and WhatsApp. The reality verified the dream about ‘virtual worlds’ in at least two senses. Firstly, despite arguments compelling to some, the ‘simulated 3D environment’ interface, in which one needs to create an ‘avatar’ and ‘walk’ to different ‘places’ just did not fly with most of the people. Facebook's ‘profile’ and ‘newsfeed’ were just much easier to use and served the purpose much better. Secondly, and that turned out to be the desired purpose, people at large did not want a *second* life, an alternative identity. They just wanted to augment the life they already had.

⁹³ See, for example: Fairfield, ‘Virtual Property’ (n 8).

The body of literature developed as a response to the ‘virtual worlds’ phenomenon can be a source of many valuable insights about the reality we have today, if read with sympathy and indirectly. But to understand it, one needs to understand what the phenomenon that scholars tried to address in the first place was. That is the aim of this section.

1.3.1.1. World of Warcraft

Released in 2004, *World of Warcraft* is a Massively Multiplayer Online Role-Playing Game (MMO RPG) set in the Warcraft universe, the same as *Hearthstone* (discussed above). The game broke a few records, was featured in popular media, and in the peak of popularity had 12 million active players. It attracted scholarly attention from different disciplines⁹⁴. It is also a subject of a significant chunk of the virtual property literature.

In the game a player would create a character (sometimes referred to as an ‘avatar’), and play ‘as’ that character. A player could choose a race (human, elf, orc, troll etc.), gender and profession for the character (a warrior, a mage, a druid etc.). One would roam the 3D world of Azeroth, killing monsters and completing quests. The game, from the very beginning, was supposed to be social, and invited people to play in ‘parties’, or join guilds and help one another.

Developing a character would boil down to two complementary paths. Firstly, for each monster killed, and for each quest completed, a player would receive ‘experience points’, and every now and then ‘level up’. With each next level, the character would get more strength, more hit points, could learn new skills, etc. The more developed the character, the more exciting adventures in which it could take part. Secondly, a character would collect ‘items’ – swords, armor and food – which were necessary for the battle. A knight needs a sword and shield to fight. Some of these items would be very powerful and increase the character’s strength significantly. A player would either find them in different places, or receive them for completing quests, or ‘buy’ them from in-game merchants. This ‘buying’ was just a simulation of economy, just like ‘buying’ cannons in *Clash of Clans*. A player would find gold here and there, sell unnecessary items to in-game merchants, and, with the collected gold, buy some really powerful ones. Moreover, players were encouraged to ‘give’ items to one another. If we play together, me as a warrior, and you as a mage, and I find a very powerful magic wand (or a staff), for which I have no use, game mechanics allowed me to ‘give’ it to you. You did not have to, but could, give me something in exchange. You could, for example, give me some gold.

⁹⁴ William Sims Bainbridge, *The Warcraft Civilization: Social Science in a Virtual World* (MIT Press 2010); Hilde G Corneliussen and Jill Walker Rettberg, *Digital Culture, Play, and Identity: A World of Warcraft Reader* (MIT Press 2008); Robert M Geraci, *Virtually Sacred: Myth and Meaning in World of Warcraft and Second Life* (Oxford University Press 2014).

The game, from the very beginning, featured an ‘in-game economy’, where one could ‘trade’ with the service for virtual gold. However, it did not start with a possibility of buying anything from the service provider (actually, this feature, is still quite limited in *World of Warcraft*). The way to monetize it was to sell licenses for the software (in order to install *World of Warcraft*, unlike with previously discussed games, one needs to pay, to buy the product) and to charge a monthly subscription fee to using the service (around \$15-20). The very idea behind collecting items inside the game was that they are supposed to be ‘earned’ through time and ‘labor’ players spend inside the game. It was a part of the game-objective and in-game-reward system. Players were supposed to (and many indeed did) enjoy having to play for virtual items, and enjoyed having ‘won’ them. Possessing a powerful magic sword was, in a way, an indicator that a player is an experienced one, who spent hundreds of hours inside the game, and with that time developed skill and experience. Putting skill and luck aside for a moment, one could state that ‘possessing’ powerful items was a function of time spent inside the game. And remember, the more powerful the character, the more fun the game is to play. And, as the reader probably has imagined, people played *World of Warcraft* from all around the world.

In a situation where powerful virtual items are valuable to players, and getting into ‘possession’ of them is a function of time spent in the game, while it is possible to give items to one another, the inevitable happened – a real world market emerged.

For similar reasons as to those in *Clash of Clans*, players would sell accounts and items to one another. If I am bored with my level 70 paladin, and you want to have one, why would we not make a contract? Or if I have two powerful magic swords, while I only need one, and you have zero and are willing to pay for one, why would I not sell it to you? In the first case, you send me money and login credentials, we ‘meet’ inside the game, pretend to play together, and I give you the sword. This amateur ‘garden sales’ type of exchange, where players just sell things they once enjoyed, but no longer need, quickly turned into a professional artisan market. Some people would play the game only *in order to* sell virtual items to other. And the artisan market, as usually happens to them, quickly turned into a manufacture, where such actions would be undertaken on a massive scale.

The best example of this was a so called ‘gold farming phenomenon’. People, largely in China, would quit their real jobs and play *World of Warcraft* all day, every day, in order to collect in-game gold that would later be sold to Westerners online.⁹⁵ Not to complicate the argument too much, I will here resist the temptation to discuss the social impact of this, and evaluate the

⁹⁵ Richard Heeks, ‘Understanding “Gold Farming” and Real-Money Trading as the Intersection of Real and Virtual Economies’ (2009) 2 Journal For Virtual Worlds Research <<https://jvwr-ojs-utexas.tdl.org/jvwr/index.php/jvwr/article/view/868>> accessed 17 September 2017.

condition of a world in which hundreds of thousands of people stop growing crops and start playing games so that they can sell virtual gold to gamers in America and Europe.

Similarly, to *Clash of Clans*, the massive workforce was soon to be replaced by an even newer a generation of ‘workers’ – bots and artificial agents. Employed by both the companies selling virtual property, and the players themselves who just wanted to ‘level-up’ their characters, bots suddenly became a plague in *World of Warcraft*. The game was supposed to be social, but it is hard to socialize with something that ‘looks’ like a human, but actually is just a computer program who only says ‘nice to meet you’, never stops to think, and only keeps killing bores in the woods.

From Blizzard’s point of view, all these phenomena were quite bad for business. Firstly, because they destroyed the gameplay. When some players try to play as they are supposed to, while others cheat, obviously the first group will feel that something is not fair here. And maybe they will enjoy the game less. And maybe stop playing it. Meaning, they will also stop paying for the subscription. Secondly, if Blizzard wanted people to be able to buy virtual items and virtual gold for real money, Blizzard would sell it to them. The cost of ‘creating’ an item for a player is time, but for Blizzard, the cost is zero. But they did not want that – the design of the game was such that this would destroy the game for many, if not the majority, of users. Unlike in the case of the freemium apps that were created later, virtual property in *World of Warcraft* emerged as an accident, as an externality. Something needed to be done about it.

Now, for the reader not to have a false impression about the history of computer games – *World of Warcraft* was neither the first MMO RPG, nor was it the first to experience the emergence of this externality – it was not the case that its creators were completely taken by surprise and had no reason to expect this. However, the scale on which this occurred, as well as the popularity of this particular service, were reasons behind a significant amount of attention that this drew. All of these actions were prohibited by the agreements one needed to conclude with Blizzard prior to using the service.

When using *World of Warcraft*, one is bound by three agreements of contractual types (plus a privacy policy and different codes of conduct): Battle.net Terms of Use⁹⁶, Blizzard End User License Agreement⁹⁷ and *World of Warcraft* Terms of Use⁹⁸. The first two are the same as in the case of *Hearthstone*, since the game ‘runs’ on the same platform, i.e. Battle.net.

⁹⁶ Battle.net Terms of Use, last updated 11th February 2014, available at: <http://eu.blizzard.com/en-gb/company/about/termsfuse.html>, last access: 30th August 2017, further Battle.net ToU.

⁹⁷ Blizzard End User License Agreement, last updated 17th August 2017, available at: <http://eu.blizzard.com/en-gb/company/legal/eula.html>, last access: 30th August 2017, further Blizzard EULA.

⁹⁸ *World of Warcraft* Terms of Use, last updated 23rd November 2012, available at: http://eu.blizzard.com/en-gb/company/legal/wow_tou.html, last access: 30th August 2017, further WoW ToU.

In the third contract, one can find numerous clauses already familiar to the reader: a license to use the service⁹⁹, prohibition of selling game accounts, and the sanction for doing so, i.e. ‘*suspension or termination of the Account at Blizzard Entertainment's sole and absolute discretion*’¹⁰⁰. Further, a quite long, non-exhaustive list of rules specifying what a player is not allowed to do, including: using any third party software (i.e.) bots¹⁰¹; ‘buy[ing] or sell[ing] for "real" money or exchange gold, weapons, armor, or any other virtual items that may be used in World of Warcraft outside the World of Warcraft platform’¹⁰², ‘play[ing] on the Account of a third person including, but not limited to, providing so-called "power leveling services"’¹⁰³ and other rules regarding allowed behavior and conversation on the chat. In a separate section, Blizzard indicates:

Blizzard Entertainment may, in its sole and absolute discretion, take whatever action it deems necessary to preserve the integrity of World of Warcraft. Violation of any of the Rules of Conduct set forth above may result in actions being taken by Blizzard Entertainment, effective immediately or at a time determined by Blizzard Entertainment, which may include without limitation:

- 1. Temporarily suspending your access to World of Warcraft,*
- 2. Permanently terminating your access to World of Warcraft (...),*
- 3. **Modify a character or an Account, including without limitation, reducing or removing experience points, skills, levels, in-game currency or items; or***
- 4. Temporarily or permanently suspend, or terminate, your access to an Account that you use to access the Service.*

*Without limiting the foregoing, Blizzard Entertainment retains the right to decline service to any user who violates the BNET TOU, the Terms of Use and/or the EULA.*¹⁰⁴ [[emphasis added, P.P.]]

As one can see, the ‘sanction’ is the same as in the previous services, with a little difference, i.e. Blizzard also being explicit about the possibility of modifying the character, modifying or taking away virtual items etc. Hence, if one buys a virtual magic sword from some online seller, and

⁹⁹ WoW ToU, section I.2. *Grant of a Limited License to Use the Service*

¹⁰⁰ WoW ToU, section I.4, not titled.

¹⁰¹ WoW ToU, section III.2.(2), not titled

¹⁰² WoW ToU, section III.2.(5).

¹⁰³ WoW ToU, section III.2.(7).

¹⁰⁴ WoW ToU, section VI. *Consequences of Violating the Rules of Conduct.*

Blizzards finds out about it (or suspects it), if one is lucky, one will have that sword taken away. If one is not, one will lose the entire account.

As if the prohibition of trading virtual items in the previous sections was not sufficient, WoW's ToU devotes an entire section to that problem again (note the colloquial language):

Remember, at the outset of these Terms of Use, where we discussed how you were "licensed" the right to use World of Warcraft, and that your license was "limited"? Well, here is one of the more important areas where these license limitations come into effect. Note that Blizzard Entertainment either owns, or has exclusively licensed, all of the content which appears in World of Warcraft. Therefore, no one has the right to "sell" Blizzard Entertainment's content, except Blizzard Entertainment! So Blizzard Entertainment does not recognize any property claims outside of World of Warcraft or the purported sale, gift or trade in the "real world" of anything related to World of Warcraft. Accordingly, you may not sell or purchase virtual items for "real" money or exchange items outside of World of Warcraft. Please note that Blizzard is entitled to and will prevent any such illegal sales.¹⁰⁵

And further:

*All title, ownership rights and intellectual property rights in and to World of Warcraft (including without limitation any **user accounts**, titles, computer code, themes, **objects**, **characters**, character names, stories, dialogue, catch phrases, locations, **concepts**, artwork, animations, sounds, musical compositions, audio-visual effects, **methods of operation**, moral rights, any **related documentation**, "applets" incorporated into World of Warcraft, **transcripts of the chat rooms**, character profile information, recordings of games played on World of Warcraft, and the World of Warcraft client and server software) are owned by Blizzard Entertainment or its licensors¹⁰⁶. [[emphasis added, P.P.]*

¹⁰⁵ WoW ToU, section VIII. *Selling of Items*.

¹⁰⁶ WoW ToU, section XIII. *Ownership*.

Blizzard claims, by contract, that it owns all the above mentioned types of objects. The emboldened ones are those that contemporary property law would have trouble classifying as any objects that, according to the law, can be an object of a property right. Finally, Blizzard states:

*In order to assist Blizzard Entertainment to police users who may use "hacks," or "cheats" to gain an advantage over other players, you acknowledge that Blizzard Entertainment shall have the right to obtain certain information from your computer and its component parts, including your computer's random access memory, video card, central processing unit, and storage devices. This information will only be used for the purpose of identifying "cheaters," and for no other reason.*¹⁰⁷

Blizzard explicitly states that the game-client will not only be used to facilitate playing the game, but will also scan and collect information about the user's device. This passage has been missing from the previously studied terms, however, one should not infer from this that other services and companies do not do that. Blizzard operates in Europe as a French company, and various other parts of the contract suggested that it was carefully crafted in a way that is compliant with European law (almost no unfair clauses are present – jurisdiction is consumer's local court, assumed liability for gross negligence, etc.). Meaning: others probably do that as well, just only Blizzard admits this.

The last thing I would like to mention in connection with *World of Warcraft* is a court case: *MDY Industries, LLC v. Blizzard Entertainment, Inc.* It was a case in which Blizzard won a dispute against MDY, a company producing and selling 'bots' to players – artificial agents that would play the game for them (the so-called 'power levelling', explained above in regard to *Clash of Clans*). The terms of use of *World of Warcraft*, just like the terms of all the previously discussed games, forbade players from using such a third-party software. Blizzard claimed that MDY's actions facilitated copyright infringement on the side of the players, in the sense that Blizzard has copyright over the software, gives players a limited license, the license forbids them from using third party software, and MDY, by offering such a software for sale, is liable on the tort basis. The judge in the case agreed with Blizzard¹⁰⁸, ordering MDY to stop selling the bots, and pay the damages. What is interesting in this case is not primarily its normative aspect – whether the court was wrong or right, and whether Blizzard should be awarded damages – but the conceptual aspect. Blizzard sued on the basis of copyright.

¹⁰⁷ WoW ToU, section XVI.5. *Acknowledgements*.

¹⁰⁸ BBC News, 'Blizzard wins Warcraft bot battle', <http://news.bbc.co.uk/2/hi/technology/7509182.stm> last accessed 17th October 2017.

Should one think about it, this seems like a theoretically bizarre choice. In the end, the problem was not that anyone is infringing Blizzard's right to make copies, or distribute, or install the game client. The problem was that someone is using artificial agents in the space that Blizzard claims they own, while they do not want such agents present in that space. Now, from the strategic point of view, this choice was probably the best one, definitely a successful one, since copyright is clear and property of 'cyberspaces' is not. However, this points out that both the lawyers, and the judges, struggle with understanding what is a virtual space, what is a platform. They clearly wanted to escape that question, and retreated to the safe ground of clear legal categories. However, in doing that, even if the decision was normatively right, they missed the point of what is going on here.

World of Warcraft is not the only MMO RPG out there, though arguably the most popular one. This genre of games was largely the object of inquiry of virtual property scholars. However, even though MMO RPG is an extremely popular game genre, it does not exhaust the entire meaning of the term 'virtual worlds'.

1.3.1.2. Second Life

The last service to be presented as a context study in this dissertation is Linden Lab's *Second Life*. Released in 2003, it has attracted enormous media and scholarly attention¹⁰⁹. What makes *Second Life* different from all the previously discussed case studies is that, in many ways, it is *not* a game, but rather a socializing platform. There is no objective, there are no quests, no points, no 'experience points', no levelling up.

A user of *Second Life* also creates an 'avatar', and this avatar gets into 'possession' of different kinds of virtual items – clothes, cars, but also virtual land and/or virtual houses. The platform was supposed to be a place to socialize, to meet new people, to attend events one cannot attend in the real life, like skydiving, but also a place for self-expression. To many scholars it seemed that *Second Life* was the future of the Internet. The ultimate move from the material to the virtual. As we see nowadays, this did not happen. However, as signaled above, it did become the case that people live large parts of their lives in cyber spaces.

What made *Second Life* special was the fact that the developer – *Linden Lab* – was one of the first companies to fully embrace the mechanics of users trading items to one other. What is more, *Second Life* encouraged user to *design* new types of items (the phenomenon of the so-called

¹⁰⁹ Daniel Terdiman, *The Entrepreneur's Guide to Second Life: Making Money in the Metaverse* (John Wiley & Sons 2007); Tom Boellstorff, *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human* (Princeton University Press 2008); Kurt Hunt, 'This Land Is Not Your Land: Second Life, CopyBot, and the Looming Question of Virtual Property Rights Note' (2007) 9 *Texas Review of Entertainment & Sports Law* 141; Geraci (n 94).

‘user generated content’¹¹⁰, which they could later ‘sell’ to other users for the in-game currency, ‘linden dollars’ or ‘lindens’. This currency was convertible to real money both ways – users were enabled and allowed to buy it for dollars, but also sell it back to the developer, or a third party.

Second Life also gave rise to one of few court cases arising from the virtual property phenomenon, the *Bragg v. Linden Lab* case¹¹¹. In short, Mr Bragg discovered a bug in *Second Life*’s code and used it to exploit the system in a way leading him to possession of more virtual property. *Linden Lab* discovered this, and blocked Bragg’s account, on the same time deleting all the virtual property he accumulated there. Bragg sued Linden Lab, claiming that he was illegally deprived of his property. Linden Lab claimed that there could not be property in the virtual items, and pointed out that regardless of that, the agreement allowed them to ban players for exploiting the bugs in the system. The case has been settled, and so no judgment and, consequently, no normative guidance came out of it.

What is interesting in this case, however, is its normative dimension. It touches the very core of the normative puzzles stemming from the virtual property phenomenon – what are, and what should be, the rights of the parties in the relation? Are there limits to the use of ‘digital force’ by service providers? Is there a place for any ‘proportionality’ tests here? In the end, even if Bragg managed to exploit some error in the system to get more virtual property than he would normally have, was this sufficient reason to deprive him of *all* virtual items, and the entire account?

These normative questions cannot be settled before the conceptual ones are.

To repeat once again, ‘virtual worlds’ are not the reason why virtual property questions matter nowadays, or at least they are not the main reason. However, when studying the literature, it is important to remember that it was generated as a response to that phenomenon. The reason why virtual property matters is that mobile gaming apps are used by hundreds of millions of people and creating billions of dollars of revenue.

And there is one more reason. As I have already stated a few times, the phenomenon is structurally very similar to what is going on within the platforms of the Internet giants of today – Facebook, Twitter, YouTube and other Internet platforms. The social role played by these platforms can hardly be overestimated. However, this social role gives rise to extremely strong emotions among those who discuss them. That is why, online games and virtual items are a gentle ‘laboratory’ to try to understand, on the factual level, what is new that is going on there. To finish this chapter, I would like to briefly outline why I think the phenomena are very similar in structure.

¹¹⁰ Greg Lastowka, ‘User-Generated Content and Virtual Worlds’ (2008) 10 *Vanderbilt Journal of Entertainment & Technology Law* 893.

¹¹¹ Steven J Horowitz, ‘Bragg v. Linden’s *Second Life*: A Primer in Virtual World Justice’ (2008) 34 *Ohio Northern University Law Review* 223.

1.3.2. The Broader Context: Facebook, Twitter and Other “Online Platforms”

The core puzzles that the emergence of online platforms gave rise to are essentially the same as those in online gaming. These platforms are ‘cyberspaces’, where people are ‘present’ through their accounts and devices, and get into relations, including relations concerning objects (like posts, tweets, videos, etc.). The conduct of these people is governed by the same five types of rules: law and social norms on one hand, which are largely provider-independent, and the contract, the code of conduct, and the ‘code’, unilaterally created and administered by the provider.

Users are not able to ‘infringe the code’, and so their behavior is guided by impossibility/possibility¹¹² designed by Facebook, Twitter or any other. The ‘code’ here boils down to both what users can and cannot do and see, and what the algorithms decide will be displayed on their newsfeeds. The changes to the code are often not announced. They do not have to be, since Facebook, in their Terms, reserves a right to modify the ‘service’ at will. A few times it led to social outcry, including the moment when Facebook tinkered with people’s feeds and emotion reactions, to conduct a massive scale social experiment¹¹³. Also, in the aftermath of the fake news and echo chamber scandals surrounding American elections, it has been demonstrated that what people see as ‘news’ on social media, largely depends on what their preferences are and with whom they are friends¹¹⁴. This, already, is enormous power on the side of the providers, especially given that, according to some studies, more than 40% of adults access their news primarily through social networks¹¹⁵. I have recently written about this type of power and potentially need to ponder its limitation through regulation in more detail¹¹⁶.

However, it is important to notice that providers enjoy a position of power towards the users in a few more dimensions. As mentioned above, they unilaterally draft contracts and the codes of conduct stipulating the rules deeming some behavior permitted or prohibited. In this way, they ‘legislate’ the rules of their ‘spaces’. Moreover, as we have seen in the case of terms of service discussed in the previous sections, they reserve a right to interpret these rules of conduct, or even the ‘spirit’ of the agreements, and take decisions regarding whether particular actions infringe the rules or not, and then take decisions on the ‘sanction’, being either removal of content or blocking

¹¹² Brownsword, ‘Whither the Law and the Law Books?’ (n 2).

¹¹³ Gregory S McNeal, ‘Facebook Manipulated User News Feeds To Create Emotional Responses’ <https://www.forbes.com/sites/gregorymcneal/2014/06/28/facebook-manipulated-user-news-feeds-to-create-emotional-contagion/> last accessed 17th October 2017.

¹¹⁴ See a brilliant graphic on: <http://graphics.wsj.com/blue-feed-red-feed/> displaying, in real time, what currently a user profiled by Facebook as ‘very liberal’, or ‘very conservative’ will see.

¹¹⁵ Jeffrey Gottfried and Elisa Shearer, ‘News Use Across Social Media Platforms 2016’ <http://www.journalism.org/2016/05/26/news-use-across-social-media-platforms-2016/> last accessed 17th October 2017.

¹¹⁶ Przemysław Pałka, ‘Terms of Service Are Not Contracts: Beyond Contract Law in the Regulation of Online Platforms’ in Stefan Grundmann (ed), *European Contract Law in the Digital Age* (Intersentia 2017).

an account. In this sense, they are ‘judges’ for their own spaces. Finally, they are able to enforce these decisions, through ‘digital force’, since they have the factual ability to delete and/or modify content. They are the ‘police’ there, with monopoly for use of force, albeit a ‘digital one’.

Note that this type of regulation of conduct is different in character from regulation by the ‘code’. Whereas code results in possibility/impossibility of action¹¹⁷, the contracts and rules of conduct do not. User are still *able* to infringe them; however, they risk bearing consequences. Facebook uses such power daily to block content that some users mark as inappropriate or block accounts who do not use real names. It is important to mention that very often such action should be praised, since it removes hateful, abusive and often clearly illegal content from the platform, with benefit to a clear majority of users and the society. However, sometimes the decisions are widely contested, as was the case with the iconic photo titled ‘Napalm girl’¹¹⁸, documenting the brutality of the war in Vietnam, or the photo of Neptune in Bologna¹¹⁹, both of which were blocked for explicitly displaying nudity and then came under huge public pressure to be put back on the platform. To state once again – for a large part, it should be praised that Facebook takes responsibility for the content appearing there (though it is up for a debate whether they do it for moral motives or are simply motivated by market forces encouraging them to create a pleasant space for everyone), but these cases show that something important is at stake here. For, not every blocked post will attract huge international attention. Indeed, the majority will not. And, after all, Facebook does not *have to* listen to the public opinion, they merely choose to.

What is more, even though the content of law and social norms is independent of the service provider, their enforcement within the platform is not. The majority of contracts incorporate the ‘valid law and community rules’ into the codes of conduct, and reserve a right for the providers to take actions against users who infringe them. Now, sometimes such an action on the side of provider is required by law – notably in the case of copyright infringement and the notice and take down procedure – but sometimes it is not, and results simply from a corporate decision. We all want to live in a world without hate speech. However, I am not sure we all want to leave in a world where it is CEOs of big companies, or their marketing departments, deciding what is hate speech and what is not.

¹¹⁷ Brownsword, ‘Whither the Law and the Law Books?’ (n 2).

¹¹⁸ Sam Levin, Julia Carrie Wong and Luke Harding, ‘Facebook Backs down from “Napalm Girl” Censorship and Reinstates Photo’ <http://www.theguardian.com/technology/2016/sep/09/facebook-reinstates-napalm-girl-photo> last accessed 17th October 2017.

¹¹⁹ Edward Helmore, ‘Facebook Blocks Photo of Neptune Statue for Being “Explicitly Sexual”’ <http://www.theguardian.com/world/2017/jan/02/facebook-blocks-nude-neptune-statue-bologna-italy> last accessed 17th October 2017.

On top of all this, it is important to remember that a significant amount of the actions of the providers – interpretation of whether there was infringement, decision and enforcement – are not undertaken by human beings, but by artificial agents without any direct supervision. The reasons are simple – with hundreds of millions of users worldwide, posting instantly, it is simply impossible for human beings to monitor users’ activity, or even respond to all the complaints, not to mention reviewing decisions undertaken by the artificial agents. If these agents are to act in accordance with some legal standards, the laws will need to be ‘coded into’ their algorithms.

All this is to say that the phenomenon analyzed in this thesis is structurally very similar to the one of big online platforms and social networks. One might not think that deletion of a few gems from *Clash of Clans* is a serious issue but one will think that deletion of Facebook or Twitter posts of a human rights activist is. One might not think that there is a need to limit the exercise of ‘digital force’ by the providers of games but at the same time believe that there is such a need on the side of social media providers. And this exactly is the reason why one should care about virtual property. Because it is not politically heated.

For, whatever the normative judgment, whether the same or different, the conceptual and theoretical puzzles are the same: what are cyberspaces?; what are the subjects and objects there?; and what is the power of the providers?

Chapter 2: The State of the Art: Review of the Literature and the Research Question

The purpose of this chapter is to critically review the state of the art in order to place the research of this thesis within a broader debate, to identify insights offered by the scholars previously writing on the subject, to point out gaps in the state of knowledge, and finally to propose and justify this dissertation's research question.

The virtual property phenomenon, mostly within the context of the so-called 'virtual worlds', attracted the attention of scholars from a variety of disciplines, ranging from economics¹²⁰, to business¹²¹, to social science¹²², to anthropology¹²³, to psychology¹²⁴ and philosophy¹²⁵. A whole interdisciplinary journal – *Journal of the Virtual Worlds Research* – has been dedicated to it.¹²⁶ Within the realm of law, not only private lawyers have explored it – the phenomenon has been studied from the perspective of criminal law¹²⁷, tax law¹²⁸ and brought about two monographs aiming at providing an extensive overview of all of the legal issues that arise due to phenomenon emergence, written, however, from practitioners' perspectives¹²⁹, as well as several edited books¹³⁰.

In this section I will concentrate on the debates within the realm of private law, only sometimes referring to other fields. This is because that field is large enough, and because it was that field that essentially fueled all the other inquires. This is also the field where some knowledge, helpful in solving virtual property puzzles, has been generated.

¹²⁰ Edward Castronova, 'Virtual Worlds: A First-Hand Account Of Market And Society On The Cyberian Frontier' [2001] CESifo Working Paper; Edward Castronova, 'On Virtual Economies' [2002] CESifo Working Paper; Edward Castronova, *Synthetic Worlds: The Business and Culture of Online Game* (2005); Edward Castronova and Vili Lehdonvirta, *Virtual Economies: Design and Analysis* (MIT Press 2014); Castronova, *Wildcat Currency* (n 92).

¹²¹ Terdiman (n 109).

¹²² Bainbridge (n 94).

¹²³ Corneliussen and Rettberg (n 94); Boellstorff (n 109); Geraci (n 94).

¹²⁴ Matti Mäntymäki and Jari Salo, 'Why Do Teens Spend Real Money in Virtual Worlds? A Consumption Values and Developmental Psychology Perspective on Virtual Consumption'.

¹²⁵ Philip Brey, 'The Social Ontology of Virtual Environments' (2003) 62 *American Journal of Economics and Sociology* 14; Philip Brey, 'Virtual Reality and Computer Simulation' in K Himma and H Tavani (eds), *Handbook of Information and Computer Ethics* (John Wiley & Sons 2008); Freek Rijna, 'Back to Reality: The Ontology of Virtual Worlds and the Law' (Thesis, 2011) <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1933563>.

¹²⁶ Available in open access at: <http://jvwresearch.org> last access: 9th September 2017

¹²⁷ Greg Lastowka and Dan Hunter, 'Virtual Crime' in Jack M Balkin and Beth Simone Noveck (eds), *The State of Play. Law, Games and Virtual Worlds* (New York University Press 2006); Wayne Rumbles, 'Theft in the Digital: Can You Steal Virtual Property' (2011) 17 *Canterbury Law Review* 354; Lodder (n 7).

¹²⁸ Bryan Camp, 'The Play's the Thing: A Theory of Taxing Virtual Worlds' (2007) 59 *Hastings Law Journal*; Leandra Lederman, "'Stranger than Fiction": Taxing Virtual Worlds' (2007) 82 *New York University Law Review*.

¹²⁹ Benjamin Tyson Duranske, *Virtual Law. Navigating the Legal Landscape of Virtual Worlds*. (American Bar Association Publishing 2008); Andrew Sparrow, *The Law of Virtual Worlds and Internet Social Networks* (Gower 2010).

¹³⁰ Balkin and Noveck (n 21); Katarzyna Grzybczyk, *Prawo W Wirtualnych Światach [Law in Virtual Worlds]* (Diffin 2013); Avnita Lakhani, *Commercial Transactions in the Virtual World: Issues Andopportunities* (City University of Hong Kong Press 2014).

2.1. Mapping the Field and the Main Debates

Scholarly reflection of private lawyers about the puzzles of the virtual property phenomenon began in 2002, with the article of Molly Stephens, *Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators*¹³¹. Stephens reported that providers of several gaming services, MMO RPGs (similar to *World of Warcraft*), who were discontent with the fact that users were selling virtual items to each other for real money, attempted to sue eBay, an online auction platform, claiming that the sales of virtual items between users infringe their copyright¹³². The question she asked was essentially a doctrinal one: does the copyright regime give the service providers a right to prevent horizontal sales of virtual items? In other words, does a user selling a virtual item to another user for real money infringe the copyright that providers enjoy over the software and visual elements of the game?

Stephens's piece contains a thorough analysis of the facts, both on the level of technicalities, and that of social practice; as well as of the copyright law. She provided a good explanation of the server-client architecture of the service (two computers, two types of software, a database, visual aspects), correctly mapping what are the components of virtual items, and what is the legal status of these components. She started with an implicit premise that copyright *should*, in principle, offer a remedy that service providers might use against horizontal sales of virtual items, given that the games are their intellectual property, and that these types of action diminish providers' income, on the one hand, and, on the other, might open them to liability claims when one user fails to perform a contract concluded with another (takes the money, but does not deliver or the other way round). She then moved to the doctrinal question of whether the copyright, as it stands, actually *does* contain such a remedy, and having examined each 'stick' in the copyright 'bundle' (right to make copies, right to make derivative works, etc.), concluded that it *does not*. A user selling a virtual item to another does not undertake any action that the copyright regime reserves to the right holder. She wrote:

Companies that develop massively multi-player online games receive copyright protection for their games and game graphics, yet that protection does not allow them to prevent players from selling portions of the game, such as characters and in-game assets, to other players for thousands of dollars. If anything, intellectual

¹³¹ Molly Stephens, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' (2002) 80 Texas Law Review.

¹³² She relied on press articles, since the litigation has been then dropped.

*property law perversely grants players property rights in the characters they have developed to permit sales of those characters.*¹³³

The last conclusion stems from the fact that some games allowed users to personalize the virtual items to a visible degree. She then suggested that service providers should rely on contract law (what, as has been demonstrated above, they do) and ‘regulation by the code’, in Lessig’s terms (what, as has been demonstrated above, they do to a certain degree, but not in the sense of changing the mechanics in a way that makes transfer of items impossible – these transfers are important for the social aspect of the games).

What Stephens did not address was the conceptual part of the puzzle, that is: what are virtual items as such, what contracts are those, and what are the ‘services’ (platforms)? She remained within the realm of copyright law, not paying much attention to the service aspect of the relation, and treating the whole phenomenon as simply objects of copyright, which was fair enough, given the question she posed. On the other hand, the huge value of the piece was firstly, drawing the attention of legal academia to the phenomenon and, on the other, providing a thorough analysis of the facts from the point of view of intellectual property law. It did not receive a lot of traction, and was cited mostly *through* the pieces that came later (which is a shame, given that methodologically the article remained one of the clearest and most thorough pieces in the debate). Regarding eBay, in 2007 it announced that it will delist ‘*all auctions for 'virtual artifacts' from the site (...) [including] currency, items, and accounts/characters*’¹³⁴, given the ‘*legal complexities surrounding virtual property*’ and for the sake of the ‘*overall health of the marketplace*’. However, at the time of writing, eBay is full of auctions regarding virtual items¹³⁵.

The legal scholarly reflection about virtual property properly took off three years later, with the publication of two seminal pieces, which essentially set the frames of the debate to come for good (and for bad), i.e. *The Laws of Virtual Worlds* by Greg Lastowka and Dan Hunter published in 2004¹³⁶ (to date, cited more than 560 times¹³⁷) and *Virtual Property* by Joshua Fairfield, published in 2005¹³⁸ (cited 358 times). Everything that has been said since, to a larger or smaller degree, has been determined by the arguments and frames laid down by these three scholars. For this reason, they require a careful analysis.

¹³³ Stephens (n 131) 1513.

¹³⁴ ‘eBay Delisting All Auctions for Virtual Property’ <https://games.slashdot.org/story/07/01/26/2026257/eBay-delisting-all-auctions-for-virtual-property> last accessed 17th October 2017.

¹³⁵ What the reader might verify by searching any of the game titles mentioned above at eBay.

¹³⁶ Lastowka and Hunter (n 8).

¹³⁷ Whenever invoking the number of citations, the author relies on the data provided by Google Scholar. Given the automatic indexing method

¹³⁸ Fairfield, ‘Virtual Property’ (n 8).

Lastowka and Hunter's piece asked two questions: should virtual items become objects of property rights? And: should users enjoy some other rights towards the service providers? Note that these questions differ from the one posed by Stephens in the sense that her question was a positive question about the law, while these two are normative questions about the reality (and law as a means of changing it – the difference is discussed in detail in Chapter 3). The answer given to the second question, that of 'other rights', received far less gravitas in the scholarship. However, what they had to say about property rights over virtual objects was of fundamental significance.

Just like Stephens, Lastowka and Hunter began with the description of the phenomenon. Unlike Stephens, they paid much more attention to the experience of the players, much less to the technology behind, and put forward a strong narrative within which the legal argument was to be made. Before examining the question of property, they set the stage by claiming that: '*it is important to understand the interaction between the laws of the real world and the laws of the virtual worlds*'¹³⁹, '*many of those who have chosen to visit virtual worlds remain residents of them*'¹⁴⁰, '*virtual worlds have much in common with Disney World*'¹⁴¹. They treated as given that 'virtual worlds' were some separate 'places', not to say 'jurisdictions', with their own 'inhabitants', social relations and normative systems governing them, where people can 'reside'. The '*separate*' is crucial. What they thought was entirely up for a debate was whether 'laws of the real world' apply to these 'places'. And they saw these 'places' as a natural consequence of humanity's desire and quest to create 'imaginary worlds' that manifested itself from cave paintings, through myths and religion, through literature and movies, to finally arrive at the level of technology that allowed one to not only imagine, but to fully immerse oneself in a parallel reality¹⁴². This way of thinking strongly resembled a debate that took place some years earlier, regarding the questions of the Internet being a separate jurisdiction¹⁴³, famously sparked by John Barlow's '*Declaration of Independence of Cyberspace*'¹⁴⁴, and properly dismissed only two years after the publication of Lastowka and Hunter, by Wu and Goldsmith in '*Who Controls the Internet?*'¹⁴⁵. Whether Lastowka and Hunter actually meant this, or whether it was just a metaphor they used to make sense of the novel phenomenon (probably both to a certain degree), is of lesser importance here. What matters is

¹³⁹ Lastowka and Hunter (n 8) 3.

¹⁴⁰ *ibid* 6.

¹⁴¹ *ibid* 8.

¹⁴² *ibid* 7–12.

¹⁴³ David R Johnson and David Post, 'Law and Borders--The Rise of Law in Cyberspace Symposium: Surveying Law and Borders' (1995) 48 *Stanford Law Review* 1367.

¹⁴⁴ Available at: <https://www EFF.org/cyberspace-independence>.

¹⁴⁵ Jack Goldsmith and Tim Wu, *Who Controls the Internet?: Illusions of a Borderless World* (Oxford University Press 2006).

that this narrative strongly influenced dozens of scholars who came after them. For now, let us move back to the question of property.

Lastowka and Hunter put forward a two-step argument for the claim that virtual items should be treated as objects of property rights, in a traditional descriptive-normative fashion. From these two, it is their ‘description’ of the phenomenon that requires the most attention. The argument went as follows: rights in virtual items *are recognized within* the virtual worlds. This is because ‘avatars’ of the players get into possession of virtual items, and an in-game economy exists. Given that virtual items have ‘real world’ monetary value, it would follow that they could be recognized as objects of property rights by ‘real law’, because, essentially, they resemble ‘real world chattels and land’. However, the authors notice, two objections could be made: that virtual items are immaterial (a ‘metaphysical problem’), and that their existence is temporarily restricted, given that a service might be shut down (a ‘temporal problem’). These statements are true, the argument goes, but they are not actual obstacles. This is because all property is actually immaterial – what matters in real property is not the land itself, but the immaterial right to the land (leasehold, for example); and further, there are immaterial objects of intellectual property rights, like works or inventions¹⁴⁶. Regarding the temporality, property law knows of many types of rights that exist only for some time, like usufruct, leasehold, or a right to occupy a hotel room¹⁴⁷. When one realizes that, one will see that there is no actual difference between virtual property and ‘real world’ property.

There are at least four problems with this account. Firstly, Lastowka and Hunter equate ‘immateriality’ of rights or literary works with the ‘immateriality’ of the digital objects. One could say that they claim that both types of entities are immaterial ‘in the same way’, or at least that the difference in the mode of immateriality is insignificant (which will be put to question in Chapter 4). Secondly, they confuse an object of a property right with the right itself. In leasehold, the right is immaterial and restricted in time, but the land itself is both material and will keep on existing after the right expires. Thirdly, they confuse a factual situation (users ‘possessing’ items in online games) with a normative situation (property rights are ‘recognized’ within the ‘virtual world’). Fourthly, there is the problem of the method – there are a few more differences between tangible objects and virtual items than just the two mentioned – and so to establish that something is ‘just like something else’, a more thorough analysis on both the positive side (regarding similarities) and the negative side (regarding differences) could be needed. However, Lastowka and Hunter, conclude that ‘*There*

¹⁴⁶ Lastowka and Hunter (n 8) 40–41.

¹⁴⁷ *ibid* 42–43.

appears to be no plausible descriptive objection to granting property interests in virtual assets¹⁴⁸ and move to the normative part of their argument.

To their idea of reality, Lastowka and Hunter apply normative property theories, ‘three main accounts: the utilitarian theory of Bentham and his economist-acolytes, the labor-desert theory of Locke, and the personality theories that stem from Hegel’¹⁴⁹. This seems a peculiar move from the lawyer’s perspective, since those are political, not legal theories¹⁵⁰, justifying rather a right to private property on the constitutional level, not particular private law settings; but this is not the most important drawback. Essentially, their normative argument follows directly from the premise that virtual items are just like chattels. Hence, since property on chattels increases utility, and there seem to be some deontological arguments for giving property rights to those who spend time and labor on ‘removing chattels and land from the state of nature’, and that property rights on chattels are important for personal well-being, then, obviously, property rights should be granted on virtual items, which, from the premise, are like chattels or land. In this sense, the way to dispute the argument should be to question the ‘descriptive’ account.

Lastowka and Hunter conclude:

*The three main normative theories of property, then, all provide strong normative grounds for recognizing that property rights should inhere in virtual assets, whether chattels, realty, or avatars. (...) there seems to be no reason under traditional theories of property to exclude virtual properties from legal protection. Further, based on the earlier discussion, we can conclude that **there is no descriptive disconnection between our real-world property system and virtual assets**. From both descriptive and normative positions, owners of virtual assets do, or should, possess property rights¹⁵¹. [[emphasis added, P.P.]]*

What exactly that would mean remains undiscussed.

To be fair, Lastowka and Hunter mention several times that they only argue for the creation of property rights, but not for any particular type of allocation of these rights. So, sometimes they claim, they remain agnostic about *who* will be a right holder, as long as someone will. That’s the Chicago bell ringing. Nevertheless, it seems clear that their sympathy is with the users. And many

¹⁴⁸ *ibid* 43.

¹⁴⁹ *ibid*.

¹⁵⁰ Gregory S Alexander and Eduardo M Peñalver, *An Introduction to Property Theory* (Cambridge University Press 2012).

¹⁵¹ Lastowka and Hunter (n 8) 49.

papers that followed refrained from making these reservations. The authors conclude the analysis of the virtual property puzzle with a prediction:

Though property rights may exist in virtual assets, the allocation of those rights will depend largely on the End-User License Agreements (EULAs) that mark out the terms of access to the world. Since the EULAs are written by the corporate owners, their terms inevitably grant all rights to the owner of the world. (...) We will likely see courts rejecting EULAs to the extent that they place excessive restrictions on the economic interests of users. And since there is already so much money and property at stake in these worlds – and there will be significantly more in the future – we can expect a large number of lawsuits rooted in these property-rights disputes. As we live out more of our lives in these worlds, any simple resolution of the property rights issues will become more difficult.¹⁵²

Fourteen years later, we know that this prediction has not come to pass. Neither do people ‘live more of their lives in the virtual worlds’, at least what was meant by the ‘virtual worlds’ by the authors, nor has any court ever questioned the contractual terms that deny users any property interests in the virtual items. There were no numerous lawsuits. Actually, there was just a handful of them, most of which were settled, to an extent that renders discussion of the courts’ treatment of virtual property in this thesis impossible, since there is almost nothing to discuss. The courts have not developed any virtual property theory, and they have not granted anyone any rights there.

At the same time, Lastowka and Hunter’s argument provided legal academia with several good insights. As clumsy as their ‘description’ might have been, they pointed out that there is ‘something new’ out there. They hinted that virtual items are a new type of objects of social relations, and that a property question regarding them, given the possibility of contracts and torts, is inevitable. They did see that ‘virtual worlds’ are a kind of ‘space’, even if not a separate jurisdiction. And they did map correctly the providers’ position towards the virtual items – all rights to us, nothing to the users.

Lastowka and Hunter caused curiosity, sparked interest (which should be praised), and provided researchers to come with an attractive narrative (which caused a lot of confusion) and a simple set of normative theories. What they did not do was to provide a *positive* account of what virtual items actually were. They did not define them, and they did not say much about them apart

¹⁵² *ibid* 50–51.

from questioning the significance of ‘immateriality’ and ‘temporality’, when compared with tangible objects. A definition and a ‘positive’ account was given by Joshua Fairfield.

In *Virtual Property*, Fairfield spoke of much more than just virtual items within online computer games. Essentially, he addressed what scholars would call nowadays ‘digital content’, or what I call in this thesis ‘digital objects’. His argument went as follows: computer code is protected by intellectual property rights¹⁵³. In many cases, this is a correct approach, since ‘*Much computer code is just one step removed from a pure idea. It is non-rivalrous; that is, one person’s use of the code does not stop another person from using it.*’¹⁵⁴ However, Fairfield continues, there is another type of code, ‘*designed to act more like land or chattel than ideas*’¹⁵⁵. This type of code is rivalrous (meaning that one person using it prevents another from doing so), persistent (meaning that turning off a computer does not make it disappear) and interconnected (meaning that people can interact with it)¹⁵⁶. Examples of this type of code include domain names, email accounts, accounts in online services, websites, chat rooms, bank accounts in e-banking, and many more¹⁵⁷. All of these forms are useful to their users and ‘act’ much more like chattels or land than objects of intellectual property. However, Fairfield predicted that the future of the Internet is ‘*virtual environments (...) fully three-dimensional virtual versions of the real world*’¹⁵⁸. These environments, currently (in 2005) mostly used for entertainment, will soon be used for all different purposes, including military training, education, and real commerce. The Internet will become a 3D virtual world, and offer humanity countless new opportunities for flourishing. However, one should bear in mind, Fairfield warns us, that ‘*Virtual environments will not give us these benefits unless we protect rights in virtual property*’¹⁵⁹. The resources of the Internet will be poorly allocated if they are allocated using intellectual property regime, created to protect ‘non-rivalrous ideas’, and should rather be protected like the chattels and land are. This is because, Fairfield argues, firstly, the ‘layered architecture of the Internet’ might lead to what Michael Heller calls the ‘tragedy of anticommons’¹⁶⁰ unless property rights are created, and secondly, because the owners of intellectual property rights will monopolize them. Following this line of reasoning, Fairfield concludes:

¹⁵³ Fairfield defined ‘code’ as ‘data, and the operations of software on that data’. One should assume meant computer programs, as defined by copyright, and databases, as protected in the EU by the sui generis database right.

¹⁵⁴ Fairfield, ‘Virtual Property’ (n 8) 1048–1049.

¹⁵⁵ *ibid* 1049.

¹⁵⁶ *ibid* 1053–1055.

¹⁵⁷ *ibid* 1055–1058.

¹⁵⁸ *ibid* 1058.

¹⁵⁹ *ibid* 1063.

¹⁶⁰ Michael A Heller, ‘The Tragedy of the Anticommons: Property in the Transition from Marx to Markets’ (1998) 111 *Harvard Law Review* 621.

*Cyberspace is a descriptive term. It describes the degree to which some kinds of code act like spaces or objects. Taking this approach **frees us to apply the developed body of property law to assist in solving inefficient allocations of rights on the Internet.** It also provides us with a useful tool for separating the intellectual property interest from the property interest in code. And finally, it provides a useful tool for restraining abuses of contract online. However, getting virtual property right is not important solely because of efficiency concerns. This kind of property is also very important to develop for the social, medical, commercial, and cultural changes it can allow. Virtual worlds are fully contextualized social software with the ability to communicate information to humans far faster than the world wide web. We began this change when the telephone was replaced by the Internet. We will finish it when we protect the building blocks of virtual worlds.¹⁶¹ [[emphasis added, P.P.]]*

In a way, Fairfield did the same thing as Lastowka and Hunter. He ‘described’ a certain phenomenon, ‘showed’ that the objects he talks about are essentially the same as tangible property, and then applied established normative theories of property, in his case backed by historical-empirical evidence, to argue that since virtual property is like chattels, it should be protected by existing property law. However, the way in which he ‘showed’ the similarity was different. Unlike Lastowka and Hunter, he did not concentrate on the differences, but the similarities. He argued that the objects of his inquiry have three qualities that tangible objects have, while intangible one usually do not (particularly, the rivalrousness). Even if everything else in his account was fundamentally confused, he was the first person to point that out, in 2005. This deserves credit. Credit he did not get, given that most of what he wrote was devoted to the normative argument, which was flawed on several levels. Let us briefly go over what were the points of confusion in his argument.

