
States as Information Platforms: A Political Theory of Information

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Abstract

The advent of the Information Age and the digital world have challenged old assumptions and have made new understandings possible. A new political theory that places information at its centre is necessary to account for the exponential growth in humanity's information processing. The importance of procedures, tools and rules pertaining to information and its processing has been acknowledged by governments, states and individuals worldwide. It is this challenge that a new theory on States-as-Information-Platforms addresses. It is based on two premises: first, that states are information platforms for their citizens. They exist in nature, as a direct result of human communication. Their role is to act as information intermediaries, making communication among individuals possible. It is only through their tacit intermediation and personal information processing that individuals can engage in any interaction and live any meaningful life. The second premise of this theory turns the focus to humans. Humans' basic need is to maximise their information processing. Accordingly, the sum of human life may be viewed as information processing. Once these two premises are brought together concrete findings and replies to age-old questions such as why states exist, when they are legitimate, or what is the nature of human rights may be reached.

Keywords

States as Information Platforms, Political theory of information, fundamental rights, GDPR.

I. Introduction

The Information Age has not only increased humanity's processing capabilities but has also made possible new understandings through the constant challenging

of old certainties and re-visiting of previous assumptions. Specifically, information processing, which has been implicitly taking place silently and in the background as part of our existence and everyday life, has now come to the fore.¹ Accordingly, concepts and theories that have served humanity well in the past may now be placed under a new light.

A new political theory of information is therefore now possible. It is based on two premises: first, that states are information platforms for their citizens. This definition, which applies as much today as in the depths of human history, helps to address, among others, two basic, age-old questions: Why do states exist? When are they legitimate? Political philosophers have been occupied with these questions for centuries, however it seems that an explanation *simpliciter*² still evades us. An information processing approach could shed new light: states are information processing infrastructures, materialised fictions that process information. They came into existence naturally and automatically immediately when two humans, equipped with a state-granted name and citizenship, started communicating with each other. States are the silent but ever-present and necessary third parties, which, as interlocutors, make any human communication possible. States are not man-made, artificial constructions (as in social contract theory), but the natural result of, and necessary condition for, human existence.

The second premise of a political theory of information turns the focus to humans: humans need to maximise their information processing. Their coming into existence makes such information processing possible. Humans are informational beings that can and will process information whenever and wherever possible. During the course of their lives they engage in a series of information processing, forming new relationships and acquiring new experiences. Their purpose is to maximise this processing within their respective environments, meaning to interact with more humans, form a family, acquire knowledge, assemble property and transmit their views. It is states (as information platforms) that satisfy this basic need. In essence, through state attribution of a name and citizenship, a human becomes an (identifiable) individual, and is therefore able to maximise its information processing, as dictated by its nature, within (and outside) its state.

Establishment (and acceptance) of the above two basic premises opens up far-reaching consequences. For example, in the field of human rights, it would be possible to view human rights as permissions to process information. Although individuals need to maximise their information processing, and therefore their

¹ As most notably demonstrated by the EU's GDPR (Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), [2016] OJ L119, 4.5.2016) on personal information processing, as well as by Regulation (EU) 2018/1807 of the European Parliament and of the Council of 14 November 2018 on a framework for the free flow of non-personal data in the European Union, [2018] OJ L303, 28.11.2018, on non-personal information processing.

² Christopher W Morris, *An essay on the modern state* (Cambridge: Cambridge University Press, 2002), 110.

wish to process is insatiable, their processing is limited in two ways: first, by the states, depending on the types of information processing permitted on their platforms (meaning, the political systems applied within their territories). Second, by the processing of other individuals, who may or may not allow others to process information controlled by them. Viewed in this way, human rights would constitute permissions for an individual to process, or not, information. This is particularly important because information in the analogue (real) world is finite.

It is within the above new theoretical framework that specifically the right to data protection may be understood. Having been instituted in the EU relatively recently, through ratification of the Treaty of Lisbon, it has never ceased to create difficulties both in theory and in practice. It has also been treated as an interface or a passageway to all other human rights, being the necessary component for their exercise. Such ubiquitousness of any single human right is hard to combine with human rights theory, where any number of human rights may apply concurrently but always individually. Data protection, through its self-determination component, essentially manages information flows from one individual to another, assuming the role of the control button for personal information processing.

This chapter aims to explain each one of the above points, outlining at the same time the basic components of a political theory of information. In section II a definition of the state will be attempted, followed by its justification and legitimation. The differences of this approach with traditional state theory will be highlighted, and its benefits, particularly in the digital environment, will be brought forward. Subsequently, section III will present the perspective of individuals, meaning their wish to maximise their information processing and the role of states in this regard. Special attention will be given to the effect of this approach upon human rights. Finally, section IV will put all of the above to work, by way of a case study, while trying to shed some new light on the right to data protection and its role within the human rights architecture in the EU.³

II. State Definition, Justification and Legitimation Through Information Processing

In this section the first premise of a political theory of information (states are information platforms for their citizens) will be discussed. In this context, first

³ A few clarifications are, however, necessary beforehand. Most importantly, although the 'state' is a relatively recent notion (see II.A), the term will be used here to denote any form of organised human society (on the distinction between states and societies see particularly Morris, *An essay on the modern state*, 23), including anything from Iron Age kingdoms to Greco-Roman city-states and empires, Medieval kingdoms and, of course, modern nation states. Accordingly, the terms 'citizens' and 'citizenship' will be used in full awareness of their modern-time limitations, to denote all individuals living in a state and their formal connection to that state. In addition, the terms 'analogue' and 'digital world' will be used to denote the real, natural world and the digital environment respectively.

a definition of the state will be attempted on the basis of information processing (in II.A). Subsequently, the same approach will be used to discuss state justification and legitimation (in II.B), before elaborating upon the challenges posed by the digital world to modern states, which, it is claimed, are dealt with more efficiently (or, at least, are better understood) through an information processing approach (in II.C).

It is well understood that this structure reverses the order of examination in the basic texts on state theory (specifically, the social contract theory as discussed by Hobbes,⁴ Locke,⁵ Rousseau⁶ and, more recently, Rawls⁷), which invariably first focus on the individual (in its, assumed, natural, original environment) and then proceed with their discussion of the state. Although the same line of reasoning is followed here as well, meaning that both the natural condition of humans and the notion of the state are discussed, the reversal of what has become the usual order of examination is intentional, following Cassirer's finding that 'philosophy cannot give us a satisfactory theory of man until it has developed a theory of the state. The nature of man is written in capital letters in the nature of the state.'⁸

A. States are Information Platforms for their Citizens

The state is a notoriously difficult term to define, in spite of the numerous attempts to do so. At the end of the day, it seems to be one of these terms that everyone thinks they know what they are talking about when they refer to them, but otherwise cannot be put into words.⁹ The term was first used in the Middle Ages, but entered the mainstream only during the seventeenth century.¹⁰ However states, at least in the meaning examined here, are as old as humanity.

