Datafication of Automated (Legal) Decisions - or how (not) to install a GPS when law is not precisely a map

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In the present paper, I shall present some preliminary thoughts on the implications of automated decisions, especially automated legal decisions but also other types of automated decisions that have legal implications. The problem which I am setting out to provide some probable answer to goes like this: What are the implications of automated (legal) decisions? This is obviously quite a large project, and the question cannot be fully answered in a paper. In fact, it cannot be fully answered at all, one, because it is too broad and involves all sorts of specialized knowledge, and, two, because technology moves faster than anyone is ever able to contemplate its consequences. Still, I find it worthwhile to provide some preliminary thoughts and deliberations, attempting to think it through. Hopefully, it is also worthwhile for the reader.

As will be more elaborate throughout the paper, it is an assumption that the way automated decisions are conceived and constructed in itself has implications. If, say, legislation is drafted in a way fit for automated decisions – the legal effect A is produced by either a, b or c and nothing else – this will have implications not only for law, but also for legal actors (case workers will to a large extend be rendered superfluous), legal orders, legal research (machines will probably be better at predicting case outcomes compared to old fashioned analogue research methods), legitimacy (too much automated decision making may render the legal system less legitimate), personal autonomy (from personal autonomy to machine autonomy) and even democracy. Before venturing into considerations of the implications of automated decisions in those field it is, however, necessary to consider some basic concepts.

In section 1 I sketch out why we ascribe decision making to non-humans and why it is partly well reasoned, partly mistaken. In section 2, I set out to analyze some main characteristics of human decision making in contradistinction to computation, and finally in section I briefly – much too briefly – sketch out some of the implications.

1. Decision making and anthropomorphism
One may reasonably question whether a machine is capable of decision making. As an example, when I am filling in some tax data, and the system is quickly telling me that I am entitled to have some money back, and a few days after I do, in fact, have money my bank account, what is happening, and which words do we use to grasp what is going on? I am interacting with an IT system, and I might be quite happy that it works fast – especially, of course, when I am reimbursed – and the system even provides with some advice as I go along. But does the system do anything at all other than re-acting to my input data? Does it act at all, let alone make a decision?

The Danish legal philosopher, Alf Ross, characterized a decision as an “irrational spiritual act”,¹ and he was right in the limited sense that a decision is not a purely logical computation. Of course, a decision is not – necessarily – totally irrational, as it is neither totally random nor totally unlogic. The ‘irrational’ part is the part of a decision which is not totally mathematical or logic – which to Ross’ dichotomized thinking was

equal to it being irrational. The part where Ross got it right is the fact that a decision is not merely a logical
computation. A decision may include some logical thinking – it’d better – but there is more to it.

Still, we may use the word ‘decide’ in connection with purely logic computation. When I ask my GPS to tell
me to get from A to B, it seems to be able to make a quick decision as to which way to guide me, and a
female voice, which I may conceive as a person\(^2\) actually talking to me, will me directions as I go along.
Apparently, the machine has decided which way to guide me among several options. However, in one
sense I do not ask any question, but merely provides the system with some data, and by pre-installed
computation the system finds the way. Similar, the GPS is not making any decisions but merely reacts
automatically to the input that I am providing, the reaction being prefabricated by a large data set (earth
map) and algorithms computing the directions. And of course, no one is talking to me, it is merely pre-
recorded sound bites which are activated by specified stimuli. I know this of course, I am not tricked into
believing that a living woman is talking to me. Still I may communicate as if, telling her that I already got it,
when the sound bite is repeated, and even tell her to shut up when she is telling me to turn immediately,
because I realized that I needed some coffee to go, which she is not (yet?) able to grasp. Machines do not
know how it is to be in need of coffee, and machines do not make proper decisions. Machines are fast, they
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are highly helpful, but totally stupid, the last of which may be the reason I start yelling at the machine
because it keeps on telling me in what seems in an increasingly patronizing voice that I should return to the
pre-set route. The interesting part here is that I somehow perceive the machine as a person kindly (or
stubbornly) guiding my way. Even though I know that I am not communicating with a person, the voice of
the GPS creates a pleasant – or unpleasant – situation, different to the one when I am merely checking the
route on a map. But, alas, the IT system does not make any decision, it is like the car reacting to my turning
of the wheel or pressing some buttons, only more advanced, more subtle, and not less importantly, to
some extent dressed up as a human being talking to me and giving medical advice, which may make me feel
comfortable – or uncomfortable as the case may be – and may entice me into talking about the GPS system
as if it were a person.