Firstly, there are not different ‘types’ of code. Code is code. It is immaterial in the same sense as a novel ‘as such’ is immaterial, but stops being one once installed on a computer. In this sense, computer programs are not one, but at least three steps removed from ‘pure idea’ – firstly when the idea gets realized by a particular source code in programmer’s head, secondly when this source code is written down, and thirdly when it is executed (when the program is run). Copyright protects all the programs, which, when executed, lead to the ‘emergence’ of digital objects. Hence, ‘virtual objects’ are not a different ‘type of code’, they are on a different level of existence, *within*

¹⁶¹ Fairfield, ‘Virtual Property’ (n 8) 1102.

the running copyrighted code. Secondly, just because there are some similarities between tangible objects and digital objects, it does not mean that they are the same, and definitely does not mean that normative consequences of not regulating them will be the same, or that the same theories can be directly applied to them. Why property protection of digital objects is necessary for the Internet's development in Fairfield's account remains unclear. Even if the Internet had transformed into a 3D virtual world (which it has not), one cannot really see why granting its users any rights would render that more successful. Thirdly, he also got involved in predicting the future, and his predictions have been proven false. Twelve years later, 'virtual environments' are not growing in popularity, and the Internet has not changed into a 3D environment. Fourthly, the examples he gives are very unlike one another. A domain name is very different from gems in *Clash of Clans*, for several reasons (analyzed in Chapter 4). All this said, in one particular way, Fairfield's paper was revealing. He spotted something new, and even though he did not theorize it, did not really try to understand it, because he immediately moved to normative conclusions, the grain started to grow.

In my opinion, the use of the concept of 'property' by Fairfield, Lastowka and Hunter was, essentially, a way to capture some intuitions they had. What were these intuitions? On the one hand, the normative view that people should, at least in some way, be entitled to use what they 'produce' or what they pay for. That no one should take it away from them without reason. That maybe they should be entitled to sell it. That it is not perfectly ok for service providers to just randomly delete users' accounts and content. And on the other, descriptive intuitions, namely that there is something going on that the law cannot name. Unfortunately, instead of exploring the positive level, they rushed to normative conclusions. And then the herd took the trails created by them.

As mentioned above, these two papers led to proliferation of scholarly output regarding questions of virtual property. The claims of Fairfield, Lastowka and Hunter that virtual items should be (or inevitably will be) protected with property rights, just like tangible objects, have been reinforced by 'repetition with slight additions' by Hunt¹⁶², Jankowich¹⁶³, Kayser¹⁶⁴, Westbrook¹⁶⁵, Kennedy¹⁶⁶, Stalmans¹⁶⁷, Erlank¹⁶⁸ and others. The vast majority of these papers took a path similar

¹⁶² Hunt (n 109).

¹⁶³ Andrew E Jankowich, 'Property and Democracy in Virtual Worlds' (2005) 11 Boston University Journal of Science & Technology Law 173.

¹⁶⁴ Jamie J Kayser, 'The New New-World: Virtual Property and the End User License Agreement Notes & Comments' (2006) 27 Loyola of Los Angeles Entertainment Law Review 59.

¹⁶⁵ Theodore J Westbrook, 'Owned: Finding a Place for Virtual World Property Rights Comment' (2006) 2006 Michigan State Law Review 779.

¹⁶⁶ Ronan Kennedy, 'Virtual Rights: Property in Online Game Objects and Characters' (2008) 17 Information & Communications Technology Law 95.

¹⁶⁷ Chris Stalmans, 'More than Just Games: Virtual Property Rights in Massively Multiplayer Online Games' (2012) 12 Asper Review of International Business and Trade Law 203.

¹⁶⁸ Wian Erlank, 'Introduction to Virtual Property: Lex Virtualis IPSA Loquitur' (2015) 18 Potchefstroom Electronic Law Journal 2524.

to Lastowka and Hunter's and Fairfield's contributions (citing at least one of them, but in most cases both of them). The argument usually went as follows: virtual worlds are upon us, and conflicts over virtual items are inevitable. Service providers deny users property rights using contracts, but these contracts should/will be soon declared invalid by legislatures and/or courts. Moreover, disputes between users will continue to arise, and the courts should be able to settle them. In this tone, Blazer added two more 'indicia' of virtual items, to Fairfield's definition speaking of rivalrousness, persistence and interconnectivity, namely the existence of secondary markets and value added by users¹⁶⁹ (I mention this since many papers that came afterwards also refer to that). A more technical approach, supporting the granting of property rights over virtual items though paying attention also to the technology behind them, was pursued by Meehan¹⁷⁰. Most of the papers relied on the 'new places to reside, where the real world law might apply' narrative of Lastowka and Hunter, and used the three normative theories invoked by them, or only the 'utilitarian analysis' used by Fairfield, to suggest a policy solution. Chein used a different normative ground, i.e. the *Kremen* test, developed by the Supreme Court of California when adjudicating property rights over domain names¹⁷¹, which was later picked up by Lastowka in his monograph¹⁷², and then by others, like Ackerman¹⁷³.

On the other hand, there were papers opposing the claim, on normative grounds, though not questioning the *description* of facts that the normative theories are applied to. Nelson argued that the three normative theories are misapplied and, if one applies them properly, the conclusion should be different. He highlighted that there is a *goal* that such an intervention is supposed to serve, and that this goal will not be met by granting property rights (no help against hackers, limiting creativity of designers, etc.)¹⁷⁴. Horowitz claimed that applying Locke's philosophy actually gives providers a stronger claim to property rights than users have.¹⁷⁵ Lawrence argued against such a recognition, highlighting that the whole thing is 'just a game', a matter not serious enough to bother the lawmaker.¹⁷⁶ In a tone similar to Nelson, Cifrino argued that property disputes arising within virtual worlds are best solved by the contracts unilaterally drafted and administered by the service

¹⁶⁹ Charles Blazer, 'The Five Indicia of Virtual Property Note' (2006) 5 *Pierce Law Review* 137.

¹⁷⁰ Michael Meehan, 'Virtual Property: Protecting Bits in Context' (2006) 13 *Richmond Journal of Law & Technology* 1.

¹⁷¹ Allen Chein, 'A Practical Look at Virtual Property Note' (2006) 80 *St. John's Law Review* 1059.

¹⁷² Greg Lastowka, *Virtual Justice. The New Laws of Online Worlds*. (Yale University Press 2010).

¹⁷³ Justin M Ackerman, 'An Online Gamer's Manifesto: Recognizing Virtual Property Rights by Replacing End User Licensing Agreements in Virtual Worlds Outstanding Student Articles' (2012) 6 *Phoenix Law Review* 137.

¹⁷⁴ John William Nelson, 'The Virtual Property Problem: What Property Rights in Virtual Resources Might Look Like, How They Might Work, and Why They Are a Bad Idea' (2009) 41 *McGeorge Law Review* 281.

¹⁷⁵ Steven J Horowitz, 'Competing Lockean Claims to Virtual Property Note' (2006) 20 *Harvard Journal of Law & Technology* 443.

¹⁷⁶ Dan E Lawrence, 'It Really Is Just a Game: The Impracticability of Common Law Property Rights in Virtual Property' (2007) 47 *Washburn Law Journal* 505.

providers, and that any intervention of the state, granting users property rights, will inevitably lead to stagnation in the virtual worlds' development¹⁷⁷.

Several propositions more nuanced than 'we must grant property rights on virtual items!' or 'we must not!' have been put forward as well. Vacca argued that property rights for users are necessary to boost innovation, but that granting them might limit innovation on the side of service providers, and so that a 'safe harbor' limiting the liability of the latter should be created¹⁷⁸. According to Veloso, granting property rights to someone is inevitable, though it should be carefully pondered how to strike the balance between providers' and users' interests¹⁷⁹. Similarly, Eng¹⁸⁰, DaCunha¹⁸¹ and Boone¹⁸².

In the meantime, Fairfield and Lastowka published several more pieces. Fairfield has shifted his focus from the wider inquiry of 'domain names, chat rooms, bank accounts' and a 'different type of code', to virtual worlds *per se*. He and Castronova self-published an interesting anthropological study of bottom-up social rules emerging in 'virtual worlds', explaining how users of *World of Warcraft*, where completing quests together is possible and the reward in virtual items needs to be divided among the players by the players themselves, have come up with a system according to which the loot is distributed¹⁸³ (the social norms governing the cyberspaces). Further, Fairfield kept advocating for granting property rights by the state, calling terms of service anti-social contracts¹⁸⁴ (the idea that Terms of Service should be compared to a 'constitution' of a 'virtual world' or a 'social contract' actually was quite widespread in the literature). He also discussed the concept of a 'magic circle'¹⁸⁵ – the idea that 'real world law' does not apply to games – another view widespread in the literature and an interesting example of how an anthropological concept aimed at explaining what is a game¹⁸⁶ started being used as a normative argument against law-applicability. On top of this, Fairfield pointed out that many users of virtual worlds are

¹⁷⁷ Cristopher Cifrino, 'Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds' (2014) 55 Boston College Law Review 29.

¹⁷⁸ Ryan Vacca, 'Viewing Virtual Property Ownership through the Lens of Innovation' (2008) 76 Tennessee Law Review 33.

¹⁷⁹ Marcelino G III Veloso, 'Virtual Property Rights: A Modified Usufruct of Intangibles' (2007) 82 Philippine Law Journal 37.

¹⁸⁰ Kenneth W Eng, 'Content Creators, Virtual Goods: Who Owns Virtual Property Notes' (2016) 34 Cardozo Arts & Entertainment Law Journal 249.

¹⁸¹ Nelson DaCunha, 'Virtual Property, Real Concerns' (2010) 4 Akron Intellectual Property Journal.

¹⁸² M Scott Boone, 'Virtual Property and Personhood Symposium Review' (2007) 24 Santa Clara Computer & High Technology Law Journal 715.

¹⁸³ Fairfield and Castronova (n 46).

¹⁸⁴ Joshua Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (2007) 53 McGill Law Journal.

¹⁸⁵ Fairfield, 'The Magic Circle' (n 45).

¹⁸⁶ Taken from: Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture* (Beacon Press 1955).

children, hence there is some place for their parents in regulating their behavior¹⁸⁷ and drew scholars' attention to the fact that a 'virtual world', being an online service, might one day be switched off, which should be taken into account when discussing virtual property rights¹⁸⁸. Finally, he analyzed different cases that could be, directly or indirectly, used in arguing for more rights for players, where virtual property is concerned¹⁸⁹.

Probably the most interesting of his later pieces was the article titled '*The God Paradox*'¹⁹⁰, where he set out to map the types of control that service providers enjoy over their platforms. He pointed out that, on the one hand, they rely on law – both contract and intellectual property rights – and engage in litigation if necessary; on the other, they control players through technology, both through controlling the game mechanics (regulation by the code, in the terms of Lessig and Brownsword), and deleting accounts of players, if necessary from their point of view (what I call 'digital force' in this thesis). Unfortunately, this contribution has not been picked up in the literature, for two major reasons, I believe. Firstly, again, the narrative. Fairfield kept iterating statements like:

*The companies that create virtual worlds style themselves "gods." The term is descriptive: game gods exercise complete technological control over the worlds that they create. Game gods also claim legal authority to regulate the economic, public, and intimate lives of the millions of people who work, play, and live in those worlds.*¹⁹¹

Speaking of 'gods', 'worlds where millions of people live', 'theocracy', etc. did not resonate with legal academia and probably only strengthened the idea that the whole 'virtual worlds' talk is just something ridiculous, not worthy of serious scholarly attention. Secondly, my statement from the previous paragraph, according to which '[Fairfield] set out to map the types of control that service providers enjoy over their platforms', is a very sympathetic reading of the piece, capturing the implicit contribution that I saw there, not the actual aim of the author. As with all the other articles, Fairfield's aim was not conceptual or theoretical, but policy oriented and normative in nature. In his own words:

¹⁸⁷ Joshua Fairfield, 'Virtual Parentalism Protecting Virtual Playgrounds: Children, Law, and Play Online' (2009) 66 Washington and Lee Law Review 1215.

¹⁸⁸ Joshua Fairfield, 'The End of the (Virtual) World' (2009) 53 West Virginia Law Review.

¹⁸⁹ Joshua Fairfield, 'Nexus Crystals: Crystallizing Limits on Contractual Control of Virtual Worlds' (2011) 38 William Mitchell Law Review 53.

¹⁹⁰ Joshua Fairfield, 'The God Paradox' (2009) 89 Boston University Law Review 1017.

¹⁹¹ *ibid* 1018.

This Article asks whether the companies that create and control virtual worlds should exercise the power of "game gods" over their customers or should instead permit the free flow of information over their networks. I argue the latter: companies wishing to limit their exposure to legal liability should view themselves less as gods and more like telephone companies.¹⁹²

He discussed a series of ‘inevitable’ dangers that await companies who act like ‘gods’, and argued for more ‘democracy’ and ‘information flow’ in ‘virtual worlds’, whatever that means in the context of virtual property. Again, he rushed to normative conclusions, stemming from a methodologically questionable application of a normative theory, created for different types of situations, to his own idea of reality, which was presented using an uninviting narrative.

Lastowka, on the other hand, apart from exploring a few more issues concerning the questions of virtual property¹⁹³, shifted his attention to wider questions of property in digital objects¹⁹⁴. A few papers that he published later resulted in a monograph (where he admits he reuses and structures the ideas previously contained in them), titled *Virtual Justice*¹⁹⁵. To date, it is the only monograph systematically devoted to the questions of virtual property. However, Lastowka’s ambition was broader, to explore ‘the way law relates to [virtual worlds]’¹⁹⁶.

In many ways, he reinforced the narrative presented in the 2004 article co-authored with Hunter, though arguably became less one-sided concerning the normative claims. He started with a discussion of what is real and what is unreal, again tracing ‘virtual worlds’ back to literature and semi-imaginary places like Disneyland. He spoke in detail about the history of computer games, and the history of ‘virtual worlds’, going back to RPGs like *Dungeons and Dragons*, played with pen and paper, before the computers became accessible to everyone. He pointed out the familiar difficulties regarding regulation of cyberspaces, including the troubles with jurisdictions. He provided quite a comprehensive typology of ‘virtual worlds’, and offered an in-depth description of the experience that users of these services might have. Finally, he moved to discuss the question of property, this time in a more careful fashion. He started:

¹⁹² *ibid.*

¹⁹³ Lastowka, ‘User-Generated Content and Virtual Worlds’ (n 110); Lastowka and Hunter (n 127).

¹⁹⁴ Michael A Carrier and Greg Lastowka, ‘Against Cyberproperty’ (2007) 22 Berkeley Technology Law Journal 1485; Greg Lastowka, ‘Decoding Cyberproperty’ (2007) 40 Indiana Law Review 23.

¹⁹⁵ Lastowka, *Virtual Justice. The New Laws of Online Worlds*. (n 172).

¹⁹⁶ *ibid* 9.

If you think you own the [virtual – P.P.] castle, and you can, as a practical matter, sell it to someone else for a thousand dollars, does that mean you legally own the castle? Would the government be willing to recognize the castle as a thing that you own? Would the government be willing to enforce your rights of ownership?

Before you say yes, think of the legal implications of recognizing the castle as a form of property. Do you want to see Britannian [‘Britannia’ was a name of the analyzed ‘virtual world’ – P.P.] castles listed as assets in divorce proceedings? Should Britannian castles be disposed of by will as part of an estate? Do you want to pay taxes on your castle? If your castle is really legal property, these are just the sort of things you might expect to happen. At the same time, how can your castle not be legal property, given that it is valuable to you, you seem to control it, and you seem to enjoy the practical ability to sell the castle to someone else for real money?¹⁹⁷

After six years of the debate, Lastowka seemed to see the matter in more nuance. However, he essentially followed the reasoning of the *Kremen* case, according to which, if an intangible resource can be well-defined as a separate interest, and there is a market for such resources, property rights should be granted. On the conceptual level, he did not enquire deeply into what virtual items actually are, stating simply that they are ‘intangible’, which, however, should not, in his opinion, be considered a strong reason against recognition of property rights. A much broader analysis was the one he had of relations that different actors can get involved in, though more anecdotal than systematic.

The main criticism towards the entire debate is that a clear majority of scholars involved in it dwelled only on normative and policy issues, without trying to actually understand the object of their inquiry, neither in its core, nor in the boarder context. By placing the new phenomena within familiar concepts, they ascribed to the analyzed objects features they did not have and overlooked several critical differences. However, there is quite some knowledge that one might gain from critically studying it, and for this knowledge the scholars involved should be given credit. That is why, before moving to identifying gaps in the literature and the exact space for contribution, I would like to reiterate what can be learned for the virtual property debate and why I decided to present it in such a detail in this thesis.

¹⁹⁷ *ibid* 12–13.

2.2. The Insights into the Puzzles

During my four-year-long stay at the EUI, I have observed two general patterns in reading legal scholarly papers. On one hand, there are professors who would proceed as follows: reduce the argument to the set of claims it makes, and show where some claims do not follow from others. If they follow, analyze the concepts they assume, and show why they are incoherent. And if they seem coherent, point out that for centuries nobody could agree on their meaning. In this sense, almost every paper is flawed, and the aim of academic debates should be to remove the gaps. On the other hand, there are professors who would approach papers in a very meta way, not paying much attention to the actual argument in the text, but rather to the contribution they try to make by pointing out something we did not see before. Personally, I think that legal scholarly reading should score a fair balance between these two extremes – aim at coherence and logic, but also sympathetically try to see what dwells behind the arguments flawed in structure. For, most of the time, there is something interesting in those papers. The more revolutionary a thing to say, the harder it is to say it.

In the 2015 presidential elections in Poland, Paweł Kukiz, a punk rock singer with no history of public service whatsoever, received 20.8% of votes, which gave him third place in the race. In the aftermath, he started his own political movement and, four months later, received almost 9% of votes in the parliamentary elections, becoming the third biggest faction in the Polish parliament. Paweł Kukiz had one, and one only, point on his political agenda: that the Polish electoral system should be changed from proportional to single-member district system. One must admit that the shape of an electoral law seems hardly an exciting theme, and definitely not one that would mobilize millions of voters. And yet, it did. Kukiz proposed a *solution*. When someone proposes a solution, one, at least indirectly, identifies a *problem*. The solution might not be the best solution to solve that problem. Actually, it might be a pretty bad solution for that problem. The problem might remain vague and undertheorized. However, if people feel that the problem is a real problem, and no one talks about it, then even a bad solution seems better than no talk. The problem in Poland was that people felt like politicians had become detached from reality. That they did not listen to people's concerns. And if someone listened with sympathy to what that punk rock-star was shouting, and how the people were reacting, one might have seen the actual point behind the whole enterprise, which, obviously, was *not* the shape of the electoral law. Of course, no one did. In the end, politics is politics, and punk is punk.

There is something about human nature that makes people much more excited about the prospect of doing something than about the prospect of sitting down and methodically pondering what is going on. Methodologically, this might not be the soundest approach, and it might not be the most efficient approach, but it just seems to be the way things are. The same phenomenon

occurs in legal academia. Numerous debates that, on the surface, seem entirely normative: ‘there should be a single European civil code’; ‘artificial agents should be recognized as persons by law’; or, ‘users of online services should be granted property rights over their virtual items’; are actually means of signaling problems, often conceptual ones. The problems being actually signaled might often be different ones from these that the debates explicitly talk about. There is a value in enquiring into the question: what actually is at stake here?

That is the approach I would like to take towards the virtual property scholarship. It is easy to dismiss it *en masse*¹⁹⁸ and undercut the arguments by simply pointing out that the premises, usually factual ones, are false. However, should one read it carefully, one might notice almost all of the puzzles signaled in the first part of this chapter. Why the puzzles remained unsolved is a question for the next section, but that they were hinted at should be demonstrated.

Firstly, the descriptive level. Legal scholars who engaged in the debate noticed that there is a new type of object that people get into relations over with other persons, even if they did not call it this way. Fairfield noted: ‘*As technology changes, new uses of resources emerge*’¹⁹⁹. They noted that these objects might be sold or stolen. They noted that there are two types relations – horizontal, with other users; and vertical, with the provider – even if they did not name it this way. They noticed that these relations necessarily take place within online platforms, owned and operated by companies, even if they called them ‘virtual worlds’, and ‘gods’ or ‘wizards’, respectively. They noted that these companies have an ability to modify and delete the virtual items, which is a complete *novum* to private law (remember the story of a pen that will not start writing in pink, because the manufacturer wishes so). They pointed out operations of artificial agents. They did not systematize these accounts, they might have gotten some facts wrong, but they offered a rich anthropological account of a phenomenon, and a certain evaluation of it.

Secondly, the normative level. The scholars who engaged in the debate spoke mostly about the solutions, possibly not the best ones to achieve the goals they implicitly assumed. However, they did notice that there is something potentially wrong with an unchecked power of one party to the relation, if the relation is a private law one (even if they did not call it this way). They noticed that that when secondary markets emerge and one party has an ability, and arguably a right, to stop this emergence, something might be wrong. That one-sided terms of service might be unfair, even if that is not the way that they phrased it. In other words, the conceptual and regulatory puzzles that

¹⁹⁸ See, in that regard: Yochai Benkler, ‘There Is No Spoon’, *The State of Play. Law, Games, and Virtual Worlds* (New York University Press 2006) and; Kieran Tranter, ‘The Law and Technology Enterprise: Uncovering the Template to Legal Scholarship on Technology’ (2011) 3 *Law, Innovation and Technology* 31.

¹⁹⁹ Fairfield, ‘Virtual Property’ (n 8).

this thesis tries to solve were there, and the reason they were hidden was methodology and terminology.

Moreover, if you consider the debates we have right now, about the Internet platforms and consumer law, about the rights and duties of Facebook, Google or Twitter, you will see that this debate already took place a decade ago. Just in a different form. Arguably a form that prevented the substance from making it into the collective mind of legal academia. Having said that, in the next section, I would like to enquire into the gaps and fallacies in the virtual property debates, in order to identify the space for contribution and for amending the undesirable state of the state of the art.

2.3. The Gaps

There are six types of shortcomings in the virtual property literature to which I would like to draw the reader's attention.

The most general criticism to be raised against the state of the art is that essentially the whole literature was devoted to normative claims and policy issues perceived as urgent, instead of attempting to conceptualize the phenomenon first. One should try to understand what is going before trying to understand what is wrong with it, and one should understand these two before proposing the goals, which should be proposed before the means might be postulated, including the changes in law. This is what Kieran Tranter calls 'law and technology enterprise'²⁰⁰, when:

*The political urgency of responding to an obvious concern has overshadowed more patient, general and theoretically sophisticated thinking through of the law and technology interface.*²⁰¹

Let us examine what problems precisely occurred in the literature as a consequence of this rush.

Firstly, the terminological confusions and the problem of delineation. Scholars did not speak about the same phenomena when they invoked the term 'virtual property'. The delineation of the scope of enquiry applied varied strongly, from 'user generated content in online games and sites'²⁰² to 'URLs, domain names, websites, email accounts, Facebook profiles'²⁰³ and 'Avatars, domain

²⁰⁰ Tranter (n 198).

²⁰¹ *ibid* 31.

²⁰² Emir Aly Crowne and Maxim Kaploun, 'From Blackacre & Whiteacre to Greyacre: Three Models for Ascribing Virtual Property Rights in Cyberspace' (2010) 19 University of Baltimore Intellectual Property Law Review.

²⁰³ Sally Brown Richardson, 'Classifying Virtual Property in Community Property Regimes: Are My Facebook Friends Considered Earnings, Profits, Increases in Value or Goodwill?' (2010) 85 Tulane Law Review.

names, virtual chattels (in-game items), intellectual property'²⁰⁴. That would not be problematic in itself – scholars are free to choose what exactly they want to study – and it could be the result of merely terminological, not conceptual, confusion; but the problem is that due to numerous cross-references one cannot avoid coming to the conclusion that they actually believed they were partaking in the same debate. A sample is demonstrated in the table below:

Term used	Scope	Definition	Source
'virtual property'	In-game items	<i>'Entries in a database resident on a server that permits a participant's computer monitor to display images already present within the software'</i>	(Lastowka & Hunter, 2004) ²⁰⁵
'virtual property'	Domain names	<i>'property interest that is both intangible and exclusionary'</i>	(Nelmark, 2004) ²⁰⁶
'virtual property'	URLs, email accounts, chat rooms, in-game assets	<i>'Rivalrous, persistent, and interconnected code'</i>	(Fairfield, 2005) ²⁰⁷
'virtual goods', 'virtual items', 'virtual objects', 'virtual property'	Items within MMO games	??	(Chein, 2006) ²⁰⁸
'virtual property'	An email address, a website, a bidding agent, a video game character, or any number of other intangible, digital commodities	<i>'Virtual property is persistent computer code stored on a remote source system, where one or more persons are granted certain powers to control the computer code, to the exclusion of all other people'</i>	(Blazer, 2006) ²⁰⁹
'virtual property'	Anything that is "owned" within an online game	<i>'bits in context'</i>	(Meehan, 2006) ²¹⁰
'virtual world goods'	In-game items	??	(Horovitz, 2007) ²¹¹
'virtual world property'	Items within virtual worlds	??	(Boone, 2008) ²¹²
'virtual property', 'virtual assets'	User-created content in online games and sites	??	(Crowne & Kaploun, 2010) ²¹³

²⁰⁴ Jennifer Gong, 'Defining and Addressing Virtual Property in International Treaties' (2011) 17 Boston University Journal of Science & Technology Law.

²⁰⁵ Lastowka and Hunter (n 8).

²⁰⁶ David Nelmark, 'Virtual Property: The Challenges of Regulating Intangible, Exclusionary Property Interests Such as Domain Names' (2004) 3 Northwestern Journal of Technology and Intellectual Property.

²⁰⁷ Fairfield, 'Virtual Property' (n 8).

²⁰⁸ Chein (n 171).

²⁰⁹ Blazer (n 169).

²¹⁰ Meehan (n 170).

²¹¹ Horowitz, 'Competing Lockean Claims to Virtual Property Note' (n 175).

²¹² Boone (n 182).

²¹³ Crowne and Kaploun (n 202).

‘virtual property’	In-game items	<i>‘Software code designed to behave like and have the qualities of physical, real-world chattel or piece of reality’</i>	(DaCunha, 2010) ²¹⁴
‘virtual property’	URLs, domain names, websites, email accounts, Facebook profiles.	<i>Like Fairfield 2005</i>	(Richardson, 2010) ²¹⁵
‘virtual property’, ‘virtual resources’	In-game items	??	(Nelson, 2010) ²¹⁶
‘virtual property’	<i>‘Valuable and tradable goods, assets, equipments, raw materials, avatars, and currencies existing in virtual worlds of massively multiplayer online games’</i>	??	(Chew, 2011) ²¹⁷
‘virtual property’	Avatars, domain names, virtual chattels (in-game items), intellectual property	??	(Gong, 2011) ²¹⁸

Table 1 The objects of inquiry of virtual property scholars, and the terminology used

This confusion is to a certain degree understandable. In the end, the majority of scholars were pointing out something new, namely different types of digital objects, for which the law had no names. However, it is important to remember that even though domain names, intangible copies of literary works, files in the cloud, and virtual items have some features in common – they are all digital objects, neither material nor immaterial in the traditional sense – there are differences, critical from the point of view of legal relations and potential property rights, or whatever rights to be granted.

Secondly, even among those who delineated the scope in the same way, i.e. limited themselves to the virtual items within online games, different answers to the question: ‘what is a virtual item?’ were given. The candidates were: ‘code’²¹⁹ or ‘lines of computer code’²²⁰, ‘bitmaps and textures’²²¹, ‘entries in a database’²²², ‘collage of graphical images and combination of pre-defined code’²²³, ‘representations of places and objects’²²⁴, and many more combinations of all of

²¹⁴ DaCunha (n 181).

²¹⁵ Richardson (n 203).

²¹⁶ Nelson (n 174).

²¹⁷ Matthew M Chew, ‘Virtual Property in China: The Emergence of Gamer Rights Awareness and the Reaction of Game Corporations’ (2011) 13 *New Media & Society* 722.

²¹⁸ Gong (n 204).

²¹⁹ Fairfield, ‘Virtual Property’ (n 8).

²²⁰ Lastowka, *Virtual Justice. The New Laws of Online Worlds*. (n 172).

²²¹ Fairfield and Castronova (n 46).

²²² Fairfield, ‘Anti-Social Contracts: The Contractual Governance of Virtual Worlds’ (n 184); Lastowka and Hunter (n 8).

²²³ Stephens (n 131).

²²⁴ Lawrence (n 176).

these. As signaled in the previous chapter, all these entities make up some components of virtual items. However, on the ontological level, ‘entries in a database’ and ‘representations’ are not the same types of entities. What is more, it is hard to fully understand what was meant by ‘code’ here – the software, or the digital form in which the entries, and the images, and everything else, is stored? This is what was meant in the Introduction by ‘scholars not seeing all the facts, and overlooking some important facts’. Virtual items, however one defines them, supervene on all these types of entities, some of which are already clear objects of property rights, a title to which is settled. Hence, when speaking about any potential legal title in the virtual items, one needs to take this into account.

Thirdly, as already signaled above several times and as a result of not knowing all the facts and forcefully packing them in the familiar concepts, scholars ascribed to virtual items features which they do not have, and overlooked several important features which they do have. Take Fairfield’s ‘persistence’ and ‘rivalrousness’. Fairfield, and many who followed him, claimed that virtual items are persistent, in a sense that once a user turns off the app, they do not disappear. That is correct, as we have seen in the case of *Clash of Clans* – one might even uninstall the app, and after installing it months later, on a different device, after logging in, one will see the same virtual village. However, if the *provider* switches off the servers, stops providing the service, or simply decides to block one’s account, the village will not ‘persist’. Virtual items can cease to exist in many ways in which tangible items cannot – as a result of one’s decision to stop sustaining it. If you have a horse, it might die if it is old, or sick, or not fed – but it will not evaporate the moment when God decides that it should not be there anymore. The same can be said about ‘rivalrousness’. The dragons I send you in *Clash of Clans* are rivalrous, in the sense that when I send them to you, you have them, and I do not. But this is just a design choice²²⁵. It could be different. For example, as was noted in the case of *Pokémon Go*, we can both catch ‘the same’ Pokémon. Dozens of people can. It *could* be that once someone catches a Pokémon, another person cannot. But the designers decided that it would be more fun if it were otherwise. In other words, even though virtual items have many features in common with tangible things, they also are, in many ways, very different. This matters for property rights on the substantive level (what exactly would it mean to enjoy them and exclude others?) and on the formal level (enforcement of any court decisions, assuming that a property right would be granted, would need to take place with the cooperation of the providers). This also matters in all normative aspects – it is by no means obvious that granting property rights

²²⁵ This has, ultimately, been admitted by Lastowka in: Lastowka, *Virtual Justice. The New Laws of Online Worlds*. (n 172).

is necessary for innovation or efficient allocation of virtual items, as claimed by Vacca²²⁶ and Fairfield, respectively²²⁷.

Fourthly, there was the trouble with the narrative, signaled already in the previous sections. The talk of ‘parallel universes’, with their own ‘inhabitants’, being ‘separate jurisdictions’, where people want to ‘escape’ to have a ‘second life’, has proven extremely pervasive, catchy, and without a doubt played a role in the creation of misunderstandings. The debate about whether ‘real world law’ applies to virtual worlds led to bizarre proposals, like that of creating a ‘law of intertation’, an equivalent to ‘incorporation’ of companies, according to which some ‘virtual worlds’ could be recognized as separate jurisdictions²²⁸. Castronova, writing: ‘*Virtual worlds represent a new technology that allows deeper and richer access to the mental states invoked by play, fantasy, myth, and saga*’²²⁹ argued that some ‘virtual worlds’ should be protected from the application of law by the means of law. This argument has been picked up by Jack Balkin, who also bought into this narrative of ‘players inhabiting virtual worlds having a right to play’²³⁰. Given the fact that Balkin, who later backed up on the narrative, offered a pretty clear argument for the claim that service providers should either allow horizontal transactions of virtual items in all forms, or be consistent in prohibiting them²³¹, and who is generally known for being clear and cold-minded in discussing law and technology²³², initially fell for this narrative, only proves the power it carried. Statements like ‘*The topic of virtual property is both magical and mythical*’²³³ were being uttered years later, and clearly did not help.

One sub-problem within the narrative concerned the issue of virtual items’ ‘existence’ and/or being ‘real’ or ‘unreal’. On one hand, there were arguments dismissing the inquiry into the legal status of virtual items *en masse*, by simply stating that virtual items ‘are not real’/’do not exist’²³⁴. On the other, scholars who believed that such an attack misses out on something important, attempted to prove that they are real/do exist. Consider, for example, a passage from the initial article of Lastowka and Hunter:

²²⁶ Vacca (n 178).

²²⁷ Fairfield, ‘Virtual Property’ (n 8).

²²⁸ Edward Castronova, ‘The Right to Play Institute for Information Law and Policy Symposium: State of Play: II. Article’ (2004) 49 New York Law School Law Review 185.

²²⁹ *ibid* 185.

²³⁰ Jack M Balkin, ‘Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds’ (2004) 90 Virginia Law Review 2043.

²³¹ Jack M Balkin, ‘Law and Liberty in Virtual Worlds Institute for Information Law and Policy Symposium: State of Play: I. Essays & Reflections’ (2004) 49 New York Law School Law Review 63.

²³² See his exchange with Calo, regarding regulation of robotics: Jack M Balkin, ‘The Path of Robotics Law’ (2015) 6 California Law Review Circuit 45; Ryan Calo, ‘Robotics and the Lessons of Cyberlaw’ (2015) 103 California Law Review 513.

²³³ Wian Erlank, ‘Lecture: Introduction to Virtual Property’ (Social Science Research Network 2009) SSRN Scholarly Paper ID 1491118 <<https://papers.ssrn.com/abstract=1491118>> accessed 29 September 2017.

²³⁴ See: Benkler (n 198) or: ; Lawrence (n 176).

*Virtual worlds are indeed unreal. We mean by this that they are artificial, fictitious, imaginary, intangible, and invented. Yet virtual worlds are real, as well. All things artificial or invented do not fall entirely outside the ambit of reality. If they did, we would need to banish from reality all manner of human actions and creations, including buildings, languages, and – most important for our purposes – laws. As Jack Balkin and Julian Dibbell have noted [[citation omitted, P.P.]], while laws may be invented and intangible, they are hardly insignificant.*²³⁵

Or what Lastowka wrote six years later, in his monograph:

*While the Dagger Isle castle is not “real” in the sense that it is not tangible, it is quite real in another sense. I encountered the castle, displayed as the picture above, on eBay. On October 28, 2003, the seller was offering it for \$999.88 originally.*²³⁶

One could say that what the scholars above are doing is essentially discussing meta-ontology, i.e. the question of what does it mean for an entity to exist. Or that they simply tried to prove that virtual property problems matter. In the first passage, one can see the claim that simply because something is human-made, it is not unreal, with the example of ... law. Lastowka and Hunter claim: since law is human-made and we agree it exists, then ‘virtual worlds’ also exist. The tacit assumption here is: the law’s and the ‘virtual world’s’ modes of existence are the same. In the second, Lastowka claims: it might be that virtual items do not exist because they are ‘intangible’, but this is a wrong threshold, and the right one is that they have a monetary value. Hence, if something is valuable, it exists. This suffers from a slight under-theorization.

Obviously, lawyers do not have to be trained in ontology. On the contrary, I would claim, the question about whether something *actually* exists or not is irrelevant to law. Consider an example of musical works as such (not copies of music recordings, but the immaterial works embedded in these copies). There are good arguments in analytical philosophy that they do not exist²³⁷. This, however, does not stop copyright law from assuming they do exist, and granting their creators property protection. In the next chapter I will dwell on the notion of ‘existence for law’ briefly, claiming that an entity can be said to exist for law either if it is denoted by a legal term

²³⁵ Lastowka and Hunter (n 8).

²³⁶ Lastowka, *Virtual Justice. The New Laws of Online Worlds*. (n 172).

²³⁷ Nikk Effingham, *An Introduction to Ontology* (Polity Press 2013).

(falls within a legal concept), or if it can be a potential object, subject or a circumstance relevant in a potential legal dispute, and that the problem we face with the virtual property phenomenon is that these two spheres currently do not overlap. However, it does not matter whether these entities actually, in the metaphysical sense, can be said to exist.

What matters, though, is the *mode* of their existence. If the law ontologically commits to some entities' existence, by placing it within a denotation of a legal term, and hence a hypothesis of a legal norm, then whatever really is out there, must be understood. The problem with the first passage above is that, if law exists, and, if virtual items exist, so that we do not ask *if* but *how*, then the answer to the 'how?' question will be different. There is a difference between socially constructed entities and digital entities. This will be explained in detail in Chapter 4. Not taking this issue seriously led to the fifth big problem in the literature: confusing the object of a (potential) property right with the right itself. Fairfield wrote:

*One might argue that courts cannot apply real-world property law to virtual worlds because virtual objects and land simply do not exist. Virtual property is just an entry in a database. **But it is important to realize that real-world property does not exist either.** Property law is a consensual hallucination that maximizes profitable use of land and minimizes conflicts over resources. There are no yellow, dotted lines between countries, as appear on a map. Neither is there some invisible yet intrinsic dividing line between one person's land and another's.*²³⁸

Fairfield confuses the object of right with the right itself. When speaking of 'real-world property' he means 'property rights', which indeed exist as social objects, making them ontologically subjective, but still objective in the epistemic sense²³⁹, contrary to the objects of these rights. However, when he speaks of 'virtual property' he means the objects, the virtual items. This parallel does not hold because the mode of existence of rights and virtual items is dramatically different. For land 'exists' in the sense that it is there regardless of human perception (or at least natural science assumes so), property rights 'exist' as a social construct backed by law, and virtual items 'exist' in the sense that a service sustaining their existence keeps being performed, again regardless of whether law recognizes them as objects of relations, and arguably even regardless of whether any humans perceive them or acknowledge their being in a given moment. Similarly, Pakuła argued that

²³⁸ Fairfield, 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (n 184).

²³⁹ The distinction after: John Searle, *The Construction of Social Reality* (Allen Lane The Penguin Press 1995).

an account in a MMO RPG games is a personal right²⁴⁰. Whatever an account is, a user might (or might not) have a right over it, but the account is not a right itself²⁴¹.

In this sense, there is no escape from ontology.

The reason why legal scholars commit these fallacies is that lawyers are trained how to *use* legal concepts, how to apply them, but not how to create new ones. Hence, the task which one faces in the case of the virtual property phenomenon – to theorize and conceptualize a chunk of reality for legal purposes – is not something that legal scholars have done very often. The method of how this should be done will be introduced in the next chapter. Then, in chapters 4 and 5, new concepts will be proposed. And only after that, in the last chapter, normative arguments will be made.

2.4. The Research Question

In the light of all the material gathered in these first two chapters, I would like to come back to the research question of the dissertation, introduced already in the Introduction: *How to describe and explain the phenomenon of virtual property from the perspective of private law, and how could and should private law respond to that phenomenon?* The question requires three comments.

Firstly, given the gaps identified above, the question concentrates on theorization and conceptualization of the phenomenon, before its evaluation, and before proposing any solutions – be it just the goals, or the means of achieving these goals. As we have seen, the prescriptive claims risk being inoperable, if they are based on false assumptions about the reality; and one risks making such claims unless due diligence is exercised in conceptualizing the facts first.

Secondly, the question given the comments made in chapter 1 – about the structural similarities between the virtual property phenomenon and relations taking place within other online platforms – poses a promise of shedding light on more aspects of the online sphere than simply the virtual property phenomenon. This is because, to address the core of the problem – the relations that persons get involved in regarding virtual items – one needs to understand the background, the broader context. And solutions to puzzles posed by the background can be helpful also in addressing other issues stemming from the emergence of online platforms.

Thirdly, this is a question about *reality*, seen from the perspective of law, not about the law itself. Hence, the method of answering it will differ from typical legal research. That is why it requires serious consideration. And this consideration is the subject matter of the next chapter.

²⁴⁰ Jacek Pakuła, 'On-Line Games Accounts in Legal Relations – Crucial Issues' (Thesis, 2009) <http://prawo.vagla.pl/files/mgr_j_a_pakula.pdf>.

²⁴¹ This paragraph closely follows my earlier work, published in: Przemysław Pałka, 'Redefining "Property" in the Digital Era: When Online, Do as the Romans Did. EUI Law Working Paper No. 2016/08' <<http://hdl.handle.net/1814/40366>> accessed 25 April 2016.

Chapter 3: The Law and Reality Approach: Methodology and Metatheory

The fundamental change that has occurred in large parts of legal scholarship concerned with new technologies is that the *object of inquiry has switched from law to reality*. Note that the previous chapter, both the section describing the phenomenon of virtual property, as well as the cited articles of legal scholars, seldom spoke about the law. For the most part, the articles therein were concerned with the phenomenon itself, at best from the perspective of a lawyer. Except for Molly Stephens, who asked a somehow typical legal question – how does the copyright law fare in the context of some facts? – essentially everyone else was concerned with the facts and the question of what to do about them. Lawyers no longer only ask questions like ‘is a contract concluded by a robot valid?’²⁴², which they would answer primarily by examining the contract law doctrine and then comparing it with facts; but rather: ‘what do we do about artificial intelligence/online platforms/virtual property?’ Also, the research question of this thesis: *How to describe and explain the phenomenon of virtual property from the perspective of private law, and how could and should private law respond to that phenomenon?* is an example of that shift. From the methodological point of view, the gravity of this switch can hardly be overestimated.

Legal scholarship in general cannot be accused of spending too much time and energy on methodological self-reflection. Unlike social scientists and economists, academic lawyers were never required to attend long courses devoted to the methodology of their *research* (this should not be confused with the legal method, i.e. the way that legal documents should be drafted, or cases argued in court etc.). The method was rather *implicit*, and replicated by new generations somehow mimicking what their masters were doing²⁴³. Recently, the subject attracted more attention, and a few monographs²⁴⁴ as well as edited books²⁴⁵ devoted to the subject have been published. One might hope that the reflections commenced there will find their way into mainstream legal academia. For the most part, however, one could say that the methodology of legal research was one of those things about which a seasoned academic would be able to conclude whether it is right or wrong, good or bad, but not necessarily explain the theory behind this assessment.

²⁴² Tom Allen and Robin Widdison, ‘Can Computers Make Contracts’ (1996) 9 Harvard Journal of Law & Technology 25.

²⁴³ Rob van Gestel, Hans-Wolfgang Micklitz and Miguel Poiaras Maduro, *Methodology in the New Legal World* (2012).

²⁴⁴ Jerzy Stelmach and Bartosz Brożek, *Methods of Legal Reasoning* (Springer 2006); Jan M Smits, *The Mind and Method of the Legal Academic* (Edward Elgar Pub 2012).

²⁴⁵ Rob van Gestel and others, *Rethinking Legal Scholarship a Transatlantic Dialogue* (Cambridge University Press 2017); Mark van Hoecke, *Methodologies of Legal Research : What Kind of Method for What Kind of Discipline?* (Hart 2011); Dawn Watkins and Mandy Burton, *Research Methods in Law* (Routledge 2013); Sanne Taekema, Bart van Klink and Wouter De Been, *Facts and Norms in Law: Interdisciplinary Reflections on Legal Method* (Edward Elgar Publishing 2016).

As long as the character of the endeavor remained stable, this was probably sustainable. ‘Classic’ legal scholarship²⁴⁶, and arguably still a majority of scholarly output on the European continent, has been concerned with the study of *law*. Regardless of the approach – be it doctrinal²⁴⁷ or normative, historical or comparative²⁴⁸, economic or social – academic analysis was the analysis of *law*. The methods obviously differed depending on the type of the question, but still were to a large extent determined by the character of the *object* of inquiry. When this object shifted – as we have seen in the previous chapter – legal scholars, trained to study different types of entities, ended up uttering claims that might raise some eyebrows.

This chapter has two purposes – one modest and one ambitious. The modest purpose is to explain the method used in this thesis to answer its research question. What type of data will be studied, what operations will be performed on this data, and how the knowledge acquired in this way is sufficient to answer the question. The difficulty of working through a correct method of answering this question is such that no-one has theorized it before; and the articles asking questions similar in structure, i.e. a descriptive-normative question about a phenomenon, from the perspective of law, were, in the opinion of the author of this thesis, of questionable methodological value. That is where the ambitious purpose comes into play. The methodological reflection of this thesis can, in the opinion of the author, be used by other legal scholars studying socio-technical phenomena, both those asking conceptual questions, and those interested in policy. Hence, the secondary *contribution* of this thesis is of a methodological nature. By being explicit about how I want to tackle the challenge, I hope to advance a general methodological reflection in the field of law and new technologies.

Another problem that has not been theorized to date is the relation between law, in its totality, and the reality it aims to govern. That is what I put forward as a metatheory of this thesis, i.e. the theory about a phenomenon on a higher level of abstraction than the one asked in the thesis. ‘How can law relate to and govern the phenomenon of virtual property?’ is a particularization of the question: how can law relate to and govern reality as such? Or, in the descriptive sense: how does the law do that?

The chapter is divided into three larger sections. In the first one, the nature of the dialectical relationship between law and reality is examined, the recipe for answering questions like the one of

²⁴⁶ Understood as in: Duncan Kennedy, ‘Three Globalizations of Law and Legal Thought: 1850-2000’ in David Trubek and Alvaro Santos, *The New Law and Economic Development. A Critical Appraisal* (Cambridge University Press 2006).

²⁴⁷ Aleksander Peczenik and Enrico Pattaro, *Scientia Juris : Legal Doctrine as Knowledge of Law and as a Source of Law* (Springer 2005); Aulis Aarnio, *Essays on the Doctrinal Study of Law* (Springer 2011).

²⁴⁸ Wilson Goeffrey, ‘Comparative Legal Scholarship’ in Mike McConville and Wing Hong Chui (eds), *Research Methods for Law* (Edinburgh University Press 2007).

this thesis presented, and the methodological traps awaiting the scholars who rush to normative conclusions presented. Secondly, the role of legal concepts in the law's relation to reality is examined, and the claim that to govern the reality, law necessarily assumes a particular structure of that reality, argued for. It is explained how legal concepts acquire their meaning, what functions they serve, and how new ones are created. In the same section, the method of creating new concepts is suggested. Finally, the role of law as a 'normative theory' to evaluate reality, as well as its place in the 'regulatory environment'²⁴⁹, i.e. the endeavor to regulate the reality, is studied.

3.1. Dialectical Relationship Between Law and Reality

Law governs reality. Law's ambition is to have an impact on the reality. There is no such thing as law for the law's sake. This impact might be direct or indirect, action-oriented (prohibition of murder) or symbolic (stating that 'animals are not things' in civil codes), abstract or concrete, but it is always there as a part of law's reason for existence. In this sense, unlike with the laws of physics, one cannot fully escape Aristotle's idea of four causes²⁵⁰ when studying the law. The questions of who made it, what was its function at the time, and what aims it is supposed to serve (or *de facto* serves) nowadays, are intellectually unavoidable, even if not asked by a particular scholar. This is not to say that the study of law must be instrumental, for the *goals* law serves might be themselves deontological, and in the case of private law might even be to grant people freedom in their actions. In a way, the ambition of property or contract law is exactly *not* to tell people what to do with their objects, but precisely to create a sphere of liberty for them. This liberty might be the impact law tries to achieve.