Finally, EU law forms the regulatory framework of this analysis. It was the EU's bold recent forays into regulation of the digital world (eg, the Digital Markets Act (Regulation (EU) 2022/1925) or the Digital Services Act (Regulation (EU) 2022/2065)) that were the first to open the online platforms discussion, making, among others, formal use of the term 'information platforms', possible (see Vagelis Papakonstantinou, 'The Cybersecurity Obligations of States Perceived as Platforms: Are Current European National Cybersecurity Strategies Enough?', *Applied Cybersecurity & Internet Governance (ACIG)* 1, no. 1 (2022): 2; Vagelis Papakonstantinou, 'States as platforms following the new EU regulations on online platforms', *European View* 21, no. 2 (2022)).

⁴ Thomas Hobbes, *Leviathan*, ed. JCA Gaskin (Oxford: Oxford University Press, 1651 (1996)).

⁵ John Locke, *Two Treatises of Government and A Letter Concerning Toleration*, ed. Ian Shapiro (New Haven and London: Yale University Press, 1689 (2003)).

⁶ Jean-Jacques Rousseau, *The Social Contract*. trans. Maurice Cranston (London: Penguin Books, 1762 (1968)).

⁷ John Rawls, *A Theory of Justice* (Cambridge, MA: Harvard University Press, 1971 (1999)).

⁸ Ernst Cassirer, *An Essay on Man: An Introduction to a Philosophy of Human Culture*, ed. Peter E Gordon (New Haven and London: Yale University Press, 1944 (2021)), 63.

⁹ Famously applied to the definition of 'civilisation' by Sir Kenneth Clark (*Civilisation: A Personal View*, episode 1, 'The Skin of Our Teeth', 1969), but the connection has not been missed in modern state theory, see, eg, Colin Hay and Michael Lister, 'Introduction: Theories of the state,' in *The state: theories and issues*, eds. Colin Hay, Michael Lister, and David Marsh (London: Bloomsbury, 2006), 1.

¹⁰ Ernst-Wolfgang Böckenförde, *Religion, law, and democracy: Selected writings*, eds. Mirjam Künkler and Tine Stein (Oxford: Oxford University Press, 2020), 152.

Although one-line definitions of the state have generally not fared well,¹¹ it is likely that today the most influential¹² definition of the modern state is that offered by Weber, who famously defined it as follows: ‘an institutionally organised political enterprise will be called a state if, and to the extent that, its administrative staff can lay claim to a monopoly of legitimate physical force in the execution of its orders.’¹³ Although this offers more a criterion than a description¹⁴ (leaving to the state the rather bland definition of ‘an institutionally organised political enterprise’), it still lies a long way from the first definitions of the state under social contract theory, which imagined an artificial, omnipotent, mechanical or biological construction, complete with head, arms and body.¹⁵ Regardless, however, of visualisation for illustration purposes, it would seem that, at least according to social contract theory, ‘the state is a voluntary society constituted for mutual protection,’¹⁶ thus moving the burden of definition from the ‘state’ to ‘society’ (and always implying an artificial construction).

Within the political theory discussed in this chapter, states are defined as information platforms for their citizens. They are information processing infrastructures, fictions¹⁷ that have materialised in the analogue world. This definition applies as much today, when the analogue world known to humanity since it first appeared is challenged by the digital one, as in the depths of human history, when the first states emerged. States are, and always have been, first and foremost information platforms for their citizens.

Before, however, explaining the above definition and the claims associated with it, attention needs to be given to what exactly these ‘information platforms’ are. Fortunately, the law has provided us with a reply in this regard: information platforms are ‘service providers that store and disseminate information at the request of their users.’¹⁸ When it comes to states, this definition needs to be amended in two ways, one less obvious than the other. Information platforms,

¹¹ Christopher Pierson, *The modern state*, 3rd edn. (London and New York: Routledge, 2011), 2.

¹² See Pierson, *The modern state*, 2; however, see also Dryzek and Dunleavy, who offer ‘seven defining characteristics of the state, and five associated’ ones (*Theories of the democratic state* (Cham, Springer, 2009), 3).

¹³ Max Weber, *Economy and society: A new translation* (Cambridge, MA: Harvard University Press, 1925 (2019)), 136.

¹⁴ See also the critique of Luhmann, focusing (justifiably) on legitimacy (who is it that makes it legitimate?); Niklas Luhmann, *Die Politik der Gesellschaft* (Frankfurt am Main: Suhrkamp, 2002), 193. Having said that, however, coercion seems to be the generally accepted defining characteristic of states for scholars holding such diverse views as Tilly (Charles Tilly, *Coercion, capital, and European states, AD 990–1990* (Cambridge MA & Oxford UK: Blackwell, 1992), 1), Finer (Herman Finer, *The theory and practice of modern government* (New York: Henry Holt and Company, 1961), 10) or Dahl (Robert Alan Dahl, *Modern political analysis* (New Jersey: Prentice Hall, 1963), 51).

¹⁵ See Hobbes, *Leviathan*, 160, 67; Rousseau, *The Social Contract*, 135.

¹⁶ Prakash Sarangi, ‘Notion of ‘state’ in John Rawls’ theory of justice,’ *The Indian Journal of Political Science* 52, no. 2 (1991): 195.

¹⁷ According to Strayer, ‘A state exists chiefly in the hearts and minds of its people; if they do not believe it is there, no logical exercise will bring it to life’ (Joseph Reese Strayer, *On the medieval origins of the modern state* (Princeton and Oxford: Princeton University Press, 2005), 5).

¹⁸ Article 3, point (i) of the Digital Services Act.

as everybody knows, may also create information, either alone (for example, the platform itself) or with their users (for example, all the personal information that would not have been created if the platform did not exist). Therefore, states not only store and disseminate but also create information with or for their citizens. The less obvious way to amend the law's definition of information platforms is that the state is not a service provider. Although states do provide a number of services to their citizens, they cannot be defined as such, because this would move the burden of definition from the 'state' to a 'service'.¹⁹

In what way, therefore, are states information platforms for their citizens? In essence, any time two individuals communicate, a third, silent interlocutor is implied. That is, the state, which warrants their communication. The state warrants that A is A and B is B, so as for A and B to be able to communicate. Unless this assumption is made, there is no way for these two individuals (unless they are within the same family and therefore already know each other) to be certain that the other party is actually who it claims to be. It is the silent, ever-present third party, the state, that warrants this, and thus makes any human contact, and existence, possible.