What I am trying to get at is that we may use words as asking, answering, deciding, being stupid etc., and
often we do this tongue in cheek, knowing that we are not communicating with anyone but merely
pretending as if the machine is a human being, we are, so to speak, consciously anthropomorphizing. But
there is a difference, I contend, between providing an IT system with data and asking a person for
directions. It is not an absolute difference. When asking a person, I also provide this person with data
(information) about where I want to go, and the person usually comes up with an answer in form of data
(information) as how to get to B. Providing data to a GPS system and asking a person for directions is not
two entirely different activities. But there are important differences, nevertheless: So far, the system does
not understand that I have an intention of going to B (and even less does the system have the capacity to
doubt my intentions or fooling me to go somewhere else). It merely reacts to the input if presented in a
system conform way. The advantage of making use of a logical system is that it may be able to provide me
with much more precise output as it is able to process a larger set of data at a much higher speed. But – so
far – it cannot ask whether it is B that I want to go to, as B is known to be the address of the local
undertaker, and I rather look like one who is headed for a wedding party.

I therefore suggest that there are similarities between asking a person for directions and providing a system
with data, sufficient similarities to warrant the use of common sense anthropomorphic expressions. On the
other hand, there are also differences: In the strict sense of the terms we do not ask the it system to do

\(^2\) Person here indicating a human being
something, we provide it with data which will cause an automated reaction (even the term re-action may be misleading). The system does make any decision but is merely a device made with smart capabilities which may provide us with widely demanded services. Like the car does not take us anywhere, but mechanically reacts to our (so far mainly analogue) inputs, an advanced IT system does not tell us anything but merely reacts to the inputs.

It is not unwarranted to ascribe anthropomorphic features to machines – in fact we are continuously engaging in anthropomorphising even to a root on the path in the wood: “Hey, get out of my way” – but we ought to be aware of the problems involved. The root cannot get out of the way, and the IT system cannot answer or make any decision.

The danger, I contend, lies in believing that the root (automobile, Google search, tax declaration system, automatic weapons system etc.) is capable of doing anything in the strict sense of the word. Of course, they are all able to cause effects, just like earthquakes, blizzards and hurricanes may cause severe troubles. But neither earthquakes nor IT system are looking for trouble, they are not looking for anything, but merely react automatically (or at least unintentionally) to sometimes highly complex situations. Human beings act, communicate and make decisions. Machines don’t. But they may be constructed in ways that warrant the use of the words acting, communicating, decision making etc. The important thing is to keep the distinction in mind, when necessary. In the following I shall apply the terminology ‘decision (etc) in the broad sense’ when including machine decision making, and ‘decisions in the strict sense’ or ‘proper decisions’ when excluding from machines from the capacity of making the decisions.

In addition to the danger of confounding to two distinguishable situations, the machines on the one hand reacting without doing anything in the strict sense, and on the other hand human beings acting, there is another, perhaps greater, danger of confounding the two situations when manufacturing complicated systems. It is dangerous, I contend, to believe that a system under construction can act (in the strict sense), thus ascribing it more capabilities than is possible. Probably, there is an unfortunate tendency to be too optimistic as to system efficiency and capacity, also with regard to its automated capabilities. The problem on which I am focusing here is the mistake of ascribing acting capabilities to system, which in fact – at least so far – can only re-act.

Please note that I am in no way discouraging towards research in intelligent machines, i.e. machines that will be able to act in the strict sense. What I am warning against is the belief that man made products are able to act when they are not. It is a kind of philosophical impatience: having solved some philosophical or technical problems and then being so impatient as to believe that the entire problem has been solved. Human beings are now able to create highly complex machine (artificial intelligence) but so far, the machines are incredibly stupid when it comes to understanding social situations, let alone acting in social situations which are also highly complex. And as I shall touch upon below, intelligence or at least decision making, acting and doing is, tied up in human sociality.