To govern reality, law needs to be able to **refer** to reality. Law must be able to speak about it. As in example on page 101 (with buying a pen), law needs terms that denote concrete objects and subjects that the law wants to grant rights and obligations over and to. In this sense, law needs to accept reality as it is, if only in order to change it. There are some features of reality that law can affect (what people do) and some it cannot (the laws of physics, for example). There are some chunks of reality that law constitutes (rights, companies, etc.) and some that the law might give some status, but cannot fundamentally alter (like human beings). Through the totality of its norms, law assumes a particular structure of the reality. The way in which it does so will be studied in section 2.2, and what that structure currently is will be studied in section 3.1. Through its norms, the

²⁴⁹ The concept of 'regulatory environment' developed by R. Brownsword in: Roger Brownsword, 'The Shaping of Our on-Line Worlds: Getting the Regulatory Environment Right' (2012) 20 International Journal of Law and Information Technology 249 and studied deeper in the section 2.3.

²⁵⁰ See, for example: Anthony Kenny, *A New History of Western Philosophy. Ancient Philosophy*, vol 1 (Oxford University Press 2004).

law also wants to shape the reality – the way it does so will be studied in section 2.3. And if the research question is about *reality*, not about law, both types of relations need to be understood well. Before doing that, let me address two unavoidable questions, however intimidating they may be.

These are: ‘what is law?’ and ‘what is reality?’. An immediate qualification: all I want to do here is to explain what I mean by these terms, not to inquire into the ‘nature’ of law or reality. However, one brief observation about the trouble with ‘What is X?’ questions is worthwhile here.

In the English language, and in most European languages, lacking the *instrumentalis* case, each question taking a form of ‘What is X?’ can have two distinct meanings: ‘What entities does the term ‘X’ refer to?’ or ‘If we agree what entities the term X refers to, what can be said about these entities?’ Let us call the first type ‘questions in the delineative sense’, and the second ‘questions in the explanatory sense’. Needless to say, the methods of answering both are different. With this distinction in mind, one can see that ‘what is law?’ can either mean ‘what entities do we refer to when using the term ‘law’?’ Or, ‘if we agree what entities we refer to while using the term ‘law’, what are the characteristics of these entities?’ Note that the first sense is not only a linguistic endeavor, it might just as well be a philosophical one, if taken normatively: ‘what entities *should* we place within the delineation of the term? (according to whatever standard)’. In the jurisprudential debates, both meanings were used interchangeably. For example, when Llewellyn states: ‘What (...) officials do about disputes is (...) the law itself’²⁵¹ or when Tamanaha claims: ‘law is whatever people identify and treat through their social practices as ‘law’’,²⁵² they answer the question in the delineative sense, while when Hart claims that law is a ‘union of primary and secondary rules’²⁵³, he answers it in the explanatory sense, having first, implicitly, limited himself to ‘rules’ as the answer to the former. This confusion could not, for logical reasons, arise in a language with a robust system of declination, like Polish, where the question would translate as: ‘*Co jest prawem?*’ in the delineative, and: ‘*Czym jest prawo?*’ in the explanatory sense. Young Wittgenstein might have been naïve thinking that *all* philosophical problems come from a sloppy (use of) language²⁵⁴, but was definitely right about the fact that *many* of them do. In English, it is possible to grasp the distinction, on the intuitive level, when negating the question: ‘what is law?’. Negated, in the delineative sense, the question would be: ‘what is not law?’, and in the explanatory sense: ‘what is law not?’.

²⁵¹ Karl N Llewellyn, *The Bramble Bush: The Classic Lectures on the Law and Law School* (Oxford University Press 2008).

²⁵² Brian Z Tamanaha, *A General Jurisprudence of Law and Society* (Oxford University Press 2001).

²⁵³ Herbert Lionel Adolphus Hart, *The Concept of Law* (Oxford University Press 1961).

²⁵⁴ Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*. (Routledge & K Paul 1961).

Having clarified this, I would like to limit myself to answering the ‘what is law?’ question only in the delineative sense. Anna Brożek, in *Theory of Imperatives*²⁵⁵, notices: ‘a theoretician of imperatives should be aware of the categorical richness of the ontological scope of his or her inquiry’²⁵⁶. She then proceeds, before inquiring into the types and nature of imperatives, to discuss the ‘ontological preliminaries’ – what exists if imperatives exist? That is something that, for reasons unclear, has escaped the attention of most philosophers of law. ‘Law’ is not only a body of norms. Law is a lot of things on the same time. A lot of types of things. The term ‘law’ refers to a set of quite different types of phenomena, obviously linked and functionally depended on one another, yet having different ontic statuses, and in consequence needing different methods to be studied.

The term ‘law’ might refer to: 1) norms (rules and principles); 2) texts (statutes, constitutions, case-law, etc.) from which these norms are derived, or in which they are expressed; 3) language (conceptual apparatus) used in these texts to express these norms; 4) social practices, including: 5) the actions of the officials, creating and enforcing the norms; as well as 6) the academic discipline studying all these²⁵⁷, which again could be broken down into pieces (language used by academics, theories proposed by scholars etc.). Note that these entities belong to different ontic categories, they ‘are different things’. Norms are not equal to provisions that express them (it would be absurd to say that someone violated a text²⁵⁸), actions are not the same as norms (norms might be reasons for actions, or arise from actions, arguably, Hume’s nightmare again, but they are not actions themselves). They are all obviously connected and cannot be fully separated from one another, yet for one to change, another does not necessarily need to change²⁵⁹. Further, to study texts one employs a different method than to study, for example, social practices. This distinction will be accounted for in the next two sections of this chapter.

The second question is: ‘what is reality?’. Even if one limits oneself to the delineative sense, this question is much trickier for, arguably, everything that exists is reality. Hence, the answer to the question ‘what is reality?’ is a function of the question ‘what exists?’, an answer to which is a function of the question ‘what does it mean to exist?’. The ontological question necessarily moves to the meta-ontological level (or at least assumes a meta-ontological theory)²⁶⁰. Philosophy provides

²⁵⁵ Anna Brożek, *Teoria Imperatywów I Jej Zastosowania [Theory of Imperatives and Its Applications]* (Copernicus Center Press 2012).

²⁵⁶ *ibid* 23 The translation conducted by the author of the thesis.

²⁵⁷ Note that I have not provided definitions here, but just enlisted the *genera* of potential definitions, which would further be limited by the *differentia*. It is not my purpose here to determine which texts, which norms, which practices etc. are law and which are not. I just want to make clear that ‘law’ can mean different things on the same time

²⁵⁸ To this end, see: Bartosz Brożek, *Normatywność Prawa [Normativity of Law]* (Wolters Kluwer Polska 2012).

²⁵⁹ For example, one can imagine that no statutory texts need to change for officials to amend their practice, potentially leading to transformation in the substance of norms, what however might require a change in the conceptual apparatus.

²⁶⁰ Effingham (n 237).

one with many candidates: ‘to be perceived’ (Berkley)²⁶¹, to be a value of a bound variable²⁶² (Quine), or ‘to be interactable with’ (Floridi)²⁶³, to mention just a few quite different from each other. To escape from having to write a separate chapter about metaphysics, I will say that the reality that I am interested in is only the chunk of reality that is, or could be, relevant for law. As a result, the question is: *what does it mean to exist for law?*

Since law in itself is a complex ontic phenomenon, many types of answers could be given, depending on the elements of it on which one chooses to concentrate. I would limit myself to providing two answers. Firstly, to exist for law is *to be denoted by a legal term*. The totality of entities referred to by legal terms exist in the eyes of law. Law ‘sees’ them. Hence, things exist, persons exist, literary works do, just as rights, or cars. In this sense, one might conclude, virtual items ‘do not exist’ for law. And neither do artificial intelligence or online platforms (yet) since they are not denoted by any of the legal terms. Law assumes a particular structure of reality, and some phenomena simply fall out of that structure. But law is not just words. Law is also a means to channel behavior and social conflicts. For one could say that, to exist for law, is *to be a potential object, subject or circumstance relevant in a potential legal dispute*. In this sense, virtual items *do exist for law*, since it is not hard to conceive of a legal dispute where they serve as an object (take Bragg case).

The mismatch between the two is the theme of this thesis. There are phenomena which, in principle, should be, at least potentially, an object of interest to law, but on the conceptual level they are not. Because law has no concepts and terms to speak about them. Why does this happen and what could be done about it?

3.1.1. A Method for Answering These Types of Questions

Let me reiterate the question of the thesis: *How to describe and explain the phenomenon of virtual property from the perspective of private law, and how could and should private law respond to that phenomenon?* There are several components to it: description, explanation, potential reaction, desired reaction, and the ‘perspective of private law’. The last element is probably the hardest to define. That is because, what matters, is a certain type of ‘legal sensitivity’, legal intuition. A private lawyer looking at something will ‘see’ different elements than a constitutional lawyer, and different elements than a psychologist, economist or anthropologist. By this ‘sensitivity’, or ‘intuition’, I do not only mean what the Germans would call *Judiz*, i.e. an ability to intuitively

²⁶¹ Anthony Kenny, *A New History of Western Philosophy* (Reprint edition, Oxford University Press 2012).

²⁶² Willard Van Orman Quine, ‘On What There Is’ [1948] Review of Metaphysics.

²⁶³ Luciano Floridi, *Information. A Very Short Introduction*. (Oxford University Press 2010).

assess a legal case, but something even more primary, deeply engrained in the structure of one's thought. I will not try to define it, for I believe that the part of its nature is being undefinable.

The proposed method of addressing questions of this type consists of five steps:

- 1) The description of facts;
- 2) The conceptualization of facts from a certain perspective (explanation);
- 3) The evaluation of explained facts, according to a chosen normative theory;
- 4) Should the assessment be negative, surveying and postulating the desired *goals*;
- 5) Surveying and postulating the *means* of achieving these goals.

As the reader might have noticed, there is no place for literature review in the five steps above. This is because, in the chronology of asking a question, the literature review should come *before* the question is asked. To know where there is a space to make contribution, one needs to know what is the state of knowledge already. That said, the results of the literature review (reconstruction of the claims made by scholars and the debates among them) will obviously inform work taken in each of these steps. In this thesis, I have decided to present the review of the literature only after presenting the phenomenon and the challenges posed by it; mostly because I wanted the reader to get the chance to familiarize oneself with the problems first, and because the literature was not concerned directly with what I want to study, but rather with a phenomenon that occurred earlier, i.e. 'virtual worlds'.

Regarding the first step, that is what I have essentially done in the first chapter. In order to conceptualize something, one needs to first have the data. Depending on the phenomenon in question, to get the data, one might need to get involved in observant-participant research of ethnographic nature, study the practices of people involved in it, read press articles and the research of others, and consult other sources. 'Legal sensitivity' is present in this description to an extent that it informs the choices of a researcher regarding what elements of the phenomenon to pay attention to. In this sense already this step is 'normative', meaning that the description is not 'absolutely objective'. Not that a fully objective description is possible. If this was a thesis in computer science, one would concentrate, for example, on the protocols used by client and server computers to communicate with each other. A psychologist might ask questions regarding the attitudes of people involved in the phenomenon towards their 'virtual property', or try to examine the impact of living an onlife life. A social scientist could study what are the demographic structures of people playing the games. And so on. A lawyer, *nolens volens*, sees potential legal disputes, potential actions that could be potentially assessed negatively. He or she will know what parts of the Terms of Service 'feel' wrong. He or she will see what elements have clear legal status, and what are new. This, in a way, is a necessary first move in any legal research concerning some socio-technological

phenomena – be it virtual property, business’s use of artificial intelligence, the sharing economy or online platforms – to see what is actually going on, in order to be able to speak about the reality as it is as opposed to some vague idea of it (which, as we have seen in previous chapter, is what some scholars did).

Secondly, the conceptualization. This is the step that the largest part of this dissertation (Chapters 4 and 5) is devoted to. Its purpose is to achieve an *understanding* of the facts described in the previous step. For understanding is not only an aggregation of facts, but an effect of applying a theory to interpret these facts. On the contrary, lack of understanding (misunderstanding) might result not only from insufficient data, but primarily from trying to make sense out of it using an inadequate conceptual framework, having it under-theorized. The method of devising a proper conceptual framework will be analyzed in detail shortly (in section 3.2.2.). This understanding, just like the description, is always motivated by some sensitivity. A question of ‘why do online battles in *Clash of Clans* not run smoothly when someone has anti-virus running on their smartphone?’, fundamental to a computer scientist, will not be one of the first ones to be asked by a lawyer. And for the purposes of a *general* theory, might not be asked at all. Understanding here is *functional* – it is supposed to allow *lawyers* to conduct *legal debates* about the phenomenon.

Thirdly, the evaluation of explained facts, according to a chosen normative theory. This is the step when one moves from describing something with a certain sensitivity, to explicitly stating whether something should be assessed positively or negatively and why. When one moves from stating ‘service providers have an ability, and arguably a right, to delete users accounts of users and sometimes do so’ to stating: ‘it should be evaluated as negative that service providers sometimes delete accounts of users without any reason or prior notice, since this creates an imbalance in the parties’ rights and relations’. Or: ‘...since it creates uncertainty on the market’. Or: ‘...since their motivation is profit seeking and retaining control and that produces new hierarchies and power structures in the capitalistic society’. The exact source of the normative theory is to be chosen, and debated, though on another level (I write about this in chapter six). Also, one might find undesirable the fact that providers *do* delete the accounts, or already the fact that they *have a right* to do that, regardless of whether they actually do. Note that one might conduct an evaluation of some phenomenon without stating that something should be done about it, or what exactly should that be. How to use law as a normative theory will be the subject of the last section of this chapter.

Fourthly, postulating the goals. If the evaluation is negative, one might move to stating what would be the desired state of affairs. In other words, having described the reality, and stated why it is suboptimal, one might move to sketching an *ideal* reality. For example, one could state: the goal is for users to have a right to sell the items to each other, without the interference of the provider.

Or, the goal is for provider not to delete users' accounts for now reason. Or to have no right to delete them. However, the surveying of goals, i.e. answering the question of what *could* be done about the phenomenon, should take place together with knowing what *else* will change with that. For example, in a world in which users are free to sell items to each other, probably less people enjoy the game. So less people play it. So there is less money to be made there. Or in the world in which providers have no right to turn off the service without compensation, many less games get created, given the chilling effect. The goals, also, stem from a given normative theory. This is also explained in the last section of the chapter, and in this thesis done in chapter six.

Finally, the *means* of achieving the goals. Note that, from the fact that one's goal might be for the provider not to delete virtual items that users control, it does not follow that the best way to achieve it is through legal intervention, even less so through granting of a property right. One of the reasons why there are so few cases regarding virtual property is that service providers usually do not do that. Even though they have the ability and the right. One possible explanation is that market forces – given the enormous competition on the gaming market – provide sufficient incentive. However, should one's goal be for service providers not to have a right to delete one's items, this can also be achieved through many means – granting property rights, or simply stating in a statute that this cannot be done, without granting 'property'. This can be done by courts and legislatures, or by business's self-regulation. However, the choice of the means needs to take into account the consequences of using them. Both intended – will a particular intervention bring about the desired outcome? And unintended – what other, unforeseen, consequences might a particular intervention bring about?

Steps three, four and five will be given less attention than two and three in this thesis, for the reasons invoked in the introduction. Chapter six will be devoted to all three, though also with a regressive volume: more space will be given to evaluation than to goals, and the means will be merely touched upon. This is because, as stated several times already, the primary goal of this thesis is to conceptualize the phenomenon and get tools ready for the normative endeavors, not to be normative about them.

Note that 'law' does not appear in any of these steps explicitly, though it is 'there'. It is there in step one as a certain sensitivity, and in step two as both a sensitivity and a certain frame that needs to be adjusted and expanded. Law might be the normative 'theory' in step three, and the goal in step four might be a particular substance of law. Needless to say, law might be one of the means of influencing reality. Not the only one, to be sure, but the first one to come to a lawyer's mind.

This is an ideal method. Not ideal in the sense that it is perfect, but ideal in the sense that it is just an abstract model. Obviously, it needs to be adjusted to particular research needs. Also, the

sequence of steps is rather logical than chronological – one might just as well start from a very clear idea of what should be done, and only later realize some lacks in knowledge on the previous steps. The sequence of steps concerns the genealogy of knowledge – what needs to be known before another type of claim can be legitimately made.

Since legal scholars, in these types of endeavors, speak about both law and reality, without necessarily being trained to speak about the latter, there is quite some space for confusion. For this reason, I think it is important to briefly analyze what types of legal scholarly claims can be made.

3.1.2. Types and Objects of Legal Scholarly Claims

The dichotomy between positive and normative claims, respectively answering questions: ‘what is?’ and ‘what should be (done about it)?’ is clear and known to legal scholarship, as much as the fact that this dichotomy is often being contested. Admitting that the distinction is not always crystal clear, and that there are cases where indeed the border might be blurred (is the description motivated by some sensitivity not normative already?), I still believe that there is a qualitative difference between the statements: ‘the speed limit in urban areas in Poland is 60 km/h’ and ‘the speed limit in urban areas in Poland is too high and should be lowered’.

However, as a matter of methodology, I would claim that legal scholarship, especially law and new technologies scholarship, would benefit from breaking this dichotomy into four smaller pieces, and then distinguishing yet another type of claim: ‘potential’ claims. Regarding the former: there are two types of positive claims: descriptive (answering the question ‘what is?’) and explanatory (‘how to *understand* it?’); and there are two types of normative claims: evaluative (giving an assessment, according to some axiological standard, of a given factual situation, yet without stating what exactly should be done about it) and prescriptive (‘what should be done about it?’). The latter, ‘potential’ claims, contain a survey of options of what could be done with a situation one finds undesirable. Let me give you an example.

Imagine that in some country there is a high rate of deaths caused by car crashes and the government wants to do something about it. The claims would be, respectively: descriptive: ‘the amount of car crashes last year was X, and the amount of deaths caused by them Y’; explanatory: ‘the amount of X and Y results from people driving too fast, or bad roads condition, or people drinking and driving’, evaluative: ‘X and Y are too high/X and Y should be lower’, potential: ‘X and Y could be lowered if people were driving slower, or roads condition was better, or if people were not drinking and driving’, prescriptive: ‘people should drive slower’. Now imagine that, instead, a government official proposes to legally oblige car manufactures to produce cars that do not crash. This prescriptive proposition is based on a false assumption that producing non-crashing

cars is possible, and so that introducing such a legal requirement would bring about a remedy to the problem.

The relationship between evaluative and prescriptive claims is such that the former states the problem, while the latter proposes a solution to the problem. Even though many would put both under the same label ('normative'), I believe there is a value in keeping them separate. In legal scholarship spotting a problem that no one saw before is already a contribution, potentially worth more if a solution is not suggested than when a wrong, inoperable solution is suggested. That, to a certain extent, is the trouble with the state of the art.

The relationship between prescriptive and 'potential' claims is such that, at least in the case of law, a prescriptive legal solution should be an operable solution, in other words: a solution that is possible and/or has a chance of actually bringing about the desired change, without leading to serious unintended consequences. Note that there is no formal logical flaw in the reasoning: car crashes are bad -> there should be no car crashes²⁶⁴ -> cars should be produced in a way that makes it impossible for them to crash. We only know that the solution is inoperable, because we have a sufficient knowledge about cars and the current state of technology. However, if one speaks about something we do not fully understand, for example virtual property, there is a risk that we will not notice the flaw and accept the impossible to realize, but otherwise logically coherent, argument as valid. That, again, was the flaw of many articles devoted to the virtual property phenomenon. The reasons why a proposed solution might be inoperable can differ significantly. They might be physical impossibility, technological impossibility, they might be illegality in a hard sense (directly unconstitutional), or disproportionality, they might be inefficiency, costliness, moral unacceptability, etc. But this should be taken into account.

The value of being explicit about all these levels comes from the fact that always a higher-order claim presupposes some of the lower-order claims. Particularly, prescriptive claims presuppose 'potential', explanatory and descriptive claims. For the former to be meaningful, the latter should be *true*. Note that both the descriptive claim, 'X is the case', and the 'potential' claim, 'it is possible to do P about X', are atomic sentences in the meaning of propositional logic, and so a true/false value can be ascribed to them, unlike in the case of evaluative and prescriptive statements.

The distinction between descriptive, explanatory, evaluative, 'potential' and prescriptive claims is based on the way a claim relates to its object, but says nothing about the type of the object itself. And the objects might vary. It is possible to make each type of a claim about reality (state of affairs), about law (understood as a body of norms) or about legal discourse (law understood as a

²⁶⁴ Assuming that there is a directive stating: what is bad should be acted against.

language, conceptual apparatus, legal theory, or a legal debate). And many more objects. The different meanings of the word ‘law’, as an object of legal research, have been analyzed above.

To give an example, a descriptive claim about the reality would be ‘the amount of deadly car accidents in Poland in 2015 was X’; a descriptive claim about law as a body of norms would be ‘the speed limit in urban areas in Poland is 60 km/h’; while a prescriptive claim about reality would read ‘the drivers should drive slower’ and about law ‘the speed limit, as stipulated by the Traffic Code in Poland, should be lowered’. This distinction is fundamental, because from a prescriptive claim about reality one cannot automatically derive a prescriptive claim about the law. In the car crashes example, from the fact that one makes a claim about reality: ‘people should drive slower’ it does not yet follow that one is right making a claim: ‘the legal speed limit should be lower’. The fallacy here is the belief that requiring something by law automatically brings about a change in the reality, without taking into account the very complex spectrum of reasons for people’s actions, law’s relations to other social norms, substantive law’s relations to its enforcement, etc. It is a very lawyerly thing to believe. But it might just be that a much more efficient way to bring about that change in reality is to launch an educational campaign, or to increase funds on the enforcement of the current speeding limit, etc. Now, why does this matter for this dissertation?

As already stated above, a ‘typical’ piece of legal research, an orthodox legal research, has *law* as its object. It would usually contain descriptive claims *about law* (how the law on X stands right now?) and prescriptive claims *about law* (how should the law be changed?). In the case of virtual property, however, descriptive legal research is impossible because there is no law on the matter. One cannot describe how currently the law regulates the virtual property phenomenon because it simply does not²⁶⁵. As a result, the object of description will not be law (a body of norms), but a chunk of reality, the social and technological phenomenon, on the one hand, and existing legal conceptual framework (law as a language, a way of thinking), on the other. This remark is fundamental because the method and sources for studying the reality are obviously different from the method and sources for studying norms and/or concepts. However, this description will be conducted *for legal purposes*, having law in the back of one’s mind as a sort of sensitivity guiding one’s thinking. Similarly, prescriptive legal research, meaning a set of claims about how the law as norms should be changed, can only come in the later stage of research, while prescriptive legal research having concepts and theory as its object (how should one think/talk about the phenomenon in question?) is already a part of the ‘explanation of the *phenomenon*’ step,

²⁶⁵ One could try to apply the existing norms, especially legal principles, to *argue* how the situation *should* be treated; but that would be an exercise in legal argumentation, not in mere description. This problem is studied in detail in Chapter 6, ‘Getting Normative’.

labelled above as ‘positive’. This can be visualized by the table below, with columns representing the types of legal scholarly claims and rows the objects of legal scholarly claims:

	Descriptive	Explanatory	Evaluative	‘Potential’	Prescriptive
Reality	Users currently ‘buy’ virtual items for real money, but service providers have a power to delete them at their sole discretion	Users find virtual items valuable; virtual items ‘exist’ within the service fully controlled by service providers	This is undesirable, from a consumer protection point of view and market certainty perspective	Service providers could be only deleting the virtual items when having a previously stipulated reason or could never delete them	Service providers should not delete virtual items unless they have a valid reason
Legal norms	The contract of ‘in-app purchase’ is currently not regulated by law and mutual rights and obligations arising from it are unclear	The phenomenon is too new and a lack of regulation is in the interest of the business	This is undesirable, since it leads to legal uncertainty and potential abuses of power by the service providers	Service providers could be legally required to only delete virtual items when they have a valid reason or not to delete them at all	Service providers should be legally obliged to not delete virtual items, unless having a valid reason to do so
Legal concepts	There is no legal concept that would directly encompass a virtual item	This is because no norms that would be the source of these concepts exist	This is undesirable because it impedes any meaningful discussion about virtual property	The legal conceptual framework could be amended by adding the categories of a digital object, secondary existence of objects and service dependence	When talking about virtual property regulation, one should use the framework suggested in this thesis

Table 2 Types and objects of legal scholarly claims

A reader who is not a legal scholar might look at the table and say ‘well, this might be true, but is this not obvious?’. As has been demonstrated in the literature review section of the previous chapter, it is not. Lawyers who are trained to theorize law, which they often theorize in the context of some facts, when starting to theorize about the facts themselves, often get all this mixed up. And there are a few types of traps awaiting someone who is not being careful about this.

3.1.3. The Traps Awaiting

There are several traps I want to mention: firstly, the ones awaiting in the quest of solving the theoretical challenges; secondly, those awaiting in front of the regulatory challenges.

Firstly, one might confuse the structure of reality as assumed by law with the structure that really is. One might be making descriptive claims about the law's conceptual framework, about the concepts that refer to the reality, and think that one is describing the latter. When Jeremy Waldron, speaking about the 'ontology' of private property, claims there are four types of things: material, immaterial as regions in space (land), immaterial objects of intellectual property, and immaterial choses-in-action ('reified relations')²⁶⁶, he is talking about the types of *concepts* of objects in law, not about the types of objects of property relations that actually exist. This is fine, as long as someone indeed only wants to describe the concepts in law. But the moment one tries to explain reality by forcefully packing it into the existing concepts, by adopting an ontology that is assumed by the existing legal concepts, without considering whether these concepts fit the reality under consideration, one distorts the image.

This is what I call 'conceptual conservatism'. That is a belief that the conceptual framework provided by law is sufficient to adequately describe the reality at hand. This belief might be conscious or unconscious. And the latter is more dangerous, as we have seen in the chapter devoted to the literature review. The result of falling into that trap is ascribing to entities features that they do not have, or overlooking some important features that they do have. Moreover, from the point of view of the scholarship, there is a danger of 'conceptual stretching', i.e. the risk that as we pack more and more phenomena into the existing concepts, these concepts might slowly become void of any meaning²⁶⁷. This trap also awaits scholars who too extensively rely on metaphors when trying to conceptualize the reality. As has been shown in the literature, metaphors might be a useful way of introducing some problems, but can be very dangerous as tools of deciding normative implications of one or another categorization of some phenomena²⁶⁸.

On the regulatory level, there is the trap of 'solutionism'. 'Solutionism' is a belief that when one knows the goals, one already knows the solutions. If I know where we should go, I know how

²⁶⁶ Jeremy Waldron, 'Property Law' in Dennis M Patterson (ed), *A Companion to Philosophy of Law and Legal Theory* (2nd edition, John Wiley & Sons 2010).

²⁶⁷ The term 'conceptual stretching' has been proposed by Giovanni Sartori (a different scholar than Giovanni Sartor!) in: Giovanni Sartori, 'Concept Misformation in Comparative Politics' (1970) 64 *The American Political Science Review* 1033.

²⁶⁸ Hyangsun Sawhney Harmeet; Suri, Venkata Radnadeep; Lee, 'New Technologies and the Law: Precedents via Metaphores' in Pompeu Fernandez-Barrera Meritxell; de Andrare, Norberto Nuno Gomes; De Filippi, Primavera; de Azevedo Cunha, Mario Viola; Sartor, Giovanni; Casanovas (ed), *Law and Technology: Looking into the Future. Selected Essays* (European Press Academic Publishing 2009).

to get there. If I know that service providers of online games should not be deleting virtual items of their users without a proper reason, I know that users should be granted property rights. But clearly, this does not follow. Simply by knowing how the reality should be, it does not follow how the law should be. However, legal scholars, since they spend so much time thinking and reading about law, tend to almost naturally assume that law is the only, or, at worst, the best, mechanism of changing reality. This is what Roger Brownsword labels ‘legal exclusivity’²⁶⁹.

Having clarified the issues of the general methodology, I would now like to move to the discussion of the meta-theory of this thesis, i.e. the theory explaining how, on the one hand, law relates to the reality and co-shapes it through status imposition, while on the other it tries to change it via guiding the conduct of the individuals inhabiting it. I will start with the former.

3.2. Theoretical Challenges: Law as a Conceptual Framework

Look out of the window. What do you see? – a professor asked a student during a private law exam. *Trees, houses, shops, cars, people walking, children playing...* – answered the student. *Wrong* – said the professor – *you should see subjects and objects of private law relations.*

This anecdote, opening several Polish textbooks about the general part of the civil code (or, as it could be called in the Anglophone sphere, an introduction to private law) captures one fundamental truth about the purpose of legal training. This purpose is not only to teach students the substance of currently valid rules, but primarily to teach them how to think like lawyers²⁷⁰. Thinking like a lawyer boils down to a set of professional skills and mental habits – finding the sources of law, interpreting them, inferring norms, arguing using these norms, paying attention to relevant facts and disregarding irrelevant ones – one could keep prolonging the list. However, there is also something deeper to it, something less explicit, almost subconscious, and that is *seeing* the world like a lawyer. Packing reality into legal categories. Using legal language to talk about the world. Looking at the world through the prism of law. Having undergone this training, a lawyer is supposed to be so familiar with legal concepts that they will seem natural.

In this section I want to explore the subject of legal concepts. If the ambition of the thesis is to create new concepts, concepts that will perform their functions better than the existing ones, it is imperative to explain what makes a good concept. To be able to judge that, one should know what concepts do. And to make new ones, one should know how they come about.

²⁶⁹ Roger Brownsword, “‘Post-Technique’: The New Social Contract Today’ in David Campbell, Linda Mulcahy and Sally Wheeler (eds), *Changing Concepts of Contract. Essays in Honour of Ian Macneil* (Palgrave Macmillan 2013).

²⁷⁰ On what would that mean, see, for example: Frederick F Schauer, *Thinking like a Lawyer: A New Introduction to Legal Reasoning* (Harvard University Press 2009).

I am interested here in a particular type of concept; those that refer to subjects and objects of legal relations and particular rights giving substance to these relations, like ‘tangible thing’, ‘literary work’, ‘natural person’, ‘consumer’, ‘copyright’, ‘ownership’, etc. I am *not* interested in concepts like ‘right’, ‘obligation’, ‘competence’, ‘contract’ *as such* (which I would rather call legal intuitions); nor in Big Words like ‘justice’, ‘democracy’, ‘fairness’, etc. This is not to say that they are not legal concepts – they are just very different types of concepts than the ones I want to study.

3.2.1. The Role of Legal Concepts: Reference and Status Imposition

Legal concepts, as a subject of inquiry, have recently received quite some attention²⁷¹. Arguably introduced to the mainstream of legal theory by Alf Ross²⁷², in the last decade they have been studied by theorists paying attention to the role of language in legal practice, using the approaches inspired by analytical philosophy. Ross tells the story of a primitive tribe that believes in the existence of a dark force called *tû-tû*. There are several ways in which one can become *tû-tû*, for example by eating the chief’s food, or killing a totemic animal, or meeting one’s mother in law. If one becomes *tû-tû*, one must undergo a ceremony of purification. Ross claims that the word ‘*tû-tû*’ is meaningless²⁷³, for the dark force it refers to obviously does not exist and the only function it serves is that it links the states of affairs (descriptions) with consequences (prescriptions). However, Ross claims, no meaning whatsoever would be lost if we got rid of the word ‘*tû-tû*’ and replaced the reasoning: ‘IF one eats the chief’s food OR IF one meets his mother in law OR IF one kills a totemic animal THEN one is *tû-tû*; AND IF one is *tû-tû* THEN one must undergo a ceremony of purification’ with: ‘IF one eats the chief’s food THEN one must undergo a ceremony of purification AND IF one kills a totemic animal THEN one must undergo a ceremony of purification, etc.’. Ross notices that a similar function is served by legal concepts like ‘ownership’, where, on the one hand, there are factual situations that lead to ownership (purchase, inheritance, etc.) and on the other there are legal consequences of being an owner of a thing (right to use, right to alienate, right to recovery, etc.). From this clearly valuable finding, Ross moves to the conclusion that just like *tû-tû*, ownership *does not exist* and the word itself is meaningless, though it might serve some valuable functions.

²⁷¹ See, for example: JC (Jaap C) Hage and others, *Concepts in Law* (Springer 2009).

²⁷² Alf Ross, ‘*Tû-Tû*’ (1956) 70 *Harvard Law Review* 812.

²⁷³ This claim is based on a very particular way of thinking about philosophy of language, influenced by naturalism and logical positivism, very typical for Scandinavians at the time, according to which the only meaningful terms are the ones which have actual referents, be it material objects, or mental states. Unfortunately, I do not have time to engage in this discussion here, but let me just stress that what I believe is important is the difference between existence (and so a metaphysical claim about an object) and meaning (epistemic claim about a concept). Unicorns and vampires might not exist, yet they are terms ‘unicorn’ and ‘vampire’ are meaningful to us. Further, validity of a claim about object’s existence or inexistence is obviously dependent on the meta-ontology on commits to, particularly on the definition of existence.

This results from a clear confusion on the level of metaphysics: Ross simply confuses a mythical entity with a social construct²⁷⁴, so it is not necessarily the case that the word does not refer to anything. Even if there were no such thing as tû-tû existing as some sort of spiritual being, there exists a social construct, a practice, and an intersubjective agreement among the people, that it exists. In other words: even if tû-tû existed, it would have a different mode of existence than the social practice of people dealing with it. In a way, as long as some sort of metaphysical commitment informs practices of a given community, it essentially does not matter if the entity is real in order to say that it exists. This claim was advanced by Leszek Kołakowski in his *Jesus ridicule*²⁷⁵, where he argues that even if the world exists only matter-up (philosophically we can be only agnostic about this), simply the fact that for centuries European culture was being formed by people who strongly believed that there is God, makes Jesus *real*, as a social construct, and a cultural *topos*. What is more, even when people's metaphysical beliefs are shaken off completely, and so no longer inform any behavior, institutions formed previously under that commitment prevail, even if their justifications change. Consider the example of marriage. If people, in the past, held a strong belief that to do some things, one needs to be married first, because otherwise these things are sinful; and so the institution of marriage was established, following God's order; and now many people no longer believe in God, but still get married, for moral, cultural or economic reasons, marriage did not *cease to exist* in any way, just because the metaphysical commitment is gone.

However, Ross's claim is stronger than simply to state the world exists matter-up. For him, social constructs do not exist either, he just chose his example poorly. This has been noticed by Bartosz Brożek, who writes:

*This, ultimately, is Ross's goal: he tries to establish a metaphysical claim to the effect that some legal concepts ('ownership', 'right' or 'obligation') do not refer to any existing entities. However, as we have seen, this cannot be done through mere logical means (...) it is determined by the chosen ontology.*²⁷⁶

Brożek sees Ross's claim not as a strong metaphysical one, but as a defense of a certain ontology as a coherent and possible one. He clarifies that Ross conceived of concepts like 'ownership' as meaningless, but serving a positive function, i.e. increasing the efficiency of the presentation of legal rules.

²⁷⁴ Understood as in: Searle (n 239).

²⁷⁵ Leszek Kołakowski, *Jezus osmieszony* (Znak 2014).

²⁷⁶ Brożek, 'On Tû-Tû' (n 17) 19.

Brožek's critique of this account is based on his remarkable observation that 'every concept is tû-tûesque'²⁷⁷. He notices that concepts that Ross treats as having real referents – 'totem animal', 'chief', or 'food' – could be presented just like tû-tû. If some/something does/is X, then it is a chief, or food. This observation is absolutely right, a clear flaw on the side of Ross, who, in his naturalistic view of the world, seems to have missed the fact that large parts of it are socially constructed, as will be later argued by Searle²⁷⁸. For concepts do more than just link rules with each other – they refer to entities and confer meaning, which I explain in the subsections below. Brožek also claims that concepts serve more functions than just simply increase effectiveness of rule presentation – they also increase the coherence²⁷⁹ and completeness²⁸⁰ of the legal system. He writes:

*Whenever one decides a hard case or considers regulating an as-yet unregulated sphere of social interactions, one is better off with 'tû-tû'-like concepts than without them.*²⁸¹

I beg to disagree. This *might* be a helpful function of concepts, but it also is a trap one might fall into, since concepts communicate much more about the world than one is willing to see. To see that, let us consider two roles played by concepts: reference and status imposition, and then consider what is the meaning of concepts and where it comes from (in the next subsection).

Since legal norms happen to be expressed in language, the provisions that express them need to contain terms that refer to the objects and subjects of the relations that law constitutes. For me to be able to use a computer I bought, the computer must fall within the extension of the term 'thing', and I must fall within the extension of the term 'person' (since the sale contract requires the buyer to be a person and the bought object to be a thing). In a way, it is not a feature of law but of language itself. However, if one wishes to regulate virtual items, or even talk about regulating them, one needs general terms that denote the relevant classes of virtual items, and the names or descriptions that refer to individual entities. The general terms denote such classes since their meaning consist of concepts that specify the conditions for inclusion in those classes. The law not only refers to some entities, by using general terms that denote them, but also imposes statuses on them. The status imposition, according to general norms, is based on the fact that the concerned entities possess the properties pertaining to the concepts expressed by general terms in the norm.

²⁷⁷ *ibid* 17.

²⁷⁸ Searle (n 239).

²⁷⁹ Brožek, 'On Tû-Tû' (n 17) 20.

²⁸⁰ *ibid* 21.

²⁸¹ *ibid* 22.

If ‘every human being’ is a ‘natural person’, and each natural person has capacity to hold their own rights and duties, then I suddenly have a capacity to hold rights and duties (because a status of a ‘person’ has been imposed on me), while when the law states: ‘everyone should exercise their rights in accordance with the principles of community life’, it refers to me, since each person falls into the category of ‘everyone’.

3.2.2. The Formation of Legal Concepts: Organic and Manual Acquiring of Meaning²⁸²

Let me state once again that legal concepts and actual entities referred to by the legal terms are, ontologically speaking, three different types of beings. Take an example of a ‘thing’ (ger. *Sache*, in English property law *chose in possession*). A legal term is just a sign, here a string of symbols or, when spoken, a series of sounds. A concept is an abstract object, which a lawyer would think about when reading or hearing this sign, or as Giovanni Sartor puts it: ‘any content associated to the linguistic expression’²⁸³. It encompasses the legal definition (if one exists), in the case of a ‘thing’: ‘a material object separated from its environment to a degree sufficient for it to be an independent object of legal relations’²⁸⁴, as well as, as I will demonstrate below, the totality of information resulting from the fact that the term is, directly or indirectly, embedded in legal norms. On the other hand, there are ‘actual things’, real entities, referred to by the term ‘thing’ – your computer, a football, my hoodie, etc. These objects are also referred to by the term. As a result, one can see that a legal term refers to both the concept and actual entities²⁸⁵.

²⁸² This sections closely follows my earlier work, published in: Pałka (n 241).

²⁸³ Sartor states that this is ‘the most general sense’, which obviously should be distinguished from much more specific meanings in other or sub-disciplines, e.g. logic. I can only concur. Giovanni Sartor, ‘Legal Concepts as Inferential Nodes and Ontological Categories’ (2009) 17 *Artificial Intelligence and Law* 217, 219.

²⁸⁴ That it the doctrinal definition in Poland, coined by: Jan Wasilkowski, *Zarys Prawa Rzeczowego [Outline of Property Law]* (Polskie Wydawnictwo Naukowe 1963).

²⁸⁵ There is a little terminological problem here, boiling down to the question of whether one can say that a term ‘refers’ to a concept (as an abstract entity), or whether one can only say that a concept ‘endows the term with meaning’. However, I believe, going for one or another is only a terminological choice, and not necessarily a fundamental commitment to a concrete position in philosophy of language. What is meant here by ‘a term referring to a concept’ is that when a lawyer hears or reads a legal term, here or she will think of the concept, simultaneously to thinking about the entities referred to by the term.

Legal concept	Legal term	Actual entities
any material object separated from its environment to a degree sufficient for it to be an independent object of legal relations; potential object of ownership, possession etc.	⇐ ‘a thing’ ⇒	The computer/piece of paper you are reading this article on; your house, clothes; footballs, cars, coffee beans, iPads, etc.

Table 3 The relation of a legal term to the concept and the actual entities denoted by it

Sartor, following Ross, proposes to think of legal concepts as ‘inferential nodes in legal reasoning’, however, he questions the claim that they are devoid of meaning. According to his account, legal concepts have ‘inferential meaning’, which they derive from being embedded in legal norms in a particular legal system²⁸⁶. In other words, the meaning of a legal term (legal concept) results from the totality of norms (or provisions, to be precise) in which the term referring to the concept is embedded.

If the concepts derive their meaning from norms, and norms refer to the real world, then the features of the actual entities indirectly make up parts of the meaning of the concepts. Think of the ownership right, being a specification of the idea of property. Property, on the most general level, is the idea that a person should have a right to enjoy an entity while excluding others from using it. Usually, two dimensions are distinguished, the positive one (a right to use, to consume/destroy and to alienate) and negative right (a right to be left undisturbed, to exclude others from the use)²⁸⁷. Obviously, ownership right is currently almost never unlimited, for good reasons – but what I want to point to is that, before a political decision on limitations of a property right can be taken, a more fundamental reasoning needs to occur, and that is: given the features of an object in question, what exactly would the property right allow the proprietor to do and what would it protect him or her from.

To be more specific, if law thinks of tangible things, it needs to take into account of the fact that: things can be possessed, and then it should decide to protect possession; things can be destroyed, and so it protects the owner from actions that could lead to the thing’s destruction; since things can be possessed, the transaction of sale needs to say something about the transfer of possession, etc. On the other hand, if law thinks of intangible objects, like, for example, literary and artistic works (objects of copyright), it knows that they can be copied and protects the owner from that, it knows that they can be adapted and protects the owner from that, and, at the same time, does

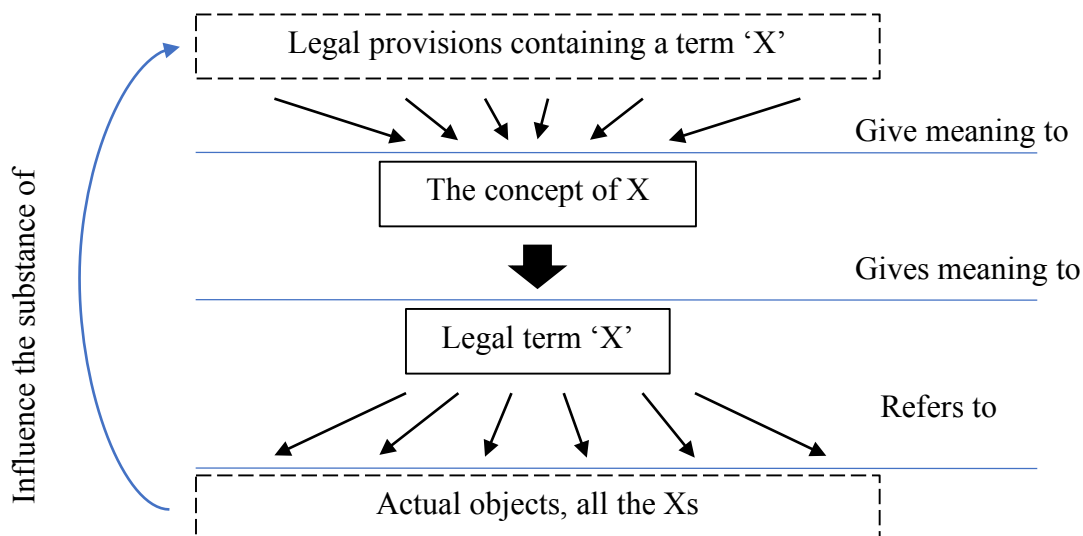
²⁸⁶ Sartor, ‘Legal Concepts as Inferential Nodes and Ontological Categories’ (n 283).

²⁸⁷ Jerzy Ignatowicz and Krzysztof Stefaniuk, *Prawo Rzeczowe [Property Law]* (LexisNexis 2012).

not speak of possession or destruction of them. Why? Because immaterial goods cannot be possessed or destroyed. Note that both types of rights are a specification of the same idea of property, with its positive and negative dimension but, because the objects of the particular type of right are different, and so different things can be done with them and to them, what exactly is meant by using and excluding is different as well.

As a result, one might learn a lot about tangible things or literary works just by studying the laws, without necessarily experiencing them (the things) in any way. One learns about a concept, but the concept derives its meaning from the rules, rules govern the actual entities, and rules communicate a lot about these entities precisely as a result of the fact that the lawmaker was regulating reality with an ambition to have an impact on it.

In consequence, one might say that there is a dialectical relationship between the actual entities, which influence the content of the rules, which then give meaning to the concept, which then gives meaning to the term, which finally is used in order to refer to these entities. I illustrate that in the picture below:



This has some interesting consequences if taken together with the reference and status imposition function. Consider an example of a literary work. When the lawmaker decides to treat computer programs ‘like literary works’, four things happen. Firstly, law now refers to computer programs whenever invoking the concept of ‘literary works’. Secondly, computer programs now have a status of ‘literary works’, meaning: whenever someone writes a program, he or she automatically receives copyright protection, and so has exclusive right to copy, distribute, etc. Thirdly, the law communicates quite a few beliefs it holds about computer programs: that they are immaterial, that they can be original or not, that they can be copied, distributed, modified, etc. Fourthly, the law says

quite a few things about the actual consequences of having a status. Indirectly, law communicates that, when the copyright of the programmer is infringed, he or she will have a right to go to court and claim that the infringement should cease. And that court will hear the case, according to the civil procedure rules. And that, if the court finds that the infringement is taking place and cannot be justified, it will issue a judgment. And, if the infringer refuses to comply, the judgment will be enforced upon him. If necessary, using physical force (by, for example, confiscating and destroying the copies).

Now, when someone says that ‘virtual items are just like tangible things’, they express these types of beliefs about virtual items. That the term will refer to them. That they will have a status of a ‘tangible thing’, or will be treated ‘as if they were tangible things’. That virtual items are just like things: that they can be touched, thrown, destroyed, etc. And that – since they will be an object of ownership – when misappropriated, the owner will have a right to go to court, and the court will issue a judgement, and this judgement will be enforced, if necessary, using physical force.

Does any of this hold? Not really. ‘Execution’ of a ‘virtual property right’ would necessarily involve actions on the side of the service provider. In the end, the items exist *within* their service. Policemen accompanying a bailiff will not *be able* to take virtual items ‘by force’ from anyone, unless the provider cooperates. So a virtual property right should somehow address that. What is more, where should a court adjudicate? Tangible things exist in some territory. Virtual items, depending on perspective, either do not or do exist in many places on the same time. What is more – to take something away from one user, and give it back to another, there is no need to be where they are. It is enough for the provider to mingle with the database. But this is costly. Who should bear the costs? Simply stating that a substantive right should be granted is based on a series of presuppositions, and whether these presuppositions are correct, needs to be pondered while advocating for or against a legal intervention.

One could prolong the list of the differences between tangible things and virtual items, but the point is: using existing concepts to solve the theoretical and normative challenges posed by the virtual items means that a significant amount of statements that do not hold will be communicated about virtual items. And yet, we need words to refer to them, words created for legal purposes. That is the paradox. To discuss whether to regulate something, we need meaningful words; but to have these words, we need laws that give meaning to them. How to solve that paradox?

We need new concepts. How to create them? The method I propose in this thesis is to conduct a thought experiment and assume what could be the rules. Assume the general principles, and treat, in one’s mind, a new type of entity as if it were that which intuition suggests it could be according to law, in order to see what assumptions hold and what do not hold. This is what I do in

chapter 4. And this is what I call ‘manual’, as opposed to ‘organic’ acquisition of meaning by legal concepts.