The mechanism through which this is accomplished is so common that it is perhaps overlooked. Immediately at birth any human is given a name.²⁰ Who gives this name? Most likely, their parents. But, who is it that makes this name possible? It is the state that this human is born into.²¹ Without a state a name is useless: because many may share it, it is unusable outside the strict limits of that human's family (or close circle of people who know them from birth).²² In this way this personal information is co-created between the human (its parents acting on its behalf) and the state. At the same time, meaning at birth, any human is provided with a citizenship. Clearly, the state that made the naming possible also provides its citizenship to that same human. Without these a human cannot exist; a nameless or stateless human is unthinkable.²³ In this way, through state attribution of a name and citizenship, a human becomes an individual.

¹⁹ A term which is as similarly hard to define as 'society', above. Of course, within the social contract theory context, if one considers everything, eg. security or justice, as a service, then states could be viewed as service providers.

²⁰ A name being an 'unbeatable advantage of people', in the words of Luhmann (Luhmann, *Die Politik der Gesellschaft*, 190).

²¹ The discussion on naming laws, meaning the laws of each state that restrict the names parents can give to their children, largely exceeds the limits of this chapter. An indicative list may be found on [Wikipedia en.wikipedia.org/wiki/Naming_law](https://en.wikipedia.org/wiki/Naming_law), accessed on 6 October 2023; for the US see Carlton FW Larson, 'Naming Baby: The Constitutional Dimensions of Parental Naming Rights', *George Washington Law Review* 80 (2011).

²² During antiquity (surnames only being introduced during the Middle Ages) individuals carried only one name (eg. Socrates, Aristotle, Abraham, Sara, Isaak, David), however in order to serve individualisation these were followed by their city (for example, 'Thucydides, an Athenian, wrote the history of the war between the Peloponnesians and the Athenians', Thucydides, *The Peloponnesian War*, Book 1, ch 1); see also Peter Widmer, *Der Eigenname und seine Buchstaben: psychoanalytische und andere Untersuchungen* (transcript Verlag, 2010), 15.

²³ It is not only that humans carry a name and a citizenship in all of recorded history (mythology included) but, most importantly, that the reverse (de-naming or assignment of a number to human beings or citizenship retraction) is reminiscent of totalitarian regimes and crimes against humanity

Once co-created in this way, these two pieces of personal information are subsequently (tacitly or expressly) warranted by that state each time that individual communicates with other individuals. In other words, whenever John talks to Maria (and neither belongs to the same family), it is their respective states that have made this communication possible, warranting that John is John and Maria is Maria. Without this intervention any communication between John and Maria would be impossible.²⁴

Therefore, states were created naturally, automatically and immediately at the moment when two humans started to communicate. In the same manner that communication is natural to human beings, states are natural because they are necessary to make this communication happen. They are a necessary part of human existence, in the sense that without them any form of human life as we know it would be impossible.

States have been information platforms for their citizens since the day any type of human society (composed of more than a single family) emerged. Adherence to a group and a name for each individual are fictions that have accompanied humans since their beginnings.²⁵ However, states gained substance in the analogue world too. In primitive societies materialisation of the state in the analogue world took place in a single individual or a council of individuals that led the (small) political community (tribe or extended family).²⁶ An analogue-world infrastructure became necessary as soon as groups of individuals

(see the use of 'Prisoner Numbers' in Auschwitz-Birkenau, www.auschwitz.org/en/museum/auschwitz-prisoners/prisoner-numbers/, accessed on 10 October 2023). See also Pettit, asserting that 'no people can hope to live without a state in their territory' (Philip Pettit, *The State* (Princeton and Oxford: Princeton University Press, 2023), 1), or Strayer: 'In the world of today, the worst fate that can befall a human being is to be stateless' (*On the medieval origins of the modern state*, 3).

²⁴ Anonymous communication is, of course, possible. It is however only of marginal use (it is difficult to imagine anonymous communication extending for more than a few hours, keeping in mind that even on the Internet people have aliases) and specific scope (travel instructions, discussions 'with strangers' during forced (travel) or brief co-habitation (eg, cafes, bars)). In practice, all of human life (transactions and relationships) is carried out between identified or identifiable individuals. Humans invariably interact and transact making use of their names, choosing to hide them from others only when they have good reason to do so (eg, in cases of political dissent within oppressive regimes, for therapeutic purposes, for confessional purposes within a religious context etc), see also Anonymous, 'To reveal or not to reveal: A theoretical model of anonymous communication,' *Communication Theory* 8, no. 4 (1998). Most importantly, however, for the purposes of this analysis, anonymity is the choice of a named individual, not vice versa.

In the same context see also Vesting, who clarifies that, 'In order to be able to realize freedom in an anonymous society with rapidly changing contractual partners, individuals must first and foremost learn to think of themselves as confident and reliable persons, and to imagine the same of their counterparts' (*Legal theory and the media of law* (Cheltenham, UK & Northampton, MA, US: Edward Elgar Publishing, 2018), 505), with state-sponsored names and citizenship holding exactly this role.

²⁵ See the analysis on prehistoric political communities by Creveld, who distinguished them into: (a) tribes without rulers, (b) tribes with rulers (chiefdoms), (c) city-states, and (d) empires, where it is made clear that even during the (initial) time of tribes without rulers, humans were organised into sodalities (Martin Van Creveld, *The rise and decline of the state* (Cambridge: Cambridge University Press, 1999), 3), therefore carrying a name and a citizenship afforded by them. Within Christian dogma see Adam (Genesis 2:19) and Eve (Genesis 3:20) respectively.

²⁶ On the existence of leaders and followers or of special councils whenever 'public tasks' were 'beyond the capacity of single family groups' even in (initial) 'tribes without rulers' see Van Creveld, *The rise and decline of the state*, 3 and 6.

became more populous; names had to be recorded in order to make communication possible and improve organisation. Scripture was, after all, developed for this purpose.²⁷ States, therefore, materialised. They became an information processing infrastructure in the analogue world.

A number of consequences emanated from state materialisation in the analogue world that remain with us today, but are challenged in the digital world, as will be seen in section II.C. First, the state became tangible. It stopped being a fiction natural to humans only because it made possible communication among them, and it took a form that individuals could see and interact with. Second, it occupied a territory, which was the area in which the processing infrastructure was installed. Until that time the state was a fiction in the mind of a single person or a council within nomadic, hunting tribes. As soon as an infrastructure was created it could not be moved around any longer. States occupied a specific place in the analogue world, their territory. From this emanated the third important consequence of state materialisation: states no longer processed only the personal information of their citizens. Until that time the state merely provided a name and citizenship to its citizens and processed this type of personal information for them in order for them to be able to speak to each other and organise day-to-day activities. Having occupied a territory in the analogue world, however, the state also started processing non-personal information that was enclosed and located within this territory. In other words, once the state occupied a territory, all trees, fields, crops, buildings, animals and so on within that territory became non-personal information that was also processed by that state. In this way the picture of the state as an information processing platform became complete.

