



New Public Analytics: Bringing in the Human

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ESTHER KEYMOLEN 

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ABSTRACT

In Professor Yeung's insightful and much-needed article 'The New Public Analytics as an Emerging Paradigm in Public Sector Administration', the focus—rightfully so—is on the use of data analytics as a form of computational analysis in the context of public administration. It delves into the question of how the turn to data-driven approaches in order to inform and even automate public sector decision-making, may bring along dangerous anomalies. In this reflection on Yeung's article, the focus will not directly be on the technological aspects of New Public Analytics (NPA), but it will shift the focus to the human side of this new paradigm. In the end, this reflection will still be about technology, but it will take a—I hope fruitful—detour, by approaching technology through its deep-rooted connection with human life.

CORRESPONDING AUTHOR:

Esther Keymolen

Tilburg Law School, Tilburg
University, NL

E.L.O.Keymolen@
tilburguniversity.edu

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In Professor Yeung's insightful and much-needed article 'The New Public Analytics as an Emerging Paradigm in Public Sector Administration', the focus —rightfully so— is on the use of data analytics as a form of computational analysis in the context of public administration.¹ It delves into the question of how the turn to data-driven approaches in order to inform and even automate public sector decision-making, may bring along dangerous anomalies. In this reflection on Yeung's article, the focus will not directly be on the technological aspects of New Public Analytics (NPA), but it will shift the focus to the human side of this new paradigm. In the end, this reflection will still be about technology, but it will take a —I hope fruitful— detour, by approaching technology through its deep-rooted connection with human life.

This reflection will bring in the human in two ways. First, through identifying the ontological intertwinement of human life and technology as a key driver for the take-up of data-driven technologies (Introna 2017). By highlighting the mediating relationship between human beings and technology, it becomes possible to understand the negative impact of technology in the context of human beings who are constantly shaping and constructing their life through artificial means. Acknowledging the essential promise of technology for human life: to make whole what is fundamentally scattered — regardless of whether it can ever fulfil that promise at all— and why this promise is so attractive to human beings, might actually contribute to formulating answers to the rise of NPA.

A, related, second way in which the human is brought in will be by focusing on the role of professionals working in the domain of public administration. After all, even if NPA aims at automating processes, there are still humans interacting with these data-driven applications. It is people who decide to order, develop, maintain, and control these applications. The impact of technology is based on the interaction people have with technology. This gives rise to the question: what kind of techno-moral skills or virtues should professionals nurture in the data-driven context (Vallor 2015, 2016)?

HUMAN-TECHNOLOGY RELATIONS

By operationalizing the concept of NPA, Prof Yeung has identified a fundamental technological change in public sector administration. She distills different facets of what NPA boils down to while doing justice to the complexity of the phenomenon; not falling into the trap of identifying one cause or reducing everything to one dominant perspective or explanation.

I find it extremely valuable that in her paper Professor Yeung also explores the roots of this algorithmic turn in public sector administration. After all, in order to develop a meaningful answer to these changes in public administration, it is essential that we understand where these changes come from. She names several causes: technological ones, such as the further development of the internet, the widespread take-up of 'smart' devices embedded in everyday life, and, of course, the continued development of advanced data analysis techniques, such as machine learning algorithms and the ability to use them to predict all kinds of behavior. In addition, there is also a number of social, economic, and political drivers that have contributed towards the increasing automation of the public sector, with the enormous commercial success of these technologies in the private sector being the most striking one. I would like to highlight an additional, yet also crucial, driver for the uptake of data-driven technologies, namely, the ontological intertwining of human life and technology.

With the German philosopher Helmuth Plessner, we can state that what is constitutional to human life is that it has to be built, it has to be constructed (Plessner 1928, 2019). From the clothes we wear to the smart devices we use, these artefacts all contribute to building and delineating a space (*Umwelt*) where the contingency of human life is made bearable. With the promise of making processes faster, smarter, safer, and more effective, technology is eagerly adopted in a society where there always seems to be room for improvement; where we are also confronted with fundamental questions, such as: how to keep healthcare affordable, deal with the climate crisis, ensure safety? Algorithmic systems, specifically, hold the promise to diminish the uncertainty connected to a fickle future; predicting what lies ahead by identifying meaningful

1 I would like to thank dr. Anuj Puri for his valuable feedback on the draft version of this article.

patterns (Keymolen 2016). Technology, and certainly data-driven technology, is seen as the ultimate tool to overcome human shortcomings and bring order to a complex and demanding society. What we cannot accomplish on our own, we can if we connect with technology. Plessner identifies this connection between human beings and technology as constitutive of who human beings are: they are “artificial by nature”; and so, I would say, is government.

While it is undoubtedly true that there is an enormous push coming from commercial actors to take up all sorts of data-driven applications in the organization of public administration and that government always seems to be in need of more information to read (and embrace) her citizens (Scott 1998), it is important to acknowledge that technology is not just an external force. It is an integral part of the way human life gets shaped and, in that sense, it is just as much an internal force as it is an external one. We shouldn't be blind to what technology brings. Data-driven innovations are, without question, helping us realize our aspirations in numerous domains. Smart home appliances can indeed contribute to lower energy use and self-driving vehicles to safer road traffic.