3.2.3. Concepts’ Embeddedness in Culture: A Way to Capture Intuitions

However, the view that meaning of legal concepts is derived solely from norms has been criticized²⁸⁸, based on observations that the concepts seem to be meaningful even if one does not know particular legal norms in a particular legal system, as well as the fact that they seem to occur at different levels (statutory, constitutional). Those are two valid observations. However, the criticism of Sartor’s theory holds only if it has a claim to exclusivity. However, Sartor does not claim that the concepts he is interested in are *the only types of concepts out there*. What Gizbert-Studnicki and Klinowski talk about is more *ideas* or *conceptions* than concepts in the sense that Sartor understands them. This confusion might undermine their criticism, but as in the case of the virtual property literature, a sympathetic reading might reveal an insight.

And the insight is: since law is embedded in culture, and in many ways is ‘everyone’s business’, the terms used by legal texts, in other societal contexts, might refer to different types of concepts, given meaning by different discourses. As will be explained in chapter five, ‘property’ might mean one thing to a private lawyer, another to a constitutional lawyer, another to an economist, and another to an ordinary citizen angry with the government for raising taxes. This is one observation.

Another is that there is some common core to legal concepts, despite differences among the systems. One of the first conversations I had at the EUI was about property law in Poland and Portugal, with my Portuguese friend. I knew nothing of Portuguese law or language, and neither he knew anything about Polish. However, we had a very meaningful discussion about types of property rights in both systems, seemed to understand each other, and were able to identify the commonalities and differences. This is because property law in both countries has been based on the German and French civil codes, which in turn were strongly influenced by the Roman law. In this sense, we shared a common idea about property. However, Sartor would reply, this idea is not what is meant by the ‘concept’ in his theory. Ownership right in Poland and in Portugal might be very similar, but procedural rules for solving ownership disputes might differ. In this sense, ‘to own’ something in Portugal means a different social situation than ‘to own’ something in Poland. Sartor writes:

²⁸⁸ Tomasz Gizbert-Studnicki and Mateusz Klinowski, ‘Are Legal Concepts Embedded in Legal Norms?’ (2011) 25 *International Journal for the Semiotics of Law - Revue internationale de Sémiotique juridique* 553.

*The view that legal meanings are determined by inferential connections consists in the fact that legal concepts are determined by legal systems: since each legal norm using a concept contributes to characterising the meaning of that concept, and different legal norms exist in different legal systems, then different systems have different concepts.*²⁸⁹

The cultural embeddedness and the existence of a common core lead to one peculiar way in which concepts are being used. Arguably, Fairfield, Lastowka and Hunter *did not* intend to communicate all the information that I claim they did when stating that virtual items are ‘just like tangible things’. What they did was to capture some *intuitions* they had, in the simplest way possible that they could think of, i.e. by invoking legal concepts. When one states that users of platforms featuring virtual property should be granted property rights over them, one does not really think these rights will be enforced by police by force if necessary. Rather, one tries to say ‘there seems to be something wrong with the fact that a provider can delete one’s items for no reason, even if a user paid for them’. Or ‘there are reasons to believe that when a user of an online gaming service dies, his or her heirs should inherit the account.’ And so on.

When doing this, one has to be careful not to fall into the ‘metaphorism’ trap explained above. It is one thing to use a concept to say something one lacks the words for with a full understanding of what one is doing. It is another to do so while thinking that one is actually making a descriptive claim.

To sum this section up: one can see that to regulate the reality, law needs to be able to refer to it; and while referring to it through norms, law necessarily assumes a lot about the structure of this reality. At the same time, law constitutes some objects (like rights, companies, etc.) and imposes some statutes on both the objects it created and ‘brute objects’ that would exist anyhow, without the law’s intervention. This is what the ‘dialectical relationship between law and reality’ means. However, this is a somehow ‘static’ view. Let us now, in the next section, try to see the reality as ‘dynamic’, i.e. move from understanding law as a lingual phenomenon, to law as one of the chunks of the ‘regulatory environment’.

²⁸⁹ Sartor, ‘Legal Concepts as Inferential Nodes and Ontological Categories’ (n 283) 225.

3.3. Regulatory Challenges: Law as One of the Means of Influencing Reality

In the previous section it was explained how law refers to reality, how in the process of doing so law assumes a certain structure of the reality it aims to govern, and how it partly creates the reality by assigning statuses to objects and subjects of the reality it aims to govern. That was a view of law as a certain language.

The purpose of this section is to look at law as one of the means of *changing* the reality. Firstly, law's function in reality's evaluation will be briefly sketched. It is argued that law, full of normative claims on different levels (which is studied in detail in chapter 6), can serve as a 'normative theory', if one relies on its general principles, to assess whether some social practices (like service providers' right to interpret the rules, make decisions about them and enforce them) should be evaluated positively or negatively. Secondly, law's position in the 'regulatory environment', i.e. the set of signals addressed at the individuals participating in socio-economic life, is explained.

3.3.1. Law as Evaluation of Reality, Laws as Means of Proposing Goals

Each branch of law has its own set of general principles. For example, one of the principles informing consumer law is to mitigate the factual inequality in relations between businesses and consumers, by providing more obligations to the former (information providing requirements, product safety laws, etc.) and more rights to the latter (right of withdrawal, consumer warranty, etc.) than would stem from traditional contract law. These principles can be derived from specific legal provisions, however, as has been argued several times in this thesis, these provisions always have been enacted as responses to particular social challenges of the time. It is therefore possible that some new situations are not addressed by concrete regulations in a given branch of law, but that they seem to be contradictory to the principles derived from these regulations.

In this sense, which will be done in chapter six, one can study the virtual property phenomenon through the lens of the system of the entire private law, taken together with the 'corrections' that this system has undergone. Two major corrections to the private law have been labor law, on the one hand, and consumer law, on the other²⁹⁰. Both 'corrections' were enacted with the aim of protecting the weaker party in the relation, respectively a worker or a consumer. Taking this general principle as a threshold in a 'normative theory', one might look at the virtual property

²⁹⁰ See: Hans-Wolfgang Micklitz, 'A European Advantage in Legal Scholarship?' in Hans-Wolfgang Micklitz, Rob Van Gestel and Edward L Rubin (eds), *Rethinking Legal Scholarship. A Transatlantic Dialogue* (Cambridge University Press 2017); Kennedy (n 246).

phenomenon from the perspective of weaker party protection, and hence negatively evaluate the almost unlimited power of the service providers.

This is only one example. One might, just as well, derive evaluative statements about reality from other sources. An obvious one is human rights. Giovanni Sartor has recently proposed to use human rights as a general framework to be used in analyzing the benefits and dangers of new technologies²⁹¹. His account was the most robust, but he was not the first one to do so²⁹². Human rights are a gentle tool to analyze relations, given that they provide a clear catalogue of goods that might be endangered by new phenomena.

Note that this ‘source’ of normativity is a different one than normative theories ‘external’ to law, be it law and economics (though some American scholars would argue that it is not external, but actually derived from the law), and any utilitarian or deontological accounts. Many lawyers would, especially on the continent, consider these types of evaluative (normative) claims as a legitimate part of legal reasoning, and actually not a normative statement at all. Allow me an anecdote. One of the first-year grad students, with whom I discussed their May Paper, when asked about the normative theory motivating their normative claims, said: ‘there is no normative theory, in this field of law normative claims are just pure logic’. Despite the fact that the student, having described the state of law, was quite clear about the fact that it is suboptimal, and had a pretty detailed view on how it should be changed, believed that this assessment and view are *descriptive*, objective, necessarily follow from the first step. Such a view could be simply ridiculed, but I believe there is something deeper to it. There is a widespread belief among the continental legal academics that what they do is essentially the same as what judges do. That they engage in functional and systemic interpretation of what the law *is*, and so it might be that—due to some higher principles—a particular provision, institution or solution is *wrong* on the descriptive level. I get into more nuance about this in chapter six, but I think it is important to signal this already at this stage.

However, one has to remember that the normativity ‘encaged’ in law is not the only normative system out there. In an ethically pluralist society as ours is, other accounts (philosophical, political, religious, etc.) can be of equal importance. Hence, the significance of being explicit about the source of the normative claims in one’s reasoning. Academics should do political science, not politics. Especially if they believe that their evaluative claims are just ‘logical’.

²⁹¹ Giovanni Sartor, ‘Human Rights in the Information Society: Utopias, Dystopias and Human Values’ in Norberto Nuno Gomes de Andrade and Lúcio Tomé Fêreira (eds), *New Technologies and Human Rights. Challenges to Regulation* (Routledge 2013).

²⁹² Thérèse Murphy (ed), *New Technologies and Human Rights* (Oxford University Press 2009).

3.3.2. The Regulatory Environment and Law's Place within it

Sally Falk Moore, in her seminal '*Law and Social Change: The Semi-Autonomous Social Field as an Appropriate Subject of Study*'²⁹³ invokes a story about the regulation of the New York fashion industry. In short, the industry operates in conditions where, in order to be profitable, on some days and weeks workers who actually produce dresses have to work very long hours, while on other weeks there is almost no work at all. This was found unacceptable by the workers' rights movement, and labor legislation has been put in place, specifying the maximum amount of hours that workers can be expected to work each day. In order to enforce these rules, employees of the unions were delegated to the factories. When in factories, the delegates realized that, if the rules were to be enforced, most of the factories would go out of business, and the workers would lose jobs. The delegates, therefore, did not enforce the rules – did not tell anyone that the rules were being infringed. However, they now occupied a very privileged position, given the fact that they *could* enforce the rules, resulting in huge fines, and possibly bankruptcy, of the factories. This position meant that they were being treated very nicely, and received various material and immaterial 'favors' from different parties involved in the business. Legislation that was supposed to alter the social reality of workers changed *nothing* about their life conditions; and the only effect it had was that it created a new type of a privileged actor in the whole scheme.

The conclusions to be drawn from that study are that, firstly, law is never enacted in a normative void, it always comes on top of already existing social and economic relations, behind which law their own normativity. Secondly, simply enacting a rule stating that 'reality should be X' is by no means sufficient to actually bringing X about. Thirdly, unintended consequences of regulation might occur – in this case, the creation of a new power structure, where the employee of the unions, who was supposed to be the good guy fighting for workers' rights, ended up receiving bribes and enjoying enormous power, arguably also in order to keep the workers' jobs from disappearing. One could conceptualize what happened here using the types of claims analyzed in the section above. There was a description of reality – workers work very long. Evaluation – this is bad. Prescriptive claim about the reality – workers should work less. Prescriptive claim about the law – there should be a legal rule specifying the maximum working hours, and a union delegate in the field ensuring that the rules are being abided by. What went wrong? The reality was not fully understood, and the means of achieving noble goals turned out to be poorly tailored.

²⁹³ Sally Falk Moore, '*Law and Social Change: The Semi-Autonomous Social Field As An Appropriate Subject of Study*' (1973) 7 *Law & Society Review*.

Twenty-five years later, Lawrence Lessig wrote the single most important article in the law and new technologies scholarship: *'The Law of the Horse: What Cyberlaw Might Teach'*²⁹⁴. He argued that there are four 'modalities of regulation': law, markets, social norms and 'architecture' – and that each of them is capable both of influencing the behavior of individuals and the content of other modalities. To core of his contribution was concerned with the 'code' – i.e. the 'architecture' of cyberspaces – which influenced the behavior of the individuals in these spaces, similarly to the way in which walls influence where people can or cannot walk. The structure of the code could be determined by the law, or by the market, or by social norms. The overarching point being, on the one hand: code not only regulates what individuals do; on the other: technology (code) can be not only the *object* of regulation, but also *means* of regulation.

This observation has been later thoroughly theorized by Roger Brownsword²⁹⁵, who coined the term 'regulatory environment'²⁹⁶. 'Regulatory environment' consists of the whole range of signals – law, morality, and technology – and encompasses both normative and non-normative systems regulating individual behavior²⁹⁷. Non-normative signals are those which guide the behavior of individuals through possibility/impossibility, namely the 'code', as opposed to prescription²⁹⁸. However, since the 'code' is man-made, it can encompass normative values, and so it is imperative to ensure that it is constructed in accordance with the rule of law²⁹⁹.

The lessons for the law and new technologies scholarship is that the goals postulated as a qualified evaluation of the reality might be achieved through a whole range of means, both legal and not legal, normative and non-normative. There is clearly a role for law to play in this setting, however, what exactly should be the object of regulation – individual conduct, or another modality of regulation – needs to be carefully assessed.

²⁹⁴ Lessig (n 1).

²⁹⁵ Roger Brownsword, 'So What Does the World Need Now? Reflections on Regulating Technologies' in Roger Brownsword and Karen Yeung (eds), *Regulating Technologies. Legal Futures, Regulatory Frames and Technological Fixes* (Hart Publishing 2008).

²⁹⁶ Brownsword, 'The Shaping of Our on-Line Worlds' (n 249).

²⁹⁷ Brownsword, 'Field, Frame and Focus Methodological Issues in the New Legal World' (n 4).

²⁹⁸ Brownsword, 'Whither the Law and the Law Books?' (n 2).

²⁹⁹ Roger Brownsword, 'Technological Management and the Rule of Law' (2016) 8 *Law, Innovation and Technology* 100.

Chapter 4: The Big Picture. Digitalization Shakes the Foundations of Private Law

In the previous chapter, it has been discussed how, through its conceptual framework, private law assumes a concrete structure of the reality that it aims to govern, how it imposes statuses on objects and subjects present in that reality, and how it attempts at steering conduct of the subjects using norms. In this chapter, I would like to answer the question: what is the model of reality that private law assumes now, how has this model been challenged by the phenomenon of digitalization, and how should we update the law's conceptual framework, in order to enable it to make sense out of the new reality. The purpose of this exercise is to solve the theoretical puzzle of the background of the virtual property phenomenon.

I argue that private law assumes that the reality is built up of two layers: material and social. Until the phenomenon of digitalization occurred, this assumption was largely true, at least regarding the chunk of reality that law was interested in. The material entities, human beings and things, together with socially constructed objects, like companies and rights, were assigned statuses by law and regulated by human-made prescriptions of law and other social normative systems, on the one hand, and the laws of nature rendering some actions possible or impossible, on the other. From this two-layered ontology, several dichotomies, constitutive to the way that lawyers think about reality, have been born: what is possible and what is allowed; between ability and competence; between possession and title; between force and authority; between material and immaterial (residual category); between sales and services (residual category).

However, the process of digitalization, understood as a socio-technological phenomenon³⁰⁰ of widespread of internet-connected personal computers and social networks and interactions constructed on top of them, has fundamentally altered this two-layered structure of the reality. A third layer, that of digital objects, artificial agents, cyber spaces, rules embedded in the code and technologically mediated horizontal and vertical relations, has been added. This layer cannot be fully reduced to either the material or the social. However, private law has missed this phenomenon and, at least for now, tries to explain the world using the known categories and dichotomies, as has been demonstrated in Chapter 2, devoted to the literature review.

This chapter consists of three major sections. In the first section, I reconstruct the general ontology of reality as currently assumed by private law and argue that, until the phenomenon of digitalization took place, that picture of reality that law assumed largely corresponded with the

³⁰⁰ I subscribe to the view defended by Jack Balkin in: Jack M Balkin, 'The Path of Robotics Law' (2015) 6 California Law Review Circuit 45 that from the point of view of law, technology cannot be just understood from purely engineering perspective, but what matters is predominantly how people make use of it.

structure of reality as it really was. Then, I demonstrate how the latter has been challenged and where law's conceptual framework might be in need of an update. In the second section, I study particular elements of the ontology: objects, subjects, spaces, rules and relations, as they are assumed in law and as they currently are. I argue that new concepts are needed and propose such concepts. Additionally, I argue that also concepts for relations between particular elements – 'digital possession' as a relation of a person to a digital object; 'digital presence' as a relation of a person to a cyber space, and 'digital force' as the ability to affect the previous two by the controller of a space – are needed to comprehend the new reality. Finally, in section three, using the tools created in the previous two sections, I summarize the solution to the theoretical challenge posed by the background of the virtual property phenomenon.

However, before moving to the argument, one concept needs to be clarified, and that is 'ontology'. It is important to bear in mind that this term, depending on the field of scholarship, can be understood in at least two ways. In the traditional sense, i.e. the meaning within philosophy, 'ontology' is a branch of philosophical inquiry interested in what exists³⁰¹ or, in a more robust formulation, 'a branch of philosophy, the science of what is, of the kinds and structures of objects, properties, events, processes and relations in every area of reality'³⁰². On the other hand, in the engineering sense, particularly within the field of knowledge representation, 'ontology' is understood as 'standardized terminology for describing the types of entities that exist in a given domain'³⁰³. In the first meaning, ontology is a type of inquiry asking questions about reality. In the second, it is a result of such an inquiry, consisting of concepts. Given this, the term 'legal ontology' might have at least four different meanings.

Firstly, ontology of law would be an attempt to answer questions like: 'how does law exist'? This was the concern of numerous scholars³⁰⁴. The debate on this subject is lengthy. A good review of different positions, though formulated back in 1991, is an anthology titled *Controversies About Law's Ontology*³⁰⁵. This problem has been briefly addressed in the previous chapter, by the claim that law is many things at the same time but generally exists as a social construct. Then, a *legal ontology*, in the engineering sense, would be understood as knowledge representation. This is a proliferating field of research important both for the development of knowledge-based systems and the semantic web. This can be, among other uses, used in order to provide legal information more

³⁰¹ Effingham (n 237).

³⁰² Barry Smith, 'Ontology' in Luciano Floridi (ed), *Blackwell Guide to the Philosophy of Computing and Information* (Oxford: Blackwell 2003).

³⁰³ Giovanni Sartor and others, *Approaches to Legal Ontologies. Theories, Domains, Methodologies.*, vol 1 (Springer 2011).

³⁰⁴ Brożek, *Normatywność Prawa [Normativity of Law]* (n 258); Neil MacCormick, *Institutions of Law. An Essay in Legal Theory.* (Oxford University Press 2007); Aarnio (n 247); Searle (n 239).

³⁰⁵ Paul Amsalek and Neil MacCormick, *Controversies About Law's Ontology* (Edinburgh University Press 1991).

successfully by different expert systems³⁰⁶. Further, one could speak about ontology *in* law, i.e. the structure of the reality assumed by a given branch of law or legal system. This meaning of ‘ontology’ is largely related to the previous one though it is not the same. It is not just a set of concepts in law but the picture of the world embedded in these concepts. It is a model of reality assumed by law. Finally, ontology *for* law, ontology for legal purposes, is an ontology of objects/entities (the distinction between ontology of concepts and ontology of objects has been elaborated by, among others, Barry Smith³⁰⁷). Used in this fourth meaning, ontology has a different object of inquiry, it is a study of reality, just with a certain ‘legal sensibility’ in mind. The question would be: what objects, subjects and relations are there in the real world that the law might consider relevant? Its result is a new conceptual frame, and a new model of reality, assumed by that frame.

With these clarifications in mind, what this chapter does is to, firstly, reconstruct the ontology *in* law (what concepts are present in the legal discourses³⁰⁸), compare it with the historical ontology of reality, confront it with the current ontology of reality, and finally propose a new ontology *for* law.

The choice to rely on ontology has been motivated by several reasons. Firstly, it was the approach that I found useful when for a long time struggling with the task at hand, thinking about the problem, but not knowing where to even start. For a long time I knew there is *something* going on here, but could not even point my finger to it. To think about what exists, or actually *how* it exists if it exists, was a sound method of theorizing the similarities and differences relevant to law. Secondly, as pointed out in Chapter 2, the contributions to the virtual property debate have often been flawed precisely on the level of ontology – ascribing features to entities that they did not have, or using wrong concepts when discussing it. Taking the mode of existence as the question to be asked seemed like a good way of remedying this problem. Finally, the aforementioned scholars struggled with the immateriality of the reality they talked about, given that the ‘immateriality’ in which everything that is not tangible should be placed. Getting rid of this residually, crucial if any progress in understanding is to be made, was possible precisely thanks to the tools of ontology.

³⁰⁶ Giovanni Sartor, ‘Legislative Information and the Web’ in Giovanni Sartor and others (eds), *Legislative XML for the Semantic Web* (Springer 2011).

³⁰⁷ Barry Smith, *Beyond Concepts: Ontology as Reality Representation* (2004).

³⁰⁸ ‘Legal discourses’ understood as in: Giovanni Sartor and Meritxell Fernandez-Barrera, ‘The Legal Theory Perspective: Doctrinal Conceptual Systems vs. Computational Ontologies’ in Giovanni Sartor and others (eds), *Approaches to Legal Ontologies. Theories, Domains, Methodologies* (Springer 2011).

4.1. The General Structure of Reality: from Atoms to Bits

The student from the anecdote opening the section 3.2. of the previous chapter might not have yet started to ‘think like a lawyer’, i.e. automatically categorize all he sees using legal concepts, but if pressed (and helped) he probably would have drawn a pretty decent picture of the reality assumed by private law. People are natural persons, adults fully capacitated and children not, shops are business premises of companies, i.e. legal persons; cars and footballs are things, material objects, movables; shops are also things, material, though immovable; a person singing a song is performing an artistic work, immaterial, though possibly object of copyright etc. The point being: private law equips one with tools to categorize large chunks of reality in a way that, if one does it long enough, or uncritically, might seem exhaustive and sufficient. The purpose of this section is to reconstruct the structure of the reality as assumed by private law, in order to first make explicit the assumptions that private law currently holds about this reality, so that later the argument might move to questioning these assumptions.

If one reads *The Institutes* of Gaius, especially if one comes from a civil law jurisdiction like France or Germany, or any other that used either *Code civil* or *Bürgerliches Gesetzbuch* as models for their civil codes, one might conclude that, on a deeper level, not much has changed. Of course, there are no more slaves nor *patres familias* (fortunately), there is company law, and IP law (unfortunately, some would say³⁰⁹), and a few more ‘corrections’ have been performed, but the general idea is the same – property, contracts, family, inheritance. There are persons (subjects) and things (objects), and the former get into relations concerning the latter, relations given substance by rights, rights effective either *erga omnes* or *inter partes*, transferable *inter vivos* or *mortis causa*, protected by the state creating the rules, adjudicating the disputes and enforcing its decisions. The conceptual framework to make sense out of the reality remained relatively stable over the course of centuries (it got enriched, but not fundamentally challenged), mostly because the structure of the reality itself has remained relatively stable.

One of the most successful (if measured by popularity) attempts to theorize the structure of this reality, at least within the realm of analytic philosophy, was offered by John Searle in *The Construction of Social Reality*³¹⁰. Searle commenced his argument by famously stating ‘we live in one world, not two, three³¹¹, or seventeen’, and asked a question: how is it possible in a world existing entirely matter-up, i.e. out of atoms making up bigger systems, some of them organic, some of them conscious (humans), and governed by the laws of nature, that it is an *objective fact* that a piece of paper in one’s pocket is a ten euro bill, or that a person placing a ball in a goal scores a

³⁰⁹ Michele Boldrin and David K Levine, *Against Intellectual Monopoly* (Cambridge University Press 2008).

³¹⁰ Searle (n 239).

³¹¹ One can only guess if this was a criticism of Popper’s account.

point in soccer, or that Angela Merkel is the Chancellor of Germany³¹²; as opposed to statements like: ‘ten euro bills look ugly’, ‘Portugal should not have won the European Championship in 2016’, or ‘Angela Merkel is a great Chancellor’, which are subjective facts, or to be precise do not even express facts, but mere opinions. To answer this question, Searle proposed a relatively simple ontology.

In his account, one should distinguish between brute facts, i.e. objects that exist, and statements that are true, regardless of any human perception of them, which he called ontologically objective; and observer-related facts, or entities that exist only as a result of human agreement, which he called ontologically subjective. The ‘ontological subjectivity’ of the latter should be distinguished from ‘epistemic subjectivity’, which is the feature of the opinions uttered at the end of the previous paragraph. Ontological subjectivity is possible because human beings are intentional creatures, capable of ‘collective intentionality’. Given this capacity, paired with the capacity to use language, which in turn can be used to express performatives³¹³, human societies are capable of creating entities by agreement. This creation takes place via status imposition, according to Searle’s famous formula ‘X counts as Y in C’, according to which a certain entity should be considered something else in context C. Hence, for example, a piece of paper in one’s pocket is a ten euro bill, because there exists an organization with competence of recognizing them, which in turn exists because it was created in accordance with laws, which are laws because they were enacted ... all the way down to human minds, which can be reduced to brains, which are material entities.

One important distinction that Searle proposes about features of objects is between intrinsic features and observer-related features. To give an example: the fact that a screwdriver has a certain mass and shape is its intrinsic feature (it would be true if there were no humans around), while the fact that a coin can be used to pay is an observer-related feature (it would not be true if there were no humans around, or actually it could cease to be true simply if the social conditions changed). This distinction matters, what Searle already signaled in 1995 with the introduction of electronic money, because some entities can without much problem change a form from physical to digital (when I want to buy a screwdriver, it does not make much difference if I have ten euro in my pocket or on my credit card, as long as the shop accepts credit cards), while others cannot – a digital screwdriver, whatever that would mean, will not help one with screwing screws in. When a feature is observer related, the form can change; when it is intrinsic, the form cannot change, since the function is performed by the form.

³¹² Those were not really his examples – I took a liberty of modifying them slightly to suit the context of Europe in 2017.

³¹³ Famously theorized by Austin in: JL (John Langshaw) Austin, *How to Do Things with Words* (Second edition, Clarendon Press 1975).

The structure of such a world is therefore two-layered: material and, on top of it, social. Entities are either made of atoms or ‘made of’ human agreement, which occurs in human minds/brains, which are made up of atoms. Society imposes statuses on both, and everything is regulated by the laws of nature, on the one hand, and socially made normative systems, including law, on the other.

Searle’s theory can be, and actually has been³¹⁴, criticized on many levels. It is reductionist. It completely disregards any metaphysics in the spiritual sense. It completely disregards metaphysics in the philosophical sense (all that belongs to Popper’s world 3 is simply unaccounted for). It trivializes the problem of brain-mind dichotomy³¹⁵. It is of no help with works of art (how would a work of music ‘as such’ exist, since it takes no agreement for its existence?). And it does not go into much detail over the question of *how exactly* collective intentionality is possible in some extreme cases. It does not explain how lack of agreement, despite occurring often in contemporary societies, does not undermine the existence of social entities. As a theory of reality, as a complete ontology of the real world, with its ambition of universal explanation, it fails. For all the mentioned reasons, I would not commit to it. However, it has one extremely valuable aspect. It contains a coherent set of concepts largely corresponding with the structure of the reality that law, within the positivist paradigm, aims to govern. Should the reader re-read this paragraph, and swap “Searle’s theory” with “positive law”, the reaction would be: ‘yes, but why would positive law care about all this?’ Searle’s theory mirrors the assumptions behind countless social institutions.

In other words, it might be wrong about *what actually is*, but it quite well captures what *law assumes there is*. And since, as was argued in the previous chapters, law is not really interested in everything there is, but only in what might be a potential object, subject, or a circumstance relevant in a potential legal dispute, and it just so happens that angels, minds and perfect triangles seldom are, this account is good enough. Or was good enough, until digitalization occurred.

The transformation of reality that occurred with the phenomenon of digitalization has been characterized by Andrew Murray, referring to Nicholas Negroponte³¹⁶, as the ‘move from atoms to bits’. Murray wrote:

³¹⁴ David Koepsell and others, *John Searle’s Ideas about Social Reality: Extensions, Criticisms, and Reconstructions* (Blackwell 2003).

³¹⁵ Argued, for example, in: Thomas Nagel, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False* (Oxford University Press 2012).

³¹⁶ Nicholas Negroponte, *Being Digital* (First edition, Knopf 1995).

*Much as atoms can be used in the physical world to construct everything from the human liver to Airbus A380, bits are the basic building blocks of the information society.*³¹⁷

The point being: everything that is digital can be, in some sense, reduced to binary digits – bits – i.e. sequences of 1s and 0s, just as everything that is material can be reduced to atoms. *Everything*, meaning: an eBook, a website, your village in *Clash of Clans*, your account in *Pokémon Go*, the software that matches you with another player in *Hearthstone*, a high-frequency trading agent, etc. Those are, on a higher level of complexity, entities quite different in composure and status from each other, just as a seashell on a beach, a dog, a human being, a car, a house, or the Atlantic Ocean are in many ways different from each other, even though they all could, ultimately, be reduced to atoms.

Now, just as there is much more to material entities than atoms – there are different forces that keep them together, and different levels on which they organize in sub-systems before a human can even perceive them – physical, chemical, biological – not to mention the human faculties like sight, abstract thinking, etc. that allow us to perceive reality – there is much more to digital entities than bits. Bits are translated into a more complex, machine understandable language, which is derived from human-understandable programming languages, later executed by computers and displayed via a user interface. This is to say that, if one really wanted, one could attempt to reduce the digital to the material, given that the bits are, ultimately, stored on material drives, executed by material hardware, and displayed using material output devices. However, such an endeavor would resemble an attempt to reduce the social sphere to the material, since in the end, all that humans think, know and agree about could be reduced to their brains, in some sense³¹⁸, which are material. One *could* claim that, but one would miss out quite a lot. Just as we cannot explain what a game of football is relying on the laws of nature, we cannot explain what *Clash of Clans* is relying on them.

In this sense, the digital reality is different than the material – it supervenes on it, just as minds and social structures do – but the level of complexity is so far detached that it makes no sense to claim it can be meaningfully reduced to it.

In the same way, the digital cannot be reduced to the social. If all humans disappear, the social norms, and social entities, disappear as well. There is no more money, laws, or companies. If an alien race, with similar intellectual and cognitive capacities to ours, would land on Earth

³¹⁷ Andrew Murray, *Information Technology Law: The Law and Society* (Second edition, Oxford University Press 2013).

³¹⁸ This claim is contested, and the problem probably unsolvable, at least in the current state of knowledge. What definitely is the case is that we are not able to so precisely show ‘where are thoughts’, or ‘how the material translates into non-material’, as we are in the case of digital entities.

afterwards, they would find euro coins, and texts of statutes – but these entities would not *do* anything for them, because the social agreement behind them would disappear together with humanity. But, if that alien race found our smartphones, they would be perfectly able to listen to our digital music, watch the videos, or play *Clash of Clans* (the last assuming that the whole electrical and telecommunications infrastructure is still in place).

However, as has been already argued in the previous chapter, what I call ‘the social layer’ – rights, companies, statuses – law calls the ‘immaterial’. And, as shall be demonstrated soon, since law treats the ‘immaterial’ as a residual category – where everything that is not material will fall – there is a natural reflex in lawyers to claim that digital entities are immaterial. Which they are, in the residual sense but, at the same time, are not, since the ‘mode of immateriality’ of social constructions is different than the ‘mode of immateriality’ of digital entities.

Let us see how this claim fares on concrete types of entities.

4.2. Details of the structure: objects, subjects, spaces, rules, relations

The aim of this section is to analyze how the reality that private law aims to govern has changed in five spheres as a result of digitalization, namely those of objects, subject, spaces, rules and relations. Each of these spheres contains pieces of the answer to the theoretical challenge of the background of the virtual property phenomenon.

4.2.1. Objects³¹⁹

A whole separate chapter – the next one – will be devoted to conceptualizing the virtual items, the core of the core of the puzzle of this thesis. However, virtual items are a subclass of digital objects, and often questions like ‘but is this not the same as bitcoin, or files uploaded to Dropbox, or information?’ get uttered. In this sense, to understand the background of the phenomenon, one needs to be able to pinpoint what the difference between the different types of digital objects are, for most of which law still lacks concepts.

In the eyes of private law, there are material and immaterial objects. Depending on the jurisdiction, they will be either categorized by private law as such, in a general part of a civil code (Germany, Poland, Portugal, Greece, etc.) or by property law, serving as the basis for contracts, torts, inheritance etc. (common law countries, France, Italy, etc.). The way to categorize them is different in civil law and common law systems, but as one shall see, the basic ontological commitment, despite the doctrinal differences, is the same. And it dates back to Rome.

³¹⁹ This section closely follows my earlier work, published in: Pałka (n 241).

The extent to which Roman law influenced the current private law systems cannot be overstated. One only needs to read Gaius or Justinian to realize how similar the current systems are to their original source. The main achievement of the Romans was to create a system of abstract and general rules governing reality³²⁰. Metaphorically, one could say that what the Romans did was to sit down, look around at the reality to be governed, simplify and categorize it through general concepts. And they did it well. And that we should do again, now.

The word Romans used for what we would nowadays call ‘an object of a right’ was *res* (a thing). They created a complex categorization, distinguishing *inter alia*: *res divini iuris* from *res humani iuris*; *res in commercio* from *res extra commercium*; *res mancipi* from *res nec mancipi*. Just as much as these categories can provide a researcher with an interesting insight into current debates about ownership of the human body or patentability of cells; public property and cultural property; and generally speaking exclusion of ownership and trade of particular types of objects for public (order) reasons; they do not matter from an ontological point of view (they matter on the next level, of social limitations – addressed in the next chapter).

The crucial distinction Romans created is the one between material (*res corporals*) and immaterial objects (*res incorporales*). It is extremely important to understand what the Romans meant under both categories (and, *a contrario*, what they did not mean). In the words of Gaius:

*Corporeal things are those, which, by their nature, can be touched, such as land, a slave, a garment. (...) Incorporal things, on the other hand, are such as cannot be touched but exist in law, for instance, an inheritance, usufruct or obligations.*³²¹ [[emphasis added, P.P.]]

From this exemplification one can see that Roman law recognized only two types of objects: material things and *rights*. For Romans, ‘immaterial goods’ meant ‘rights’ and nothing else. In particular, they did *not* denote objects of intellectual property (works, inventions or trademarks), which nowadays come under the label of ‘immaterial goods’ in many jurisdictions. Why? Roman law did not protect IP, for even though its objects existed in their times, technology did not provide for a sufficient possibility of violations. Further, which is trivial, ‘immaterial goods’ did not denote anything digital, like dematerialized money, a pdf copy of a book or an mp3 copy of a song, for reasons too obvious to state here. Nor did they mean information, since it was not treated as

³²⁰ Aldo Schiavone, Jeremy Carden and Antony Shugaar, *The Invention of Law in the West* (Belknap Press of Harvard Univ Press 2010).

³²¹ George Mousourakis, *Roman Law and the Originis of the Civil Law Tradition* (Springer 2015).

commodity at that time. The whole reality of Roman private law was either material things or immaterial rights.

What came after the fall of Rome and before contemporary law can only be given a simple sketch here. Roman law was forgotten, found back in XI/XII century in Bologna, commented on, glossed over, thought about and taught, used one way or another. What matters is the split that occurred between the Continent and the British Empire. In the first case, under the ideas of Enlightenment, the codification movement took place, resulting in Justinian-rationalism-influenced French *Code Civil* at the dawn of XIX century, and pandectism-idealism-influenced German *Bürgerliches Gesetzbuch* at its dusk. These two codes served as models for the codes of the rest of European states, and if one looks carefully enough, one shall find traces of either CC or BGB in almost all national private legal systems. These systems are labeled nowadays the *civil law* tradition. In the UK (and, later, the US), however, despite the strong influence of Jeremy Bentham³²², codification never took place and private law is still taught and practiced through the study of cases and dispersed statutes, with the principle of equity underlying legal reasoning. That is what we nowadays call *common law* systems.

A work like this one, not attempting to dogmatically compare national legal systems, but rather to say something about law in general, taking particular systems only as examples, needs to take into account existence of both models. English-speaking jurisprudence often fails to be ‘general’, because it misses the important details of *civil law* systems. However, despite obvious differences, as I demonstrate below, the ontological structure of reality assumed by both types of systems is essentially the same, *and has not changed since the Roman times*. While reality has. As my working examples I take English law, being the ‘source’ from which all other *common law* systems emerged, and Polish law, being an interesting synthesis of the German and French models.

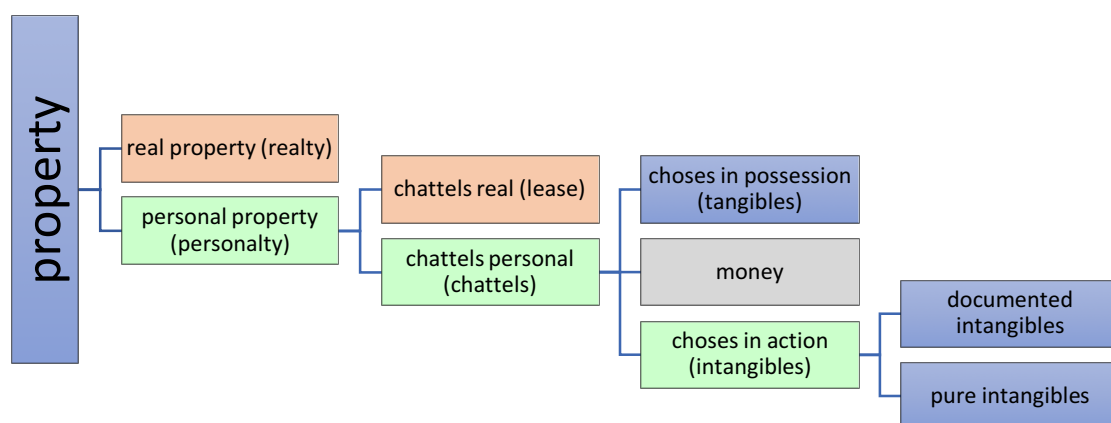
Since English private law was never codified, it does not contain anything that could serve as a ‘general part’ classifying objects for all its branches. For that reason the categorization of objects must be reconstructed from the doctrinal discourse of property law, which is the underlying basis of contract³²³ (to transfer a right over something one first needs to have that right - *Nemo plus iuris in alium transferre potest quam ipse habet*).

Interestingly, English law creates categories of its objects in, what I call, a ‘**positive-negative**’ dualist manner, by first positively defining one of them and later defining the other as a

³²² Dean Jr Alfange, ‘Jeremy Bentham and the Codification of Law’ (1969) 55 Cornell Law Review 58; Terry DiFilippo, ‘Jeremy Bentham’s Codification Proposals and Some Remarks on Their Place in History Comments’ (1972) 22 Buffalo Law Review 239.

³²³ Vincent Forray, ‘Property Structures Underlying Contract. (The Proprietary Properties of Contract)’ (2013) 9 European Review of Contract Law 20.

residual category³²⁴, ‘everything that remains’ when the first is excluded. Let me illustrate this abstract claim with content. The first and fundamental distinction is between real property (realty) and personal property (personalty). Real property is freehold in **land**, and personal property is everything that remains³²⁵. This is due to historical reasons, the three main ones being: different structure of ownership (feudal tenure in land and its lack in other objects), different remedies (*actio in rem* in land vs. *in personam* in personal property), and different rules of inheritance³²⁶. Later, personalty is divided into chattels real (leasehold interests in land) and chattels personal (again, everything that remains). Finally, chattels personal are divided into ‘choses in possession’ (tangible objects that can be possessed) and ‘choses in action’ (everything that remains, so presumably, intangible objects). Additionally, a specific spot is occupied by money, sharing both properties of choses in action and choses in possession, the latter being sometimes further divided into documentary intangibles and ‘pure’ intangibles³²⁷. That leaves us with the following picture:



The fields marked in red are the rights that concern interests in land, and the ones in green are the ‘residual categories’, where everything that does not fit into the others would fall, the ‘ultimate’ one being ‘choses in action’. The key question at this point is: what exactly are the ‘choses in possession’? Michel Bridge provides the following list of examples: ‘debts, goodwill, rights under an insurance policy, shares in a company, bills of exchange and various forms of intellectual property’, later exemplifying ‘pure intangibles’ as ‘debt, copyright and goodwill’ and documentary intangibles as ‘bill of lading, promissory note or a share in company’³²⁸.

³²⁴ MG Bridge, *Personal Property Law* (Second edition, Blackstone 1996).

³²⁵ Bryn Perrins, *Understanding Land Law* (3 edition, Routledge-Cavendish 2000).

³²⁶ Bridge (n 324).

³²⁷ *ibid.*

³²⁸ *ibid.*

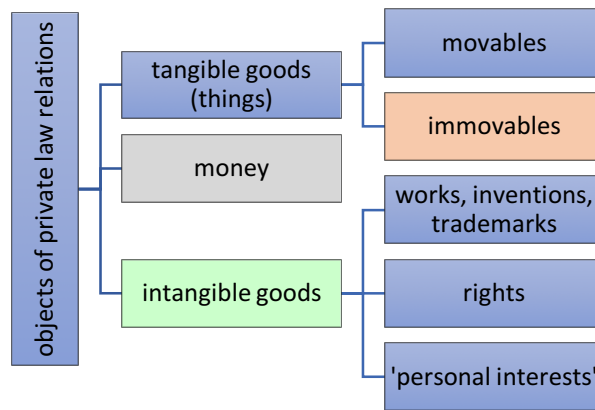
As much as this classification would seem complicated, one can see that on the ontological level English law still sees only two types of objects: tangible things (choses in possession and land), and rights (for freehold, leasehold, debt, bill of lading, share in company, etc. are essentially different types of rights provided by law). A ‘novelty’ in the picture, when contrasted with the Roman model, is ‘goodwill’ (whatever adds value to a business by reason of situation, name, and reputation, connection, introduction to old customers, and agreed absence from competition³²⁹); and ‘various types of intellectual property’; both grouped within the residual category of ‘choses in action’ – immaterial objects.

The same method (dual positive-negative), but based upon different criteria, can be found in Polish private law. The classification of objects can be found in the General Part of the Polish Civil Code, common to all the areas of private law. It proceeds in the following steps: First, the Code distinguishes **things**, delineated as ‘material objects only’ in the art. 45 of the Polish Civil Code, and further defined as ‘elements of nature distinguished in a sufficient way to be separate objects of trade’ by the doctrine³³⁰; and **immaterial goods**, defined as everything that is not a thing³³¹, and so everything that is intangible. Special place, again, is given to money. Things are further divided into immovables (land and buildings) and movables (everything that is not immovable), while immaterial goods form a residual category, where *inter alia* objects of intellectual property (works, inventions, trademarks), rights and ‘personal interests’ serve as examples in the open catalogue. The category of ‘personal interests’ encompasses ‘among others: health, freedom, goodwill, freedom of conscience, name or nickname, image, secret of correspondence, protection of home and fruits of creation’ (art. 23 of the PCC). That leaves the following picture (green being the residual category):

³²⁹ *ibid.*

³³⁰ Zbigniew Radwański, Marek Safjan and Zbigniew Banaszczyk, *Prawo Cywilne: Część Ogólna* (2 wydanie, Wydawnictwo C H Beck : Instytut Nauk Prawnych PAN 2008).

³³¹ Aleksander Wolter, Jerzy Ignatowicz and Krzysztof Stefaniuk, *Prawo Cywilne. Zarys Części Ogólnej* (LexisNexis 2001).



Even though this picture hardly resembles the one from English law, on the deep ontological level it is almost the same. Polish law still sees tangible things, on the one hand, and intangible goods on the other; the latter meaning essentially rights, objects of intellectual property and other immaterial objects, but again serving as the ‘residual category’, where everything that is not material would fall.

At this stage, the reader can already see one of the reasons why the scholars writing about virtual property, as well as other new types of digital objects, tended to categorize the virtual items as ‘immaterial’, or confuse the items themselves with (potential) rights one might enjoy over these items. That is because, trained to ‘think like lawyers’, they would place the entities that were not immaterial in the residual category where they belong (according to law and its method), i.e. immaterial objects.

Before moving to the digital objects, a few words of explanation should be given to the objects of intellectual property rights. For, literary works ‘as such’, inventions ‘as such’, and trademarks ‘as such’ are not socially constructed, in a sense of existing thanks to people’s collective agreement (as explained above, within Searle’s ontology). On the contrary, it might be that all humans on Earth agree that some works, or some inventions, should *not exist*, and yet they do. Not the copies, but the immaterial entities. This is because these entities, if they exist (law assumes they do by granting rights on them, philosophers would sometimes claim they do not), exist in a ‘metaphysical’ sense – they cannot be touched, changed, nothing can be done to them. Hence, what matters in copyright law is not really the work as such, but the copies of this work (material, or now also digital) and the *rights* over these works, which are indeed a social construct.

However, as argued above, the *mode* in which *digital* objects are immaterial is not the same as the mode in which social constructions are³³². If we both agree I owe you 100 euro, this debt, and your right, exists as a social entity. But the moment our agreement (or the legal system backing it

³³² For a thorough discussion of their mode of existence, an analysis much more complex than necessary for the purposes of this dissertation, see: Yuk Hui, *On the Existence of Digital Objects* (University of Minnesota Press 2016).

up) ceases to exist (if we both agree I no longer owe you anything), this entity disappears. However, if you have a file on your computer, to keeps to exist there, *digitally*, regardless of whether anyone knows or agrees about it. Now, this existence is mediated – by the software, by the user interface etc. – but in the simplest form could be said to exist in a primary way, just like a plant in a garden – there are conditions under which it might die, but nobody knowing, or nobody agreeing, is not one of these conditions. To sum up – objects existing within computer-operated environments, ‘made-up’ of bits stored on hardware, processed by software and ‘interactable-with’ via user-interface³³³ – like computer files and digitally stored information – are neither material in the sense in which tangible things are, nor immaterial in the sense in which literary works or rights are.

In consequence, to avoid confusions like claims that ‘an immaterial copy of a book is a *pure* work, without a carrier’³³⁴ or that ‘gaming account is a private right’³³⁵, this triad is a necessary, but definitely not exhaustive, first step. Examples are provided in the table below:

<i>Res corporales</i>	<i>Res digitales</i>	<i>Res incorporales</i>
Tangible things/ choses in possession: Mugs, cars, footballs, etc.	Computer files: mp3 files, pdf files; websites; dematerialized shares in companies, dematerialized money; virtual items, bitcoin etc.	Rights, works of copyright, trademarkd etc.

Table 4 From a dyad to triad in the categorization of objects of private law relations

However, one important distinction should be made here, and that is between information (data) as a form and information as content. Scholars sometimes tend to refer to digital objects as ‘information goods’³³⁶. On the one hand, this term seems reasonable – in the end, as explained above, digital objects could be reduced to information – digits – and the whole field of engineering concerned with them is called ‘information technology’. On the other, there is a difference between being *digital* in form (being an eBook instead of a tangible book) and being information, a body of knowledge, which actually could be stored in a tangible form, for example, on a piece of paper.

In his article *Property in the Information Age*³³⁷ John Mummery analyzes the case *Fairstar Heavy Transport NV v Adkins*³³⁸, where Mr Adkins, the chief executive of *Fairstar*, is sued by the company that claimed property in the content of the emails that Mr Adkins kept on his personal

³³³ Well conceptualized in: Johnny Hartz Brey Philip; Søramer, ‘Philosophy of Computing and Information Technology’ in A Meijers (ed), *Philosophy of Technology and Engineering Sciences*, vol IX (North Holland 2009).

³³⁴ Adam Olszewski, ‘The Legal Construction of Virtual Reality Items Sale Agreements in the Eyes of the Polish Law’ (2011) 4 *Transformacje Prawa Prywatnego*.

³³⁵ Pakuła (n 240).

³³⁶ See: Murray (n 317) or; Castronova and Lehdonvirta (n 120).

³³⁷ John Mummery, ‘Property in the Information Age’ in Barr (ed), *Modern Studies in Property Law*, vol 8 (Bloomsbury 2015).

³³⁸ *Fairstar Heavy Transport NV v Adkins* [2013] EWCA Civ 886.

computer and to which he refused access. Mummery asks whether there can be ‘property’ in information, whether *Fairstar* had a right to claim that Adkins transfer the emails back, because *Fairstar* owned the information contained in those emails. Both the court’s and Mummery’s answers are negative.