2. Human decision making
I contend that only biological creatures such as human beings are able to make decisions. At least for the time being, indicating that I am not in position to rule out future human products being able to make

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3 Similar to ‘sunrise’. In many situations it is perfectly fine to apply the word sunrise, even when we know that in fact the sun does not rise, it is the planet Earth revolving around the planet Sun.

4 In a radio program, “Hjernekassen” [the Brain Box], Monday 18 September, DR P 1, 9:00-10:00, Thomas Bolander
decisions in the strict sense of the word, being able to act, to do something. But this feature of manmade systems is not on the horizon. It is (perhaps) imaginable but presently it is far from being a fact. This hinges, I suggest, on the fact the human beings are social in a strong sense of the word, we have intentions, we have a theory of mind and we have an urge to make sense. And we make decisions, sometimes in ways that are highly problematic. All of this is important for understanding decision making, including legal decision making, and it may indicate where automated decisions (in the weak sense) may be helpful.

The social aspect is important. Human beings are a social species, similar to wolves, lions and chimpanzees, and different from cats, tigers and cheetahs. This is a biological fact and mixed with our high intelligence this creates the possibility of a highly complicated interaction, which – so far – has proved very difficult reduce to algorithms.\(^5\) Smart concepts such as truth and law are connected to the social. The idea of truth is connected to the existence of a community – not in the sense that the community can arbitrarily decide what the truth is (despite many attempts) but in the sense that truth does not make sense without a community. It is a concept that is highly useful when dealing with nature and when dealing with other human beings (also being a part of nature but with the special features). Law, too, is a social phenomenon. Law is about how to behave, and how to create complex solutions and how to solve, at times, complex problems. Even Locke’s attribution of rights to the individual presupposes community. The alleged natural rights, which Locke vested in the individual, are meant for human encounters outside established societies, or in other words, how to behave when there is no settled community with settled positive law. Still, had there been no society outside the established societies, there wouldn’t be a need for law. In comparison, IT systems are not very social. They may interact (in the broad sense of the word), but only in a very stupid and often anti-social way.

It is also a biological fact that human beings have a highly developed sense of the self and of the individual. Only few species are able to recognize themselves in a mirror. Some species are able to recognize something in a mirror, some will recognize a peer, but only few will recognize the mirror picture as themselves. This seems to relevant only to chimpanzees, perhaps elephants and dolphins, and for sure human beings. In a way individualism is only possible among a social species. A tiger, roaming individually, neither needs nor has the capacity of a complex self-conception, neither does it need law. Human beings, on the contrary, excel in being both social and individual, and I contend that decision making is a complex mix of sociality and individualism. An individual may make a decision but only because s/he is bought up in a society, and her decisions will always presuppose and probably even encompass a societal aspect. Presuppose because the individual has developed the decision making skills within a society (or several societies), and encompass because the individual is likely to include parts of the socialized skills even though s/he may not be aware of it and even if s/he trying to avoid it. Computers are far from reaching this advanced stage of being embedded in one or several societies and at the same time being able to act on its own. On the other hand, computers are much better at processing data within a vast, yet closed field of data, a point to which I shall return below.

One difficult thing is that human beings have intentions. We may intend to get some coffee, to improve our career and to make funny statements. Sometimes we do not succeed, we don’t get our coffee, our career is in shambles and nobody laughs. And sometimes we may have – or be understood to have – other intentions that we make explicit. We may hide or intentions on purpose, and we may be fooled by our own intentions, like trying to find a partner and then in fact having no intentions of finding only one, as the process of exploring possible material is much more interesting. Or maybe we don’t have very clear

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\(^5\) Thomas Bolander, speech 18 Sep 2017 in the DR P1 radio program “Hjernekassen”.
intentions, which makes it difficult for ourselves, we don’t know where we are headed and in a sense do not know what we are doing, and for others too. The point here, of course, is that so far computers do not have intentions – and it is not a problem that they don’t, it is only a problem if we think they do or construct them as if they do. Computers, IT systems and artificially intelligent machines do not have any intentions of making the tax system more efficient – or inefficient for that matter, they don’t have any intentions of guiding us the right way or of making any good legal decisions. They don’t care because they can’t.