However, technology always does more than merely implement or materialize our ambitions. It also reconfigures those ambitions. Smart, energy-saving household appliances do not necessarily lead to less consumption, and isn't that actually the real underlying problem that needs to be addressed? Self-driving vehicles can only function if we adjust the infrastructure accordingly. So saying yes to self-driving cars is actually saying yes to a very different design of public space.

Technology mediates our perception of the world (Ihde 1990, Verbeek 2012, Verbeek 2015), and it mediates the government's perception of society. For instance, to reap the benefits of smart technology, we must first be able to capture the world in data. As we, unfortunately, have learned from the *benefits scandal* in the Netherlands and other examples internationally (O'neil 2017), some groups are more accurately represented in data than others.

We can also not ignore the fact that technology conveys values (Friedman, Kahn et al. 2002, Kudina 2019, La Fors, Custers et al. 2019): who gets priority at the electric car charging station: the one who arrives first or the one with a premium subscription? Technology also has its own unpredictable dynamics. An app that citizens could download to indicate where the road needed repair led to the unexpected and undesirable situation that in some parts of the city there was a maintenance backlog. It turned out that in certain parts of the city, there were fewer smartphone users and thus fewer reports. Notwithstanding all good intentions, technology thus entrenches social inequalities that are often all too present in our society (Crawford 2013, Saltz and Dewar 2019).

All-in-all, it is crucial that we see technology for what it is: something quintessentially human, a tool for realizing our desires, to be able to intervene in the world, deal with uncertainty, and be more sustainable and efficient. The drive to use technology is not merely coming from outside, this drive is key to what it means to be human. At the same time technology is also something that is never entirely under our control; it influences us in how we look at the world, tempts us to reduce problems to data problems, and brings with it its own often unpredictable dynamics.

One of the many important contributions of Professor Yeung's paper is that it insightfully demonstrates the multifaceted nature of data-driven technology in the context of public sector administration. By highlighting various aspects of NPA (automation, datafication, smartness, continuous experimentation, and a seamless user experience), Professor Yeung steers away from a one-dimensional, instrumental view of technology and places it firmly in a socio-technical context. That ability to clearly see what technology is, forms a prerequisite for a critical attitude toward NPA and largely determines whether interventions to properly embed data analysis in the public sector have any chance of success. By also explicitly acknowledging the close, ontological intertwinement of human beings and technology, it is possible to gain an even richer understanding of the role and attractiveness of technology in society.

DEVELOPING VIRTUES IN THE DATA-DRIVEN CONTEXT

One of the goals of Prof Yeung's article is —by an in-depth analysis of NPA— to provide lawyers and legal scholars with the conceptual tools to identify legal and regulatory strategies ensuring adequate public accountability. While I fully agree that it is necessary to develop robust legal frameworks and functional oversight, I foresee it is not sufficient to come to a situation where

the benefits of data-driven analysis can be reaped and the risks involved can be contained. Notwithstanding all the automation that is taking place in the NPA era, there are still humans there as well, as part of the socio-technical system. At the end of the day, it is the interaction between people and technology that determines what a technological practice will look like. Undoubtedly, this interaction is guided by the legal and regulatory framework; it sets (or should set) the action space in which NPA practices take shape (Keymolen and Taylor 2021). However, within that action space, professionals still make choices —big and small— that impact the outcome of NPA. They can cultivate a check-box mentality, mechanically executing the checks and balances set by law or they can carry them out in a manner that does justice to the spirit and goal of the law. Data scientists can develop NPA applications of which success is defined in a very narrow technical sense or by genuinely taking into account and continuously monitoring the societal impact of these applications (Green 2021). The action space provided by the law still needs to be filled in and here the actions of professionals —civil servants and private contractors alike— play a crucial role.

By focusing on the role of the professional, the person, I loosely build on virtue ethics, an important current in ethics, revolving around the question of what it takes to be a good person (Vallor 2015, Vallor 2016, Hursthouse and Pettigrove 2018, Coeckelbergh 2021, Steen, Sand et al. 2021). What are the necessary virtues or character traits one needs to develop to live a good, flourishing life? Aristotle, the founding father of virtue ethics, formulated the theory of the golden means in which he locates these needed virtues in the middle of two extremes or two vices. The virtues one needs to develop in order to act in a morally good way are located in the middle of two extremes. For instance, a person who is fair, aims at being fair in all situations. This, however, does not mean that she is a sort of robot, executing the same ‘fair thing’ in all situations. On the contrary, virtuous persons are able to take the particularities of a certain situation into account and tailor their actions to the demands of the specific context in which they act. In this view, ethics is first and foremost about developing practical wisdom (phronesis): the ability to establish what is morally required, even if it concerns a new or unusual situation where general rules cannot easily be applied (Keymolen and Taylor 2021). Training is an important aspect of virtue ethics. Although virtues are often defined as character traits, they are not necessarily perceived of as simply ‘given’; you possess them or you don’t. On the contrary, practice and learning are thought of as key to becoming a virtuous person; more or less as acquiring skills, you learn how to be virtuous (Jacobson 2005).