This case exemplifies the confusion that I am talking about. Imagine the case had taken place 30 years ago, and instead of taking the company’s emails, Mr Adkins had taken regular, paper mail. In such a case, *Fairstar* would not have sued for information, but for the letters, tangible choses in possession, that it undoubtedly would have owned. The question of owning the information embedded on the paper would not have even come up. The problem lies in the fact that emails contain both information (in which *Fairstar* was interested) and *are* information, are made up of bits, so exist as information, but in the sense of ‘information technology’ and not ‘information asymmetry’. ‘Information’ itself has become ambiguous, and currently means both the content and the carriers of the content. But the difference is extremely important.

It matters because information as knowledge is currently also under the scrutiny of property law scholars. Information has always played an important role in market regulation³³⁹, which, be it consumer law or capital markets regulation, for decades has attempted to address the problem of information asymmetry between the parties. However, in the aftermath of digitalization, information started to be treated as a *commodity*. This is best exemplified by the role of personal data, which, in the words of the previous European Consumer Commissioner, Meglena Kuneva, ‘*is the new oil of the internet and the new currency of the digital world*’³⁴⁰. The questions of property in personal data have been raised in the literature³⁴¹, though this has not yet altered any substantive law provisions. However, ‘property’ in knowledge would mean something completely different than property in digital objects, like computer files in a cloud, or eBooks.

Having clarified this, I would like to come back to the statement that the triad of material/digital/immaterial objects is a necessary conceptual move, but not sufficient to fully solve the puzzle of virtual property. For, there is a difference between a computer file simply residing on one’s hard drive, and a file uploaded to a cloud, i.e. someone else server. Or, for that matter, a virtual item existing necessarily as a part of a service/ a platform. To understand this difference, one needs to distinguish between entities with primary and secondary modes of existence.

³³⁹ George Akerlof, ‘The Market for “Lemons”: Quality Uncertainty and the Market Mechanism’ 84 *The Quarterly Journal of Economics*.

³⁴⁰ Full speech available at: http://europa.eu/rapid/press-release_SPEECH-09-156_en.htm, last access 10th November 2015

³⁴¹ Nadezhda Purtova, *Property Rights in Personal Data: A European Perspective* (Kluwer Law International; Sold and distributed in North, Central, and South America by Aspen Publishers 2012).

The ‘primary mode of existence’ characterizes those types of objects that exist ‘by themselves’, without anyone’s action, knowledge or agreement; while the ‘secondary mode of existence’ is a feature of objects that exist due to a third party’s action (in the case of some *res digitales*), knowledge (in the case of information) or agreement (in the case of rights or private entitlements). A negative dimension in a ‘property’ right in types of objects with a primary mode of existence will always mean just a *non facere* obligation. With virtual items, that would be ‘do not modify, do not delete’.

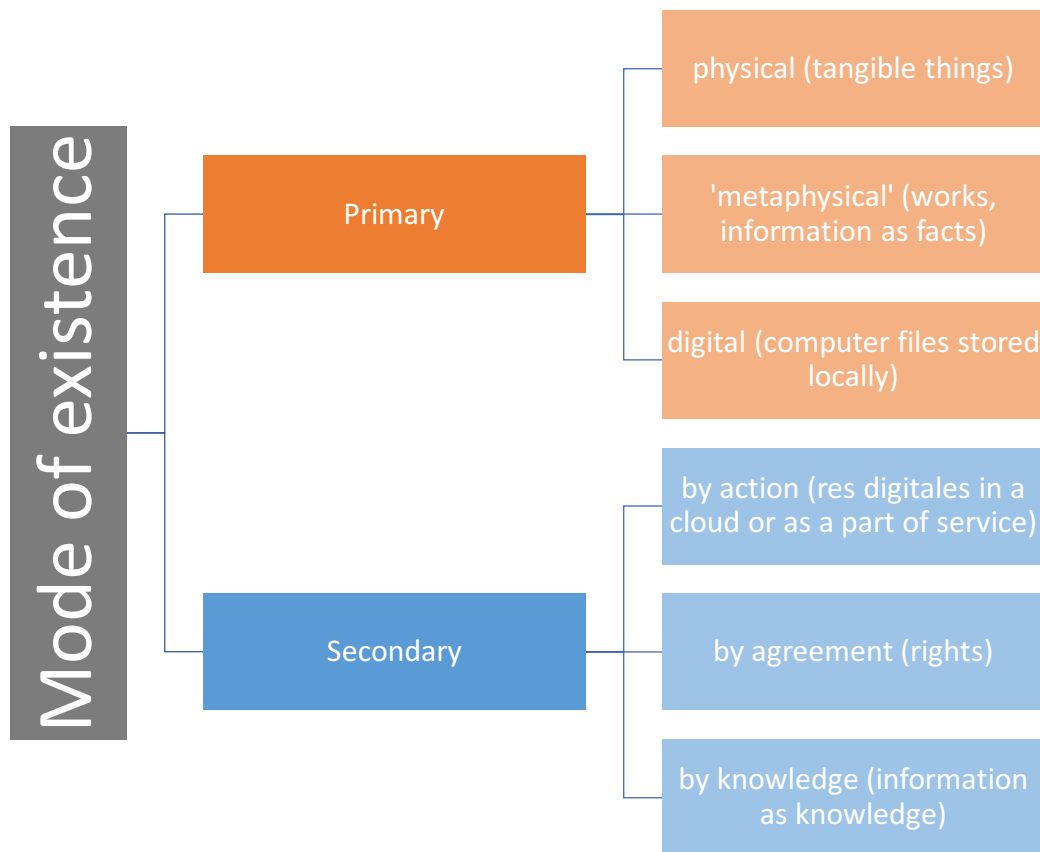
Examples of entities with primary mode of existence are tangible things (choses in possession), literary works ‘as such’ or information as facts (abstract objects, existing in a ‘metaphysical’ way), and computer files stored locally, not depending on any network or service.

Entities with a secondary mode of existence are those that will cease to be when a third party stops doing something. This is crucial, because any ‘property’ right granted in them, in its negative dimension, meaning a right to be left in peace with one’s objects, would mean not only obligation of *non facere* towards others but also a positive obligation to keep doing something towards the responsible party. This is a complete *novum* for private law. In the case of virtual items, this would mean ‘keep sustaining the service, to keep sustaining my gems’.

Starting with those existing ‘by action’: files stored in a cloud will ‘disappear’ when the provider stops the service; virtual items within online games will cease to be when the service is turned off; but also dematerialized money or shares in companies could ‘disappear’ when the electronic system sustaining them is shut down³⁴². This is also the case with bitcoin and other crypto-currencies sustained by block-chain networks, although the lack of a central provider makes a significant difference. I analyze the details of these differences below.

An important observation is the fact that also rights, ranging from claims, through shares in companies, to other documentary intangibles (e.g. bills of lading) exist in a secondary mode, as long as the legal system sustaining them exists. Also ‘information’, understood as knowledge (and not facts) exists in a secondary manner.

³⁴² The files or entries in databases might still ‘exist’, but if the service is inoperable, their ‘owners’ could no longer access them. That is the essence of the ‘secondary mode of existence’.



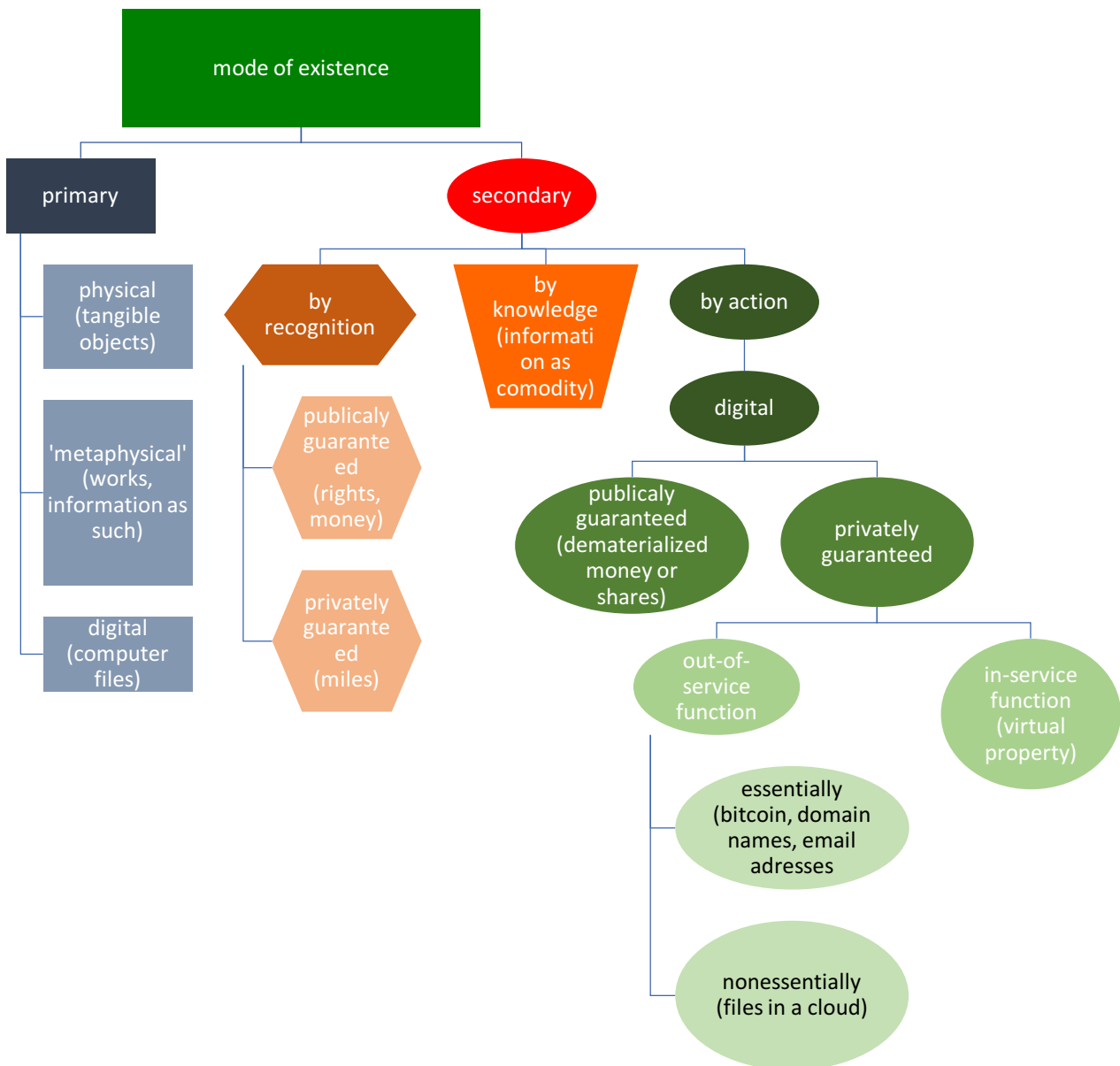
Finally, a very important distinction must be made between ‘objects as such’ and their carriers. As noted above, numerous *res incorporales* must be incorporated in a medium (this necessity is sometimes technical, a literary work must be contained in a medium for an agent to interact with it; and sometimes legal, a share in company or a bill of lading must be incorporated in something because the law stipulates so).

The key observation is that *res incorporales* can often be incorporated into either a tangible, or a digital medium. A book, a database, a right might be either in paper or in a digital form. Similarly, the same type of file (digital carrier) might incorporate different types of objects ‘as such’. To give an example, a pdf might contain a copyrighted work, but might just as well contain a list of personal data, or a database. What matters is that a carrier is never the same object as an object incorporated in it.

This leads to the last general observation: some *res digitales* will resemble choses in possession in the sense that they perform their functions due to their ‘intrinsic’ features, the way they are coded as a part of a larger service. One can use pokéballs in *Pokémon Go* in a way that it is designed. That makes them different from *res digitales* resembling tangible carriers, documentary intangibles, like dematerialized money or company shares, which perform their functions not due to their intrinsic features, but the social function of objects they incorporate.

The categorization presented above is a general one. However, for the legal system to operate properly, a more detailed categorization is necessary (again, due to different particular problems emerging in ‘property’ in different types of objects). Just as the law does not stop at defining ‘things’ as tangible objects, but further categorizes them into movables/immovables, divisible and indivisible, consumable and non-consumable, separately regulates fruits, accessories, necessary parts, etc., the new categorization of new types of should take into account the legally relevant characteristics of these types.

Below I signal several distinctions, especially when *res digitales* existing in a secondary mode are concerned. The list is, however, not exhaustive and most probably will become more complex when further, specific research is conducted. Firstly, entities existing by action (a service being provided) can be divided into those having public guarantee of existence (dematerialized money, bills of lading, shares in companies), whose existence does not depend on a business decision of a private party, but public law obliging particular entities to sustain them; a private mode of existence (virtual items, bitcoin, files in the cloud). Secondly, within the entities in the last category, a distinction must be drawn between entities performing an in-service function (virtual property) and those performing an out-of-service function (bitcoin, domain names, files in the cloud). Additionally, files in the cloud dwell in a category of non-essentiality (meaning they do not necessarily need to exist there or in this mode to exist as such – they could just as well stay in the primary mode on a local drive), and essentiality, in which bitcoin, domain names and virtual items would also fall. I present that in the figure below:



The added value of this approach to categorization is that it is free of a ‘residual category’, where ‘everything else’ would fall. On the contrary, it can be further expended, in order to stress the important differences between different types of objects. It might seem complex at the first sight, but I believe this is a problem of presentation rather than merits.

This is not a dogmatic proposition. On the contrary, it is supposed to be changing together with further research on specific types of objects of private law relations. However, its insights and vocabulary might inform the application of the toolkit, hence its presentation together with the methodological part. Additionally, I believe that the core contributions – distinction between material, digital and immaterial objects, as well as the primary and the secondary mode of existence, should be given serious consideration.

Finally, the question of a factual relation of a person to their digital object should be considered. If ownership is a legal state of affairs concerning a person's relation to their thing, possession is a factual one. The law sometimes chooses to protect possession regardless of the title (to prevent citizens from using force against one another), but generally property law is concerned with the legality of possession. If one owns a thing, he or she is allowed to possess it. If a person does not own a thing, he or she is only allowed to possess it with the owner's permission.

If the legal relations that persons have with digital objects, including virtual items, as well as the relations that they get into with one another concerning digital objects, is to be theorized, what needs to be theorized first is the factual relation a person has towards digital objects. There are easy cases and hard cases here.

The easy case concerns a situation when only one person 'possesses' a digital object. If you save a *.docx file on your computer, you 'possess' it digitally. You control the device on which it is resident, you control the information system within which it is resident, and have factual ability to use it, modify it or delete it. For someone else to deprive you of your digital possession, someone would need to get a hold of the device (physically use it against your will), or 'hack' the device, i.e. remotely get access to it (using the Internet, or any other network). The law has these situations covered, though arguably only the first one is regulated by private law (through property and tort), while the second through criminal law (prohibition of hacking, regulation of cybercrimes, etc.). Let us then define 'digital possession' as factual control of a digital object through the factual control of the hardware and the software enabling that control.

The hard case occurs when, due to the architecture of the information system, more than one person has factual control over a digital object. If you upload your *.docx file to a cloud, say Dropbox or Google Drive, who possess it? You or the cloud service provider? The answer is: both. You have the control of the hardware and the software (direct on your own device, and indirect on the server, through the permission granted to you by the service provider), but the company offering the hosting service *also* has that control. If they wanted to, they *could* use it, modify it, or delete it. They do not do this most of the time, because: firstly: they contractually promise they will not; secondly: that would be a reckless move from a business perspective – people use clouds, among other reasons, for safety and security – if they learned that someone is mingling with their files, they would simply switch to another provider. However, one has to remember that the host has the *factual ability* to do this, even if they seldom, if ever, make use of that ability. In this sense, digital possession, unlike traditional possession, is not exclusive – a few parties can 'possess' the object at the same time. This has not much to do with 'rivalrousness' of goods. Consider a situation when a file is constructed in such a way that it cannot be copied, for example through a DRM system. Such a

file would be rivalrous in the sense that, if I send it to you, I no longer have it (unlike a regular file) but, when in the cloud, a few parties might have control over it.

The situation is similar in the case of virtual property. Since service providers have factual control over the systems within which virtual items reside, they ‘possess’ them at the same time as the users. The difference between them and cloud service providers is that they do not promise in their contracts that they will do nothing about them. Actually, on the contrary, as we have seen in Chapter one, they explicitly reserve a right to modify them or delete them. Given the architecture of the systems within which virtual items occur, on the factual level, there is not much one can do about it. These items, unlike files, which you are free to upload to a cloud or not, are *necessarily* a part of the service. Factually, the service providers will always have the ‘digital possession’. All law can do about it is to potentially stipulate what they are allowed to do. And as the law stands now, it does not protect digital possession in any way similar to how it does protect regular possession.

The normative puzzle stemming from these new developments concerns the legal entitlements to these entities, within the different types of relations of which they can be objects. This will be studied in detail, concerning virtual items, in chapters 4 and 5.

4.2.2. Subjects (Actors)

The change that has occurred in the background of the virtual property phenomenon, as a result of mass digitalization, is, on the one hand, that artificial agents have emerged (which platform owners use to monitor the behavior of users within their platforms, and sometimes to take decisions and execute digital force), on the other, that minors, i.e. children, are highly involved in the relations concerning virtual items. There is a concept for the latter, and arguably only the rules might need to be adjusted (the normative problem). However, concerning the former, law struggles to find a concept. The purpose of this subsection is to push the understanding slightly forward.

Subjects of private law relations are persons. There are natural persons and legal (juristic) persons, i.e. corporations. The first ones exist as material entities, the latter are social constructions. One could limit oneself to simply stating this but, given the way that the background of the virtual property phenomenon challenged the law’s assumptions about the person (with the introduction of artificial agents, on the one hand, and high involvement of minors, ‘digital natives’, on the other) it is important to make several details salient. I would like to do so by making four distinctions.

Firstly, one should distinguish legal personality (‘legal capacity’, ger. *Rechtsfähigkeit*) from the capacity for legal actions (ger. *Geschäftsfähigkeit*). The first means ‘being a subject of one’s

own rights and duties according to law'³⁴³. Currently, all human beings, from the moment of birth to the moment of death, are considered persons (have legal capacity) by all the Western legal systems (but this has not always been the case³⁴⁴). Apart from humans, private law grants legal capacity to juristic persons (corporations, foundations etc.), usually from the moment of registration in the official register until the moment of liquidation. Juristic persons 'act through their bodies' (art. 38 of PLCC), and only a 'natural person with a full capacity for legal actions' can become a body of juristic person (art. 18 of the Polish Commercial Societies Code). In other words, corporations act in their own name *de lege*, but a human being performs these actions *de facto*.

Capacity for legal actions, on the other hand, means 'ability to acquire rights and duties in one's own name via one's own legal actions'³⁴⁵. As a general rule, human beings acquire the capacity for legal actions when they turn eighteen³⁴⁶. This choice of age is, to a certain extent, arbitrary. The Code does not specify directly what features the lawmaker assumes that human beings, eighteen or older, possess; but they can be inferred *a contrario* from the provisions about incapacitation. PLCC states:

'A person who is thirteen or older, can be fully incapacitated, if due to psychic illness, retardation, or any other type of mental disorder, in particular alcoholism or drug addiction, he or she is unable to guide her or his actions. For a fully incapacitated person a guardian shall be established, unless he or she still remains under the parental rule' (art. 13) and 'legal action conducted by a person with no capacity for legal actions is null and void' (art. 14).

From this one can infer that in a standard case, when a human being older than eighteen suffers from no mental disorder, he or she is able to *guide* their own actions. The law, in order to protect the interests of those who cannot do so, takes away from them capacity for legal action and requires establishing a guardian, who will represent an incapacitated person, just like bodies of juristic persons represent them.

³⁴³ This definition is commonly accepted and endorsed both in common law and civil law countries, see for example: John Chipman Gray and Roland Gray, *The Nature and Sources of the Law* (Second edition, Smith 1972); Wolter, Ignatowicz and Stefaniuk (n 331).

³⁴⁴ Consider the example of slaves in Ancient Rome, who were human beings but were not considered persons by law; as well as the institution of 'civic death' (fr. *mort civil*), still known in the first version of Napoleon's *Code civil* (art. 25).

³⁴⁵ Wolter, Ignatowicz and Stefaniuk (n 331).

³⁴⁶ For the sake of space and the argument's flow, I will not discuss here the notions of 'limited capacity for legal actions', the position of minors older than 13 and younger than 18, as well as exceptions like, for example, acquiring capacity for legal actions by women younger than 18, who were granted a permission by a court to get married.

One can infer several important observations already from this first distinction. Firstly, for the law to consider an entity ‘a person’, meaning a subject of rights and duties, this entity does not need to possess any special features, like autonomy, intelligence or free will. It is necessary that the law considers such an entity ‘worth’ the status of a person³⁴⁷ (reasons might differ, in the case of human beings, their dignity is decisive; in the case of corporations, their social and economic role and usefulness is). Technically, everything can be considered a person by the law, with the telling example of New Zealand granting legal personality to a river³⁴⁸. Secondly, if such a person does not possess certain qualities, partly articulated by the law, partly just presupposed, law denies her or him the capacity for legal actions, meaning the ability to acquire rights and obligations through one’s own conduct. Thirdly, as the example of incapacitation shows, this is **not** because minors or mentally challenged people are unable to perform actions that would be otherwise considered contracts or torts by the law, but exactly because they are able to so. A child or a heavy drug addict can easily utter a sentence “I sell you the car that I own for 10% of its market value”, or easily destroy someone else’s property. Legal capacity is not about the physical *ability* to perform legally relevant actions, it is about the ability to perform them with full understanding of the factual and legal consequences of such actions. If this understanding is lacking, another human being should contract for them, or supervise them so that they do not commit torts³⁴⁹.

The second distinction to be mentioned, somehow reflecting the material ‘legal capacity/capacity for legal actions’ distinction in the domain of procedural law is the distinction between judicial capacity and capacity for judicial actions. The first means a (legal) ability to be a party in judicial proceeding, and usually follows from having legal capacity (in this sense a corporation or a new born child (usually in inheritance cases) can be sued or sue); while the latter means the ability to take care of one’s own judicial proceedings (draft documents, represent oneself in court) and in the vast majority of cases is granted simultaneously with the capacity for legal actions. Again, there is a difference between ability to do so *de facto*, and legal competence to do so *de jure*.

³⁴⁷ For a thorough analysis of this claim see: Ngaire Naffine, *Law’s Meaning of Life: Philosophy, Religion, Darwin and the Legal Person* (Hart 2009).

³⁴⁸ Alison Fairbrother, *I, River: In New Zealand, the Whanganui River Becomes a Legal Person* available at: <http://www.takepart.com/article/2012/09/13/new-zealand-river-becomes-person>

³⁴⁹ Another doctrinal distinction proves useful here, namely: between factual action and conventional action (or in other translations ‘juridical act’). The former leads to consequences in the factual sphere, which might be legally relevant (performance of contract), but ‘are what they are’. Conventional action, on the other hand, causes consequences in line with the convention stipulated in a normative system (for example law), and so writing a testament, or promising a prize, creates legal consequences, if performed in accordance with the requirements in law, by a person entitled by the law to do so. For the detailed analysis, taking artificial intelligence into account, see: Jaap Hage, ‘A Model of Juridical Acts: Part 1: The World of Law’ (2011) 19 *Artificial Intelligence and Law* 23; Jaap Hage, ‘A Model of Juridical Acts: Part 2: The Operation of Juridical Acts’ (2011) 19 *Artificial Intelligence and Law* 49.

The third distinction, this time not legal but methodological, is the distinction between the characteristics of actual entities (for example, human beings) and characteristics ascribed to the concept of these entities by the law. They are obviously connected and remain in the dialectical relationship with one another (as explained in Chapter 3), but they are not the same object of study. This is when the necessity for a ‘law and reality’ approach comes into play.

It is one thing to study ‘what human beings are’, where disciplines like psychology, neuroscience, behavioral studies or anthropology confront the questions like: ‘how do humans behave and why?’ or ‘what are the features of human beings?’³⁵⁰; it is another thing to study the concept of a human being (natural person) as it stands in law, i.e. study the text. Not only is the method different, the object is different too.

In order to state what the reality should be, the law *volens nolens* communicates its beliefs about what reality is. To reconstruct the concept of a ‘natural person’ in law, one cannot limit oneself to the legal definition (‘every human being from the moment of birth to the moment of death, every corporation from the moment of registration to liquidation’, or the definition of ‘personality’: ‘being a subject of legal rights and duties’). One must study each and every provision in the particular branch of law that directly or indirectly contains the concept. As Giovanni Sartor puts it: ‘a legal system endows its concepts with meaning exactly by embedding such concepts (the terms expressing them) within legal norms’³⁵¹. Such a reconstruction is necessary, because it makes explicit what beliefs law would hold about any new category of entities placed within the denotation of an already existing concept.

No matter what legal systems one consults, the results will be roughly similar. Fully capacitated human beings, and so human beings that act in spheres relevant to law (in their own name, or in the name of other persons), are free (freedom of contract, autonomy), have will and intentions, can communicate these will and intentions in speech and in writing, can err (hence rules about error), can be threatened (hence rules about threats) and understand the meaning and consequences of their actions. Note, once again, that these are features that law assumes *about persons*, not any legal status given to them by the law. My claim is: this is what the private law assumes about each and every person acting in a legal relationship, both fully capacitated natural and *mutatis mutandis* incapacitated natural and juristic, since the latter act through the former as their guardians/bodies.

³⁵⁰ The list of disciplines and questions could obviously be longer, and would also contain philosophy trying to make sense out of this data; what I mean is: sciences that study *humans* or *human behavior*, so *reality* and their objects; contrary to law, which at least in the doctrinal tradition studies the text, the concepts, and so in some sense ‘human/social representation’ of this reality.

³⁵¹ Sartor, ‘Understanding and Applying Legal Concepts: An Inquiry on Inferential Meaning’ (n 17).

The fourth and final distinction, between the concepts of a ‘person’ (given the meaning by the totality of private law provisions and folk beliefs) and the ‘subject’ of law, a meta-concept never articulated, but necessarily presupposed by the law. A ‘private law person’, as defined in the paragraph above, *homo iuridicus (civilis)*, is a particular model of an actor whose behavior the law regulates by granting him or her private rights. Just like *homo oeconomicus*, with its ascribed features (being rational, utility maximizing etc.) forms a model actor in microeconomics, *homo iuridicus* is a model actor assumed by the law – hence rules about declaration of intent, etc.

The meta concept of a ‘subject’, on the other hand, cannot be derived from the legal provisions, but is necessarily presupposed by the very concept of law as we know it. What do I mean by that? The law assumes a subject who can access the law, can comprehend it, can make a decision of whether to follow it or not. This does not mean that law assumes that everyone can read legal texts and understand them, but human beings just very often happen to know if they are doing something lawful or unlawful. This is due to the relationship between law and morality, law and social norms, enculturation of law and many other factors.

However, when analyzing the question of subjects of private law relations, one cannot limit oneself simply to the concept of a ‘person’. That is because private law, already for several decades now, differentiates between persons, depending on what type of relations they get into. The most important ‘corrections’ to the concept of a person come from *labor law* and *consumer law*, with the introduction of the concepts of a worker, and of a consumer. The former is not of relevance for this research, hence it will not be studied. At least a few words, however, need to be given to the ‘consumer’.

The status of a consumer is not replacing a status of a person, but is rather ‘correcting’ it, by adding a few more assumptions, and changing the legal position of a natural person holding it by conferring new types of rights, and corresponding obligation on the side of the traders. What exactly the law assumes about a consumer has shifted across time and across jurisdictions³⁵², and in different moments and places, particularly EU law, tended to see the consumers as more vulnerable or more informed³⁵³. The details are not particularly important here – what is important is that private law has noticed that in some cases, i.e. consumer transactions, the assumptions it held about its subjects, and the resulting principle stating that it is sufficient to grant them legal equality to assure factual equality, has been wrong and should have been corrected. As a result, what matters

³⁵² Hans-Wolfgang Micklitz, *The Expulsion of the Concept of Protection from the Consumer Law and the Return of Social Elements in the Civil Law : A Bittersweet Polemic* (European University Institute 2012).

³⁵³ Dorota Leczykiewicz and Stephen Weatherill, *The Images of the Consumer in EU Law: Legislation, Free Movement and Competition Law* (Hart Publishing 2016).

more is the structure of this ‘correction’, rather than particular assumptions about the status. This will be studied below, in section 4.2.5.

As a result of digitalization, these assumptions changed in two ways. Firstly, particularly within the spheres of online gaming and social networks, a much higher involvement of children than ever before can be observed. This is the phenomenon of so-called ‘digital natives’³⁵⁴, i.e. minors who have a much better understanding of the digital environments than their legal guardians do. Almost all terms of service of the online platform featuring virtual property have clauses stating that one can only use them if one is eighteen, and otherwise one needs to have the contract concluded by a legal guardian. This is obviously a fiction. This needs to be signaled here, as a part of the general theory, but will not be given much more consideration, given that the problem is regulatory, not conceptual.

What will be given some consideration, however, is the emergence of artificial agents – the ‘technology’ that *Supercell* claims will monitor the behavior of users, and which all online platforms use in order to execute digital force. The emergence of artificial agents led legal scholars to pose a question about their potential ‘personification’ i.e. granting them statuses of legal persons. The argument there, usually, would be the following: there are some features that persons have. Artificial agents have these features. Hence, they could/should be granted person status. This, just as in the case of the question regarding legal status of virtual items, is an example of a lawyerly reflex to pack new phenomena into existing concepts, without paying much attention to the critical differences, and hence ascribing to the new phenomena features that they do not have, or missing out on important features they do have. However, I would claim, just as asking the question about property in virtual items might be a useful move to coin a new concept in which they could reside, the same can be said about asking the ‘personality’ question about the artificial agents.

If one tried to understand what it means to be a person according to private law by simply consulting the literature concerning personality for software agents, one would encounter quite a few answers³⁵⁵. The potential candidates for the necessary characteristics are: ‘the capacity to contract [...] ability to be held responsible for damages [...] ability to be sued [...] moral agency that is generally regarded as having cognition, autonomy, intention, free will [...] accountability, meaning having assets enabling one to fulfill their financial obligations and liabilities [...] capacity of intention’³⁵⁶, ‘ability to act consciously’³⁵⁷, ‘having a characteristic similar to self-

³⁵⁴ Palfrey and Gasser (n 19).

³⁵⁵ As has recently been documented by: Bartosz Brożek, ‘The Troublesome “Person”’ in Visa Kurki and Tomasz Pietrzykowski (eds), *Legal Personhood: Animals, Artificial Intelligence and the Unborn* (Springer 2017).

³⁵⁶ Walid Mohammed Almajid, ‘Can Electronic Agents Be Granted Legal Personality under Islamic Law? A Conceptual Rethink Is Imperative’ (2010) 24 *Arab Law Quarterly* 393.

³⁵⁷ Roger Penrose, *The Emperor’s New Mind: Concerning Computers, Minds, And the Laws of Physics* (Vintage 1990).

consciousness', 'having identification'³⁵⁸, 'possibility of being subjects of rights and obligations, of expressing a valid and binding will, of being liable for their own actions', 'playing a relevant social role'³⁵⁹, 'right to own property and the capacity to sue and be sued'³⁶⁰, 'the ability to have one's own legal positions, i.e., the ability to have rights and duties of one's own; and to produce, through one's intentional actions, rights and obligations on one's head'³⁶¹.

These statements confuse several diverse problems with one another. Most significantly, they confuse characteristics of the actual entities denoted by the term 'person' with the attributes ascribed to the concept of a person by the law (as explained above); they confuse legal personality with the capacity for legal actions and capacity for judicial actions; and factual ability to perform certain actions (features of subjects) with legal ability, namely having the competence to perform these actions.

Granting software agents personality under the private law would mean ascribing these characteristics to them. As a consequence, the argument: 'look at human beings, they have the features X, Y, Z, and software agents also have these features; and human beings are persons in terms of law, *so* software agents should also be persons in terms of law' is not only weak, but methodologically wrong. Should, on the other hand, someone claim: 'look, those are all the features ascribed to persons by the private law, and it seems that software agents have all of these features', the argument would be much stronger. It will not happen, because software agents do not have these features, but methodologically the claim would be stronger. Stronger, but not sufficient.

For the law also assumes a lot about the persons without making it explicit in its provisions. The law is created by human beings for human beings, and human beings happen to know quite a lot about themselves and about each other. In a vast majority of cases, behavior of humans is predictable to other humans. This is not to say that humanity fully understands why members of its species behave the way they do, but folk beliefs often turn out to be true. Software agents can only 'know' law if it has been 'coded in' their algorithms by programmers, or if somehow the ability to translate legal texts into algorithmic basis for decisions has been coded into them.

That is why the comparison sometimes made in the literature concerned with robots³⁶² between software agents and slaves or corporations is deeply mistaken. Roman slaves were often very intelligent human beings (meeting the standard of full capacity for legal actions), they were

³⁵⁸ Allen and Widdison (n 242).

³⁵⁹ Francisco Andrade and others, 'Contracting Agents: Legal Personality and Representation' (2007) 15 *Artificial Intelligence and Law* 357.

³⁶⁰ Lawrence B Solum, 'Legal Personhood for Artificial Intelligences' (1991) 70 *North Carolina Law Review* 1231.

³⁶¹ Giovanni Sartor, 'Cognitive Automata and the Law: Electronic Contracting and the Intentionality of Software Agents' (2009) 17 *Artificial Intelligence and Law*.

³⁶² Ugo Pagallo, *The Laws of Robots*, vol 10 (Springer 2013).

just denied *de jure* status of persons, but they were persons *de facto*. And corporations, even though they are not persons *de facto*, are persons *de jure*, but act through human beings with full capacity for legal actions. The arguments for personification of software agents mixes all these notions. The question asked is often not ‘are they worthy recognition as persons?’, but: ‘since the artificial agents do things that people do, so maybe they should be persons?’. Artificial agents seem to meet some standards of capacity for legal actions, but the debates slip into consideration under the label of legal personality (legal capacity). No one claims: ‘they are worthy of being persons, just like children or companies, so let us make them persons and then ascribe guardians who will perform legal actions in the SAs’ name’, the claim is exactly the opposite: they can do it for themselves.

The trouble with the arguments for personification of software agents is that they confuse the two abovementioned issues: scholars seldom claim that SAs are worthy of personification, but rather concentrate on the fact that they seem to share some characteristics that law connects with the full capacity for legal actions, being a secondary feature to the legal personality. Thirdly, while arguing for or against personification of SAs, one should bare in mind the difference between human beings (factual entities) and the concept of person in law (abstract objects) and not confuse features of the former with characteristics of the latter, when comparing them to the features of SAs. Finally, fourthly, I would stress the importance of the distinction between a *homo iuridicus civilis*, a model actor assumed by private law and the meta-concept of the subject of law, presupposed by the law at its very foundation.

In light of these observations, one can easily see that software agents cannot be equated with human beings by the law. This is not because they are not ‘intelligent’ or ‘self-conscious’, but because they are just completely different. They might be much more intelligent in some senses (the speed of computation, the speed of taking actions, ability to work through enormous amounts of data) and much less intelligent other senses (inability to interpret law, inability to take moral decisions etc.). A new concept is needed. A concept to denote entities that are not human, but perform actions traditionally undertaken by humans, actions that law *assumes* are performed by humans.

On the normative level, all this should be taken into account in the case of potential regulation of the virtual property phenomenon – laws to be obeyed by artificial agent will need to take a different form – algorithmic, not based on natural language – than those created for humans.

4.2.3. Spaces

In this section, a solution to the puzzle of a ‘platform’/’service’ will be proposed. I want to argue that one should distinguish the ‘service’ aspect of the online platforms, i.e. the actions performed by the providers (sustaining the servers, storing data, updating the software, linking the users with each other etc.) from the ‘spatial’ aspect, i.e. the ‘place’, the ‘space’, that comes about as a result of these actions. In other words, when users, within terms of service, receive a license to ‘use/access’ the service, what exactly do they obtain?

The problem of space is not really explicitly touched upon by either private law legislation, nor private law textbooks. The assumptions law holds about space are an example of assumptions so deeply engrained in the ways humans perceive the world that they are not even made explicit. Immanuel Kant argued that ‘space’, together with ‘time’, are categories that humans necessarily use when perceiving reality and that we are unable to even think of the world without time and space³⁶³. So the law does not even bother to mention them – they are given. If at all, private law courses would speak about ‘validity of law in space’, i.e. mention that the Polish Civil Code applies in Poland, German in Germany, etc. The spaces in which the private law relations take place, however, are seldom touched upon. However, two of the assumptions should be brought to the fore, to later understand how digitalization has fundamentally altered them.

There are two kinds of spaces that are relevant for the private law relations. Firstly, jurisdictions. The world, currently divided into countries, does not know many ‘legal vacuums’, i.e. places where a law of a particular jurisdiction would not apply by default (this is the case also with ships and with planes). ‘What is a jurisdiction?’ is a question that I would like to avoid here – a whole separate chapter could be devoted to it – but three things should be mentioned.

Firstly, a sovereign claiming power over a particular jurisdiction posits laws governing it. In the era of constitutionalism, these laws need to meet certain material and procedural standards – they cannot violate human rights, they must be promulgated, they cannot lead to outrageously unjust outcomes, etc. They are usually enacted in a pre-defined process, and in democracies by democratically elected and controlled bodies. Should the public be unhappy about the state of law, they have means to change who is in power, and put pressure on the legislature to modify the laws. Whether this actually always works well in practice is a separate issue – but we all act as if it did, and at least try to make it work that way.

Secondly, the sovereign has the power to apply – interpret and adjudicate upon – the laws of a given jurisdiction. Given the doctrine of the separation of powers, the institutions that do this are usually not the same ones who would posit the laws. These judgments and interpretations also need

³⁶³ George Lakoff and Mark Johnson, *Metaphors We Live by* (University of Chicago Press 1980).

to meet certain procedural and substantive standards, and are subject to regular or extraordinary review by higher courts.

Thirdly, the sovereign claims monopoly on the enforcement of rules and decisions, predominantly concerning coercion and the use of physical force within the spaces where the rules apply. This means, for example, that if someone steals my bike, and I go to court and the court decides that I should be given the bike back, I cannot take it away from the thief – I need to rely on a bailiff, accompanied by police. Even more – assuming that someone steals a car that belongs to police, i.e. the armed hand of the state – policeman cannot simply enter that person's premises and take it back, using force if necessary – they need a warrant from the court, etc. And how the force can be used, who can use it, in what way, in what circumstances and under what conditions, is also specified by the law.

The other type of spaces, or rather a sub-type of a certain jurisdiction, is that of private spaces – land and buildings owned by persons. Owners of spaces, obviously within the limits of the law, can exclude others from entering them and using them. This is the consequence of their proprietary right. An owner of a shopping mall might, for example, state that people are not allowed to enter with ice cream on their hands. If a person starts arguing, the owner has a right to refuse entrance. However, should such person enter a mall, and only later be spotted by the owner, the owner retains a right to ask them to leave, but does not have a right to physically remove them. That is because, as mentioned in the paragraph above, the use of force by private persons is highly restricted. The ice cream example might sound not very grave, but consider any graver one – unless there is a direct threat to property, health, or life, the owner will have to call police to remove someone from his or her space.

This means that in countless private spaces – shops, restaurants, hotels, private parks, swimming pools, theaters, etc. – owners have a right to stipulate rules of behavior, and, based on those rules, include and exclude others. However, they can only do that on the *competence level* – they might ask people to leave, even strongly – but they cannot forcefully remove them. Nor can they, in that regard, do anything with the property of these persons. Imagine a situation where a private park has a rule 'no vehicles in the park, and that includes baby strollers'. And imagine I enter a private park with a stroller. The owner of the park might be very unhappy about it but he or she cannot take it away from me and destroy it, or throw it out of the park.

All this changes in the case of cyber spaces, which users of online platforms are given licenses to use/access. The important distinction to make here is between 'the cyberspace' – a term

used sometimes to speak of the totality of the internet and everything going on there³⁶⁴ - and many ‘cyberspaces’ – ‘places’ like Facebook, Twitter, *Clash of Clans*. Now, obviously these ‘spaces’ are not places in the traditional sense. But, at the same time, they are not just ‘mediums’ for communication³⁶⁵, as a telephone or, nowadays, Skype are. Actions happen there. Objects exist *there*. People are ‘present’ there.

In one way, I must admit, such a statement gets close to the trap of ‘metaphorism’ explained in Chapter 3. One could say: ‘we do not have a better word for that, so we call that a cyberspace’. And such criticism is largely valid. One could try to escape the ‘metaphor problem’ by using a less meaning-loaded term, like a ‘platform’. This is what I do here. However, if cyberspaces are a subclass of platforms, then the obvious question is: what is a platform? The infinite recourse to a more general term void of definition seems inevitable. The way to avoid the recourse is to admit that there is something we still do not have a word for, and try to say as many things about it that are true and relevant from the legal perspective. In this sense, a ‘cyberspace’ would be a platform emerging as a result of the provider’s actions to keep its existence, allowing users to get into relations with one another, also over the virtual objects, which persists as long as the provider keeps sustaining it.

If possession is a factual relation between a person and an object, ‘presence’ is a factual relation between a person and a space. If am in Italy, or I am in my friend’s apartment, I am physically present in a given jurisdiction and a private space, respectively. Just as in the case of possession, law sometimes protects presence regardless of a title. If I enter some jurisdiction illegally, their citizens cannot just physically throw me out – this needs to take place in accordance with substantive and procedural rules, and be conducted by persons who have competence to do so. Similarly in private spaces – an owner might want someone to leave, but is not allowed to use physical force to remove the person – he or she must call the police to do that. However, just as with possession, property law (and immigration law for that matter) is concerned with legality of presence.

If online platforms are ‘cyberspaces’, then the factual relation of someone ‘being’ in such a space is ‘digital presence’. As has been elaborated in the previous sections, the ‘owners’ of these spaces have much more power over them than the owners of physical spaces. They can decide whom to let in, and whom not to; but can do it using not only permissions and prohibitions (social norms), but also factual possibility and impossibility (in this sense ‘code’ is similar to

³⁶⁴ In this sense, for example: Chris Reed, *Making Laws for Cyberspace* (Oxford University Press 2012).

³⁶⁵ As argued in: Lessig (n 42).

‘architecture’, where an owner of a private garden could build a wall around it and place guards at each entrance, who would open the door only having established that someone might be let in).

One of the modes of determining who is allowed to be ‘present’ in a cyberspace is a requirement for users to ‘register’/‘sign up’, i.e. create an account, which they will be able to use to ‘log in’ to the space. This account – which, as we have seen, serves more functions, and for that reason can be treated as a separate object of legal relations – is a form of pass, a key, allowing one’s digital presence in a given cyber space. If an owner of a cyberspace judges someone’s presence there undesirable, unlike an owner of a tangible space, he or she has both ability and a right to cease that presence. This would take place by deleting/blocking the user’s account, blocking access from a given IP address, etc.

An exercise of the factual ability to mingle with someone else’s digital possession or digital presence is what I call ‘digital force’. But to understand this, one needs to first see the rules governing different types of spaces, and relations occurring there.

4.2.4. Rules

On the most general level, according to the structure of reality assumed by law, private law relations are regulated by two types of rules: on the one hand, man-made social rules, which include law, morality³⁶⁶, customs, etiquette, etc., and, on the other hand, by the natural laws of physics, chemistry, biology, etc. The former are made by humans (even if without an explicit intention and organically), meaning that they can be changed. They result in prescription of behavior – saying what should and should not be done. However, they can be infringed.

Natural laws, on the hand, are the opposite. They are not human-made and, from our perspective, they are necessary. They cannot be changed. Humanity might discover them, study them, understand them, and learn how to master them and make use of them – but there is nothing we can do about gravity being there, or water boiling at 100 degrees Celsius, or life needing oxygen to produce energy. Moreover, these laws not only cannot be changed, but they cannot be *infringed*. Unlike, for example, in the case of prohibition of murder, which can easily be infringed if someone decides to bear the consequences, natural laws are unbreakable. They result in possibility or impossibility of action. We might create rockets, ships or planes, or scuba-diving costumes but this does not *change* the fact that gravity is there or that people need oxygen to live.

³⁶⁶ This is not to say that morality is only a social construct, i.e. that there is no natural law, no objective standards of good and evil etc. However, even if so, which the author of this dissertation actually believes is the case, they are later ‘transposed’ into cultural standards of behavior by humans. In this sense, they exist as an intersubjective set of social rules, even if their ultimate source and actual substance are independent of humans.

The law does not spend much time talking about the latter. Apart from general rules and principles, regarding, for example, lack of responsibility for *force majeure* or prohibition of requiring what is impossible, the law rather *presupposes* the natural laws. One could say that law is interested only in allowing or disallowing actions within the sphere of what is possible. If you think of it, people reading each other's minds, or using x-ray vision, or walking through walls, might be pretty undesirable actions from the societal point of view but law does not outlaw them because they are obviously impossible.

As mentioned above in Chapter three, law is by no means the only social normative system regulating the behavior of humans. But what it shares with all the other systems is that it can be *infringed* upon.

This all changes when the concept of regulation by the 'code' gets introduced. Discussed several times throughout this thesis already, and properly theorized in the literature, code, as the 'fourth modality of regulation'³⁶⁷, a part of the 'regulatory environment'³⁶⁸, makes up an important part of the background of the virtual property phenomenon. One thing that should be mentioned in its context here is the fact that the 'code' – the 'architecture' of the cyberspaces in which the virtual property phenomenon occurs – might be used to communicate some social decisions as well. Primarily, the 'rules of the game'. As explained in chapter 1, the rules 'encoded' in the game might sometimes be the normative reason rendering a certain action lawful or unlawful. Similarly to rules in sports, where hurting another person might be lawful because the rules say so, in the virtual property phenomenon, taking someone's virtual items might be lawful, *if it is possible*. Hence, the question of provider's freedom in *modifying* these rules, or making them explicit in writing, will belong to the regulatory puzzle.

The concept that has not been properly theorized, however, is that of digital force. If physical force is a way of affecting physical possession and physical presence of others, digital force is a way of affecting digital possession and digital presence of others. The use of physical force – who is allowed to exercise it against persons and property, under what circumstances and in what way – is strongly controlled by the law and the state. According to Weber, monopolizing the use of force is one of the constitutive characteristics of the modern state³⁶⁹. The use of digital force, on the other hand, at least the use of digital force by the platform owners within these spaces, is not regulated at all. Again, the primary problem is not that it is not regulated. The primary problem is

³⁶⁷ Lessig (n 1).

³⁶⁸ Brownsword, 'The Shaping of Our on-Line Worlds' (n 249).

³⁶⁹ Max Weber and John Dreijmanis, *Max Weber's Complete Writings on Academic and Political Vocations* (Algora Pub 2008).

that the phenomenon is *unnoticed* by the law. And the ambition of this section was to bring it into the light.

‘Digital force’ is often used to enforce the ‘rules’ stipulated in the terms of service, unilaterally drafted by the service providers. As I have argued elsewhere³⁷⁰, even though it seems natural to classify the terms of service as contracts, they are not necessarily so. This is because, as the qualitative study of these documents shows, the providers are often under no obligation to either perform the service, or to perform it in any concrete way. They much more resemble the ‘rules and regulations’ that owners of private spaces would create for them. Moreover, the lists of prohibited behavior are, first of all, not exhaustive, and second of all, do not serve as any *limitation* on the side of the providers’ use of digital force. Most companies explicitly reserve a right to modify objects and delete accounts of users for any reason or no reason.

Let me consider the connection between rules, spaces and ‘digital force’ in the next subsection – devoted to relations.

4.2.5. Relations³⁷¹

One of the foundational distinctions in private law is between vertical (public) and horizontal (private) relations. This distinction, regarding factual and normative inequality, is fundamental to the structure of reality as assumed by private law. And, I would claim, is a key to understanding one of the deepest features of the transformation that occurred due to the process of digitalization.