B. State Justification and Legitimation

The questions of state justification (why states exist) and legitimation (when are they legitimate) have occupied political philosophers for centuries.²⁸ A presentation of, basically, what constitutes the history of political philosophy especially

²⁷ According to Schmandt-Besserat, 'plain tokens were linked to the rise of rank society, but it was the advent of the state which was responsible for the phenomenon of complex tokens' (*How writing came about* (Austin: University of Texas Press, 1992), 107), tokens being the 'the immediate precursor of cuneiform writing' (Schmandt-Besserat, *How writing came about*, 7) that itself was developed in Mesopotamia in the late fourth millennium BC. Accordingly, names (alongside commodities) were found on these tokens. In the same vein, Powell claims that 'without direct evidence, we can nonetheless accept that the motivation for the discovery of the phonetic principle through the rebus applied to logograms was the desire to record personal names and names of places and names of things' (*Writing: Theory and history of the technology of civilization* (Chichester: John Wiley & Sons, 2009), 246).

²⁸ See, eg. Morris, 'It is often said that the subject matter of political philosophy is the nature and justification of the state' ('The State', in *The Oxford Handbook of the history of political philosophy*, ed. George Klosko (Oxford: Oxford University Press, 2011), 544).

in the western world²⁹ (which has set the basis for the modern state) greatly exceeds the limits of this analysis. For demonstration purposes, and also taking into account the approaches that have perhaps better withstood the test of time, attention here will be given only to the Aristotelian theory of politics and to the social contract theory. The purpose of this brief analysis is twofold: first to place the States-as-Information-Platforms theory next to them and, second, to present the benefits of this line of reasoning in the contemporary digital environment (in I.I.C.).

Aristotle was among the first to formulate a coherent state theory in his *Politics*, introducing the idea that states are natural to humans:

[the city-state] has at last attained the limit of virtually complete self-sufficiency, and thus, while it comes into existence for the sake of life, it exists for the good life. Hence every city-state exists by nature, inasmuch as the first partnerships so exist; [...] From these things therefore it is clear that the city-state is a natural growth, and that man is by nature a political animal, and a man that is by nature and not merely by fortune citiless is either low in the scale of humanity or above it.³⁰

Two points are of relevance here. First, as regards individuals, Aristotle's claim that man is a political animal by nature confirms individuals' need to communicate outside their closed family circle – something that, as seen in section II.A, is only possible through the existence of a state. Similarly, Aristotle considering a 'citiless' individual either an animal or god justifies the claim that a name and a citizenship, as provided by states, are necessary to humans. Accordingly, Aristotle's claim that states are natural to humans³¹ coincides with the States-as-Information-Platforms approach, in spite of their different lines of reasoning: Aristotle claims that states are created as the final stage of household development, while within the States-as-Information-Platforms approach states are not created but are the natural result of humans being 'political animals'.

In spite of its merits, Aristotle's theory was not the dominant state justification theory in antiquity. States (in the form of either empires or city-states) were thought to be of divine origin, created and justified through God's (or gods', in

²⁹ Out of a vast bibliography see, indicatively, George Klosko, ed., *The Oxford handbook of the history of political philosophy* (Oxford: Oxford University Press, 2011); Leo Strauss and Joseph Cropsey, *History of political philosophy*, 3rd edn. (Chicago and London: University of Chicago Press, 1987, 1963); Quentin Skinner, *The foundations of modern political thought: Volume 2, The Age of Reformation*, 2 vols., vol. 2 (Cambridge: Cambridge University Press, 1978).

³⁰ Aristotle, *Politics*. trans. H Rackham, Loeb Classical Library (Cambridge, MA: Harvard University Press), 9.

³¹ Within this category ought also to be classified those political philosophers that contended that states arise naturally but only attribute this to an 'invisible hand', such as Nozick (*Anarchy, state, and utopia* (Oxford UK & Cambridge US: Blackwell, 1974), 118) or Schmitt (Carl Schmitt, *Political theology: Four chapters on the concept of sovereignty*, trans. George Schwab (Cambridge, Massachusetts and London, England The MIT Press, 1922 (1985)), 38). Similarly, Pettit carries out a genealogical thought experiment to prove that 'something like a state would likely emerge' anyway among humans, whose primary function would be to establish and entrench a regime of law (*The State*, 314).

pre-Christian times) connection with the person of a ruler.³² Things changed radically with the conception of the social contract theory that remains dominant today.³³ As famously formulated in Hobbes's *Leviathan*, outside a sovereign state man's life would be 'nasty, brutish, and short'.³⁴ It is to avoid this fate that individuals enter a (social) contract with their respective states, whereby they (individuals) consent to forego some of their freedoms in return for the safety provided by an organised civil society. Once a social contract has been entered into, the political system of the state concerned can go in any direction, from democracy to monarchy or oligarchy, Hobbes being in favour of a strong sovereign.³⁵ Building on the same theoretical basis, Locke brought forward the concept of natural rights and made individuals' obligation to obey civil government under the social contract conditional upon the protection of these natural rights.³⁶ Rousseau suggested a social contract in which individuals exchanged their independence for political liberty.³⁷ In the same vein, Kant suggested that states are the result of an obligation for each individual to enter civil society 'under which everyone is able to enjoy his rights',³⁸ while for Rawls states are 'cooperative ventures for mutual advantage'.³⁹ What is common, however, to all social contract theories is that the state is perceived as an artificial, man-made construction and is therefore not, as Aristotle claimed, natural to humans.

The States-as-Information-Platforms theory does not subscribe to the social contract theory when explaining why states exist. It does not consider them an artificial construction, a result of contracting, but natural to humans. A contractarian theory assumes individuals who use their reason to enter a social contract. However, it does not explain how these reasonable individuals came to be. How come they are able to make an informed choice and how come they are able to communicate among themselves, in groups of thousands or millions, to uphold it? An original position not of ignorance, but of knowledge and an ability to communicate are assumed, without however any explanation as to how these

³² See Quentin Skinner, 'The State,' in *Political innovation and conceptual change*, eds. Terence Ball, James Farr, and Russell L Hanson (Cambridge: Cambridge University Press, 1989), 90; See also Ernst Kantorowicz, *The King's Two Bodies: A Study in Medieval Political Theology* (Princeton and Oxford: Princeton University Press, 2016, 1957).