It is a different question whether we as human beings ought to try to produce computers with intentions. If successful, we risk machines intending to do away with human beings, and with their much larger computing capabilities, we may end up being extinct. So far, this is not the point. Presently, computers do not have intentions and it is a mistake – and a dangerous – to conceive of and construct machines as if they did. We can’t count on any tax IT system to care whether tax is collected or not. The machines can only help us to process vast amounts of information fast, including generate pre-fabricated solutions in rather complex individual tax relevant situations. Or rather, the system can’t help us, but we can help ourselves, if we are cleverly designing the systems, help ourselves in creating a better and more efficient tax system in order to secure the basis for a well-functioning welfare state.

Human beings have intentions, and people working in the tax system may have the intention of assisting in a fair collection of taxes. However, some may also have the intentions of trying to milk the tax authority of extra personal benefits or they may have the intention of working as little as possible while getting their monthly pay check. This is why we need control systems (analogue or digital), and why we need to establish and maintain a culture of trust and loyalty. And this is also why digital systems may be more reliable than human. They don’t cheat because they lack the capability of having any intention of cheating.

Connected to the intentions, the social aspect and the prominence of the individual human beings also have a theory of mind, i.e. (roughly) an idea that other individuals have their understandings, (hidden) intentions etc. Because computers do not have the capability of intention, computers do not (or perhaps even cannot) have a theory of mind, which in turn implies that they are awfully stupid when interacting with human beings which are super social. ‘Super’ exactly because of the theory of mind. Chickens are also social, but they have no theory of mind, so they are just plain social. Human beings – and perhaps some other species – have a theory of mind and are therefore super social, not only acting within a group, but also understanding (or at times misunderstanding) other actors’ intentions, and making decisions from that understanding. Thus, human decision making involves a theory of mind and presupposes a super social actor in order to be able to make a decision at all. E.g. a legal decision may involve evaluations of the intentions of the involved interacting people, including their intentions in court, do they speak the truth, are they moulding their version in order to please the judge or other persons etc., and the witnesses may be prepared to give a statement that aside from accounting for the fact also take the expected perception of the judge into consideration, including the judge’s perceived ideas of how a credible person acts, etc. Human beings understood this way, are super social, chickens are merely social, and computers are just not social. So far, they do not have a theory of mind, they are unable to understand the social – they are unable to understand at all in the strict sense of the word, but even in the broad sense they are unable to understand the social. And since decision making is of often about the social, and legal decision making is always about the social, it is impossible to let a machine make any legal decision, and hence it is unwise to try to design a system which are meant to do exactly that. Of course, this does not imply that it is unwise to design systems which may assist (in the broad sense) in reaching better legal conclusions, e.g. by providing
the — human — decision maker with a much vaster and much faster processed set of data. I shall return to this point further below.

Another human feature, relevant for decision making, is the aspiration for sense making. Human beings seem to be incessantly occupied with making sense of their lives, their society(ies), their history, their decisions, their actions etc., producing stories, narratives, explanations and justifications for not only their actions but also for any event (in the broad sense) in their lives. Some stories are better than others, some explanations are better, and some justifications are better. We don’t always get it right, but we always, it seems, try to get it, get the meaning, get the sense. It is most likely a biological skill developed through evolution, and in a certain sense, sense making is a social process. Not social in the sense that the individual, trying to make of her life, of an event or of a legal decision, cannot make sense on its own, but social in the sense that that tools we have in order to make sense are collectively produced.

Assuming this is the case, three important insights seem to follow.

Firstly, machines, however complex, do not have this urge of sense making. This may be an advantage as machines may go on working (in the broad sense) without wasting time and energy on considering whether it makes any sense what it is doing. On the other hand, it may be a disadvantage, especially if human beings leave it up to the mechanical systems to make sense, or if they do not design the machines and the systems in a way that takes into account the human urge for sense making.

Secondly, the sense making urge may lead us into making sense or ascribing sense where there is none, to machines as well as natural phenomena. We may try to make sense of an earth quake, believing that it is the Will of God or that it is a natural phenomenon which we cannot control but which we can know, at least to some extent (especially when assisted by digital data gathering and processing machines), and therefore making us able to take some precautions – or both. It is more problematic when we try to make sense of what a machine is doing, as it is not doing anything more than it is pre-programmed to do. And it is highly problematic if we assume that machine acting makes sense, with the outcome that designers leave out the sense making aspect when inventing a new, better and smarter technical solution. Technical solutions do not in themselves make sense, but of course they may, such as making access to information much easier and making the movement from A to be easier (be it by GPS or by automated cars). Whether automated legal decision making makes sense is an issue in need of consideration. I have my doubts, see more below, but at least it ought to be considered and not merely being assumed that the system in itself makes sense or, even worse, is capable of making sense.