Whether a relation is vertical or horizontal depends on the parties’ equality or inequality towards one another. A vertical relationship occurs when one party remains in a power position towards the other, while a horizontal relation occurs when the parties’ positions are equal. These are, obviously, ideal types and the social practice will know of more nuanced situations, but defining the ideal types is a necessary first step. There are two types of inequality and equality, and as a result two types of verticality and horizontality; the first depending on competences and the second depending on factual power. There is a normative (in)equality and a factual (in)equality.

The parties would be normatively unequal if one of them had a competence to unilaterally administer the rules governing the relationship and the rights being its substance. ‘Administer’ here means creating or modifying the rules, as well as adjudicating based on them or enforcing them. In such a vertical relation, the party having the competence to unilaterally administer the rules would be in a power position towards the other. Examples here, for the moment just from the domain of

³⁷⁰ Pałka (n 116).

³⁷¹ Parts of this section have been published in: *ibid.*

law, encompass a policeman giving someone a ticket, a tax officer issuing a decision, a judge deciding a case, but also a parliament changing a civil code or a city council enacting local laws.

Normative equality, on the other hand, is a situation labeled as a horizontal relation and occurs when none of the parties has a competence to unilaterally administer the rules governing it. Examples here are situations of contract, tort, property and inheritance, i.e. the actions regulated by the branches of law that used to be, traditionally, labeled private law. Note the difference, introduced in the section about spaces, between exercising a right and executing the right. Clearly, one could argue that in cases of tort law, or *negotiorum gestio*, or property, it is one party that unilaterally decides on the substance of the relationship via her actions (giving rise to rights and obligations). However, horizontality is not defined based on this basis, but rather on administering the rules governing the relationship. In a horizontal normative (here: legal) relation parties cannot change the rules of property law, tort law or inheritance law, nor can they execute a right that they wish to exercise. They need legislatures and courts to do that, respectively. And both legislatures and courts remain in a vertical relation towards the parties to a horizontal relation, which is the reason why procedural law, even civil procedural law, has traditionally been qualified as public law³⁷².

Normative (in)equality should be distinguished from factual (in)equality. Arguably, the classic legal scholarship³⁷³ of the beginnings of the 19th century would take a position according to which normative equality is sufficient to achieve factual equality. In other words, the first assumed the second. However, as history has shown, this is not the case. The reactions to factual inequality occurring within legally horizontal relations were the two major ‘corrections’ of private law: labor law and consumer law.

The parties would be factually unequal if due to any extra-legal reasons one of them has a higher chance of influencing the content of the relation (content, not the rules governing it) that is being established between them. Labor law and consumer law know of numerous examples: necessity caused by a life situation of the worker would lead him or her to accept low wages and poor working conditions; information asymmetry, imbalance in bargaining power and weaker economic position would lead consumers to accept contracts placing them in a clearly disadvantageous position. Hence, limitations on the freedom of contract, *ius cogens* norms, pre-contractual information duties, more rights for workers and consumers, health and safety regulations, and product safety law, etc. The idea, in short, was that modifying legal equality, by

³⁷² Note that according to this view, the law that governs (establishes and gives substance to) horizontal (private) relations is the private law, while the law that governs vertical (public) relations is the public law. Not the other way round, as would be tempting to claim. In consequence, a relation is not private because it is regulated by private law, but because the relation gets established as a private one, the law that regulates it is private law.

³⁷³ Understood as in: Kennedy (n 246).

essentially creating legal inequality where the factually weaker party is legally stronger, would lead to overall equality of the relations.

Normative horizontality and verticality occurs not only in law but essentially in any social system of rules. Consider an example of sports. In a professional football game, players remain in a horizontal ‘game-rules’ relation towards one another (none of them can change them or enforce them), while they remain in a vertical ‘game-rules’ relation towards the referee, who can decide on fouls, yellow and red cards, penalties, etc. Similarly, in religious situations, if one person lies to another, he or she commits a sin in a horizontal relation towards that person, while he or she remains in a vertical relation towards the priest who can absolve him or her from that sin. Students remain in horizontal ‘school-rules’ relations towards one another, while they remain in a vertical relation towards the teacher or a principal. However, all of these are examples of normative (in)equality, in which there is no need to use force – it is enough to rely on sheer competence.

Should one look through is lens at cyberspaces, where the virtual property phenomenon occurs, one will see that even though a relation between a provider and a user is *de lege* a private one, it is *de facto* a vertical one, but the verticality is different in structure from the examples given above. The verticality is not factual, but normative, even though it is not the law that posits it as such. Since service providers have an ability and a right to unilaterally write, interpret and change the terms of service, codes of conduct, and the ‘code’, and to use ‘digital force’ to enforce decisions based on the first two, they look very much like the state in a jurisdiction, not the owner of a private space. They *have* a right to affect digital possession and presence. This is the new type of inequality here.

The regulatory problem will be: does the law need to step in to remedy it?

4.3. A New General Conceptual Framework

With all the knowledge from the previous two sections, we are now able to shed some light on the conceptual puzzle of the background of the virtual property phenomenon. In this section I present a new general conceptual framework created to speak about social relations in the digital age.

Private law governs relations between legally equal persons, relations concerning some objects. These objects might be **material** (tangible things, movable or immovable), **immaterial** (legally constructed – rights, company shares, etc.; and not legally constructed – literary works, inventions, databases, etc.), or **digital**, including digital copies of copyrighted works, cryptocurrencies and objects within online services, like files one uploads to the cloud, or virtual items, or posts on social media etc. Despite the fundamental difference between digitality and immateriality, law would currently place them within the same category. But we have seen that a

new category is needed. Within the new category, the distinction between primary and secondary mode of existence is necessary. Regarding the entities that exist in a secondary sense, any property right on them would involve a positive obligation within the negative dimension of a property right – i.e. an obligation to keep sustaining the service.

The persons – subjects to the relations – can be fully capacitated **natural persons** (sane and adult humans), natural persons lacking full capacity (particularly minors), for whom others might act. Minors – **children** – often display much better knowledge and understanding of digital phenomena than their guardians. On the other hand, there are **legal persons** – companies – who are the service providers, represented by their bodies, i.e. other fully capacitated natural persons. However, everyone mentioned can also act through **artificial agents** – robots, bots, software agents – which from the legal perspective are currently *transparent* – i.e. law sees them only as objects, but not as subjects, of legal relations. However, given their social role in the digitalized economy, as well as fundamental differences between them and humans, we have seen that a new category is needed. This stems from the fact that, should the law consider regulating actions of the artificial agents, the ‘rules’ guiding their behavior would necessarily need to be incorporated into the agents’ ‘code’. For robots, there is no difference between ‘law’, ‘social norms’ and ‘code’. The former two need to take the form of the latter.

The relations necessarily take place within some spaces – **jurisdictions**, and within them **private spaces**. The law-making, law-interpreting and law-enforcing power is reserved for the state. Owners of private spaces are allowed to exclude others from enjoying them, as long as they do not infringe the law. They have a right to exclude others, but no competence to use force to execute their rights. However, there are also **digital spaces** – **online platforms** – over which owners enjoy essentially unlimited legal and factual power. All the relations concerning virtual property take place within these spaces.

Law is not the only system of rules that governs the behavior of the individuals. There are other normative systems, socially constructed – **social norms**, religion, morality, customs, etiquette, etc. – stipulating what should and what should not be done, as well as non-normative systems, predominantly **the laws of nature**, determining what is possible and what is impossible to do. However, in the digital society, there is also **code** – man made, though resulting in possibility or impossibility of action. Many rules regarding what is allowed and what is not allowed in the context of virtual property are communicated through what the code renders possible. Legal scholarship has extensively theorized this subject, but from the point of view of law, code is not yet treated as rules.

There relations can be **vertical** or **horizontal**. In vertical relations, the state, or another party to whom the state has delegated its powers, has *competence* to administer the rules – create new

ones, change the existing ones, interpret them, adjudicate based on them, and enforce the judgments using physical force, if necessary. In horizontal relations, none of the parties have the competence to administer the rules. However, with the emergence of code as a modality of regulations, parties which are legally equal – service providers in relation to the users – enjoy unlimited factual power. They not only have a right to change the code, but also a right to stipulate contractual rules, and enforce them using the ‘digital force’. There is a new type of factual inequality, unaccounted for by law.

With this understanding, we can now move to the core of the puzzle – the question concerning virtual items, and the relations of which they can be objects.

Chapter 5: Virtual Items as Potential Objects of Property Rights: Coining the Concept

The purpose of this chapter is to solve the theoretical puzzle at the core of the virtual property phenomenon. My ambition is to propose a concept of a virtual item that can be useful in legal considerations. I argue that before any regulatory questions regarding the phenomenon can be asked, one needs to understand in detail what are the actual, and potential, socio-technical relations that have virtual items as their objects. And this chapter aims at providing this understanding.

The chapter consists of two larger parts. Firstly, the idea of property is introduced. The argument is that since property is foundational to private law as we know it, using it as a *tool* to analyze features of objects of relations will provide one with an understanding that is important in legal considerations. A distinction between an idea of property and its particularizations is introduced. I argue that what exactly a property right on a particular type of entity means, what are the ‘sticks in a bundle’, depends first and foremost on the features of a particular object, and only later on the normative socio-political decisions on whether to grant such rights or not, and what should be their limitations. Having proposed an argument for that claim, the chapter proposes a three-step method to analyze the objects of social relations, useful in establishing what the features crucial in property considerations are. Secondly, a rough typology of virtual items is introduced, and later the method is applied in order to coin a sound concept of a virtual item. Finally, two smaller sections are devoted to accounts in online services understood as objects of relations, and to the claim that even though property might be a useful tool to conceptualize virtual items, and to later propose some goals, it probably would not be the most useful means to achieve these goals.

5.1. On the Idea of Property

The idea of property is as old as the Western civilization. Should one look on the top of ‘*the three hills on which the Western civilization stands*’, to use the metaphor of Theodor Heuss³⁷⁴, i.e. the Capitol (symbolizing Roman Law), the Acropolis (symbolizing Greek philosophy) and the Golgotha (symbolizing the Judeo-Christian faith and heritage), one shall find the idea of property firmly situated on each one of them. Property was one of the fundamental concepts in Roman law³⁷⁵, and a concept highly debated by Plato in ‘*The Republic*’ and Aristotle in ‘*Politics*’. Ownership of land played a crucial role in God’s Covenant with Abraham (Genesis 17:8)³⁷⁶. The

³⁷⁴ Theodor Heuss, *Reden an die Jugend*. (R Wunderlich 1956).

³⁷⁵ Mousourakis (n 321).

³⁷⁶ These remarks closely follow my earlier work, published in: Pałka (n 241).

realization of that idea differed across the ages, both concerning what could be treated as property and who could hold it, the forms (for centuries based on a feudal model), and was many times contested (and, in many ways, still is). As a result, the idea carries an enormous baggage of meaning and associations with it. However, as I want to argue, the core idea of property as ‘this is mine, so stay away’ remained relatively stable. It is its realizations, or its justifications, and so the conceptions and the concepts, not the idea itself, that kept changing. However, before making an argument to support that claim, I would like to start by making a few conceptual distinctions. When trying to digest such huge a concept without chewing on its first, one risks something going wrong (as, which we have seen it in the literature review section, actually has).

5.1.1. True and False Distinctions

I would like to highlight four distinctions: between the legal and non-legal meaning of property, between constitutional and private law property rights, between a property right itself and its objects, and between property rules and liability rules; and briefly question one distinction often made in the literature – between the *in rem* approach and ‘bundle of rights’ approach, which, in my opinion, is rather misplaced and obscures more than illuminates if taken too dogmatically.

Firstly, the distinction between the legal and non-legal meaning of property. A concept so deeply engrained in the culture is necessarily used and discussed in different discourses, both academic and lay. Each discourse endows the concept with specific meaning. When economists speak of property, they have something else in mind than lawyers. So do philosophers and anthropologists. And so do regular citizens in their discussions of life, culture and politics. When a citizen wandering through a city center encounters a contemporary art installation that he neither understands nor likes, and shouts ‘look what the government is doing with *my* money’, he obviously means something else than activists chanting ‘*my* body, *my* right’. When a friend who published recipes on her blog, only to realize that someone else has printed them in a book, asks me ‘what do I do about that person’s misuse of *my property*?’ means something else than a friend who just remembered that he kept the only digital copy of his master’s thesis on a Dropbox account that got closed because he did not log in for four years, and complains that ‘they cannot do that, I *own* that file!’. This is because, as has been argued already, many concepts get used loosely as a way to capture some intuitions. And one thing to be remembered is that legal scholars, just like everyone else, have their political and philosophical opinions, their private life, and are also participants in numerous other discourses, hence it might happen that they use the term in a non-technical way. Having said this, I want to emphasize that when I speak of the concept of property, or the idea of property (distinction coming soon), I have the *legal* meaning in mind.

Secondly, within the legal discourse, the distinction between a right *to* private property³⁷⁷ (which is a domain of human rights and constitutional law) and a property right *in* some objects (which is a domain of property law, or private law). The former resides on a higher level than the latter. One could say that the latter, i.e. the property law of each state, is a fulfillment of a state's positive obligation, enshrined in constitutions and international human rights treaties, a concretization of the higher-level legal ought³⁷⁸. This distinction is important both on the conceptual level – it is clearly different to say: 'I have a right to have property rights' and 'I own this notebook' – and on the normative level. Normative theories arguing 'for property' sometimes are about the former, sometimes about the latter. It would be a mistake, however, to apply the former in order to figure out how the latter should be organized (which many participants in the debate have done – 'players should have a right to sell their accounts, because John Locke said that one owns the fruit of their labor'³⁷⁹).

Thirdly, within private (property) law, the distinction between an *object* of a property right and the property *right itself*. In the first sense, a house, a car, a bill of lading or an artistic work are one's 'property'³⁸⁰. On the other hand, 'property' means a type of a *right* (or a bundle of rights, to be discussed soon), effective *erga omnes*, with the positive dimension (a right to use and alienate) and the negative dimension (a right to exclude others from enjoying the object). In this thesis the term 'object of property' (or simply 'object') is used when referring to the former; the term 'property right,' to the latter. The book (an object) lying on my desk is clearly something different than the fact that if I lose it, I will have to pay the EUI library its worth, or buy them a new one (because the library has a right to it). This, as we have seen in the literature review section, has been confusing more than once to legal scholars. A distinction that seems clear when speaking of tangible objects, got really mixed up when the objects of inquiry were virtual items, which many claimed do not exist in the first place.

Fourthly, there is a somewhat technical distinction between property rules and liability rules, originating from law and economics. This distinction, proposed by Calabresi and Douglas³⁸¹, already presupposes a property right over an object, but is concerned with remedies for torts. To put

³⁷⁷ Discussed, for example, by: Jeremy Waldron, *The Right to Private Property* (Clarendon Press; Oxford University Press 1988).

³⁷⁸ Zaradkiewicz Kamil, *Instytucjonalizacja Wolności Majątkowej. Koncepcja Prawa Podstawowego Własności I Jej Urzeczywistnienie W Prawie Prywatnym. [Institutionalization of Economic Freedom. The Conception of a Fundamental Right to Private Property and Its Realization in Private Law]* (Biuro Trybunału Konstytucyjnego [The Secretariat of the Polish Constitutional Court] 2013).

³⁷⁹ Lastowka and Hunter (n 8); Steven J Horowitz, 'Competing Lockean Claims to Virtual Property Note' (2006) 20 *Harvard Journal of Law & Technology* 443.

³⁸⁰ In this sense when Michael Bridge discusses 'types of property', when speaking of chattels, choses in possession, choses in action etc. See: Bridge (n 324).

³⁸¹ Guido Calabresi and A Melamed Douglas, 'Property Rules, Liability Rules, and Inalienability: One View of the Cathedral' (1972) 85 *Harvard Law Review* 40.

it in the frame of virtual property: assuming I own the gems in *Clash of Clans* that I bought for \$5 dollars, and Supercell deletes them, and somebody (be it a court, or anything else with authority to solve the dispute) concludes that Supercell violated my rights and should amend the wrongdoing, should Supercell be (is Supercell) supposed to give me the gems back, or pay me back the money that they were worth? This is a distinction that comes in handy when pondering the remedies for property rights' violation, should one conclude that they better be granted.

On the other hand, there is the somehow unfortunate distinction between an *in rem* approach to property rights and a 'bundle of rights' approach. Particularly in the Anglophone sphere of the common law systems, the proponents of the 'bundle of rights' doctrine have criticized the *in rem* approach, which sees property as one's right to and over a thing, as too doctrinal, and missing out the social-relational aspect. Property rights, they would say, are about *relations between persons*, and not about one's relation to a thing³⁸². Moreover, there is no such thing as 'one property right', they would say, but there is a whole 'bundle' of rights – to sell, to lease, to destroy etc. I am not entirely sure how exactly property law was taught in the US before this critique emerged – this could be verified by studying the textbooks from one hundred years ago, and it could be true that these claims, rather obvious to a continental lawyer, were not vocalized back then – though this is not of particular importance here. What matters is that, the positive claims of the proponents of the 'bundle' theory are *obviously* true – property *is* a one-word name for several particular rights on the same time, and these rights *do* give substance to the relations between persons, since only when there are other persons can property law make any sense. However, the negative claim that the 'things' (objects) do not play any role, neither follows from their observation, nor is correct. For what exactly the sticks in the bundle will be is determined primarily by the *features* of the object. The relations governed by property law are *about the objects*, and what can be done with and to these objects (so what is possible) matters before any normative assessment of such actions, either evaluative or prescriptive, can even be conducted. Let me demonstrate this with two examples.

Consider copyright, one of the most robust particularizations of the idea of property in contemporary society. Protecting literary and artistic works, it usually gives the authors (the right-holders) an exclusive right to make copies, to distribute copies, to make derivative works, to translate, to adapt, to broadcast, to communicate to the public etc. This means that the authors are *allowed* to do that, and everybody else is *not allowed* to do that without the authors' permission. If I translate an article from an academic journal, print it and start selling it to my friends, I violate the

³⁸² The critique summarized, and subsequently criticized, in: Henry E Smith, 'Property as the Law of Things Symposium: The New Private Law' (2011) 125 Harvard Law Review 1691.

author's right³⁸³ to translate, to make copies and to distribute. There are different sticks and there are relations between people, granted. But where do these sticks come from? They are there, because, first and foremost, *it is possible* to undertake these actions upon literary and artistic works.

Consider a different example, far less known to the general public – plant variety rights. Established by Regulation 2100/94³⁸⁴, which created a property rights system for plant varieties in the European Union (Communities, at the time). A 'breeder' who discovers/creates a new, distinct, stable and uniform 'plant variety' can be granted an industrial property right on it. This right, among others, gives him or her an exclusive right to reproduce, condition for the purpose of propagation, export from the Union, import from the Union, and stock for the purposes of reproduction or propagation³⁸⁵. An interesting phenomenon of the so-called 'seed piracy' has emerged, when farmers would buy tomato seeds, grow tomatoes, and instead of selling all of them, would keep some in order to extract the seeds and plant them again. Without paying the companies, who hold the plant variety rights, a license fee. By doing so, they violate the breeder's right to condition for purposes of propagation, to stock and to reproduce.

Copyright does not protect authors from third parties conditioning their works for the purpose of propagation. Plant variety rights do not protect breeders from third parties broadcasting their plant varieties. Neither does ownership protect owners of tangible things from third parties translating their things into a different language. Copyright does not give authors a right to use their works up to the moment of destruction. Why? Because these types of actions cannot be undertaken on these types of objects. What would it even mean to broadcast a plant, or to use up a poem, or to translate a bicycle into another language?

The point is: what exactly the sticks in the bundle are, is a function of what can be done to and with the object of a particular property right. Clearly, property rights are nowadays never unlimited, so what exactly the rights of all parties to the property relation will be, is also a matter to be discussed and legislated for. The limitations can be created. But also these limitations stem directly from the actions that can be undertaken on an object, and which of these actions society considers unfit for an exclusive right.

That is why, to my mind, the *distinction* between *in rem* and 'bundle of rights' theories of property rights is obscuring more than illuminating – it is not a proper distinction to start with. The remainder of this chapter will be dedicated to the features of different types of objects of social relations. But this does not mean that I side with the *in rem* old people, and oppose the 'bundle of rights' doctrine. For those are objects of *relations*, already governed, or not yet governed, by law.

³⁸³ Or rather publisher's, given the scandalous practice of this day's publishing houses...

³⁸⁴ Council Regulation (EC) No 2100/94 of 27 July 1994 on Community plant variety rights

³⁸⁵ *Ibid.*

Those are not two different doctrines, those are not even two sides of the same coin, they are on the same side of a coin, one just must stop looking only at the profile of George Washington and read what is written next to it.

Knowing all this, if one studies different types of property regimes – ownership, copyright, trademark, patent, plant variety, domain names system, etc. – one will see that, regardless of the sticks, regardless of limitations, regardless of modes of acquiring etc. – the *idea* of property is always the same. And the idea is that an owner can do with the object whatever he or she wishes – use (up) and alienate (that is the *positive* dimension) – while at the same time exclude everyone else from enjoying the object. Once again, this is not the exact substance of any actual property right nowadays, this is *the idea* that later gets particularized through the features of an object, and limited through different political and societal considerations. For example, a right to exclude is not a necessary component of a property *right* – these are some systems, like Scandinavian land law, where this stick is almost completely missing³⁸⁶ – but it is a necessary component of the idea of property.

How exactly does this particularization take place will be explained in the following subsection.

5.1.2. The Three Step-Method: Particularization of the Idea by the Features of an Object³⁸⁷

Coming back to the distinction introduced in Chapter 3, between an actual object of social relations and the concept of that object in law, one can see that it is possible to study both from the point of view of property relations. It is possible to study what features the law ascribes to literary works, or tangible things, or choses in possession, by reading the legal material (so to reconstruct a concept); it also possible to examine a thing (an entity) itself by asking questions about what could be done to and with it (to construct a new concept).

The latter endeavor makes not that much sense in the areas where property systems are well-established – the law already well accounts for its objects. However, when it comes to entities that *de facto* are objects of social relations, but are not regulated by property law, and one would like to ask the question about property in them, i.e. exactly what this thesis is doing, it is a handy method to use. When asking: ‘should there be property in personal data?’, ‘should there be property in cryptocurrencies?’, or: ‘should there be property in virtual items?’ what one has to establish first is: what would that even mean?

³⁸⁶ Alexander and Peñalver (n 150).

³⁸⁷ This section closely follows my earlier work, published in: Pałka (n 241).

The method I propose in this thesis is to conduct a thought experiment, and to assume that an unlimited exclusive property right would be granted, and then see stick-by-stick, and step-by-step, what such a right, from a substantive and a procedural point of view, would mean. This is the way to create a *concept of an object* that can later be used in normative, evaluative and prescriptive, debates about whether to grant a property right, or whether to leave the sphere unregulated, or whether to regulate it in some other way than by granting property rights.

The method consists of three steps: 1) terminological clarifications; 2) features-of-an-object-lenses; and 3) ‘means-of-enforcement-backwards’ analysis.

5.1.2.1. Terminological clear-up

The first task is to clear up the concepts and the terminology. When one uses a term ‘X’, what does one mean? What exactly are the objects denoted by the term? Many of the problems signaled in Chapter 2, and more generally many problems in law and new technologies scholarship, originate from scholars talking past each other, ascribing different meanings to the same term and then assuming they are discussing the same issue. To be precise: I do not claim that one should start with a definition of a concept; such a definition will rather be a final product of the whole three-step exercise. What I claim is that one should just be as clear as possible about what one means when using a term. One should answer the ‘what is X?’ question in the delineative sense, as explained in Chapter 3.

The tool of terminological clarity serves two functions: communicative and analytical. Communicative function is important for the quality of academic discourses. Scholars might (and will) disagree, but they must understand what exactly they are disagreeing about for any progress to be made. However, the latter function is more important here. When one consciously asks oneself ‘what do I mean by an ‘X’ term’, in other words: ‘what could be the referents and which one do I choose?’, one shall see the whole range of potential referents, the whole set of ontologically different objects that beg explanation. Consider an example.

When speaking of property in domain names, does a ‘domain name’ mean ‘a string of symbols’, e.g. <https://przemyslaw.technology>, or does it mean ‘a possibility to make one’s website available when using a particular string of symbols as an address’? This could be compared to telephone numbers, or email addresses. A string of symbols is an abstract object, arguably immaterial, while the latter is an effect of a whole institutional and infrastructural framework in place, arguably a digital object with a secondary mode of existence (as clarified in the previous chapter). Why would that matter? Assuming one means the former, when a domain provider stops providing a service and the address is unusable, there is no breach of property right, as long as no

one else is using the string of symbols. However, if one means the latter, lack of action on the side of the domain names manager would already constitute an infringement of the property right. Or, to consider another example, when one speaks about ‘information’ (pondering, for example, property rights in personal data), does one mean ‘knowledge about a set of facts’ or ‘fixation of that knowledge’ or a ‘digital form’? Property in each of those different types of objects would mean a completely different social ordering. This needs to be cleared up.

This is fundamental when considering property rights in virtual items. As will be argued in section 5.2.3. below, virtual items *are* many things on the same time – entries in databases, pieces of software, visual works, functions and possibilities within a service, to a certain extant services themselves – but not none of these things, or even all these things taken together, *are* virtual items.

5.1.2.2. Features-of-an-Object-Lenses

Having explained what one means by a term, one can study the features of an object denoted by the term. These should be legally relevant features, and legally relevant features are those which matter for the substance of a potential legal dispute, when one questions the (potential) owner’s right to do something with an object, or when the owner aims to exclude someone else from doing something to/with the object, or when the owner claims that someone’s action upon the object should be deemed unlawful. How to determine these features?

When one studies a particular type of object (e.g. personal data or a virtual item), I propose asking a series of questions regarding the way in which it exists. The questions are grouped in three categories. The first group concerns the ‘extreme’ situations of (un)being, asking how did an entity come into being, how does it continue to be, and how could it cease to be? The second group concerns the ‘potential’ conducts when having an entity as an object, aiming at providing a clear picture of what could be a potential right, and what actions would it be protecting him or her from. The third group is a legal synthesis of the previous two, an intellectual exercise, trying to imagine the fullest possible negative and positive rights. The answers to these questions give the researcher ‘the top of the scale’ from which, based on normative considerations, potential legislators could go down while specifying the substance of a right.

I summarize this in the table below:

	Type of entity	
1a	How did it come into being?	
1b	How does it continue to be?	
1b₁	Is anyone's action required?	
1b₂	Is anyone's recognition (agreement) required?	
1c	How could it cease to be?	
2a	What could be done with the entity?	
2b	What could be done to the entity?	
3a	What would be the fullest possible positive right?	
3b	What would be the fullest possible negative right?	

Table 5 The 'Features-of-an-object' tool

Note that these questions are themselves research questions that require a proper method to be applied when answering them. Sometimes this method will be an intellectual exercise, sometimes (especially with digital objects) it will require an empirical study of the phenomena under analysis and/or consulting sources of technical nature (e.g. understanding the technology behind bitcoin or virtual items or mobile apps must come before this exercise can be conducted.)

The result of this analysis serves as a basis for the *substantive* law considerations. However, the success of an attempt to order reality through the system of private rights depends on a well-crafted system of *formal* guarantees of remedies and procedures, of dispute settlement and of enforcement.

There is a dialectical relation between substantive law and enforcement; the latter should enable exercising the former, but the former should take into account the limitations of the latter. To give an example: if one's right to one's image has been breached, e.g. by creation of a 'meme' that went viral on the internet, it might sound like a good idea to grant a right to have all those unauthorized copies deleted. Copies can be deleted, granted. But assuming that thousands of people 'sharing' them refuse to comply, could it be enforced? What are the costs of such enforcement? What would it look like?

This is the role of the third tool.

5.1.2.3. The ‘Means-of-Enforcement-Backwards’

The third tool, being a secondary one to the analysis performed using the previous one, is yet another intellectual exercise, trying to simulate the enforcement of the fullest potential property right, going ‘backwards’, starting with enforcement, and then going ‘back’ to dispute settlement and law-making. It, again, consists of a series of questions. Assuming the fullest potential right has been granted and breached, how would it be enforced if a third party fails to comply with the order? Where could the order come from? Based on what rules? Coming from where/whom? The role of this tool is to guarantee the usability of the concept stemming up from the application of the previous one.

Take an example of a simple *in rem* action enforcement. If I steal Carl’s bike and refuse to give it back, Carl can sue me in a court of law. The court will issue a judgment obliging me to give it back. If I refuse, Carl will ask the court to issue an enforcement order, and if I still refuse to give the bike back, finally a bailiff will come with police and physically take it away from me, if necessary, using physical force.

Now consider a similar situation within an online app like *Clash of Clans*, or a ‘virtual world’, like *Second Life* or *World of Warcraft*. Assuming Carl has a property right over his virtual bike, as many scholars mentioned in the second chapter claim he should, meaning: he can use it and exclude others from using it, including also *in rem* vindication claims (so property, not liability rules apply); and assuming I borrow it from him and refuse to give back; how would that be enforced? There is no way that a public agent can do so by physical *force*. Everything happens within the digital environment, a third party’s service. The ‘digital force’ is necessary. But that is the force factually monopolized by the platform owner. The service provider must be involved in enforcement. But what if he or she refuses to cooperate? For the right to make any sense, the service provider would need to be legally obliged to take part in the enforcement procedure. This costs money. Who should pay it?

If one further considers the questions of the origin of the decision (a court? What if a dispute is worth 200 euros, but parties are in Italy, the USA and Peru?) as well as the legal basis of the decision (international treaty about virtual items?), one might conclude that substantially sound property rights makes no sense in the real world, given the limitations of formal rules, limitations caused by the features of an object itself. Another solution, such as legally obliging service providers to create a private dispute settlement system, might need to be pondered.

A potential right like the one elaborated above (an inoperable one) can only be considered if one does not have a full picture of the type of an object under consideration. In other words, when one uses the wrong concept. Coming back to the analysis in previous sections and Chapter three:

the considerations above allow us to define a type of object in a way that takes into account the fact that such a concept will need to serve as an inferential node in legal reasoning. These findings must, therefore, be made explicit before any normative proposition (political, judicial or scholarly) can be made.

Let us then, with the tool in hand, take a closer look at the virtual items.

5.2. What Would ‘Property’ Mean Here? The Concept of a Virtual Item

Just as there are many types of tangible things – movables (bikes) and immovables (land), consumables (panini) and non-consumables (paper clips), objects useful due to their intrinsic features (screwdrivers) and carriers of social and/or metaphysical entities (coins, company shares, books) – there are many types of virtual items. There are pokéballs in *Pokémon Go*, which are one-use items that do something, virtual cards in *Hearthstone* which can be used many times and do not wear off, hats for birds in *Angry Birds 2*, which can be used as many times as one wants, but *do not do* anything apart from looking cool, resources like gold in *Clash of Clans*, which can be earned in a game and used to buy other items, and resources like gems, which can be used in a game, but must be purchased. The purpose of this section is to provide a typology of virtual items, serving as a general frame to talk about them. I want to argue that, despite the obvious differences, these items share common characteristics with each other that allow a researcher to speak about them using one, meaningful legal concept.

However, from the puzzles signaled in Chapter 1, one particular distinction is crucial, and that is the one between virtual items *within* the game, and the game accounts – entities existing on a higher level (arguably, virtual items are stored on the account), which, however, can also be objects of private law relations (accounts can be sold, bought, stolen or deleted). That is why, I would argue, two concepts are necessary: one for virtual items and one for game accounts. I will first analyze the former by providing a typology here and then proposing a concept using the three-step method; and later move to the analysis of accounts, in the same manner.

5.2.2. Typology of Virtual Items

In this subsection, I want to propose six distinctions between the types of virtual items, distinctions relevant from the point of view of private law.

Firstly, one could distinguish consumable and non-consumable items. This is a distinction that Apple proposes on their website for app developers³⁸⁸. Consumable items are those that can be

³⁸⁸ See: <https://developer.apple.com/in-app-purchase/> last accessed 17th October 2017.

used once, or a fixed number of times, and then they ‘disappear’. Examples of such items could be troops in *Clash of Clans* (once disposed, they are gone), spells and power-ups in *Angry Birds* or pokéballs and raid tickets in *Pokémon Go*. Also, though with arguably a different way of ‘consuming’ them, one could mention virtual resources here – gold, powder and gems. On the other hand, there are non-consumable items, i.e. items that ‘persist’ on one’s account despite being used. Examples here are the structures built in *Clash of Clans*, hats for bird in *Angry Birds*, Pokémon that one caught in *Pokémon Go* or virtual cards in *Hearthstone*.

Secondly, one could distinguish between functional items (which bring about some effect within the game) and aesthetic items (which do not perform any in-game function, though might be important for players for visual reasons). The first category would encompass both troops, structures and resources in *Clash of Clans*, both Pokémon and pokéballs in *Pokémon Go*, cards in *Hearthstone*, etc. When these items are concerned, what matters is what they do. Hence, should an intervention on the side of developer occur, from the property point of view, what would matter would be changing the functionality of the items, directly (a particular card now is more/less powerful) or indirectly (in-game prices go up, hence the virtual gold is now worth less). One could argue that, if a developer released an update changing the graphics of the game and so, for example, an icon for gems was changed, that would not gravely modify the objects. The aesthetic objects, on the other hand, which were quite important, particularly in so-called ‘virtual worlds’ like *Second Life* but can also be found across all the case studies (backs of cards in *Hearthstone*, hats for birds in *Angry Birds*), are important precisely because of how they look. Hence, should a provider change the code of the game in a way that suddenly makes some objects look different, given that their purpose was to look in a particular way, this is something that should be kept in mind when theorizing potential ways of infringing a potential property right (see below).

Thirdly, and this distinction is crucial when looking at horizontal relations, one could distinguish between transferable and non-transferable items. The whole phenomenon of accidental secondary markets³⁸⁹ in which people suddenly selling items to each other, when they were supposed to just give them to each other based on game-play, occurred due to the fact that some items could have been transferred in-game. Some of the proposals on how to combat the so-called ‘real money trading’ was for the developers to change the code in a way that makes giving items to each other impossible. However, as has been argued in Chapter 1, this functionality is often very important for the socializing part of the games. Transferable items are those which, according to the mechanics of the game, can be sent to another player. Examples would be troops in *Clash of Clans*, gifts in *Angry Birds 2*, and many types of objects in so-called virtual worlds like *World of Warcraft*

³⁸⁹ Stephens (n 131); Heeks (n 95).

or *Second Life*. On the other hand, there are objects that cannot be transferred – cards in *Hearthstone* or Pokémon in *Pokémon Go*. Interestingly, these two well exemplify the fact that whether an item is transferable or not is an absolutely contingent decision of the developer – they very easily *could* be transferable, as Pokémon and trading cards (as their name suggest) have been in the previous versions of the game. This distinction matters when pondering the substance of the positive dimension of a potential property right over virtual items – i.e. whether players should have a right to sell them to others or not. Obviously, this question does not arise in the case of non-transferrable items.

Fourthly, there are exchangeable items (resources) and non-exchangeable items. The former can be used to ‘buy’ something else within the in-game economy (or be exchanged back to resources, like cards in *Hearthstone*), while the latter remain what they are. This distinction matters in the debates about ‘virtual currencies’, where some people would decide to store some of their wealth in the in-game, or in-service, resources. Note that exchangeable items might be transferable or non-transferable, one characteristic is independent from another, though arguably they would have much more ‘real-world’ value if they were also transferable.

Fifthly, one could distinguish items that can be ‘earned’ within the game, by simply playing it well/long enough, items that can only be purchased from the provider, or a mixed type – those that can be earned within the game, but can also be bought from the provider. Arguably, the last type is the most popular one. This distinction matters rather on a macro-level, not of particular items, but a general position of items within a service. If a game does not enable players to buy items from the provider at all, and the only way to obtain them is by playing it, an argument against ‘commodification’ of virtual items, for example in a form of horizontal exchange, would probably be stronger than in the case of platforms that allow users to buy virtual items, though only through the ‘official channels’.

Finally, the distinction between adaptable and non-adaptable items. Particularly within the so called ‘virtual worlds’, but also to a certain degree within many apps existing today, users were able to personalize virtual items to a certain degree, higher or lower. In the case of items which one could have personalized to a visible degree (like houses or clothing in *Second Life*), the question of copyright in the ‘user generated content’ emerged. That is what Molly Stephens meant when saying that copyright, as it stands, might ‘perversely grant rights to the users, not to the providers’³⁹⁰. The questions of copyright in the user-generated content, as fascinating as they are, have been consciously left out of the scope of this thesis, but a general theory like this should at least acknowledge that such a problem might need to be addressed at some point.

³⁹⁰ Stephens (n 131).

Despite the differences between different types of virtual items *within* the services, they have several things in common. Whatever they do, and whatever can be done to them, they exist within the service, and can be to a large extent modified, or even deleted, by the service provider. Hence, they will be analyzed jointly with the reservation, however, that not all features discussed below (like an ability to transfer an item to another user) are features of all the items.

5.2.3. The Method Applied³⁹¹

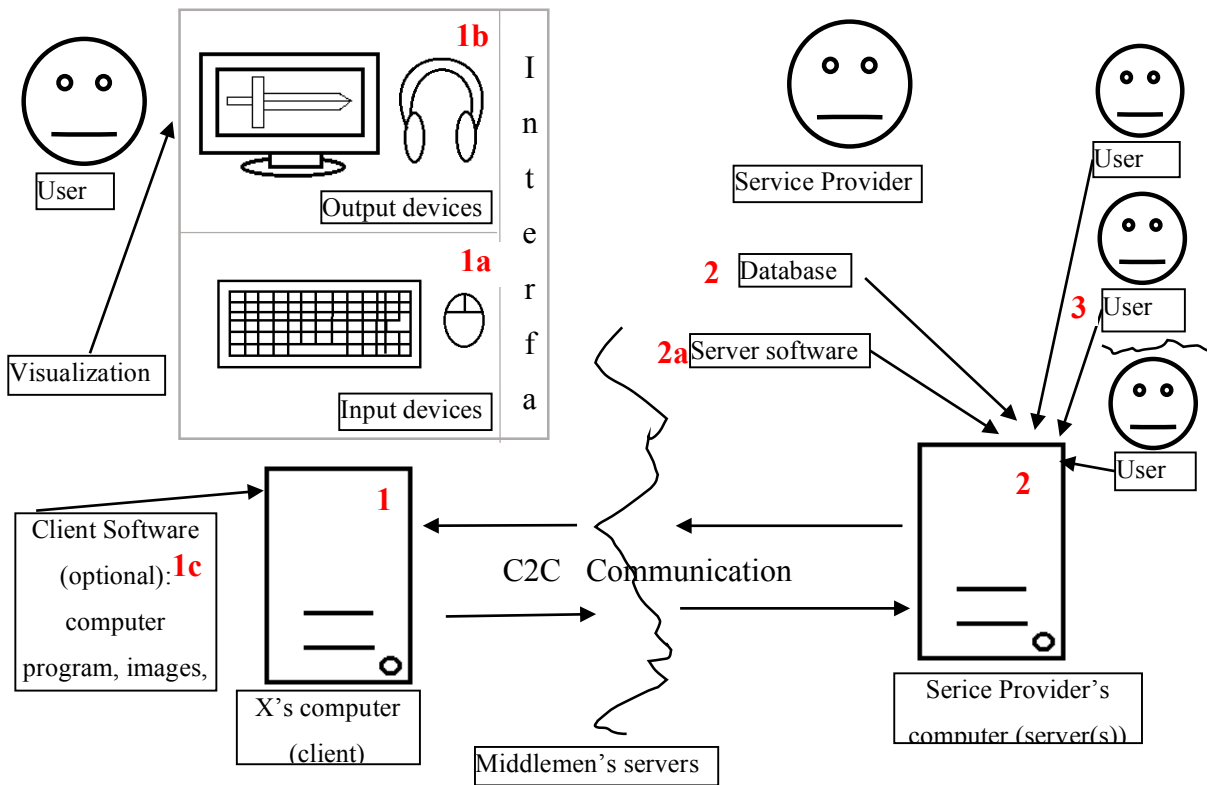
In the previous Chapter, it was argued that virtual items are a subclass of digital objects, characterized by their necessarily secondary mode of existence (they can only exist within an online platform, and as long as the platform exists) and performing an in-service function (what distinguishes them from digital money or cryptocurrencies, which exist as a part of a larger digital infrastructure, but in order to facilitate transfers outside of this infrastructure. As argued above, however, these characteristics are not sufficient to claim that one has developed a meaningful concept. In order to do so, I would now like to apply the method developed in the section above and ask: if a potential unlimited property right were granted to users of virtual items, what would be the stick of the bundle? What are the features of the objects that are important in the particularization of the idea of property?

5.2.3.1. Virtual items, step one: terminological clarity

As discussed in Chapter two, the attempt to analyze ‘virtual property’ by scholars commenced with a terminological and conceptual confusion. Even when one starts by limiting the scope of inquiry to ‘items controlled by the users of ‘virtual worlds’’, as the cited scholars did, or more broadly objects that exist within online services, including both gaming apps and social networks, the question remains: what is a virtual item?

Before one can try to imagine a hypothetical dispute, it is important to explain a ‘normal’, not disputed situation. Let us, for now, consider a hypothetical situation when a user of a gaming service logs into the service and sees a virtual object on her monitor, is able to use it, and to maybe transfer it to someone else. From the inside-service perspective, there is a virtual object – let us use an example of a pokéball in *Pokémon Go*. But what entities are there at the same time? How does this work? In order to make the description clear and more accessible, the illustration below represents all the elements I will be talking about.

³⁹¹ This section closely follows my earlier work, published in: Pałka (n 241).



The vast majority of on-line services in which virtual items occur, operate based on a client-server architecture. This means that certain tasks are performed on the client device (user's device) and some on the server.

In this hypothetical example, let us call the user 'X'. X's computer is an essential element (1). It is necessary to access the platform. It is not important whether the computer belongs to X or not. It also does not matter if X usually uses the same computer or not. What matters is that to access the service where a virtual object is present, X needs one. This computer is called a client.

X communicates with the client computer³⁹² via the interface. The computer later communicates with the server. In this way, the client computer, equipped with user's interface (1b&1b), is a communication tool between X and the service hosted on the server. It enables X to send information and give commands. Whenever she wants to do something, to throw a pokéball, etc., she has to use her input devices, e.g. the screen of a smartphone, or mouse or keyboard if using a PC, to communicate that (1a). On the other hand, the computer displays information to X via the output devices e.g. the monitor (the graphic interface) or speakers (the sound interface) (1b). Sometimes (in the case of apps, or if the service is technically more advanced), it is necessary to install software (a game client, (1c)) on the client computer (for example, to use services like *Clash*

³⁹² The word 'computer' is a general term for different types of devices – including, for example, a smartphone, or a tablet – by now it should be sufficient to accept that it is an electronic device connected to the internet. Also the distinction between input and output devices, in the era of an iPad, might seem outdated – but I believe it is good for the reader to be aware of these different, if not elements, then at least functions.

of Clans). However, this element is not essential. There are services that run within the Internet browser only, without the need for any additional software (e.g. *Farmville*).

On the other side, there is the Service Provider's computer (the server³⁹³) (2). As noted before, this type of solution is called a client-server architecture. Performance of all the actions is functionally divided between the server and the client. The server's (2) role is to communicate with all the other users (3), perform automated actions based on users' commands, via the software (2a) and store the data about the users (2b). Roughly speaking, all the information relevant for users other than X is stored and processed on the server.

All these elements can be listed and divided into several subgroups. They are presented in the table below, where I specify their legal status:

Class	Entity	Right on it
Tangible things	Server	Ownership
	Client computer (with input and output devices)	Ownership
Works	Server software (code)	Copyright
	Database	Copyright/ database right
	Client software (code) (non-essential)	Copyright
Elements of works	A class of an object (visual representation; software)	Copyright
	Particular instance of an object	Copyright
	An entry in a database	-
Visualizations	Visualization (through the interface)	-
Service	Virtual world service (sustaining, monitoring, updating etc.)	Right to access the platform (from user's perspective)

Table 6 Entities necessary for the virtual item's existence

³⁹³ To be precise, there might be numerous computers constituting many cooperating servers. In this simplified model we assume it is one.

The correct ontology of a virtual item needs to provide an account of all these elements. I have not included actors here, just as I have not included ‘obvious’ elements (that the world needs to exist, computer factories, schools, etc.). Now, the important point is that a virtual item is not any of those elements or a sum of them. It supervenes on all of them. However, existence of all these elements might need to be taken into account when proposing a potential property right. And, for purely theoretical reasons, it is also important to understand how the phenomenon looks from the technical perspective (to avoid confusions discussed in Chapter 2).

Let us then agree that the term ‘virtual items’ refers to the class of entities that users ‘digitally possess’ within their accounts in the online gaming platforms, characterized by a secondary mode of existence, and performing in-service functions. In this sense, I do not mean any other digital objects when speaking of ‘virtual items’, nor do I mean the components of the items (I do not reduce them to any of the components, nor do I treat them as a sum of the components).

5.2.3.2. Virtual items, step 2: ‘the mode of existence’

Virtual items come into being when 1) all the necessary elements are in place; 2) the provider makes the service available to users; and 3) a user obtains an item. In other words, the user’s input is also required. Further, they continue to be because the provider keeps providing the service (sustaining the platform). Her constant *action* is necessary.

The questions of how the object could cease to be, as well as questions of what could *happen* or be *done* to an object, are more tricky ones. I provide a separate table to illustrate this, below. Let us consider a situation in which a user of a gaming platform ‘digitally possess’ an item, for example, a Pokémon in *Pokémon Go*, or a rare card in *Hearthstone*. Let us assume that in this particular example, its appearance is also of importance and, for the sake of providing an exhaustive analysis, that it is possible to transfer the ‘digital possession’ to another user. The item’s value then comes from the fact that the user is now more powerful, can perform actions others cannot; has got something that others have not; and can potentially sell it, or give it to a friend. She has spent a lot of time in order to acquire it or purchased it for real money. Both Fairfield and Lastowka and Hunter would say: she should get property right protection. What could that mean?

It might happen that one day X logs into her account and realizes that her rare card or Pokémon ‘is gone’. This could have been caused by the service provider, who could have either ‘taken it away’ from X (deleting an entry in the database), or taken it away from everyone (deleting a certain class in the software). It could also happen that her item now looks different (the visual side of the class was changed or a new class was created for X, so that other users still have the previous version, or additional information was added to X’s databases, making her instance only

look different) or that it has different properties (again class change in three possible variants). It might be that X cannot even log in because the service provider turned off the servers, whether voluntarily or as a consequence of technical problems.

The lack of the item might, however, also have been caused by a third party. Someone might have ‘hacked’ X’s account and taken it away. Or someone might have ‘stolen’ it from X ‘in-game’ (as often happens in the case of resources in *Clash of Clans*). Or X might have lent her cards to someone who did not give it back. Or X might have ‘sold’ it to someone but the buyer did not pay the money. I try to summarize this in the table below.

Who acted	What happened ‘in-game’	What happened ‘outside-game’
Service provider	A virtual item disappears	Single user’s database entry deleted
		The whole class of objects deleted from the software
	A virtual object looks different or has different properties	The whole class of objects altered
		The class ‘split’
	Particular user’s instance altered	
Whole platform disappears	Servers (computers) turned off/ crashed	
Third party	Virtual object disappears	Account hacked – database entry deleted
	Virtual item stolen ‘in-game’	In accordance with game mechanics – database entry deleted and new one made
	Virtual item given away voluntarily (lent or sold)	In accordance with game mechanics and mutual consent – database entry deleted and new one made

Table 7 Actions that can be performed on virtual items

Depending on the features of particular items, there can possibly be more examples but these provide a good overview on what could happen to a virtual item. Claiming that users should be given a property right protection needs to be merged with answering a ‘yes or no’ question to protection from every potential danger. This is a regulatory challenge, but one that can only be tackled when this theoretical map is put forward.