³³ On the relevance today, and critique of, social contract theory, see David Boucher and Paul Kelly, 'The social contract and its critics An overview,' in *The social contract from Hobbes to Rawls*, eds. David Boucher and Paul Kelly (London and New York: Routledge, 1994 (2005)); see also, Christopher W Morris, ed., *The social contract theorists: Critical essays on Hobbes, Locke, and Rousseau* (Lanham Boulder New York Oxford: Rowman & Littlefield, 1999).

³⁴ Hobbes, *Leviathan*, 84.

³⁵ See Leo Strauss, *The political philosophy of Hobbes: its basis and its genesis*, trans. Elsa M Sinclair (Chicago and London: University of Chicago Press, 1936, 1963), 59.

³⁶ Locke, *Two Treatises of Government and A Letter Concerning Toleration*, 136.

³⁷ Rousseau, *The Social Contract*, 70.

³⁸ Immanuel Kant, *Kant: political writings*, ed. HS Reiss (Cambridge: Cambridge University Press, 1991), 98.

³⁹ Rawls, *A Theory of Justice*, 4.

were accomplished. On the contrary, the States-as-Information-Platforms theory makes no such (extensive) assumptions. As seen in section II.A, states are fictions that are created naturally, immediately when any human is born and is vested with a state-sponsored name and citizenship. It is these two attributes (name and citizenship) that transform a human into a (unique) individual who is able to communicate with other, similarly formed, individuals. Only once this step has been taken are individuals able to discuss, among others, whether to enter into a social contract or not. Before that, communication (and agreement) are impossible. Anonymous individuals cannot enter a social or any other contract. Logically, any state formation and justification theory would have to, chronologically, follow the States-as-Information Platforms approach.

The same line of thinking may be employed as regards the second perennial question of political philosophy, that of state legitimation.⁴⁰ Again, this can be replied to in terms of information processing. As seen in II.A, the state is an information platform that creates, stores and disseminates information with or for its citizens. Once personal information has been co-created between states and their citizens, states then have two basic, fundamental tasks: to safely store it and to further disseminate it at their citizens' will. These two functions are of paramount importance to individuals. To live their lives in any meaningful manner, individuals need to have their state-sponsored personal data, first, safely stored for the rest of their lives and, second, transmittable in a validated format by their respective states. As regards storage, individuals need their personal information stored securely by their state for the duration of their lives and for a short period thereafter (at least until all their property rights expire). They need this information to be consistent and not tampered with, so as to be able to enter into any transaction with third parties over the course of their lives. Second, individuals need this information disseminated to third parties through the intermediation of the state granting validity to the transmission. Trust in human transactions is tacitly provided by the state, through validation (or even direct transmission) of the personal information concerned. Consequently, it is the performance of these three fundamental tasks (creation, storage and dissemination) that makes any particular state legitimate for its citizens: as long as it is able to perform all three of them for its citizens, legitimation is warranted for the state concerned. On the contrary, if this ceases to be the case for either one of these tasks then state legitimation is lost.

The above is not intended to be a purely theoretical exercise. The idea of the state has been recently gravely challenged, to the point of questioning its relevance

⁴⁰ Out of an extensive bibliography on state legitimacy see, indicatively, Wojciech Sadurski, Michael Sevel, and Kevin Walton, eds., *Legitimacy: the state and beyond* (Oxford: Oxford University Press, 2019); Fabienne Peter, 'Political Legitimacy', ed. Edward N Zalta, Summer 2017, *The Stanford Encyclopedia of Philosophy* (2017), plato.stanford.edu/archives/sum2017/entries/legitimacy/; Steffen Schneider et al., *Democracy's deep roots: Why the nation state remains legitimate* (New York: Palgrave Macmillan, 2010).

in the contemporary, globalised and digitised, environment.⁴¹ A state theory based on information processing, that also considers states as natural (and thus necessary) to humans, is better suited to address the challenges of the digital world, as will be demonstrated in the subsection that follows.

C. The Traditional Role of States has been Eroded by Online Private Platforms

While, as seen above, the States-as-Information-Platforms theory is able to hold its ground next to the basic political theories of the past, it is within the contemporary digital environment that its advantages become clearer. Following the line of reasoning of Schmitt, it is only in extraordinary conditions that we can test the validity of our otherwise normal assumptions.⁴² These extraordinary conditions in this case have recently been created by large, international, privately owned online platforms, which have brought an unprecedented challenge to the modern notion of the state.⁴³

A brief examination of the frontispiece in Hobbes's *Leviathan* is revealing for the purposes of this argument. In it, a giant crowned figure is seen emerging from the landscape, clutching a sword and a crosier beneath a quote from the Book of Job (*Non est potestas Super Terram quae Comparetur ei/There is no power on earth to be compared to him*). The torso and arms of the giant are composed of over three hundred people all facing inwards, away from the viewer. The giant is obviously the state, composed of its citizens or subjects. It provides security to them under the social contract theory. However, how is it able to do that? Tellingly, by staying above the landscape, by seeing (and knowing) all, by exercising total control.

Throughout human history the personal information processing carried out by states as information platforms was not only exclusive (as part of the respective states' legitimacy) but also fully controlled by them in terms of the locality of their subjects.⁴⁴ Until the advent of the Information Age and of the Internet,

⁴¹ See, eg, Pierson noting 'a very widespread decline in popular and intellectual faith in its competence and, for some, the belief that we are witnessing the 'twilight of the state' (*The modern state*, 1). See also Susan Strange, *The retreat of the state: The diffusion of power in the world economy* (Cambridge: Cambridge University Press, 1996); Van Creveld, *The rise and decline of the state*.

⁴² Schmitt, *Political theology: Four chapters on the concept of sovereignty*, 5.

⁴³ See also Sulyok, suggesting that the academic discourse turns to the 'essential state functions' in order to deal with these challenges (Márton Sulyok, 'How to Tame the Beast? Toward a 'Regulation Revolution' in the Digital Platform Economy,' in *The Entrepreneurial Ecosystem: A Global Perspective*, eds. Zoltan J Acs, Esteban Lafuente, and László Szerb (Cham: Springer Nature Switzerland, 2023), 346). Similarly, Vesting speaks of a 'network state' that 'must recognize the capacity of post-industrial society for self-organization' and 'engage not only (and not even primarily) with political subjects – political parties, associations, social movements, voters, etc. – but also with subjects involved in 'private ordering' (corporations, production networks, contractual networks, etc.)' (*State Theory and the Law: An Introduction* (Cheltenham, Edward Elgar Publishing, 2022), 185).