This leads me, thirdly, to contend that systems, which are inherently incapable of making sense, therefore always menace the human urge for sense making. I am not claiming that (all) systems are nonsense, neither am I claiming that systems necessarily are un-make-sensible. What I claim is the importance of making sense of a system, which does not come automatically. There is a certain affinity with Habermas’ idea of the system’s colonizing the life world. Systems are, according to the ideas presented here, always a threat

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6 In both German and Danish, the common for word for car is a shorthand for automobile, ‘Auto’ and ‘bil’ respectively. On careful consideration, however, a car is only self-moving in a very limited sense, compared to a horse wagon, which needed horses to pull the car. However, the car does not move on its own, but only when all sorts of relevant material (such as fuel) and actions (such as starting the engine and turning the wheel) are added. As pointed out above, in the daily discourse we may apply principally misleading words, and there is no reason for inferring that Germans and Danes are more stupid as to the self-moving aspects of a car than English or Spanish speaking people.

to the vulnerable life world because the advent of a system may displace the meaningfulness of a life world, and we need to be aware of the sense destructing potential of any system, including automated legal decision-making systems. Briefly countering Habermas, it is important to emphasize that it is not only state made law which may pose a threat to the (inherently) meaningful life world. Firstly, the life world may not be so meaningful after all, it depends on the actual situation. Secondly, non-state actors such as (large) companies may also appear as systems in relation to the vulnerable life world. Thirdly, it is not only systems that may illegitimately colonize life worlds. Competing life worlds may also be menacing vis-à-vis one another – the Nazis may be a case in point⁸ – and reversely, life worlds may colonize systems, such as when family and friend relations and other life world preferences (i.e. prejudices) enter into administrative systems.

Summing up of the sense making capabilities of human beings it is important to realize that not only do systems not make sense in themselves, but they have an inherent propensity to menace the existing conception of meaning. Not that a certain state of meaningfulness cannot be altered or challenged, but only that loss of meaning constitutes a large intrusion in human life. Conversely, this entails that non life world systems may be preferable precisely because they are, at least in principle, neutral to life world preferences. With regard to decision making, human beings will try to make decisions that make sense. We may not succeed, but the point is that we cannot help trying making sense even of senseless decisions (be it by criticizing it for exactly being senseless or by providing justifications which at least appears to make sense). In contradistinction, computers cannot make sense. All they can – and they can do this much faster than human beings – is to process vast amounts of data and produce outcomes, which by human beings may incorrectly be conceived as a meaningful decision (in the strong sense), where in fact it is outcomes devoid of any sense.

Lastly, curiosity is a human feature, relevant also for decision making, which is, so far, lacking in computerized decision-making systems. Curiosity is no doubt an evolutionary feature of human life and perhaps even of most biological life, and I suggest that it is also part of our decision making. We may decide to venture into new fields or we may decide not to, and some fields are inherently more open to curiosity than others. Thus, legal decisions must keep within certain limits, but with regard to the activities before the decision, the persons involved must engage some curiosity as to the facts of the case, the persons involved in order to reach a wise decision. A computer, in contradistinction, is not curious and it cannot be wise. But it can be much quicker in processing vast amount of data, which human beings, of course, may exploit in our curiosity, whether we are engaged in researching space, moving around from infinite As to Bs, or in legal decision making. Besides, a computer does not get distracted whereas human beings, exactly because of our inbuilt curiosity, may get distracted by all sorts of interesting occurrences.