Let us consider the potential fullest possible negative and positive rights. The former, which in other cases means exclusion of other, would in the case of virtual items encompass a positive claim towards a service provider to keep providing the service (because otherwise the object would cease to exist!). The latter would be to use the object as one pleases (within the service mechanics), and to alienate the object (sell, give away, etc.). In light of all this, the summary would look like this:

	Type of entity:	Virtual item
1a	How did it come into being?	All the necessary elements were created, the service provider switched on the service and made it available to the public, and then the user obtained the item within the service.
1b	How does it continue to be?	The service keeps being provided
1b'	Is anyone's action required?	YES
1b''	Is anyone's recognition (agreement) required?	NO
1c	How could it cease to be?	The service stops being provided, A table above
2a	What could be done with an entity?	Whatever the code functionally enables, including sales
2b	What could be done to an entity?	A table above
2c	What could happen to an entity?	A table above
3a	What would be the fullest possible positive right?	To use as one pleases and to alienate (for example, sell)
3b	What would be the fullest possible negative right?	To exclude everyone else, and require the provider to keep providing the service.

Table 8 The method applied to virtual items

Given the secondary mode of existence of virtual items, i.e. the fact that *erga omnes* rights would encompass both horizontal relations with other users or third parties, and the vertical relation with the provider, it also makes sense to analyze what a fullest possible potential property right would be in these two types of relations.

Starting with the vertical ones, i.e. user-provider relations. All the actions on the side of the provider, presented above from the technical point of view, are essentially what I call ‘digital force’ in this dissertation. A fullest potential property right over virtual items would prevent the provider from exercising it in any possible way, that would be the *non facere* obligation. Meaning: items should not be deleted, or modified, without the consent of the user. On the other hand, within the negative dimension, the *positive* obligation to keep sustaining the platform would appear. When the positive dimension is concerned, the users would be allowed to use the item as they wish, including selling them to other people for real money, or act as intermediaries in such transactions, and the provider would have no right to oppose that.

Within the horizontal relations, the users would have a *non facere* claim towards everybody else, protecting them from hacking, or non-performance of contracts (virtual sales, or unreturned items that were simply lent to another user). The question of how exactly the ‘game rules’ embedded in the mechanics would validate taking away items in accordance with these rules would need to be pondered, but in the most extreme case also that would not be allowed. Regarding the positive dimension, users would be allowed to enjoy the items in whatever way they find fit.

However, as argued in the previous section, this substantive right, which might seem sound to some readers (if one user hacks an account of another, or borrows an item and does not return, they should be obliged to give it back, etc.) will need to take into account the procedural constraints stemming from the architecture of the system.

That is the subject of the next section.

5.2.3.3. ‘Virtual property’, step 3: means of enforcement backwards

Let us first examine the procedural constraints regarding the enforcement of a potential property right in horizontal relations. This will be done using the ‘means-of-enforcement-backwards’ tool, as explained in the previous section. The idea, basically, is to assume that everything leading up to a moment in enforcement has happened, and to study what challenges occur on a particular step in order to later loosen the assumptions and examine the chronologically and logically prior steps.

Let us assume that users are granted a property right effective *erga omnes*, what includes protection in the case of torts (someone taking an item from a user not in accordance with the rules of the game) and a title for performance of contracts. And let us assume that someone hacks an

account of a user and takes away their virtual item, or borrows an item from a user and does not return it, or buys an item from a user but, despite having transferred money, does not receive ‘digital possession’. Hence, there is a dispute. Let us assume that the dispute goes to a court and that the court orders that the item is returned (*in rem* execution, a property rule). Let us assume that the thief/non-performer refuses to comply. How would execution look like?

Unlike in the case of tangibles, where force as monopolized by the state can be employed, and unlike in the case of rights and other social objects, where a judgment in itself is sufficient for that object to pass (there is no possession, only the title), in the case of virtual items, the force is ‘digital’ and it can only, for the technical reasons, be deployed by the service provider/platform owner. Hence, if the remedy is indeed an *in rem* action, the involvement of the service provider will be necessary for the execution to take place. Deployment of digital force on the side of the provider is not particularly burdensome – essentially all that needs to be done is some entries to be added and/or removed from the database – but assuming that such disputes, especially in the case of non-performance of contracts, occur more and more often, merely the need to keep an infrastructure, ready to do so, in place would be costly. This cost would either be shifted on the users, or constitute a chilling effect on the development of new service. The options one have here is either to oblige the providers to execute the enforcement orders from the state, or to limit the remedy for monetary execution, which can be done relying on the publicly guaranteed infrastructure of the banking system, as is the case with most disputes nowadays. However, the objection to the latter could be, in the case of services where one is not allowed by the provider to buy items, that such compensation would not be fair to someone who lost something they found very valuable within the game.

All this was based on an assumption that a court issued an order. But what court? Can we really assume that in the case of virtual property disputes? Especially in a transnational context, concerning the disputes that might be ‘too expensive to drop’, but ‘too cheap to pursue’, this could be a very tricky issue. Assume that someone is deprived, by another user, of virtual items worth 500 euros. The user is in Germany, while the cheater is in Peru. 500 euros is way too much not to care about it. But way too little to actually fill such a transnational lawsuit. An option here would be to legally oblige service providers/platform owners to create private systems of disputes settlement. In the end, they have access to the databases, see what happens, and can almost costlessly (in an individual case) conduct such a dispute settlement. However, again, putting such an infrastructure in place would be costly. Moreover, and this is most probably the reason why there are so few virtual property cases in courts, services providers *do* have such systems in place³⁹⁴. Not as a result of any legal obligation, but simply because this is good for business. If users get hacked and lose

³⁹⁴ All the case studies of this dissertation allow users to file complains about having an account hacked etc.

their items and cannot do anything about it, they will likely stop enjoying the game. However, such systems do not protect users from contract non-performance, since the providers oppose such sales in a first place.

Again, this consideration was based on the assumption that a right had been granted and the court could have relied on *law*. However, in a transnational context, who would grant such a right? It is not enough for one country to do so. And it is hard to imagine that an international treaty regarding virtual items will soon be concluded³⁹⁵. This opens yet another huge question to be addressed by those who argue for granting users virtual property rights: *who* would be granting such a right? Again, an option would be industry's self-regulation. But why would the industry do that, since this will only mean more costs and less control over the platforms for them? It seems that this problem could only be addressed as apart of a much wider issue, i.e. regulating the use of 'digital force' and responsibility of platform owners at large (which will be discussed in Chapter 6).

All these considerations shed some light on the consequences of granting users property rights to protect them in horizontal relations. Even if the goals seem noble – torts should not be committed, contracts should be performed – given the procedural constraints, this type of move is very unlikely to achieve them, while creating numerous side effects, like substantial costs on the side of the providers.

Let us now briefly examine the fullest potential property right in vertical relations, i.e. provider-user. The difficulty here is that the party whose involvement is necessary if enforcement, as well as evidence gathering, would also be a party to the private dispute. Hence, forcing them to comply, assuming they do not wish to comply, would necessarily result in punitive damages to be executed by the state. This does not seem like an optimal solution, given the value of the potential disputes. And the same problem as in horizontal relations applies when a venue and the law as the source of a potential right are concerned. An option, again, would be either industry self-regulation or a much wider action on the side of strong international actors, like the US or the EU³⁹⁶. However, one should remember that not that many disputes arise nowadays – mostly because the providers, acting under business incentives, very seldom act in a way that the majority of users would find unjustifiable.

All this, taken together, makes up the concept of a virtual item.

³⁹⁵ Gong (n 204).

³⁹⁶ The phenomenon studied in detail in: Hans-Wolfgang Micklitz and Marise Cremona, *Private Law in the External Relations of the EU* (Oxford University Press 2016).

5.2.3.4. Virtual items – conclusion

The three-step analysis above makes salient all the features necessary to understand what a virtual item is, as an object of private relations. With this in mind, one can attempt to analyze the types of relations that are possible here. I will do so first in the case of vertical relations, and then in the case of horizontal ones.

In user-provider relations, one can see those resembling a contract of sale (an in-app purchase), and those resembling torts (modifying/deleting virtual items by the provider). A contract of an in-app purchase, from a theoretical point of view, is a contract in which a provider enables (promises to enable?) digital possession of a virtual item by a user. One cannot really speak of the ‘transfer’ of digital possession here, given that, as explained in the previous chapter, according to the architecture of the system, the provider retains possession, though arguably in a different way from the user. An important thing to note is that enabling digital possession by the provider does not need to result from a contract – users getting into digital possession of items in-game (‘finding’ pokéballs in pokéstops, or mining resources in *Clash of Clans*) does not necessarily conclude a contract at this point. From the theoretical point of view, what is going on at the moment of contract conclusion, and hence what the contract is about, is at this point clear. The question that remains is a normative one: what should be the legal title of a user and/or provider to the virtual item at hand?

Regarding the ‘tort-like’ actions, i.e. modifying or deleting items, the theoretical challenge seems solved as well. When a provider modifies an item, no matter if the whole class or just a particular instance, they modify the digital object that a user digitally possesses. When they delete them, they deprive users of digital possession. From the user’s point of view, this looks like a tort. From the provider’s point of view, this looks like an exercise of their property right, which they have in the platform and arguably in all the entities existing within it. Again, the question that remains to be solved is a normative one: should there be limitations on the provider’s use of digital force?

In the case of horizontal relations, the same two types could be distinguished. However, the possible actions leading to potential disputes are more nuanced. Here, the contractual relations might include a ‘purchase’ (a promise to transfer possession), but also a lease (if one user just borrows an item to another one). Moreover, many users would act as third parties – online shops, selling and buying virtual items from other users, types of exchanges. Regarding all these actions, two normative questions arise. Firstly, how much freedom should providers (so, in a way, third parties to such transactions) enjoy in opposing these actions, and enforcing their opposition. Secondly, what should be the consequences of a non-performance of contract?

Such ‘tort-like’ actions, on the theoretical level, could be defined as depriving one user, by another user or a third party (a hacker), of digital possession. Such deprivation might be normatively correct (if happening in accordance with the game rules) or incorrect (otherwise). Two normative questions might be asked. Firstly, what should be the remedies for torts? Different possibilities have been discussed above (*in rem* restitution, monetary compensation, etc.). Secondly, what should be the status of game rules to validate deprivation of the possession? Must they be written down somewhere so that parties might explicitly agree to them in advance or is it sufficient that they are embedded in code in a way that a user would clearly understand them?

The answers to the normative questions will depend on a normative theory chosen in the argument. I analyze this briefly in the following chapter. The ambition of the general theory was to make these questions, resulting from the features of the objects under considerations, salient. However, before moving to the normative exercise, there is one more type of digital object to be analyzed – and those are the game accounts.

5.3. Online Accounts as Objects of Social Relations

An account is an entity existing one level higher than particular virtual items. One could say that is a repository of all the virtual items, a proxy for one’s digital presence within a platform, an identification for the purposes of a contract – it seems to be many things on the same time. Or rather, it serves several functions on the same time. But what *is* an account?

Again, it is best to start with what we know. We know what login information is – a user name and a password – those are basically strings of symbols. We know that there is a database on the provider’s servers, storing the login information. The same database links each person having an entry there with other entries, corresponding to virtual items, be it gaming items or one’s information on Facebook or Twitter. It also stores information about user’s preferences, if the platform enables one to specify them. From the user’s point of view, it might feel like ‘cyberspace within a cyberspace’ – one’s own place within the larger context. In this sense, accounts are definitely digital objects, also with secondary means of existence, and also performing in-service functions – but as said above, on one level higher.

I will not get into as much detail as in the case of virtual items in the analysis of accounts, for two reasons. Firstly, they are not a primary object of the analysis of this dissertation – they belong to the background, not to the core of the puzzle. They are analyzed in this chapter simply because this analysis is only possible having introduced the three-step method and looked at the features of the items. Secondly, many features signaled above, especially those regarding the third step, i.e. the procedural constraints, are largely the same.

Again, it makes sense to look at online accounts as objects of, first, vertical and, then, horizontal relations. Regarding the former, an account is primarily what identifies a user from the point of view of the provider, what enables the user to access the service, and where the information about the user is stored. In this sense, an account is often a necessary component in one's use of a platform. However, as we have seen in the case of *Angry Birds*, it is not always necessary – only if one wishes, or a provider decides that one must wish, that the 'progress' one makes is being stored.

The actions that a provider might undertake upon one's account boil down to either modifying its content – removing virtual items – or blocking the account at large. The former are the same as in the case of the relation regarding virtual items, just seen from a different perspective. The latter would be an extreme case of an exercise of the 'digital force' – one that got used in the *Bragg* case, or as we have seen with many *Clash of Clans* users who later wrote a petition to have their accounts restored. Such an action deprives a user *both* of all the virtual items that they had and of their digital presence within a platform. The normative question arising here boils down to discussing whether there should be some limitations on the providers' exercise of digital force, and if yes, what should they be? Should providers be required to only block/delete accounts for reasons firstly enumerated in the terms of service? Should these reasons be required to meet some sort of proportionality test? Again, I will briefly dwell on these questions in the next chapter.

Regarding horizontal relations, again, there are 'sale'-like contractual relations, and tort-like relations, where, however, it is hard to conceive of tort-like actions that would occur in accordance with the game rules. However, on top of the sale-like transactions, as we have seen in Chapter 1, there is a whole variety of 'services' that users might offer to other users, the best example of which is the so-called 'power-levelling', when a user would allow someone else to access their accounts, in order to have that account enriched by their actions. All these types of transactions are usually explicitly prohibited by the terms of service. The normative question then would regard provider's limitations on such prohibitions, on the one hand, and, should there be some, also the provider's role in the exercising property rights by users, who found their rights infringed.

5.4. Property Goals, Property Means

As I hope is clear throughout the thesis, I do not advocate granting property rights on virtual items to anyone. I also do not advocate not granting such rights. The whole point of the exercise presented above was not to strive for a normative solution, but rather to enhance our understanding of the phenomenon. The idea of property, and a question: ‘what would property in virtual items mean?’ was treated as tool to understand the relations concerning virtual property, from the private law perspective. It was, on the one hand, a way of surveying what could be the goals of potential regulation, and on the other, looking at some of the means of achieving these goals.

As I have argued, the relations concerning virtual items are different in substance in the horizontal form than in the vertical form. What other users could do to the items is different from what the providers can do. However, in horizontal relations, the provider always has a role to play, given that the relations take place in their (arguably proprietary) cyberspace. Hence, on the one hand, some normative decisions – on whether users are able/allowed to transfer items, grant other users access to their accounts, use third party software (bots), etc. – will necessarily remain with the providers. The normative question is: how much freedom should providers enjoy in taking these decisions? On the other hand, should users get some entitlements to their items, even in horizontal relations, providers would necessarily have a role to play in fact-gathering, execution and potentially dispute settlement. For this reason, any regulation, be it of vertical or horizontal relations, would need to define the role that the providers are expected to play.

In this sense, given the secondary mode of existence of virtual items and the secondary character of ‘digital possession’, the *tool* of a property right might not be best suited for achieving the goals of property. However, what should be the means, in accordance with the method explained in chapter 3, can only be decided once the goals are clearly defined. And they can only be defined once the normative assessment of the phenomenon is conducted. And such an assessment can only be conducted once the understanding, and the conceptualization, of the phenomenon is complete, at least to a certain degree. Providing this understanding was the purpose of this dissertation up to this point.

Now, it is time to finally try to get normative.

Chapter 6: Getting Normative

This final chapter moves from the theoretical challenges to the regulatory ones and proposes a normative account of the virtual property phenomenon. The ambition of this chapter is not as much to advocate a solution but, rather, to test the conceptual framework developed in the previous chapters. More attention is paid to the evaluation than to the goals, and more to the goals than to the means.

Firstly, different sources of normative theory to be used in the evaluation of reality are surveyed, with special attention paid to the distinction between normativity internal to law (resulting from legal higher-order principles) and external to law (different political, philosophical and economic normative accounts). The choice made in this thesis is to rely on a high-level private law principle, i.e. that when the socio-economic reality gives rise to striking factual inequalities in private relations, this should be balanced on the side of the rights and obligations (as has been done in the case of the two most important ‘corrections’ of private law, i.e. labor law and consumer law). As said above, this is by no means the only possible normative choice, and should, at some later stage, be confronted with other normative accounts.

This threshold leads to a negative evaluation of the situation where the platform owners’ position towards the users is stronger not only as a result of their economic power and unilateral drafting of contracts, but also from the ability and the right to unilaterally interpret the contracts and the codes of conduct, make decisions based on this interpretation, and enforce these decisions using ‘digital force’, which might include deletion of virtual items and blocking of accounts (evaluation of the background). Moving from evaluation to the goals, this strong position, in many ways inevitable given the architecture of the systems, should be balanced by substantive and procedural constraints on the exercise of ‘digital force’. Moving to the means, one could conceive of a third grand ‘correction’ of private law, something that could be labeled ‘internet user protection law’ (or ‘surfer law’, if we are to be a bit less formal). However, one must remember that law is not the only modality of regulation guiding the conduct of providers, and so depending on what precisely is the goal (providers not abusing their power vs. providers having no right to abuse their power), it might be sufficient to rely on market forces (as is the case currently, when not too many court cases about virtual property arise). Regarding the normative puzzle of the core, the evaluation is the same, and if the proposals were to be implemented, the puzzles on the user-provider rights would be solved simultaneously.

However, the other types of relations, namely user-user and user-third party, and the substances of these relations, remain. Should users be allowed to sell their virtual items? It is argued that in this regard the providers should retain the decision, as long as they are being consistent (if

allowing to trade using their own auction-houses, they should allow third parties to offer auction houses as well). Further applications of the ‘user’, particularly in the case of the giants among online platforms, are outlined.

6.1. Sources of Normative Claims

In chapter three, when analyzing the types of legal scholarly claims, I distinguished two sub-types within the ‘normative’ strand, i.e. the evaluative claims (stating that something should be assessed positively or negatively according to a chosen normative theory) and prescriptive claims (stating what should be done about a situation assessed negatively). As was argued, both types of claims can be made either about law or about reality. When uttering prescriptive claims about reality, one would postulate goals for a potential regulator (who would then survey the whole range of means), while when uttering prescriptive claims about law, one might either be postulating goals (sometimes change of law might be a goal in itself) or proposing means (if, in one’s account, change of law is supposed to bring about a concrete impact on reality). In this section, I want to give more attention to the ‘...according to a given normative theory’ part of the definition. I will first speak of the types of normative theories, paying most attention to their sources, and then present a theory chosen for the normative analysis in this chapter, namely a general principle of European private law, according to which if one party to a certain type of relations is factually much weaker, their position should be balanced with legal empowerment (protection of a weaker party). However, before getting into more detail of that principle let me explain where it stands on the normative landscape.

6.1.1. Types of normative theories

What is a normative theory? Clearly, a ‘normative theory’ is a different type of entity than ‘a theory’: arguably, the latter would be a frame giving someone an insight into the object of inquiry (facts and frameworks to interpret the facts), while the former would be a set of claims about how something should be, including both the definition of what is good (and, *a contrario*, what is bad), and more concrete statements about desirable social solutions.

For example, a feminist normative theory would oppose patriarchy, i.e. implicit and explicit social structures and practices that favor men over women, advocate dismantling the patriarchal structures and strive for gender equality³⁹⁷. Hence, patriarchy is bad, gender equality is good, and

³⁹⁷ There exists a wide variety of feminist normative theories. For an argument that what they all have in common is opposition to patriarchy, see: Patricia Smith, ‘Feminist Jurisprudence’ in Dennis Patterson (ed), *A Companion to Philosophy of Law and Legal Theory* (2nd edn, Wiley-Blackwell 2010).

one should engage in activities diminishing the former and strengthening the latter. To give another example: an economic normative theory would concentrate on efficiency and welfare maximizing³⁹⁸. Hence, efficiency is good, as are the institutions that increase efficiency, welfare maximizing is good, as are the institutions that create correct incentives and guarantees, while inefficiency is bad, as are the institutions and practices leading to inefficient outcomes. Hence, one should study social practices and intuitions from the perspective of efficiency, and strive for strengthening those that increase efficiency, as well as against those that diminish it. Many more example could be given: environmental normative theories would concentrate on environment protection³⁹⁹, critical race theories on racial justice⁴⁰⁰, liberal normative theories on individual autonomy and freedom, socialist theories on combating the class injustices, etc. All the examples take a certain *good* – gender equality, efficiency, environment protection, racial justice, autonomy and freedom, social justice – as their point of reference.

Note that these type of theories can inform a researcher in all five steps of the method proposed in Chapter 3 – serve as a certain sensitivity in description and conceptualization, provide means of evaluation, give direction in proposing the goals, and suggestions regarding the means. Moreover, in an ethically pluralist society, as ours is, all the abovementioned goods deserve at least some consideration, if not protection. Hence, to properly assess a certain phenomenon, a pluralism of opinions, freely exchanged, in a democratic and political process, seems necessary⁴⁰¹. However, as was motioned in in the introduction, there is a difference between politics and political science – the latter belonging to scholars and libraries. And scholars usually rely on a different way to characterize normative theories.

At least within normative legal theory and political philosophy, a starting point for categorizing normative theories is the distinction between deontological theories and consequentialist theories⁴⁰². The latter would assess certain actions, or social and legal institutions, based on their *consequences*, where an action (or an institution) should be assessed positively, if it brings about positive outcomes (and what is a positive outcome is a different question – it might be efficiency, pleasure, social justice etc.). In this sense, if efficiency is good, and someone breaches a

³⁹⁸ Just as with the feminist theories, there exists a wide variety of normative law and economics accounts. For a good overview, see: Nicholas Leonidas Georgakopoulos, *Principles and Methods of Law and Economics : Basic Tools for Normative Reasoning* (First edition, Cambridge University Press 2005).

³⁹⁹ See, for example: Paul W Taylor, *Respect for Nature : A Theory of Environmental Ethics* (Princeton University Press 1986).

⁴⁰⁰ Richard Delgado and Jean Stefancic, *Critical Race Theory : The Cutting Edge* (Third edition, Temple University Press 2013).

⁴⁰¹ See the reconstruction and the critique of the Habermas's concept of 'public sphere': Michael (Associate Professor of Communications) Hofmann, *Habermas's Public Sphere : A Critique* (Fairleigh Dickinson University Press 2017).

⁴⁰² See, for example: Lawrence Solum, 'Legal Theory Lexicon: Welfare, Well-Being, and Happiness', http://lsolum.typepad.com/legaltheory/normative_legal_theory/ last accessed: 17th October 2017.

contract in order to achieve a more efficient social consequence, such a breach of contract should be evaluated positively⁴⁰³. The most popular consequentialist theories nowadays are different variations of utilitarianism, dating back to Jeremy Bentham⁴⁰⁴ and John Stuart Mill, currently widespread in different forms of normative law and economics⁴⁰⁵. Deontological theories, on the other hand, would assess an action (or an institution) based on fixed norms, regardless of an outcome. Usually associated with Kant⁴⁰⁶ and Rawls⁴⁰⁷, these theories would posit certain unshakable principles. For example, if one were to say that keeping one's word (living up to a promise) is a value that must be protected regardless, then a breach of contract, even if efficient, should be assessed negatively. Note that regardless of whether a given theory is consequentialist or deontological in structure, it can evolve around any good enumerated above – one might propose a deontological or a consequentialist feminist theory, race theory, or environmental theory.

Should one compare these categorizations with the distinctions introduced in chapter 3 – between normative claims about law and about reality – one will see that even if a normative theory is deontological with regard to reality (human life should be protected at any cost), it might be consequentialist when analyzing law (does law lead to the protection of the unshakable value?), but does not have to be (some people would say that law protecting certain values should be assessed as good in itself, regardless of whether it actually brings about the desired impact). All these distinctions are important to keep in mind if a normative account of some phenomenon, as this chapter attempts to offer, is to be intellectually rigid. However, a distinction fundamental for this chapter's argument is yet another one.

I would like to draw the reader's attention to the distinction between normative claims (or theories) internal to law and external to law. The latter have their source *outside* the system of norms comprising a given legal system. For example, a Marxist account of a sharing economy functioning in a neoliberal state would be an account based on normativity external to law. So would be the critiques of workers' and women's social position offered in 19th century. So would be the animal rights movement, or normative law and economics, or essentially any normative account based on political philosophy arguments, even if such accounts define goals similarly to a given legal system. The simplest test, though arguably slightly simplistic, would be to look at the references in a given account – if it refers to constitutions, judgments or international treaties to

⁴⁰³ For the discussion of the concept, see: Wenqing Liao, *The Application of the Theory of Efficient Breach in Contract Law: A Comparative Law and Economics Perspective* (Intersentia 2015).

⁴⁰⁴ See: Philip Schofield, *Utility and Democracy the Political Thought of Jeremy Bentham* (Oxford University Press 2006).

⁴⁰⁵ For an overview, see: Robert Cooter and Thomas Ulen, *Law and Economics* (Addison-Wesley 2000).

⁴⁰⁶ Howard (Howard L) Williams, *Kant's Political Philosophy* (Blackwell 1983).

⁴⁰⁷ Sebastiano Maffettone, *Rawls: An Introduction* (Polity 2010).

support the normative claims, then the used theory is internal to law (assuming that it has been faithfully reconstructed) – while if it refers to books on philosophy or any other normative disciplines, it would be external to law.

Normativity of claims internal to law stems from the fact that, on the one hand, law is a normative system – it encompasses a whole range of norms assessing particular actions or situations positively or negatively – and, on the other hand, from the fact that law is hierarchical in nature (or, even if one would dispute such a strong assumption about the nature of a legal system, law at least contains higher and lower level norms – a norm enshrined in a constitution is of a higher level of magnitude than local laws enacted by a municipality). In this sense, a normative claim about reality might be grounded simply in law – one could, seeing a person drinking a beer in a park in Poland, say that this is bad, simply because the law outlaws such behavior (that is the first feature of law). The same normative conclusion could be reached by someone grounding their claim in a theory external to law – drinking alcohol is bad, hence making citizens see that is bad. However, and that is the second mentioned feature of law, one could just as well ground a normative claim about law in the law itself. In this sense, if the Polish parliament abolished property rights, one could say ‘this new law is bad, because a right to private property is enshrined in the Polish constitution’. Just as in the previous example, such a normative conclusion could be reached by someone using a theory external to law – be it normative law and economics (property increases efficiency) or some deontological account, like that of John Locke⁴⁰⁸. However, to use an argument internal to law, one does not necessarily have to ask why the law, as it stands now, protects a given value.

To already respond to an unavoidable criticism, I do not say that this distinction is comprehensive and clear-cut and that each normative account will necessarily be either external or internal to law. On the contrary, I acknowledge that it is not. Such a distinction would be impossible, given that law, existing in a given cultural, political, social and philosophical setting – both influences and is influenced by other normative positions. However, I would defend a claim that it is intellectually possible to offer accounts that are, in the most part, internal or external to a given system.

Higher-level legal principles might be different in kind. They might be constitutional norms (either human rights, or others), obligations stemming from international treaties, or general principles of a given branch of law. It is the last one where I would like to ground the normative theory used in this chapter. Obviously, the strength of each of these will differ. Arguably, a norm enshrined in a constitution creates a positive obligation on the side of a state. If a constitution says

⁴⁰⁸ John Locke and others, *Two Treatises of Government ; And, A Letter Concerning Toleration* (Yale University Press 2003).

that property is protected, the state must protect it. General principles of particular branches of law, on the other hand, serve rather as conceptual tools to understand a system, or arguably as interpretative tools to be used by judges in adjudicating cases, but do not create obligations on the side of the regulator – ‘simply because in all your previous moves you seemed to be acting in a given way, now you must continue’. However, they might provide guidance.

And it is guidance, not activism, that I am interested in.

6.1.2. The Principle of Weaker Party Protection

An important caveat: the weaker party protection principle is derived from the system of European civil law, and in this sense is a type of a descriptive entity (‘this is how the law is’). I take it as a normative threshold to evaluate the reality, and in this sense analyze the virtual property phenomenon from the systemic viewpoint of a legal system. This, in contrary to the conceptual part of the thesis where I argued a revolution is necessary, is rather a conservative account. However, I would like to state once again – I am not saying that anything I evaluate negatively is objectively bad, nor am I saying that the regulator must follow the guidance offered here. I am simply saying – if we want to be consistent, and take a general principle existing in our legal systems, this how we should evaluate the virtual property phenomenon, and this is what we could, and should (according to this principle), do about it.

Norbert Reich distinguished ‘the principle of protection of the weaker party’ as one of seven general principles in EU civil (private) law, next to the principles of ‘framed’ autonomy, of non-discrimination, of effectiveness, of balancing, of proportionality and of good faith and prohibition of abuse of rights, the last one still emergent rather than firmly established⁴⁰⁹. He derived it from the legislation and the case law of the Court, giving special attention to labor law⁴¹⁰ and consumer law⁴¹¹. This principle, as mentioned above, is, on the one hand, a tool enabling one to understand the system of EU private law and, on the other, a norm that judges should take into account while adjudicating.

However, this principle, as a general tendency in law reform, can be observed in almost all national legal systems in the past century. As already signaled in chapter 4, whereas classical legal thought of the 19th century seemed to assume that granting parties to private law relations legal equality would be sufficient to achieve the overall equality, 20th century saw the intrusion of the Social⁴¹² into private law legislation, visible mostly in the two major ‘corrections’ of private law,

⁴⁰⁹ Norbert Reich, *General Principles of EU Civil Law* (Intersentia 2014).

⁴¹⁰ *ibid* 41–46.

⁴¹¹ *ibid* 47–55.

⁴¹² The terminology and the argument after: Kennedy (n 246).

i.e. firstly labor law and then consumer law. In short, the idea guiding these two corrections was: if one party has much more power in the factual sphere (so the relation is factually vertical), legal equality is insufficient to achieve the overall equality. Hence, the factually weaker party should be granted more rights or the freedom of contract should be limited to a larger degree than in the ‘standard’ contract law sphere⁴¹³.

In the case of labor law, this boiled down to, among others, minimum wage legislation, maximum amount of hours legislation, minimum notice periods for contract termination, obligatory social security and holidays, etc. (when contractual rights and duties are concerned), paired with a right to strike, a right to unionize, workplace safety regulations, etc. The idea, empirically proven, was that workers were in such a weak economic position, desperately needing to provide for their families, that they would accept (and accepted) degrading working conditions, simply because they had no choice – the employers would put them in ‘take it or leave it’ situation. Hence, since the employees were not in position to bargain, the bargaining over certain key issues has been shifted one level up – to the unions, or to the state. Whether this always worked in practice is another question – as we have seen in Chapter 3, discussing the New York fashion industry – but the idea was there and it was put to use.

In the case of consumer law, the correction regarded many spheres – from pre-contractual information duties and prohibition of unfair commercial practices, to more rights to consumers in the contractual phase, to new types of remedies for non-conformity with the contract, to the unfair terms legislation⁴¹⁴ effectively limiting the freedom of contract on the traders’ side⁴¹⁵, to product safety and liability regulation. Here, the idea was similar: consumers, being the factually weaker party, would accept contracts that put them in a legally weaker position. Especially given that, in most cases, they have no means to actually influence their content. The source of factual inequality was a bit different than in the case of labor law; it stemmed not only from life-situation necessity, but also from less knowledge about the products and the markets, and smaller bargaining power⁴¹⁶. Regardless of the source and the exact character of the inequality, the conclusion was the same: to the factually weaker party should be given a stronger legal position.

Note that, in the case of both corrections, one can see a mix of both deontological and consequentialist reasoning on the level of the normative theory. We protect consumers both for the

⁴¹³ Hans-Wolfgang Micklitz, ‘On the Intellectual History of Freedom of Contract and Regulation’ (2015) 4 Penn State Journal of Law & International Affairs.

⁴¹⁴ See: Hans-Wolfgang Micklitz, ‘Reforming European Unfair Terms Legislation in Consumer Contracts’ (2010) 6 European Review of Contract Law 347 and.; Hans-W Micklitz and Norbert Reich, ‘The Court and Sleeping Beauty: The Revival of the Unfair Contract Terms Directive (UCTD)’ (2014) 51 Common Market Law Review 771.

⁴¹⁵ Micklitz, ‘On the Intellectual History of Freedom of Contract and Regulation’ (n 413).

⁴¹⁶ Hans-Wolfgang Micklitz and others, *European Consumer Law: Second Edition* (Intersentia 2014).

reasons of their dignity, and in order to ensure better functioning of the common market⁴¹⁷. Hence, as long as one stays on the level of systematic analysis of the legal system, it does not necessarily matter what were the reasons informing a particular regulatory choice. Moreover, since the reality to be influenced was to a large degree a legal position of an individual in a social relation, there existed a very close link between changing the law and changing the reality. The link is not automatic, given that for a legal regime to bring about the desired effects, also the system of enforcement needs to be effective (which, arguably, in the online sphere it is not⁴¹⁸), which proves that sometimes one party having no right to undertake a given type of action is insufficient to ensure that they do not do that. Hence, the need to be clear on the level of goals.

To conclude this subsection, the normative theory I want to use to evaluate the virtual property phenomenon, and then to propose goals and means, is the general principle of private law stating that if one party is, for structural reasons, factually weaker than the other, the weaker party should be given more legal protection. This normative theory is internal to the system of private law. It does not impose an obligation on the regulator to actually engage in regulation – it is not a constitutional principle – but it might provide guidance. Hence, what I do in the remainder of this chapter is not to say: ‘we should do this!’, but rather: ‘given that this principle seems to be foundational to our systems of private law, if we take it as a threshold, we should evaluate this and that negatively, strive for these outcomes and maybe use these tools’.

6.2. Getting Normative About the Vertical: Towards User Law

In the previous chapter it has been argued, several times, that the position of users of online platforms, including gaming apps featuring virtual property, is weaker than the position of the providers. In this section I want to demonstrate where precisely their position is weaker, why, according to the chosen normative theory of the weaker party protection, this should be evaluated negatively, and what could and should be done in order to remedy this inequality

6.2.1. The Anatomy of the New Inequality

The new factual inequality in social relations that the phenomenon virtual property gave rise to occurs on top of the ‘standard’ inequality in B2C relations, and one should be distinguished from another. The standard inequality boils down to the fact that service providers/platform owners

⁴¹⁷ Paolisa Nebbia, *Unfair Contract Terms in European Law : A Study in Comparative and EC Law* (Hart 2007).

⁴¹⁸ See: Marco Loos and Joasia Luzak, ‘Wanted: A Bigger Stick. On Unfair Terms in Consumer Contracts with Online Service Providers’ (2016) 39 *Journal of Consumer Policy* 63 and:; Hans-Wolfgang Micklitz, Przemysław Pałka and Ioannis Panagis, ‘Empire Strikes Back. Digital Control of Unfair Terms of Online Services’ [2017] *Journal of Consumer Policy*.

unilaterally draft the terms of service, have much better knowledge of their products than consumers, might engage in aggressive advertising, or not deliver what they promise they will. These problems are already addressed by existing legal norms, and can be explained using the existing legal concepts, respectively those of unfair contractual terms law, information duties regulations, unfair commercial practices regulations and general rules on conformity of products and services with the contract. What is new within this ‘standard’ case is that the terms of service would contain almost no promises about the product – a specification of what exactly is one ‘buying’ when engaging in an in-app purchase transaction is nowhere to be found – but this is not the inequality I want to concentrate on.

What I believe the principle of protection of the weaker party draws our attention to is the phenomenon of ‘digital force’. It is the providers’ ability and, arguably, a right to not only unilaterally draft contractual rules (whether we assume that terms of service are contracts, or rather rules regulating a particular ‘space’ is of lesser importance here – they unilaterally draft them anyhow), but also to unilaterally interpret them, take decisions based on these interpretation, and execute these decisions, i.e. deploy ‘digital force’. In ‘material-social’ relations, these powers were monopolized by the state, i.e. the courts and the police, who would execute them within the substantive and procedural limitations posited by law. In virtual property relations, given that no default rules on ‘digital possession’ and ‘digital presence’ exist, and that digital objects are not treated as property, nor are accounts treated as integral parts of legal subjects, constitutional constraints stemming from a right to private property and a right to bodily integrity do not apply. I am not saying that they should, I am simply pointing out that they do not.

As was analyzed in detail in Chapter 1, service providers, in the terms of service, reserve a right, and have an ability, to modify and/delete virtual items, including the virtual items that users have paid for, for any reason or no reason. This, given that users do not have such an ability, as well as the fact that users face huge factual uncertainty here, should be assessed negatively. If this was a contract of sale, not of in-app purchase, the factual performance boiled down to a transfer of physical possession, and the legal consequence to the transfer of an ownership right, a contractual clause stating ‘and, by the way, we can take your thing back at any point and for no reason, as well as to modify it, and we do not need to give you any refund’ would clearly be invalid. The same would be the case in a contract of license.

Further, as was pointed out in Chapter 1, the providers reserve a right to terminate the accounts of users, if the users violate the rules, or if providers suspect that the rules have been violated, and in most cases also for any reason or no reason. The factual inequality stems not from this provision (this would be the legal inequality) but from the providers’ ability to do this.

Suspension and/or termination of one's account automatically results not only in terminating the 'digital presence' on a platform, but also the 'digital possession' of all the virtual items, including the ones that users have paid for. As explained in chapters 1 and 4, such an action on the side of the provider boils down to mingling with the database, but does not count as a use of force. If an owner of a physical space wanted to remove someone from that space, for whatever reason, he or she would need to rely on the public system of enforcement, since (with some exceptions) private individuals are not allowed to deploy force against one another. This, however, is not the case here. Consequently, since users cannot do this, but also because they face a significant uncertainty, and might as a result lose the virtual items that present value to them, this should be assessed negatively.

In both cases, there are four steps of providers' factual power. Let me analyze them from the last to the first. Providers have an ability and a right to *enforce* the decisions, given their full control of the IT systems. Providers have an ability and a right to *take* the decisions based on a certain interpretation of the rules. Providers have a right and ability to *interpret* the rules. And providers have a right and ability to *write* the rules. Now, since the rules state 'at our discretion, for any reason or no reason', it might seem that distinguishing these steps is futile. However, it is important to notice that a potential reaction could occur on the level of each step, which will be analyzed in the next subsection.

Moreover, everything from interpretation of rules to their execution, as well as the monitoring (facts gathering) can be, and sometimes is, conducted by artificial agents – bots, computer programs – often without human supervision. How many humans would it take to analyze the actions of 100 million daily users? Or supervise such an analysis? Even if only 0.01% of cases would require a human review, that is one hundred thousand people a day. Supercell has 200 employees. Again, service providers have an ability to deploy them, and have a right to deploy them. At the same time, users, even though they could have an ability to do so, have no right to do so, and violating this rule, as any other, would result in one's account being blocked.

All this might seem, again and again, irrelevant, since we are talking about computer games and 'virtual property' worth less than tens, sometimes hundreds, of euros. But an important thing to keep in mind is: exactly the same factual inequality exists on Facebook, Twitter, YouTube, Google, and any other online platform. And the relevance of the relations taking place on these platforms, not only on the monetary level, but also on the level of public debate, access to knowledge and news, and freedom of speech, can no longer be overestimated.

To sum up – the new factual inequality stems from the fact that providers unilaterally draft rules governing their cyberspaces, interpret them, take decisions based on them, and execute these decisions, which might result in deletion of virtual items (or Facebook posts, or YouTube videos, or

tweets), or one's digital presence and all the property within an account, at large. They have an ability to do that, which users do not, and have no constraints on doing so. Hence, the factually weaker party ends up being in a legally weaker position as well. All this should be assessed negatively.

If this is not fine, what would be the ideal (the goal)? And what are the options in realizing these goals?

6.2.2. Where to Go and How to Get There?

One can conceive of at least a few goals that could be postulated.

Firstly, it is possible to imagine that the deployment of 'digital force' by the service providers/platform owners would be limited only to the reasons that are enumerated in the terms of service. Hence when, for example, Supercell writes:

*You agree that you will not, under any circumstances: Use or take part (directly or indirectly) in the use of cheats, exploits, automation software, bots, hacks, mods or any unauthorized third-party software designed to modify or interfere with the Service, any Supercell game or any Supercell game experience (...) Attempt to, or harass, abuse, or harm, or advocate or incite harassment, abuse, or harm of another person, group, including Supercell employees, including Supercell's customer service representatives. Make available through the Service any material or information that infringes any copyright, trademark, patent, trade secret, right of privacy, right of publicity, or other right of any person or entity or impersonates any other person, including without limitation a Supercell employee. (...) Collect or post anyone's private information, including personally identifiable information (whether in text, image or video form), identification documents, or financial information through the Service.*⁴¹⁹

Supercell informs the users that a sanction for violation of these terms will be the blocking of an account (hence, deletion of all the virtual items and termination of one's 'digital presence' on the platform); the provider would have a right to deploy the force *only in these circumstances*. In such a setting, the position of users would be much more certain, since the relation would be clear – as long as I do not infringe the rules, my virtual items are safe. The consequence would be a limitation

⁴¹⁹ Supercell's ToS, section 1.1. *Grant of a Limited License to Use the Service*

on providers' using clauses stating that they can delete items, or block accounts, for any reason, or no reason. Only the reasons enumerated in the contract would justify the use of the 'digital force'.

Secondly, one could imagine that the reasons enumerated in the contract would need to be concrete. The examples cited above were chosen for their relative clarity, but the same section of the Supercell's ToS includes prohibition to:

*Engage in any act that Supercell deems to be in conflict with the spirit or intent of the Service (...) act in a manner that may negatively affect other users' experience when using the Service or playing Supercell's games.*⁴²⁰

Which, as each lawyer will know, can be used to justify the use of force in almost any circumstance. What 'clarity' or 'concreteness' would mean is obviously up for discussion. The paradox of clarity is that terms like 'concrete' or 'specific' are in themselves vague.

Thirdly, one could conceive of some substantive limitations on these rules. It is probably fine that someone harassing another user, or posting explicit content, could have their account blocked. But is making fun of someone for losing match a good reason? This will obviously depend on the character of a service (games created for children might have a different threshold of what is accepted than games played mostly by adults). Similarly, whether users using a nickname instead of a real name would constitute a reason to block their account also will depend on the character of a service (it is probably fine in the case of games, arguably less so in the case of social media, but still up for discussion). However, the point here is: apart from limiting the use of digital force to reasons enumerated *ex ante*, one can imagine also stating what situations *could* be said to constitute such reasons.

Fourthly, users could have an ability to question a decision (a right to appeal), especially a right to review by a human, if the decision were taken and executed by an artificial agent. Since artificial agents' algorithms are not infallible, what is more – they often operate based on probabilistic reasoning (whether you pay me for dragons in *Clash of Clans* cannot be *known* from inside the service) – it is more than likely that every now and then they will make a mistake. Hence, even if the reason for the deployment of 'digital force' was specified in advance, and even if we agree it is a legitimate reason, it might be that in a concrete case there was no reason, just the machine thought there was.

Fifthly, one could conceive of a remedy for users, whereby providers deleting their virtual items/blocking account without a reason, or for a vague reason, would be required to restore them,

⁴²⁰ *ibid.*

or to provide a refund. All this could be paired by other limitations striving to achieve some level of ‘proportionality’ in the use of ‘digital force’ – requirements to provide a warning first, requirement to inform about the reason, etc.

Those could be the goals, if the factual inequality is to be remedied.

Note that I have not yet said much about that law. That is because, as argued several times already, these situations in *reality* could be brought about by a series of different means, and legal regulation is only one of them. All this, in the end, boils down to the question of whether our goal is a legal environment where the providers have an obligation to enumerate clear reasons, not deploy ‘digital force’ in other circumstances, give warnings, explanations and refunds; or whether our goal is simply for them to behave in such a way. If the goal is the latter, then paradoxically, we are not very far from the ideal. For, as the lack of cases and shocking press releases suggests, providers seem not to abuse their factual and legal power position. For business reasons. This would make people upset, and upset people means less money. However, again, this will depend on the character of the services. Market forces might do a good job in spheres with huge competition, as online gaming is, and where stakes are not that high. When competition is non-existent (who are the competitors of Facebook, Twitter and Google again?), and where virtual items are not gems in *Clash of Clans*, but political opinions expressed in online posts and videos, the need to achieve legal certainty might be higher than simply to achieve the responsible behavior of platform owners.

This brings us back to what was the third step in the method proposed in the previous chapter, i.e. the procedural constraints, from law-making to law-enforcement. Clearly, in the case of global phenomena, like that of virtual property, or of online platforms, where the provider and the users are in several different countries, intervention by only one (small) regulator might be insufficient. It is probably cheaper for Supercell, Niantic, Google or Facebook to stop providing services in Poland than to globally start complying with rules creating a need to incur substantial costs and vastly modify the operation of a platform. An action, most probably, would either need to be taken by big players like United States (at the federal level), or the European Union (the regulatory private law of which, as is currently being documented by Hans Micklitz, has tremendous impact on legal systems of third countries⁴²¹). Such an action by big players could be meaningful not only because their markets are just too big to miss out for the providers, but also because, in the globalized world fueled by trade agreements, third countries often (voluntarily or not) adjust their legal systems to the levels of protection offered by the big partners (exemplified by the personal data protection law, or copyright law). Whether one can imagine such an action being taken as a response to the virtual property phenomenon in online gaming is one question, but

⁴²¹ For an overview, see: Micklitz and Cremona (n 396).

whether it will happen on a broader scale, to deal with the unconstrained power of internet giants, and hit gaming apps as collateral, is another.

Regarding enforcement, again, given the costs in individual disputes, it seems that users might have a hard time exercising their rights in case they are breached. However, what could be done is to accompany an individual control by an abstract control, as is the case with unfair contractual terms regulation⁴²². This might include obliging the service providers to allow states, and potentially civil society, to use artificial agents (bots) for tests in the online platforms. It is hard to fight AI without AI. Only that would allow an oversight of whether the providers actually play by the rules they themselves laid down, it there would be such a requirement.

All these observations make up a sketch of foundations for the next possible correction of private law: an online platforms' user protection law, or user law, or surfer law, in short. This would be, similarly to the labor law and the consumer law, an intervention on the side of the lawmaker(s) to balance the factual inequality present in the digital relations. However, the purpose of the exercise of this section was to shine a light on the problem, not to propose a concrete solution. Let us see what the future brings, just let us be ready when it comes.

Note that, up to this point, a property right, as a possible means, has not even been mentioned. That omission was deliberate. Its purpose was to demonstrate that the property goals (users not having their items taken away for no reason, or modified for no reason, or not getting compensation) might be achieved by many more means than by granting them property rights. Such an approach is both easier and cheaper, than going through a process of granting property, only to immediately introduce a set of limitations on that right – 'but obviously the providers might turn off the service when it is no longer profitable; obviously they might change the code to remove bugs; obviously they are allowed to 'possess' the items in some way' etc. As was argued from the beginning, 'property' in 'virtual property' was supposed to capture some intuitions about what is happening, and whether it should be assessed positively or negatively. It was a question to be asked. Not a solution to be given.

However, a few more questions remain. Should users be allowed to sell virtual items to other users? Should they be allowed to demand providers' help in the case of non-performance of such contracts? In short, how to solve the normative puzzles in the horizontal relations? That is the subject matter of the next section.

⁴²² For a detailed explanation, see: Micklitz, Pałka and Panagis (n 418).