⁴⁴ See Annabel S Brett, *Changes of state: nature and the limits of the city in early modern natural law* (Princeton and Oxford: Princeton University Press, 2011), 169. See also the seventh defining

with limited exceptions (small circles of merchants, soldiers or priests who travelled around), any and all personal information processing was performed locally, at state level. Individuals created families, studied, worked and transacted within closed, physical state borders. There was no way to transact across a border without state intervention, and thus control, in the form of a physical border-crossing and the need for the relevant paperwork, import/export taxes and passports, visas or other travel documents. This was as true in the distant past as it was as recently as the early 1990s, when the Internet emerged.

States were therefore able to provide security and protect the rights of their citizens because they controlled their information flows. States knew everything, from business transactions to personal relationships. They basically controlled the flow of money and people through control of the relevant information. They could impose internal order and undertake large-scale projects by using this information, and could protect themselves from external enemies by being able to mobilise resources (people and material) over which they had total and complete control. Within a States-as-Information-Platforms context, they co-created the information with their citizens or subjects but they retained total control over it.

Large, privately owned online platforms (aptly named ‘gatekeepers’ according to EU law)⁴⁵ have eroded this age-old model by removing exclusive control of information from the states’ reach. Now individuals transact over platforms, bypassing mandatory state controls (borders, customs etc) of the past. They study online and acquire certificates from organisations that are not necessarily nationally accredited or supervised. They create cross-national communities and exchange information or carry out common projects without any state involvement. They have direct access to information generated outside their countries’ borders, completely uncontrolled by their governments. States that were comfortably controlling the flow of personal information of their citizens now face competition from private platforms. This fundamentally affects the frontispiece in Hobbes’s *Leviathan*. The artist has chosen that none of the people composing the giant has their face turned towards the viewer, but rather they face the state. This has changed with the emergence of online platforms: individuals now have faces, and are looking outwards, to the whole wide world, which has suddenly been opened up to each one of us, in an unprecedented twist in human history. Or, in other words, Morris’s claim a few years ago that ‘modern states claim a variety of powers for themselves and deny them to non-states’⁴⁶ is no longer applicable in the digital realm where ‘non-states’ are large, international, privately owned online platforms.

characteristic for the definition of a state (‘The state must be able to define ‘citizens’, those who are members of its society; and it must be able to control entry to and exit from its territory by citizens and others’) by Dryzek and Dunleavy (Dryzek and Dunleavy, *Theories of the democratic state*, 3).

⁴⁵ Most importantly, in the text of the Digital Markets Act (Art 3).

⁴⁶ Morris, *An essay on the modern state*, 16.

This extraordinary challenge to modern states brought about by the Information Age is best viewed, and dealt with, under the States-as-Information-Platforms theory. The breakdown of the traditional model for the control of information flows caused by online private platforms is best comprehended within a state theory that is based precisely on information processing. One cannot understand the problem unless its origins are precisely identified. In addition, well-identified challenges in the form of cybersecurity threats, cyberwarfare or online, cross-border disinformation campaigns effectively constitute disruptions to the information processing models applied until recently by states. States should therefore embrace their role as information platforms for their citizens and, presumably, either seek to restore pre-digital-world models or develop new ones. At the same time, this information processing approach shows the way for states to retain their legitimacy in the digital realm. Digital legitimacy is warranted as long as states continue to provide to their citizens safe storage and authoritative transmission of their personal information. While control of all information flows to their citizens is no longer possible within the digital environment, by focusing and warranting these fundamental tasks, states may retain their legitimacy, and (digital) sovereignty.

III. Individuals (and Human Rights) within the States-as-Information-Platforms Theory

In this section the second premise of a political theory of information (humans need to maximise their information processing) will be discussed in III.A. Subsequently, the specific consequences of this line of reasoning for the field of human rights will be presented in III.B.

A. Humans Need to Maximise their Information Processing

Within a political theory of information, humans may be viewed as informational beings, in the sense that they can and will process information whenever and wherever possible.⁴⁷ In the same context, the analogue world may be viewed as a (closed, in the sense that information is finite) system of information,⁴⁸ whereby

⁴⁷ See also Baumeister, Maranges and Vohs' 'theory of the human self as information agent' ('Human self as information agent: Functioning in a social environment based on shared meanings,' *Review of General Psychology* 22, no. 1 (2018)), as well as Dawkins' claim that 'What lies at the heart of every living thing is not a fire, not warm breath, not a 'spark of life'. It is information, words, instructions. If you want a metaphor, don't think of fires and sparks and breath. Think, instead, of a billion discrete, digital characters carved in tablets of crystal. If you want to understand life, don't think about vibrant, throbbing gels and oozes, think about information technology.' (*The blind watchmaker: Why the evidence of evolution reveals a universe without design* (WW Norton & Company, 1996), 112).

⁴⁸ Following, basically, Wheeler's 'it from bit' theory: 'It from bit symbolizes the idea that every item of the physical world has at bottom – at a very deep bottom, in most instances – an immaterial source

life itself (for all living beings) is information processing.⁴⁹ Informational beings not only can and will, but also need to process information. This is the only way to satisfy their basic, primal need to survive. This information is not simply where to find food or shelter. Life being information processing, survival is the need to continue doing so.

What is unique, however, to humans is that they not only can, will and need to process information in order to survive (as is true of all other informational beings, such as animals), but that they need to maximise their information processing.⁵⁰ In other words, humans, unlike other animals, will not rest if their basic need for survival has been satisfied. They will not limit their processing of information at that point, they will not stop. On the contrary, they will continue processing information, for whatever purpose for each of them, to the maximum of their abilities.

The need to maximise their information processing is shared by all humans, throughout human history. From the time our ancestors drew on cave walls and improved their food gathering skills to the Greco-Roman age, the Renaissance and the Industrial Revolution, humans have basically always tried, and succeeded, to increase their processing of information, to maximise their informational footprint, both individually and collectively. Or, in Van Doren's words, 'the history of mankind is the history of the progress and development of human knowledge. Universal history [...] is no other than an account of how mankind's knowledge has grown and changed over the ages.'⁵¹ In essence, progress in human history⁵² has been caused by (and is best viewed through) an increase in information processing.

The sum of human life may therefore be viewed as information processing. Knowledge, relationships and experiences are basically comprised of information processing for the individuals concerned. The same (information processing) lies at the basis of human feelings. Property⁵³ is not pursued (and protected) for its own sake (ie, for the collection of money per se), but for the information processing it enables for its owner. Constant change in the human environment makes sure that new information processing is necessary even in terms of mere survival.

and explanation; [...] in short, that all things physical are information-theoretic in origin and this is a participatory universe' (John Archibald Wheeler, 'Information, Physics, Quantum: The Search for Links', in *Feynman and Computation*, ed. Anthony Hey (Boca Raton: CRC Press, 2002), 311).