It seems to follow from the above that computers have a number of shortcomings compared to human beings: They are not social, they do not have a perception of themselves as individuals, they do not have intentions, they do not have a theory of mind, they do not make sense (but human beings may make sense of computer activities), computers are not curious, and as with any system they may even threaten the meaningfulness of everyday human activities. All this, I contend, is valid for any type of artificial intelligence, be it of the most advanced self-learning machines or the apparently upcoming second generations of automobiles, moving us from A to B if we tell them to. Please note that I am not making a prophesy. I cannot know whether it will possible to equip computer with intentions, a theory of mind, and

⁸ Of course, Nazi Germany can be conceived of as a system with military, police etc. But it based itself on some life world conception, a type of Heimat simple way of life, which colonized other life world, especially Jewish life worlds, to an extreme extend.
social skills. What I claim is that this is not presently the case, adding that I doubt whether it will be possible, and more importantly, that it is dangerous to pretend as if.

However, what from one perspective may be conceived of as a shortcoming may also be an advantage. Most of the mentioned human features have their advantages as well as disadvantages, and this is exactly where we may make good use of artificial intelligence, where we want large quantities of data processed fast without getting distracted or wasting time trying to make sense of the data or the data processing activity.

Still, it may be useful to turn the perspectives and take a look at human shortcomings, and here Daniel Kahneman’s distinction between slow and fast thinking\(^9\) may be helpful. Slow thinking designates the mode where we deliberate more carefully, its obvious shortcoming is exactly the slow mode, and here computers have something to offer. Fast thinking, according to my reading of Kahneman, is an evolutionary developed, presently in-built mode of thinking which in some cases may be smart and even necessary, but which in many cases is quite dysfunctional. Fast thinking is extraordinarily smart when we have to make quick decisions, such as when being attacked by a rhino\(^10\) or saving a child from drowning in a well. Here we should not waste time in carefully considering pros and cons, but act immediately in order to save our own life or the life of the child. Fast thinking is also employed when we are doing everyday activities such as walking or driving, where we do not have to cumbersomely consider which leg to move next or what to do when approaching a traffic light signaling red. In a way, fast thinking is hardly thinking at all, it is reacting (in the strict sense), a kind of practical capability. Fast thinking is to a large extent learned and practiced – we do not start out as skilled walkers or drivers – which, in fact, is part of the problem. Fast thinking is smart, indeed, but it is also tricky, especially when applied to situations for which it was not meant in the first place. Kahneman observes that we are lazy and therefore rather engage the fast thinking than the slow, and this leads us astray in many situations. One example must suffice: Kahneman mentions a research case where various nonsense words were posted in a newspaper, some more often than others. Later, the readers were asked to help choosing trademark for an upstart product. There was no indication of connection to the posted words in the newspaper, but some of the possible choices were exactly the words which had been posted. The interesting part of this is that the majority pointed to the word which had most often appeared in the newspaper, indicating that this was the most trustworthy trademark. On the face of it, this does not make sense, of course a trademark is not more trustworthy because it has appeared randomly in a newspaper. Kahneman’s explanation is that our fast thinking fools us. We have an in built capacity for “reading” possible dangers in our environment, which then makes us infer that apparently well-known occurrences is more pleasant and less dangerous. The evolutionary developed alertness turns into a somewhat deceitful way of spontaneous reaction, i.e. fast thinking in Kahneman’s terms. This may indicate that our fast thinking mode is not well equipped for making big decisions, but for fast ones. And this is where computers may provide us with much more complete and coherent sets of data, rather than us being lazy and rely on our fast decision capabilities which were designed for other use. Here it is important to note that computer systems, automated (legal) decision making, may be designed in a way which takes in our own fast and poor assessments. But by the engagement of slow thinking we ought to be able to design fast systems with fewer humanly errors.


\(^10\) Which I, in fact, did once in southern Zambia when out on a nice Sunday drive with the family. My fast thinking was not fast enough and the car ended up with a distinctive rhino mark on the left rear side. Luck is also part of life, besides more or less automated decisions.
3. Implications
To the extent that the above analyses are correct, they have implications for a variety of issues relating to automated (legal) decision making.

Due to time constraints, I shall only briefly sketch out what I find most important.

With regard to legal decisions, automated ones will not constitute a decision (in the strict sense of the word). This does not prevent automated legal decisions systems from operating, and in fact many systems are already up and running (and some down and not running, such as the infamous EFI tax recovery system).

There are a number of issues which need to be taken into consideration when setting up a system for automated legal decisions.