6.3. Normative Puzzles in the Horizontal: Stay Consistent⁴²³

The other chunk of intuitions sparking the virtual property debates came from the horizontal relations that users engage in with one another, or with the third parties. These relations have been discussed in detail in the previous chapters, but could be grouped either in the transactions in which ‘digital possession’ of virtual items or an account is transferred, or other transactions, in which some users would perform ‘services’ for others, like power-leveling. These types of actions are prohibited by a large majority of terms of service, and arguments against such prohibitions have been raised.

There is an easy way out of this puzzle, and a more nuanced one. The easy way would be for me to limit myself to the normative principle used as a normative theory in this chapter, and say: such relations are not to be assessed negatively, since there is no factual inequality between the parties. Hence, there is no need for the regulatory to step it.

The more nuanced approach, which I will briefly outline here, is to state that first and foremost, a distinction should be made between the ‘tort-like’ relations, and the contractual relations. When contractual relations are concerned, and so in the terminology of the property law, the positive dimension of an owner to use and alienate an object is in question, the answer will definitely depend on the type of a service in question. One can conceive of situations where prohibiting such actions might seem more than reasonable from the societal point of view (imagine that Donald Trump, without telling anyone, decides to sell his Twitter account), there might be others requiring a more substantive justification as, for example, in the case of *Pokémon Go*, where the identification is fictional by default. Note however, that assessment here is conducted based on other principles than the protection of a weaker party.

Nevertheless, it seems reasonable to leave the providers quite some freedom in deciding on those matters, given that the so-called ‘real money trading’ in accounts and virtual items might indeed drastically change the character of the game and of the platform. Hence, given that these cyberspaces are the property of the providers (or at least all the components on which they supervene are), unless such a prohibition goes against *ius cogens* like anti-discrimination legislation etc., the argument against these types of rules seems weak, and definitely much weaker than the arguments against the limitation of providers’ discretion in the exercise of ‘digital force’.

If the reader would allow me a little rhetorical move to support the claim against limiting providers’ rights to forbid these types of transactions and enforce this prohibition, I would say the following. The society in which we live is ethically plural, and thousands of different interests are at

⁴²³ The argument from ‘consistency’, though with a different substance, namely that providers can decide to ‘commodify’ virtual items within their services fully, or not at all, has been offered in: Balkin, ‘Law and Liberty in Virtual Worlds Institute for Information Law and Policy Symposium’ (n 231).

stake here. We generally assume that people signal their political preferences in the democratic process, and economic preferences through the market behavior. Hence, people voting and spending money are at least approximations of what they want. People do not get to vote on virtual property, but they do get to spend their money and time engaging with it. This means that, if people really want to be able to buy and sell game accounts and virtual items from each other (there would be a demand), and if such a business model would be sustainable, there would be supply. Someone would create these types of games and allow the users, in the terms of service, to do that. No such service exists, to my best knowledge, meaning: either there is no demand (people do not want that, so why would we make them happy against their will?), or such a business model would ruin the provider, so unless getting rid of virtual property and online games is our goal, this move seems of questionable sense. As said, this is a rhetorical move, because obviously there is much more to the explanation of why providers behave the way they do than this. However, unless we really want to turn virtual items into objects of property, which, as was shown above, is inoperable and makes little sense, the argument against providers' freedom in limiting what users are allowed to do with the items within the provider's spaces seem weak.

The argument gets stronger when providers start to allow such transactions but only through the 'official' channels. This was an experiment that Blizzard, the developer of *Hearthstone* and *World of Warcraft*, conducted on another game of theirs, *Diablo III*. At the beginning, the game featured two 'auction houses', where players were allowed to sell items to one another, either for in-game gold, and for real money. The added value of a real auction house was the security of transactions – non-performance was impossible – however, Blizzard would earn money from fees for these transactions, and still police users selling items outside of the official 'auction houses'. This seemed inconsistent, and an abuse of the vertical position, though *de lege lata* problematic rather from the competition, not the private law, point of view. However, the auction houses soon were closed, which Blizzard justified by saying:

The gold and real-money auction houses have provided a convenient and secure system for trading, but it's also become increasingly clear that despite the benefits they provide, they ultimately undermine Diablo's core gameplay. A big part of Diablo is the thrill of battling demons and finding epic loot. While buying epic loot in the auction houses might be more convenient, it doesn't feel anywhere near as heroic as plowing through a pack of fearsome-looking monsters and having

*them drop that one awesome item that seems like it was made for your character.*⁴²⁴

Providers using such language might have been one of the reasons why virtual property scholars ended up doing the same. Anyhow, the point was: that is not what the platform's character was supposed to be, and this is our platform, so we decide.

When 'tort-like' actions are concerned (hacking, or even physical thefts⁴²⁵) it is important to remember that property is absolutely unnecessary to repair the wrong doings. Since the providers keep track of the databases, they might retribute the 'digital possession' to the wronged user, and remove it from the violators (together with blocking their accounts, which would here serve the preventive role) by simply changing the entries in the database. A question of whether they should be obliged to put such infrastructure in place is a valid one, though empirical research shows that many of them (all the owners of case studies presented in this dissertation) do this anyhow, simply as a result of market incentives – keeping users happy is good for business.

Another question here is the status of game mechanics, which embody the rules allowing for users to 'steal' items from one another, as in the case of raiding in *Clash of Clans*. Currently these rules are seldom written down in any form anywhere, and so one might ponder the question of whether providers should be obliged to offer their users a written explanation of such mechanics. However, in most cases, a user will *learn* about them, from the gameplay, much sooner than he or she will get to accumulate any virtual property worth a noticeable amount of money or even time. Lack of court cases, or press releases, where people would complain about not knowing of such mechanics, seem to suggest that, at least for now, the situation can be assessed positively.

6.4. The Lesson to be Learned

As was signaled several times throughout the thesis, the analysis of the virtual property phenomenon as occurs in online gaming platforms was to a certain extent just an exercise, on a neutral ground, aimed at developing a conceptual framework to be used in theorizing the wider phenomena which emerged as a result of digitalization, predominantly the relations occurring in the online platforms of internet giants, like Facebook, Google or Twitter. Previous chapters provided the concepts, this proposed a normative theory.

⁴²⁴ Diablo III Auction House Update FAQ <https://us.battle.net/forums/en/d3/topic/9972208129> last accessed 17th October 2017.

⁴²⁵ As the one in: Lodder (n 7).

The power these platforms enjoy in contemporary society is enormous. The empowerment they can give to certain individuals or social groups, as well as the chilling effects they can cause, the degree of amplification or silencing of ideas they are capable of, is enormous. The power exercised through code, algorithms, artificial agents and ‘digital force’ is currently unbalanced. This power is new in structure, in the sense that never before have private parties enjoyed such capabilities over any spaces, even if only digital ones. At the same time, it is old in structure, almost perfectly mirroring the power that states enjoy over their territories. Hence proposals to hold them accountable, to a certain degree, to constitutional constraints, just like the public bodies⁴²⁶. The questions of public law and private law will at some point meet each other, as they have many times before⁴²⁷. However, in a work like this, I do not want to wonder that far. I was interested in the private sphere.

One question remains: why would we need a third correction of private law, and not simply expand the consumer law? A simple reason: users are not consumers. Not always consumers. Maybe not in the case of online gaming, but in the case of Facebook and Twitter, the most notable users are politicians, academics, newspapers – everyone is there. All businesses are there. We could change the definition of a consumer for that sake. However, then we would get involved in a ‘conceptual stretching’, as explained in Chapter 3. Why would we do that? If what we face is completely new from what we were facing when developing that body of law.

The lesson to be learned is the new sensitivity to be acquired. Whether the evaluation presented in this chapter will be praised or criticized is of a little importance here. Whether the goals proposed are sound is of even lesser importance. Not to mention the means. I have read too many confused normative arguments about virtual property to get defensive about my account. For it was the framework, not the prescription, that I was interested in. However, as discussed in chapter 2, people just seem to get much more excited about proposal to do something, than about cold categorizations. Hence, there is a proposal. I hope that, just as I saw the problem through the proposals of others, this normative account might be of help in making my views, and the results of my doctoral research, more accessible and more interesting.

⁴²⁶ Gunther Teubner and Gareth Norbury, *Constitutional Fragments: Societal Constitutionalism and Globalization* (Oxford University Press 2012).

⁴²⁷ For an in-depth discussion, see: Hans-Wolfgang Micklitz (ed), *Constitutionalization of European Private Law: XXII/2* (Oxford University Press 2014).

Conclusions

During my master studies, I spent one year on the Erasmus exchange in Bergen, Norway. All the international students, myself included, lived in Fantoft, an old and enormous student hostel. The reason for that was economic – Fantoft was not a cheap place to live, but it was the cheapest on the crazily expensive Norwegian housing market. Hence, even though there was *no rule* stating that Norwegians should live in the new and comfortable student hostels, while everyone else should live in Fantoft, the individual behavior was guided by the market, the economic modality of regulation. The architecture of Fantoft was such that everyone had their own little studio, though the kitchens were common – one kitchen for ten people. Since there were no other common spaces, and the studios were quite small and hardly comfortable to receive guests, Erasmus students used to spend a lot of time together, hanging out in these kitchens. Even though there was *no rule* stating that they should, the architecture, the ‘code’ of Fantoft, regulated the individual behavior. It just so happens that when people, coming from different countries and cultures, want to get to know each other, the theme of traditions, language and cuisine tends to be the natural subject of conversations. And since we used to spend a lot of time together, and talked about national dishes a lot, a social norm self-emerged, according to which, every weekend, someone would prepare a dinner for all the fellow kitchen users, a dinner consisting of the typical dishes from one’s homeland. And as a proud Pole, I decided to cook *pierogi*.

I have eaten *pierogi* hundreds of times in my life, and so could call myself a connoisseur. However, being able to tell good *pierogi* from bad *pierogi*, decent *pierogi* from delicious *pierogi*, I still could not call myself an expert, since I have never actually prepared them myself before. I had a passive expertise to evaluate, but not an active skill to deliver something that would be judged highly. The obvious source of knowledge on that matter was grandmas and aunts, on the one hand – so the people whose knowledge and skill, regarding the subject, I respected – and the internet, containing numerous recipes from people I did not know, but which were ranked by a significant number of other people, allowing me to assess their credibility. Unfortunately, the desired composition of the *pierogi* dough differed quite a lot from one expert to another. Everyone agreed on water, salt and flour (though, which flour precisely was already up to debate), but then the ‘secret ingredient’ has been highly contentious. Some advocated for an egg, some for milk, some for butter, some for oil, and usually against the other secret ingredients. Facing a very hard choice, in the end, I decided to add a little bit of each secret ingredient. The dole turned out to be delicious. I could tell, I am a connoisseur after all. However, this was a gamble.

Writing conclusions for a PhD dissertation feels a little bit like cooking *pierogi* for the first time. I have read a lot of conclusions of monographs, scholarly articles, and PhD theses of my

peers, and most of the time I am able to tell a good conclusions section from a bad one. However, I have never written one in my life. The research on how to do it, boiling down to studying the practice of the scholars I respect, and numerous guides on the internet, led to a similar outcome as the research about the *pierogi* dole composition. There seem to be quite a few schools to choose from. On the one hand, there is a widespread view that the author should reiterate the argument. ‘Write what you will write – write it – write what you have written’ is a thesis-composition directive advocated by many, and obeyed by many. It seems the best way to stay clear on one’s claims and argument, and provide a good structure. On the other hand, many scholars find this practice slightly annoying – ‘how many times can one read the same argument over and over again?’ is a sentence I have heard over and over again. During one of the PhD defenses I attended at the EUI, a professor whose judgment I value highly, said to the candidate: ‘I liked the conclusions. They were real *conclusions*, an answer to the question ‘so what are the consequences of my findings?’, not just a summary of the thesis’. The two positions contradict each other to a certain degree. Having given it a lot of thought, I decided to act in the same way as I did while cooking *pierogi* – add a little bit of everything. Knowing that it is a gamble.

The same professor used to distinguish between two types of legal scholarship: projects that finish with less questions than they started with (since some/all get answered), and projects that finish with more questions than they started with (since, upon a closer examination, the subject matter turns out to be way more complex than it seemed). I would not stick to this distinction strongly – it might be that, via answering the initial questions, a researcher comes across new ones. Hence, it is possible that, after an argument is conducted, we both know more than before, and know more about what we do not know. However, I will use this distinction, slightly modified, to express the conclusions of the thesis: to repeat what were the findings, what are the consequences of these findings, and which I think are certain and established (what we know?), and where there is still space for improvement (what we know we might still not know?). To balance out the lengthy introduction, which was written fully according to the first directive mentioned above, here I will be brief.

Firstly, the methodology in law and new technologies scholarship. The object of inquiry of many scholars has shifted from *law* to *socio-technological phenomena seen from the legal perspective*. I consider making that salient to be a contribution. This shift is the case with virtual property, with artificial intelligence, with the Internet of Things, with robotics, with reproductive technology, with genetic modification, etc. Lawyers no longer ask only: ‘how will the law be interpreted in cases involving these phenomena?’, but: ‘what should the law do about them? How should they be regulated?’. The ‘traditional’ legal methods, developed to study norms embedded in

texts, are obviously not fit to answer these types of questions. The method proposed in this thesis: take your lawyerly sensitivity, describe the phenomenon, conceptualize the phenomenon, evaluate the phenomenon (using legal principles, for example, as your normative theory), propose goals, and propose means to achieve these goals; is one possibility, but definitely a broader reflection is needed. I consider the methodological reflection presented in the thesis, together with the proposed Law and Reality approach, an ‘externality-contribution’. Whether it is good or bad, whether it needs to be only particularized, or refined deeply, is up for a debate. However, the fact that a new method is needed, a method for coining new concepts, and not only applying existing ones, a method allowing one to avoid traps stemming from either a belief that the conceptual framework one uses is perfect, or from recklessly assuming that amending law is the only and the best way of influencing reality, such a method will need to be discussed and developed. The need for a new method is water in the private law scholarship dole, the proposed method is a bit of butter.

Secondly, the new general conceptual framework for private law relations. It has been demonstrated that, as a consequence of digitalization, *the structure of the reality that private law aims to govern has transformed*. New types of objects of social relations have emerged: digital objects, some with primary, some with secondary modes of existence. It has been shown that new types of subjects – artificial agents and ‘digital natives’ – are now active participants in these relations. It has been shown that these relations occur in new types of ‘places’ – ‘cyberspaces’; are regulated by new types of rules – terms of service (something between contract and property), ‘rules of the game’, and ‘code’; and given that owners of ‘cyberspaces’ can, using ‘digital force’, affect persons’ digital possession of digital items and persons’ digital presence in cyberspaces, new types of ‘verticality’ of relations exists. All these phenomena are, in principle, of interest to private law; but the existing conceptual framework, relying on the material/immaterial distinction, full of residual categories, coined before the digitalization occurred, renders private law incapable of even talking about these phenomena. I consider making that salient a contribution. Whether the new proposed framework (already used here, as the reader can see, to describe the problem) is *the* solution, whether it should be adopted by the scholarship and the lawmaker, can be up for debate. Whether it is generally sound and just needs to be refined, or whether it needs to be deeply reconstructed, we can discuss. However, it a fact that a new framework is needed. The need for a new framework is the flour in the private law scholarship dole, the proposed framework is a bit of milk.

Thirdly, the new inequality and the potential need to address it. It has been shown that owners of online platforms (providers of services) enjoy *an unprecedented position of power in relations with the users*. They are not only economically stronger, but also have the right and the

ability to create rules governing these spaces, interpret these rules, take decisions based on this interpretation and enforce these decisions, using digital force. I consider making that salient a contribution. Whether the signaled normative proposal – to look at this new inequality from the perspective of the protection of a weaker party principle, and in line with the two major ‘corrections’ of private law, i.e. labor law and consumer law, perform a third correction, a ‘user protection law’ – is accurate, is up for the debate. It might be that, if we apply different normative theories, the evaluation will not be so negative. It might be that different goals are agreed upon. It might be that different means are best suited to achieve them. However, the fact that this new inequality, currently not theorized in the private law scholarship, is there cannot be denied. The need to notice this inequality is the salt in the private law scholarship dole, the proposed normative account is a bit of an egg.

Fourthly, the conceptualization and evaluation of the core of the problem, i.e. the relations having virtual items as their objects, and the normative question: should users be granted property rights on them? *Pierogi* is not just the dole, it is also the filling. I consider the analysis of what it would mean to grant a property right over these items – both on the substantive level, i.e. what would be the sticks in the bundle; and on the procedural level, i.e. what would enforcement of these rights mean – to be a contribution of this thesis. Of this analysis, I am certain. It has been argued that essentially none of the goals that informed the ‘granting of property rights advocacy’ need to be realized through granting of such rights, and that possibly other means, i.e. leaving the whole phenomenon to the market forces or putting constraints on the providers’ exercise of the ‘digital force’, are better suited to achieving these goals. However, this is obviously up for a debate. In an ethically pluralist society, the desired goals might be different. The cost-benefit analysis might end up with different conclusions. The deontological positions might prevail. That we will see. However, after the analysis of this dissertation, I hope, we got the understanding of what exactly a ‘virtual property right’ would mean, in what ways it would be completely new (secondary mode of existence of the objects, hence a positive obligation in the negative dimension of the right), in what ways its enforcement would be a new type of ordering (a necessary involvement of the service providers), and whose interests, and what costs, are at stake here. As signaled from the beginning, my ambition has not been normative. I have cooked the *pierogi*, put them on the table, now everyone is free to choose the spices and eat them.

Twenty-one years after the famous Chicago cyberlaw conference; eleven years after the publication of the second edition of Lessig’s *Code* and the end of the internet-independence

dream⁴²⁸; and one year after an augmented-reality game of *Pokémon Go* made one billion dollars of revenue by selling pokéballs that ‘do not exist’, while the American elections seem to have been decided by filter bubbles and data-driven advertising, facilitated, or not stopped, by the providers of online services, we seem to face more normative questions than we have before. However, it is my hope that now we have a much better understanding of all these phenomena. And if we are to regulate, understanding should always come first.

⁴²⁸ Goldsmith and Wu (n 145).

Bibliography

- Aarnio A, *Essays on the Doctrinal Study of Law* (Springer 2011)
- Ackerman JM, 'An Online Gamer's Manifesto: Recognizing Virtual Property Rights by Replacing End User Licensing Agreements in Virtual Worlds Outstanding Student Articles' (2012) 6 Phoenix Law Review 137
- Akerlof G, 'The Market for "Lemons": Quality Uncertainty and the Market Mechanism' 84 The Quarterly Journal of Economics
- Alexander GS and Peñalver EM, *An Introduction to Property Theory* (Cambridge University Press 2012)
- Alfange DJ, 'Jeremy Bentham and the Codification of Law' (1969) 55 Cornell Law Review 58
- Allen T and Widdison R, 'Can Computers Make Contracts' (1996) 9 Harvard Journal of Law & Technology 25
- Almajid WM, 'Can Electronic Agents Be Granted Legal Personality under Islamic Law? A Conceptual Rethink Is Imperative' (2010) 24 Arab Law Quarterly 393
- Amsalek P and MacCormick N, *Controversies About Law's Ontology* (Edinburgh University Press 1991)
- Andrade F and others, 'Contracting Agents: Legal Personality and Representation' (2007) 15 Artificial Intelligence and Law 357
- Austin JL (John L, *How to Do Things with Words* (Second edition, Clarendon Press 1975)
- Bainbridge WS, *The Warcraft Civilization: Social Science in a Virtual World* (MIT Press 2010)
- Balkin JM, 'Law and Liberty in Virtual Worlds Institute for Information Law and Policy Symposium: State of Play: I. Essays & Reflections' (2004) 49 New York Law School Law Review 63
- , 'Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds' (2004) 90 Virginia Law Review 2043
- , 'The Path of Robotics Law' (2015) 6 California Law Review Circuit 45
- Balkin JM and Noveck BS, *The State of Play. Law, Games, and Virtual Worlds* (New York University Press 2006)
- Barnard C, *The Substantive Law of the EU: The Four Freedoms* (Third edition, Oxford University Press 2010)
- Benkler Y, 'There Is No Spoon', *The State of Play. Law, Games, and Virtual Worlds* (New York University Press 2006)
- Blazer C, 'The Five Indicia of Virtual Property Note' (2006) 5 Pierce Law Review 137
- Boellstorff T, *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human* (Princeton University Press 2008)

- Boldrin M and Levine DK, *Against Intellectual Monopoly* (Cambridge University Press 2008)
- Boone MS, 'Virtual Property and Personhood Symposium Review' (2007) 24 Santa Clara Computer & High Technology Law Journal 715
- Brey JH Philip; Søraker, 'Philosophy of Computing and Information Technology' in A Meijers (ed), *Philosophy of Technology and Engineering Sciences*, vol IX (North Holland 2009)
- Brey P, 'The Social Ontology of Virtual Environments' (2003) 62 American Journal of Economics and Sociology 14
- , 'Virtual Reality and Computer Simulation' in K Himma and H Tavani (eds), *Handbook of Information and Computer Ethics* (John Wiley & Sons 2008)
- Bridge MG, *Personal Property Law* (Second edition, Blackstone 1996)
- Brownsword R, 'So What Does the World Need Now? Reflections on Regulating Technologies' in Roger Brownsword and Karen Yeung (eds), *Regulating Technologies. Legal Futures, Regulatory Frames and Technological Fixes* (Hart Publishing 2008)
- , 'The Shaping of Our on-Line Worlds: Getting the Regulatory Environment Right Editorial' (2012) 20 International Journal of Law and Information Technology 249
- , 'Whither the Law and the Law Books? From Prescription to Possibility' (2012) 39 Journal of Law and Society 296
- , 'The Shaping of Our on-Line Worlds: Getting the Regulatory Environment Right' (2012) 20 International Journal of Law and Information Technology 249
- , "'Post-Technique": The New Social Contract Today' in David Campbell, Linda Mulcahy and Sally Wheeler (eds), *Changing Concepts of Contract. Essays in Honour of Ian Macneil* (Palgrave Macmillan 2013)
- , 'Technological Management and the Rule of Law' (2016) 8 Law, Innovation and Technology 100
- , 'Field, Frame and Focus Methodological Issues in the New Legal World' in Rob Van Gestel, Hans-Wolfgang Micklitz and Edward L Rubin (eds), *Rethinking Legal Scholarship A Transatlantic Dialogue* (Cambridge University Press 2017)
- Brożek A, *Teoria Impertywów I Jej Zastosowania [Theory of Imperatives and Its Applications]* (Copernicus Center Press 2012)
- Brożek B, *Normatywność Prawa [Normativity of Law]* (Wolters Kluwer Polska 2012)
- , 'On Tû-Tû' [2015] *Revus. Journal for Constitutional Theory and Philosophy of Law / Revija za ustavno teorijo in filozofijo prava* 15
- , 'The Troublesome "Person"' in Visa Kurki and Tomasz Pietrzykowski (eds), *Legal Personhood: Animals, Artificial Intelligence and the Unborn* (Springer 2017)
- Calabresi G and Douglas AM, 'Property Rules, Liability Rules, and Inalienability: One View of the Cathedral' (1972) 85 Harvard Law Review 40

- Calo R, 'Robotics and the Lessons of Cyberlaw' (2015) 103 California Law Review 513
- Camp B, 'The Play's the Thing: A Theory of Taxing Virtual Worlds' (2007) 59 Hastings Law Journal
- Carrier MA and Lastowka G, 'Against Cyberproperty' (2007) 22 Berkeley Technology Law Journal 1485
- Castronova E, 'Virtual Worlds: A First-Hand Account Of Market And Society On The Cyberian Frontier' [2001] CESifo Working Paper
- , 'On Virtual Economies' [2002] CESifo Working Paper
- , 'The Right to Play Institute for Information Law and Policy Symposium: State of Play: II. Article' (2004) 49 New York Law School Law Review 185
- , *Synthetic Worlds: The Business and Culture of Online Game* (2005)
- , *Wildcat Currency* (Yale University Press 2014)
- Castronova E and Lehdonvirta V, *Virtual Economies: Design and Analysis* (MIT Press 2014)
- Chen A, 'A Practical Look at Virtual Property Note' (2006) 80 St. John's Law Review 1059
- Chew MM, 'Virtual Property in China: The Emergence of Gamer Rights Awareness and the Reaction of Game Corporations' (2011) 13 New Media & Society 722
- Cifrino C, 'Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds' (2014) 55 Boston Collage Law Review 29
- Cooter R and Ulen T, *Law and Economics* (Addison-Wesley 2000)
- Corneliussen HG and Rettberg JW, *Digital Culture, Play, and Identity: A World of Warcraft Reader* (MIT Press 2008)
- Crowley A, *The Wealth of Virtual Nations: Videogame Currencies* (Springer Berlin Heidelberg 2017)
- Crowne EA and Kaploun M, 'From Blackacre & Whiteacre to Greyacre: Three Models for Ascribing Virtual Property Rights in Cyberspace' (2010) 19 University of Baltimore Intellectual Property Law Review
- DaCunha N, 'Virtual Property, Real Concerns' (2010) 4 Akron Intellectual Property Journal
- De Franceschi A, *European Contract Law and the Digital Single Market: The Implications of the Digital Revolution* (Intersentia 2016)
- Delgado R and Stefancic J, *Critical Race Theory: The Cutting Edge* (Third edition, Temple University Press 2013)
- DiFilippo T, 'Jeremy Bentham's Codification Proposals and Some Remarks on Their Place in History Comments' (1972) 22 Buffalo Law Review 239

- Duranske BT, *Virtual Law. Navigating the Legal Landscape of Virtual Worlds*. (American Bar Association Publishing 2008)
- Easterbrook FH, 'Cyberspace and the Law of the Horse' [1996] University of Chicago Legal Forum
- Effingham N, *An Introduction to Ontology* (Polity Press 2013)
- Eng KW, 'Content Creators, Virtual Goods: Who Owns Virtual Property Notes' (2016) 34 Cardozo Arts & Entertainment Law Journal 249
- Erlank W, 'Lecture: Introduction to Virtual Property' (Social Science Research Network 2009) SSRN Scholarly Paper ID 1491118 <<https://papers.ssrn.com/abstract=1491118>> accessed 29 September 2017
- , 'Introduction to Virtual Property: Lex Virtualis IPSA Loquitur' (2015) 18 Potchefstroom Electronic Law Journal 2524
- Fairfield J, 'Virtual Property' (2005) 85 Boston University Law Review 1047
- , 'Anti-Social Contracts: The Contractual Governance of Virtual Worlds' (2007) 53 McGill Law Journal
- , 'The End of the (Virtual) World' (2009) 53 West Virginia Law Review
- , 'The God Paradox' (2009) 89 Boston University Law Review 1017
- , 'The Magic Circle' (2009) 11 Vanderbilt Journal of Entertainment & Technology Law
- , 'Virtual Parentalism Protecting Virtual Playgrounds: Children, Law, and Play Online' (2009) 66 Washington and Lee Law Review 1215
- , 'Nexus Crystals: Crystallizing Limits on Contractual Control of Virtual Worlds' (2011) 38 William Mitchell Law Review 53
- Fairfield J and Castronova E, *Dragon Kill Points: A Summary Whitepaper* (2006)
- Floridi L, *Information. A Very Short Introduction*. (Oxford University Press 2010)
- Forray V, 'Property Structures Underlying Contract. (The Proprietary Properties of Contract)' (2013) 9 European Review of Contract Law 20
- Gasser U, 'Recoding Privacy Law: Reflections on the Future Relationship Among Law, Technology, and Privacy' [2016] Harvard Law Review Forum <<https://harvardlawreview.org/2016/12/recoding-privacy-law-reflections-on-the-future-relationship-among-law-technology-and-privacy/>> accessed 20 September 2017
- Georgakopoulos NL, *Principles and Methods of Law and Economics: Basic Tools for Normative Reasoning* (First edition, Cambridge University Press 2005)
- Geraci RM, *Virtually Sacred: Myth and Meaning in World of Warcraft and Second Life* (Oxford University Press 2014)
- Gestel R van and others, *Rethinking Legal Scholarship a Transatlantic Dialogue* (Cambridge University Press 2017)

- Gizbert-Studnicki T and Klinowski M, 'Are Legal Concepts Embedded in Legal Norms?' (2011) 25 *International Journal for the Semiotics of Law - Revue internationale de Sémiotique juridique* 553
- Goeffrey W, 'Comparative Legal Scholarship' in Mike McConville and Wing Hong Chui (eds), *Research Methods for Law* (Edinburgh University Press 2007)
- Goldsmith J and Wu T, *Who Controls the Internet?: Illusions of a Borderless World* (Oxford University Press 2006)
- Gong J, 'Defining and Addressing Virtual Property in International Treaties' (2011) 17 *Boston University Journal of Science & Technology Law*
- Gray JC and Gray R, *The Nature and Sources of the Law* (Second edition, Smith 1972)
- Grundmann S (ed), *European Contract Law in the Digital Age* (Intersentia 2017)
- Grzybczyk K, *Prawo W Wirtualnych Światach [Law in Virtual Worlds]* (Diffin 2013)
- Hage J, 'A Model of Juridical Acts: Part 1: The World of Law' (2011) 19 *Artificial Intelligence and Law* 23
- , 'A Model of Juridical Acts: Part 2: The Operation of Juridical Acts' (2011) 19 *Artificial Intelligence and Law* 49
- Hage JC (Jaap C) and others, *Concepts in Law* (Springer 2009)
- Hart HLA, *The Concept of Law* (Oxford University Press 1961)
- Heeks R, 'Understanding "Gold Farming" and Real-Money Trading as the Intersection of Real and Virtual Economies' (2009) 2 *Journal For Virtual Worlds Research* <<https://jvwr-ojs-utexas.tdl.org/jvwr/index.php/jvwr/article/view/868>> accessed 17 September 2017
- Heller MA, 'The Tragedy of the Anticommons: Property in the Transition from Marx to Markets' (1998) 111 *Harvard Law Review* 621
- Heuss T, *Reden an die Jugend.* (R Wunderlich 1956)
- Hildebrandt M, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar Publishing 2015)
- Hoecke M van, *Methodologies of Legal Research: What Kind of Method for What Kind of Discipline?* (Hart 2011)
- Hofmann M (Associate P of C), *Habermas's Public Sphere: A Critique* (Fairleigh Dickinson University Press 2017)
- Horowitz SJ, 'Competing Lockean Claims to Virtual Property Note' (2006) 20 *Harvard Journal of Law & Technology* 443
- , 'Competing Lockean Claims to Virtual Property Note' (2006) 20 *Harvard Journal of Law & Technology* 443
- , 'Bragg v. Linden's Second Life: A Primer in Virtual World Justice' (2008) 34 *Ohio Northern University Law Review* 223

- Hui Y, *On the Existence of Digital Objects* (University of Minnesota Press 2016)
- Huizinga J, *Homo Ludens: A Study of the Play-Element in Culture* (Beacon Press 1955)
- Hunt K, 'This Land Is Not Your Land: Second Life, CopyBot, and the Looming Question of Virtual Property Rights Note' (2007) 9 Texas Review of Entertainment & Sports Law 141
- Ignatowicz J and Stefaniuk K, *Prawo Rzeczowe [Property Law]* (LexisNexis 2012)
- Jankowich AE, 'Property and Democracy in Virtual Worlds' (2005) 11 Boston University Journal of Science & Technology Law 173
- Johnson DR and Post D, 'Law and Borders--The Rise of Law in Cyberspace Symposium: Surveying Law and Borders' (1995) 48 Stanford Law Review 1367
- Kamil Z, *Instytucjonalizacja Wolności Majątkowej. Koncepcja Prawa Podstawowego Własności I Jej Urzeczywistnienie W Prawie Prywatnym. [Institutionalization of Economic Freedom. The Conception of a Fundamental Right to Private Property and Its Realization in Private Law]* (Biuro Trybunału Konstytucyjnego [The Secretariat of the Polish Constitutional Court] 2013)
- Kayser JJ, 'The New New-World: Virtual Property and the End User License Agreement Notes & Comments' (2006) 27 Loyola of Los Angeles Entertainment Law Review 59
- Kennedy D, 'Three Globalizations of Law and Legal Thought: 1850-2000' in David Trubek and Alvaro Santos, *The New Law and Economic Development. A Critical Appraisal* (Cambridge University Press 2006)
- Kennedy R, 'Virtual Rights: Property in Online Game Objects and Characters' (2008) 17 Information & Communications Technology Law 95
- Kenny A, *A New History of Western Philosophy. Ancient Philosophy*, vol 1 (Oxford University Press 2004)
- , *A New History of Western Philosophy* (Reprint edition, Oxford University Press 2012)
- Koepsell D and others, *John Searle's Ideas about Social Reality: Extensions, Criticisms, and Reconstructions* (Blackwell 2003)
- Kolakowski L, *Jezus osmieszony* (Znak 2014)
- Koster R, *Theory of Fun for Game Design* (2 edition, O'Reilly Media 2013)
- Lakhani A, *Commercial Transactions in the Virtual World: Issues Andopportunities* (City University of Hong Kong Press 2014)
- Lakoff G and Johnson M, *Metaphors We Live by* (University of Chicago Press 1980)
- Lastowka G, 'Decoding Cyberproperty' (2007) 40 Indiana Law Review 23
- , 'User-Generated Content and Virtual Worlds' (2008) 10 Vanderbilt Journal of Entertainment & Technology Law 893
- , *Virtual Justice. The New Laws of Online Worlds.* (Yale University Press 2010)

- Lastowka G and Hunter D, 'The Laws of the Virtual Worlds' (2004) 92 *California Law Review* 1
- , 'Virtual Crime' in Jack M Balkin and Beth Simone Noveck (eds), *The State of Play. Law, Games and Virtual Worlds* (New York University Press 2006)
- Lawrence DE, 'It Really Is Just a Game: The Impracticability of Common Law Property Rights in Virtual Property' (2007) 47 *Washburn Law Journal* 505
- Leczykiewicz D and Weatherill S, *The Images of the Consumer in EU Law: Legislation, Free Movement and Competition Law* (Hart Publishing 2016)
- Lederman L, "'Stranger than Fiction": Taxing Virtual Worlds' (2007) 82 *New York University Law Review*
- Lessig L, 'Law of the Horse: What Cyber Law Might Teach, The' (1999) 113 *Harvard Law Review* 501
- , *Code Version 2.0* (Basic Books 2006)
- Liao W, *The Application of the Theory of Efficient Breach in Contract Law: A Comparative Law and Economics Perspective* (Intersentia 2015)
- Llewellyn KN, *The Bramble Bush: The Classic Lectures on the Law and Law School* (Oxford University Press 2008)
- Locke J and others, *Two Treatises of Government; And, A Letter Concerning Toleration* (Yale University Press 2003)
- Lodder A, 'Dutch Supreme Court 2012: Virtual Theft Ruling a One-Off or First in a Series?' (2013) 6 *Journal of Virtual World Research*
- Loos M and Luzak J, 'Wanted: A Bigger Stick. On Unfair Terms in Consumer Contracts with Online Service Providers' (2016) 39 *Journal of Consumer Policy* 63
- MacCormick N, *Institutions of Law. An Essay in Legal Theory.* (Oxford University Press 2007)
- Maffettone S, *Rawls: An Introduction* (Polity 2010)
- Mäntymäki M and Salo J, 'Why Do Teens Spend Real Money in Virtual Worlds? A Consumption Values and Developmental Psychology Perspective on Virtual Consumption'
- Meehan M, 'Virtual Property: Protecting Bits in Context' (2006) 13 *Richmond Journal of Law & Technology* 1
- Micklitz H-W, 'Reforming European Unfair Terms Legislation in Consumer Contracts' (2010) 6 *European Review of Contract Law* 347
- , *The Expulsion of the Concept of Protection from the Consumer Law and the Return of Social Elements in the Civil Law: A Bittersweet Polemic* (European University Institute 2012)
- , 'Rethinking the Public/Private Divide' in Miguel Maduro, Kaarlo Tuori and Suvi Sankari (eds), *Transnational Law. Rethinking European Law and Legal Thinking* (Cambridge University Press 2014)

- (ed), *Constitutionalization of European Private Law: XXII/2* (Oxford University Press 2014)
- , ‘On the Intellectual History of Freedom of Contract and Regulation’ (2015) 4 Penn State Journal of Law & International Affairs
- , ‘A European Advantage in Legal Scholarship?’ in Hans-Wolfgang Micklitz, Rob Van Gestel and Edward L Rubin (eds), *Rethinking Legal Scholarship. A Transatlantic Dialogue* (Cambridge University Press 2017)
- , *European Consumer Law: Second Edition* (Intersentia 2014)
- Micklitz H-W and Cremona M, *Private Law in the External Relations of the EU* (Oxford University Press 2016)
- Micklitz H-W, Pałka P and Panagis I, ‘Empire Strikes Back. Digital Control of Unfair Terms of Online Services’ [2017] Journal of Consumer Policy
- Micklitz H-W and Reich N, ‘The Court and Sleeping Beauty: The Revival of the Unfair Contract Terms Directive (UCTD)’ (2014) 51 Common Market Law Review 771
- Moore SF, ‘Law and Social Change: The Semi-Autonomous Social Field As An Appropriate Subject of Study’ (1973) 7 Law & Society Review
- Mousourakis G, *Roman Law and the Origins of the Civil Law Tradition* (Springer 2015)
- Mummery J, ‘Property in the Information Age’ in Barr (ed), *Modern Studies in Property Law*, vol 8 (Bloomsbury 2015)
- Murphy T (ed), *New Technologies and Human Rights* (Oxford University Press 2009)
- Murray A, *Information Technology Law: The Law and Society* (Second edition, Oxford University Press 2013)
- Naffine N, *Law’s Meaning of Life: Philosophy, Religion, Darwin and the Legal Person* (Hart 2009)
- Nagel T, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False* (Oxford University Press 2012)
- Nebbia P, *Unfair Contract Terms in European Law: A Study in Comparative and EC Law* (Hart 2007)
- Negroponte N, *Being Digital* (First edition, Knopf 1995)
- Nelmark D, ‘Virtual Property: The Challenges of Regulating Intangible, Exclusionary Property Interests Such as Domain Names’ (2004) 3 Northwestern Journal of Technology and Intellectual Property
- Nelson JW, ‘The Virtual Property Problem: What Property Rights in Virtual Resources Might Look Like, How They Might Work, and Why They Are a Bad Idea’ (2009) 41 McGeorge Law Review 281
- Olszewski A, ‘The Legal Construction of Virtual Reality Items Sale Agreements in the Eyes of the Polish Law’ (2011) 4 Transformacje Prawa Prywatnego

- Pagallo U, *The Laws of Robots*, vol 10 (Springer 2013)
- Pakuła J, 'On-Line Games Accounts in Legal Relations – Crucial Issues' (Thesis, 2009) <http://prawo.vagla.pl/files/mgr_j_a_pakula.pdf>
- Palfrey JG and Gasser U, *Born Digital: Understanding the First Generation of Digital Natives* (Basic Books 2008)
- Pałka P, 'Redefining "Property" in the Digital Era: When Online, Do as the Romans Did. EUI Law Working Paper No. 2016/08' <<http://hdl.handle.net/1814/40366>> accessed 25 April 2016
- , 'Terms of Service Are Not Contracts: Beyond Contract Law in the Regulation of Online Platforms' in Stefan Grundmann (ed), *European Contract Law in the Digital Age* (Intersentia 2017)
- Peczenik A and Pattaro E, *Scientia Juris : Legal Doctrine as Knowledge of Law and as a Source of Law* (Springer 2005)
- Penrose R, *The Emperor's New Mind: Concerning Computers, Minds, Andthe Laws of Physics* (Vintage 1990)
- Perrins B, *Understanding Land Law* (3 edition, Routledge-Cavendish 2000)
- Purtova N, *Property Rights in Personal Data: A European Perspective* (Kluwer Law International ; Sold and distributed inNorth, Central, and South America by Aspen Publishers 2012)
- Quine WVO, 'On What There Is' [1948] Review of Metaphysics
- Radwański Z, Safjan M and Banaszczyk Z, *Prawo Cywilne: Część Ogólna* (2 wydanie, Wydawnictwo C H Beck : Instytut Nauk Prawnych PAN 2008)
- Reed C, *Making Laws for Cyberspace* (Oxford University Press 2012)
- Reich N, *General Principles of EU Civil Law* (Intersentia 2014)
- Reiners T editor, Wood LC editor and service) S (Online, *Gamification in Education and Business* (Springer International Publishing : Imprint: Springer 2015)
- Richardson SB, 'Classifying Virtual Property in Community Property Regimes: Are My Facebook Friends Considered Earnings, Profits, Increases in Value or Goodwill?' (2010) 85 Tulane Law Review
- Rijna F, 'Back to Reality: The Ontology of Virtual Worlds and the Law' (Thesis, 2011) <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1933563>
- Ross A, 'Tû-Tû' (1956) 70 Harvard Law Review 812
- Rumbles W, 'Theft in the Digital: Can You Steal Virtual Property' (2011) 17 Canterbury Law Review 354
- Sartor G, 'Cognitive Automata and the Law: Electronic Contracting and the Intentionality of Software Agents' (2009) 17 Artificial Intelligence and Law
- , 'Understanding and Applying Legal Concepts: An Inquiry on Inferential Meaning' in JC Hage and C Jaap (eds), *Concepts in Law* (Springer 2009)

- , ‘Legal Concepts as Inferential Nodes and Ontological Categories’ (2009) 17 *Artificial Intelligence and Law* 217
- , ‘Legislative Information and the Web’ in Giovanni Sartor and others (eds), *Legislative XML for the Semantic Web* (Springer 2011)
- , ‘Human Rights in the Information Society: Utopias, Dystopias and Human Values’ in Norberto Nuno Gomes de Andrade and Lúcio Tomé Fêteira (eds), *New Technologies and Human Rights. Challenges to Regulation* (Routledge 2013)
- , *Approaches to Legal Ontologies. Theories, Domains, Methodologies.*, vol 1 (Springer 2011)
- Sartor G and Fernandez-Barrera M, ‘The Legal Theory Perspective: Doctrinal Conceptual Systems vs. Computational Ontologies’ in Giovanni Sartor and others (eds), *Approaches to Legal Ontologies. Theories, Domains, Methodologies* (Springer 2011)
- Sartori G, ‘Concept Misformation in Comparative Politics’ (1970) 64 *The American Political Science Review* 1033
- Sawhney H Harmeet; Suri, Venkata Radnadeep; Lee, ‘New Technologies and the Law: Precedents via Metaphores’ in Pompeu Fernandez-Barrera Meritxell; de Andrade, Norberto Nuno Gomes; De Filippi, Primavera; de Azevedo Cunha, Mario Viola; Sartor, Giovanni; Casanovas (ed), *Law and Technology: Looking into the Future. Selected Essays* (European Press Academic Publishing 2009)
- Schauer FF, *Thinking like a Lawyer: A New Introduction to Legal Reasoning* (Harvard University Press 2009)
- Schiavone A, Carden J and Shugaar A, *The Invention of Law in the West* (Belknap Press of Harvard Univ Press 2010)
- Schofield P, *Utility and Democracy the Political Thought of Jeremy Bentham* (Oxford University Press 2006)
- Schulze R and Staudenmayer D, *Digital Revolution: Challenges for Contract Law in Practice* (Nomos/Hart 2016)
- Searle J, *The Construction of Social Reality* (Allen Lane The Penguin Press 1995)
- Smith B, ‘Ontology’ in Luciano Floridi (ed), *Blackwell Guide to the Philosophy of Computing and Information* (Oxford: Blackwell 2003)
- , *Beyond Concepts: Ontology as Reality Representation* (2004)
- Smith HE, ‘Property as the Law of Things Symposium: The New Private Law’ (2011) 125 *Harvard Law Review* 1691
- Smith P, ‘Feminist Jurisprudence’ in Dennis Patterson (ed), *A Companion to Philosophy of Law and Legal Theory* (2nd edn, Wiley-Blackwell 2010)
- Smits JM, *The Mind and Method of the Legal Academic* (Edward Elgar Pub 2012)
- Solum LB, ‘Legal Personhood for Artificial Intelligences’ (1991) 70 *North Carolina Law Review* 1231

- Sparrow A, *The Law of Virtual Worlds and Internet Social Networks* (Gower 2010)
- Stalmans C, 'More than Just Games: Virtual Property Rights in Massively Multiplayer Online Games' (2012) 12 *Asper Review of International Business and Trade Law* 203
- Stelmach J and Brożek B, *Methods of Legal Reasoning* (Springer 2006)
- Stephens M, 'Sales of In-Game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-Content Creators' (2002) 80 *Texas Law Review*
- Taekema S, Klink B van and De Been W, *Facts and Norms in Law : Interdisciplinary Reflections on Legal Method* (Edward Elgar Publishing 2016)
- Tamanaha BZ, *A General Jurisprudence of Law and Society* (Oxford University Press 2001)
- Taylor PW, *Respect for Nature : A Theory of Environmental Ethics* (Princeton University Press 1986)
- Terdiman D, *The Entrepreneur's Guide to Second Life: Making Money in the Metaverse* (John Wiley & Sons 2007)
- Teubner G and Norbury G, *Constitutional Fragments : Societal Constitutionalism and Globalization* (Oxford University Press 2012)
- Tranter K, 'The Law and Technology Enterprise: Uncovering the Template to Legal Scholarship on Technology' (2011) 3 *Law, Innovation and Technology* 31
- Trottier D and Fuchs C, *Social Media, Politics and the State: Protests, Revolutions, Riots, Crime and Policing in the Age of Facebook, Twitter and YouTube* (Routledge 2015)
- Vacca R, 'Viewing Virtual Property Ownership through the Lens of Innovation' (2008) 76 *Tennessee Law Review* 33
- van Gestel R, Micklitz H-W and Maduro MP, *Methodology in the New Legal World* (2012)
- Veloso MGI, 'Virtual Property Rights: A Modified Usufruct of Intangibles' (2007) 82 *Philippine Law Journal* 37
- Waldron J, *The Right to Private Property* (Clarendon Press; Oxford University Press 1988)
- , 'Property Law' in Dennis M Patterson (ed), *A Companion to Philosophy of Law and Legal Theory* (2nd edition, John Wiley & Sons 2010)
- Wasilkowski J, *Zarys Prawa Rzeczowego [Outline of Property Law]* (Polskie Wydawnictwo Naukowe 1963)
- Watkins D and Burton M, *Research Methods in Law* (Routledge 2013)
- Weber M and Dreijmanis J, *Max Weber's Complete Writings on Academic and Political Vocations* (Algora Pub 2008)
- Werbach K and Hunter D, *For the Win: How Game Thinking Can Revolutionize Your Business* (Wharton Digital Press 2012)

Westbrook TJ, 'Owned: Finding a Place for Virtual World Property Rights Comment' (2006) 2006 Michigan State Law Review 779

Wieacker F, 'Foundations of European Legal Culture' (1990) 38 The American Journal of Comparative Law 1

Williams H (Howard L), *Kant's Political Philosophy* (Blackwell 1983)

Wittgenstein L, *Tractatus Logico-Philosophicus*. (Routledge & K Paul 1961)

Wolter A, Ignatowicz J and Stefaniuk K, *Prawo Cywilne. Zarys Części Ogólnej* (LexisNexis 2001)

Zimmermann R, 'Savigny's Legacy. Legal History, Comparative Law, and the Emergence of a European Legal Science' (1996) 112 The law quarterly review The Law Quarterly Review 576

Zittrain J, 'Facebook Could Decide an Election Without Anyone Ever Finding Out' [2014] *The New Republic* <<https://newrepublic.com/article/117878/information-fiduciary-solution-facebook-digital-gerrymandering>> accessed 18 September 2017