⁴⁹ According to Dawkins, 'Life is just bytes and bytes and bytes of digital information' (*River out of Eden: A Darwinian view of life* (London: Weidenfeld & Nicolson, 1995), 19). See also Loewenstein, arguing that 'the information circle becomes the unit of life' (*The touchstone of life: molecular information, cell communication, and the foundations of life* (Oxford: Oxford University Press, 1999), xvi).

⁵⁰ See also Baumeister, Maranges and Vohs claiming a 'basic and presumably widespread [human] motive to seek information', with further bibliography ('Human self as information agent: Functioning in a social environment based on shared meanings', 40).

⁵¹ Charles Van Doren, *A History of Knowledge: Past, present, and future* (New York: Ballantine Books, 1992), xvii.

⁵² As noted by Pascal 'Not only does each individual progress from day to day, but mankind as a whole constantly progresses' (cited in Van Doren, *A History of Knowledge: Past, present, and future*, xv).

⁵³ Meaning tangible property assets – intellectual property being based on information processing.

Information processing lies at the heart of human existence. Nevertheless, it has been taking place tacitly, unobserved and in the background, until the Information Age and the digital world brought it forcefully to the fore.

It is this basic need that states, being informational infrastructures, satisfy. States are natural to humans because humans need to maximise their information processing and the state is the only (until now, at least) natural, way to do that. As seen in section II.A, human communication would be impossible without a state-attributed name and citizenship. In this way, humans are turned into identifiable and unique individuals that exponentially increase their information processing capacity within organised societies. Human culture is the result of this basic transformation that offers humans the means to satisfy their basic need for ever-increasing information processing.

B. Human Rights Viewed Through Information Processing

A number of consequences may be derived when combining the two basic premises of the political theory of information presented above. Human rights, specifically, may be viewed as permissions to process information. Individuals' desire to process information is insatiable. The pursuit of happiness, whatever that may be for each individual, amounts to the maximisation of that individual's information processing: the pursuit of ever-more relationships, experiences, knowledge, property and so on. However, such processing is limited in two important external ways (notwithstanding each individual's actual capacity for processing). First, by the states themselves, depending on their organisation, meaning, the political system under which they are organised. Although states exist by nature, their organisation is not also provided by nature. Within their basic function to serve the informational needs of their citizens, the ways to accomplish this are left open. Depending on the system of political organisation, certain limitations will be imposed on individuals' desire to maximise their information processing. These may vary considerably in scope and nature (for example, between a democratic and an authoritative political system).

The second limitation imposed on individuals' insatiable desire to increase their information processing is set by the processing of other individuals, who may allow or not allow others to access and use information controlled by them. Such control may refer not only to their personal information (see also section IV) but also to non-personal information over which specific individuals can allow or prohibit processing by others (property rights).

The above assumptions may also prove of some use to the discussion on whether human rights are natural or created (posited, hence the 'positivist' theory)⁵⁴ by states.⁵⁵ Because states exist by nature, as is also the case with individuals'

⁵⁴ Morris, *An essay on the modern state*, 8.

⁵⁵ Out of an extensive bibliography see, indicatively, Richard Tuck, *Natural rights theories: their origin and development* (Cambridge: Cambridge University Press, 1979); John Finnis, *Natural law*

desire to maximise their information processing, it can be claimed that the human rights of security, dignity of the person, property and others are also naturally created in the course of interaction between states and their citizens. Nevertheless, any list of natural-born human rights cannot be taken as a given. Human rights are permissions to process information that may or may not be granted. While an ideal condition whereby such permissions are given is in accordance with individuals' natural need to process information, the freedom to process is not unlimited. In other words, individuals form states at the time of their birth; throughout their lives they also address requests to their states that will allow them to maximise their information processing (to stay alive, secure, free; to receive an education; to acquire a religion etc). Whether these states grant them these permissions or not (or grant them in varying degrees) is not a natural but an artificial, man-made choice that ultimately lies with the way these states are controlled and run, meaning their political system.

IV. The Right to Data Protection as a Case Study

The right to data protection is a fundamental human right under EU law: According to paragraph 1 of Article 16 TFEU, 'Everyone has the right to the protection of personal data concerning them.' Paragraph 2 of the same Article requires that special legislation lays down 'the rules relating to the protection of individuals with regard to the processing of personal data.' In response to this request,⁵⁶ the GDPR was introduced in 2016; since 2018 it has constituted the basic regulatory text in the EU for the processing of personal information.⁵⁷

The GDPR has defined its scope of application in the widest manner possible. Specifically, it applies 'to the processing of personal data wholly or partly by automated means and to the processing other than by automated means of personal data which form part of a filing system or are intended to form part of a filing system'.⁵⁸ 'Personal data' is defined as

any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.⁵⁹

Furthermore, a 'filing system' means 'any structured set of personal data which are accessible according to specific criteria, whether centralised, decentralised or

and natural rights (Oxford: Oxford University Press, 2011); and Herbert Lionel Adolphus Hart, 'Are there any natural rights?', *The philosophical review* 64, no. 2 (1955).

⁵⁶ See particularly its Preamble, para 12.

⁵⁷ See its Art 4(1). For the purposes of this analysis the terms 'personal data' and 'personal information' will be used interchangeably, as synonyms.

⁵⁸ Art 2 para 1 of the GDPR.

⁵⁹ Art 4(1) of the GDPR.

dispersed on a functional or geographical basis.⁶⁰ Thus Lloyd appears to be justified in his claim that ‘it might be suggested, with little element of exaggeration, that whilst the act of dreaming about data will not constitute processing, any further activities will bring a party within the scope of the legislation.’⁶¹

Such ambitious scope-setting was bound to lead to implementation issues. Most characteristically, these were identified by the CJEU’s Advocate General (AG) Bobek in an Opinion delivered in 2021: ‘Humans are social creatures. Most of our interactions involve the sharing of some sort of information, often at times with other humans. Should any and virtually every exchange of such information be subject to the GDPR?’⁶² He therefore formulated the question: ‘Should no substantive limit be placed on the scope of the GDPR? Is every form of human interaction, in which information about other humans is being disclosed, regardless of the way it is being disclosed, supposed to be subject to its rather onerous rules?’⁶³

An analysis of the scope of the GDPR lies well beyond the purposes of this chapter, and the problems caused by its wide scope-setting have also already been identified in the relevant legal theory.⁶⁴ However, AG Bobek’s opinion is only mentioned here because it highlights an issue that is also of relevance to the human rights approach under the States-as-Information-Platforms theory seen above. Specifically, the problem identified by him (‘Should any and virtually every exchange of such information be subject to the GDPR?’) lies at the core of a new political theory of information: if human rights are permissions to process information and humans’ basic need is to maximise their information processing within states that constitute information platforms, where does a right to personal data protection fit in?