Firstly, one ought to consider whether it is conflict with the ban in administrative law of excluding any estimation and applying a rule instead. (The “skøn under regel”-rule). With the reservation that I am not an administrative law expert, it appears that the way the ban on “skøn under regel” functions, it is not an absolute ban but is directed at producing substantively correct decisions which at times may be unreachable if no estimation is allowed and/or if only a limited number of criteria is applied also when the situation class for additional criteria. Thus, the ban on “skøn under regel” is not really a ban, but rather a reminder to the administration that all relevant material ought to be taken into consideration when making a decision.11

Obviously, the “skøn under regel” principle (in the updated version, see immediately above) is prevailing in administrative law but is not an obstacle for the legislator which may produce rules which applies in a direct P→Q mode (which Hans Kelsen would be in favor of) without any evaluation left for the concrete decision maker.

However, there are also some problems here, leading to the second consideration, namely the issue of defeasibility. H.L.A. Hart argued in favor of defeasibility,12 the notion indicating that often or at least sometimes rules are defeasible, i.e. they are valid in most circumstances but sometimes there may be exceptions conditions which, importantly, cannot be fully formulated beforehand. Hart received some criticism for his article and he did not pursue the idea. However, others have taken it up, many arguing that the idea of defeasibility certainly has something to it.13 For the present purpose it may suffice to point out that at least it ought to be considered: Is it always possible to exhaustively indicate the necessary and sufficient conditions for applying a rule – or is it not so that even the legislator is not omniscient, and there may, at least sometimes, be a need for adding some relevant criteria that was not included by the time of the drafting, either because nobody thought of it or because nobody could think of as the new and perhaps relevant criteria and conditions connects to new phenomena, including new technology. It is noteworthy that even Charles Montesquieu, who is famous for his conception of judges as mere automats, “êtres inanimés”, and mouthpiece of the law, also emphasized that the judiciary must be able to “modérer la loi

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11 Nick Storm Stausholm, Skøn under regel, Karnov Group, 2015, PhD dissertation.
13 See e.g. various approaches, including rejections as well as defenses, Jordi Ferrer Beltrán & Giovanni Battista Ratti (eds.), The Logic of Legal Requirements: Essays on Defeasibility. Oxford University Press, 2012.
en faveur de la loi même” as he framed it,\textsuperscript{14} roughly making the same point as the proponents of defeasibility: At times, a rule cannot be fully and satisfactorily described.

This, of course, has implications for automated legal decision making. It may not always be possible to construct a rule as a mere $P \rightarrow Q$ function (or any advanced versions of the formula), and at least sometimes there is a need for a proper review – proper indicating that the review is not only checking whether formalities are followed but also whether the result is correct and just.

Thirdly, there is the issue of procedural justice. Justice including legal decision making is not only about reaching the right result but also about how the result is reached. As is the case concerning defeasibility, the question of the importance of procedural justice hinges on the concept of law. For legal philosophers such as Ronald Dworkin, the right answer is already in existence, and Hercules – a semi-god – is able to find it because he has unlimited time and knowledge. This position entails that with vast and fast computers we shall be able to find the rights answer to which only human limitations were an obstacle. Others, such as Jürgen Habermas, insists that the rights answer does not exist beforehand, at least not always, but is produced in a process which may be more or less legitimate.\textsuperscript{15} Presently, I shall leave a further argumentation in favor of procedural justice, and merely point to the intuition that persons receiving an obviously automated decision, with no possibility of communicating with the system, with no possibility of knowing which factors, the system has taken into consideration and how they were processed, and with no possibility of replying or complaining, are not likely to conceive the decision as legitimate. In fact, I would argue that even in cases of a favorable decision a fully automated one may contribute to undermine the system. If a machine is apparently dishing out money haphazardly, it does not appear legitimate, and the popular support is less likely to prevail.

Fourthly, as of May 2018 purely automated decisions are illegal according to EU law. In brief, The General Data Protection Regulation only accepts automated decisions on the conditions that the receiver is informed of the automation, that there is a right to human supervision, that the receiver has the chance to be heard and to contest the “decision”. (GDPR Art. 22 and preamble no. 71)

Obviously, there is range of other implications, and if the field is widened to include not only authoritative decision making but also decision making (in the broad sense) with legal implications, there is so much more to be said, which time does not allow.