Although it is not explicitly addressed in Yeung’s article, it provides a very rich ground to reflect on the questions: “what exactly is the role of professionals working in the NPA era? What virtues and leadership should we expect from them?” Based on Prof Yeung’s analysis, I see room for what I would like to call *paradoxical leadership* because it is based on two virtues that are seemingly difficult to combine but, at second glance, can actually reinforce each other enormously, namely the virtues of modesty and boldness. Before turning to these two virtues underpinning paradoxical leadership, it is important to stress that while I am convinced that they can serve as a solid foundation for different kinds of professionals in the NPA domain, it is conspicuously clear that depending on the specific role one has and the context one operates in, these virtues will be put in to practice differently. It is, however, beyond the scope of this reflection to flesh out these virtues in depth. I will therefore make a first start with describing how these two virtues could be understood in the context of NPA.

The choice for modesty is twofold. First, as was explained in the first part of this reflection, although data-driven technology holds out to us the promise of being faster, smarter, more efficient, and effective, we need to be constantly aware of what it does not show us. Data does not capture the whole picture, but a specific part of reality, often prompted by external issues such as what data is available, which company is partnered with, and what political and commercial forces drive the question. Being aware of what we don’t know or at least being aware of the fact that we don’t know everything should be the starting point when making use of data-driven decision-making systems. Secondly, modesty also because we should accept that technology will always surprise us, and will always turn out slightly different from what was intended. Moreover, modesty in the sense that we should acknowledge that not all problems are best addressed by a data-driven answer. Blind trust in technology should be avoided at all costs.

This modesty, however, must be accompanied by boldness. Human beings and technology are in constant interaction; the government, as one of the most important actors in society, has a duty to engage in that interaction, not just when the impact of technology becomes visible in society, but right from the very first stages of innovation and development. This entails that professionals working for the government should proactively get involved in the development of NPA applications, not with a narrow technological focus, but with a technomoral focus, taking into account the societal impact of technology throughout the entire process. Technology is then not simply ‘let loose’ in society, but in the words of Verbeek (2020) ‘guided’ into society. Boldness to truly perceive of technology as political, in the sense that it carries values, sorts out, excludes, and includes; and that these functions are co-determined at an early stage of technology development. Decisions on how technology operates belong to the domain of the House of Representatives, ministries, regulators, and policymakers and not just to the commercial parties that build the technology. Thus, boldness is needed in order to reclaim a political process that is far from merely a technical subject.

By bringing together modesty and boldness, a new professional attitude is shaped that is well-tailored to the challenges brought forth by NPA, challenges that will remain, even when an adequate regulatory framework is up and running. Modesty in the sense that data-driven hubris is avoided by not steering blindly on what algorithms spit out, but by being open to critique coming from NGOs and citizens who experience the effect of NPA in real-life, and being fully aware that good intentions and precautionary measures may not always be enough to prevent negative effects. Boldness in the sense that professionals take responsibility for technology development and use on an everyday basis, by being responsive to the everyday life experience of citizens, proactively taking ownership of the political, normative choices concerning technologies, and talking truth to power when unwanted effects become apparent.

It goes without saying that in order to fully develop key professional virtues such as modesty and boldness, it is of utmost importance that the proper preconditions are realized. As long as NPA has a black box character, it is difficult for professionals in the public domain to put their virtues into practice. To a large extent, their ability to train their techno-moral skills and act virtuous depends on their knowledge of what actually happens in the NPA system. Here the importance of law and regulations becomes clear again. After all, it is easier to speak truth to power when the regulatory framework provides for sufficient possibilities for participation and—in the worst-case scenario—adequate protection for whistleblowers. It is also easier to operationalize modesty in the data-driven context, when the legal framework enables transparency. Taking the concerns of citizens to heart is not merely based on the willingness to listen and suspend one’s own judgments, but is actually required by law, for instance through continuous public consultations and accessible and personal contact between government and citizens.

CONCLUSION

Together with Prof Yeung, I see that we are entering a new phase in our data-driven society. Exploring the risks involved, she develops a conceptual and analytical construct that undoubtedly will serve as a very illuminating and useful stepping stone for legal scholars and professionals to further scrutinize the rise of the New Public Analytics paradigm and identify ways in which law can be put to use to ensure public accountability.

In addition, this article highlighted two key arguments to not lose sight of the role and involvement of the human side of technology in the NPA era. First, technology is not just imposed on us by external forces such as tech companies and capitalist logic, it also is an essential part of us, holding a promise to give us some control over our inherently uncertain lives. Secondly, next to continuing to focus on standardization and regulation, we must also recognize the fickleness of technology and our own human responsibility in it. This calls for a new leadership where the government in particular can and should take the lead from its unique position in society.

COMPETING INTERESTS

The author has no competing interests to declare.

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