The individual right to data protection aims to give control to individuals over their personal information.⁶⁵ Within the right to self-determination context,⁶⁶ individuals are meant to control the flows of personal information pertaining to them to any third party. This is a qualitative switch from the TFEU wording, that awards protection but not necessarily control. In any event, the fact remains that under the GDPR, strict rules are introduced on the processing of personal

⁶⁰ Art 4(6) of the GDPR.

⁶¹ Ian Lloyd, *Information Technology Law*, 5th edn (Oxford: Oxford University Press, 2008), 49.

⁶² CJEU, Opinion of Advocate General Bobek, delivered on 6 October 2021, on Case C-245/20 (X, Z v Autoriteit Persoonsgegevens), para 55.

⁶³ *ibid* para 58.

⁶⁴ See Nadezhda Purtova, ‘The law of everything. Broad concept of personal data and future of EU data protection law,’ *Law, Innovation and Technology* 10, no. 1 (2018), with further references.

⁶⁵ See, eg, the GDPR’s preamble, para 7.

⁶⁶ On the right to self-determination in place of an extensive bibliography see, indicatively, Antoinette Rouvroy and Yves Poullet, ‘The Right to Informational Self-Determination and the Value of Self-Development: Reassessing the Importance of Privacy for Democracy,’ in *Reinventing Data Protection?*, eds. Serge Gutwirth et al. (Cham: Springer, 2009), Hielke Hijmans, ‘Privacy and Data Protection as Values of the EU That Matter, Also in the Information Society,’ in *The European Union as Guardian of Internet Privacy: The Story of Art 16 TFEU* (Cham: Springer International Publishing, 2016).

information within the EU. Any access and use of personal information is intended to be managed by the individuals concerned.

How is this, and relevant criticism of data protection, reflected in the human rights approach described above? It is achieved in two ways. First, through practical illustration of control, meaning the permission or not to process personal information. As seen above, limitations on individuals' insatiable wish to process information can be placed by fellow humans who may or may not grant them access to their own personal information. In practice, this process is realised in law through the individual right to data protection. In the course of their lives, individuals create personal information over which they retain exclusive control. Whether or not they allow third parties to access and use this information is entirely a matter of their will. Exceptions are permitted only to the benefit of their states, in order to properly function as information platforms, and civil society. Nowhere else is this balancing of controls depicted more clearly than in the text of the GDPR.

At the same time, however, this is the greatest challenge to GDPR and data protection, as identified by AG Bobek above. Because the GDPR is basically the legal instrument used to manage control over the flows of personal information, and under a States-as-Information-Platforms political theory the sum of human life may be viewed as information processing, the GDPR is ultimately the gatekeeper to any and all instances of human life. If all of human life can be viewed as information processing and such information processing leads to the creation of personal information for each individual concerned, then the GDPR is the necessary tool for each individual to use to exercise and keep control over their life. GDPR ubiquitousness is thus the unexpected outcome of the application of this new political theory of information in practice. This is effectively what caused the, justified, exasperation of AG Bobek above, and his request for rationalisation of the scope of GDPR.

The above has been accentuated in the digital environment. As human life becomes increasingly digitised, more and more human activities take place either exclusively or in large part in the digital world. Because the GDPR applies in all cases of automated personal information processing, routine human activities increasingly fall within its scope of application. Well-regulated personal data processing has forcefully entered Europeans' everyday lives, changing patterns and habits that survived for ages in the analogue world. At the same time, however, it is the digital world that has made the above theoretical distinctions possible. The right to data protection and the whole field of data protection law is a recent addition to the field of law (and to the list of human rights, as seen above) that was made possible only through the advent of information technology.⁶⁷ Before this, humans at best had to live with a limited right to privacy, whenever

⁶⁷ As most recently affirmed in the Handbook on European Data Protection Law (available for download by the EU Publications Office, version 2018, the 'Handbook on European Data Protection Law'), 18.

and however acknowledged.⁶⁸ Although the processing of personal data had taken place tacitly and in the background since the first human communication in written form, thousands of years had to pass before humanity acquired its first data protection law. It was information technology that caused this to happen, in the very same manner that the Information Age has made a new political theory of information visible and necessary.

V. Conclusion

The advent of the Information Age and the digital world have challenged old assumptions and have made new understandings possible. At the same time a new political theory is necessary, to account for the exponential growth in humanity's information processing, which does not seem likely to subside any time soon.⁶⁹ Any such theory needs to place information at its centre. Notwithstanding the 'data is the new oil' adage,⁷⁰ the fact remains that the importance of procedures, tools and rules pertaining to information and its processing has been acknowledged by governments, states and individuals worldwide.

It is mostly this challenge that the new theory viewing states as information platform addresses. It is based on two premises: first, that states, in the form of organised societies, are information platforms for their citizens. They act as an information intermediary, making the communication among humans possible. It is only through their tacit intermediation and personal information processing that humans can engage in any interaction and live a meaningful life. The second premise of this theory turns the focus to humans. Humans' basic need is to maximise their information processing. Accordingly, the sum of human life may be viewed as information processing. Once these two premises are brought together, concrete findings (and replies to age-old political philosophy questions) may be reached: state legitimacy is warranted whenever the personal information of those states' citizens is safely (co-)created, stored and authoritatively disseminated. Human rights can be viewed as permissions to process information, on which limitations can be placed either by states, according to their political system, or by other individuals. Future strands of research may include the optimal form of government, state sovereignty and territory, or the role, and nature, of law. While the above are ultimately mere tools to better understand and navigate the contemporary mix of the digital and the analogue worlds, as indicatively illustrated in the case study on the right to data protection, at the same time they

⁶⁸ The famous Warren and Brandeis article on the right to privacy was only published in 1890.

⁶⁹ See, eg, Marr, Bernard, *How Much Data Do We Create Every Day? The Mind-Blowing Stats Everyone Should Read*, Forbes, 21 May 2018, which claims that 'There are 2.5 quintillion bytes of data created each day at our current pace, but that pace is only accelerating with the growth of the Internet of Things (IoT). Over the last two years alone 90 percent of the data in the world was generated.'

⁷⁰ The Economist, *The world's most valuable resource is no longer oil, but data*, 6 May 2017.

help to shed new light and add new meaning to the political philosophy of the past that, although it has served humanity well over the ages, perhaps did not take adequately into account the critical role in human life held by information processing.

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