



## King's Research Portal

[Link to publication record in King's Research Portal](#)

### *Citation for published version (APA):*

Aradau, C. (2023). Algorithmic governmentality: Questions of method. In *Handbook on Governmentality* (pp. 235-250). Edward Elgar Publishing Ltd.

### **Citing this paper**

Please note that where the full-text provided on King's Research Portal is the Author Accepted Manuscript or Post-Print version this may differ from the final Published version. If citing, it is advised that you check and use the publisher's definitive version for pagination, volume/issue, and date of publication details. And where the final published version is provided on the Research Portal, if citing you are again advised to check the publisher's website for any subsequent corrections.

### **General rights**

Copyright and moral rights for the publications made accessible in the Research Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognize and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the Research Portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the Research Portal

### **Take down policy**

If you believe that this document breaches copyright please contact [librarypure@kcl.ac.uk](mailto:librarypure@kcl.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.

## Chapter 13

### Algorithmic governmentality: questions of method

Claudia Aradau<sup>1</sup>

In William Walters and Martina Tazzioli (2023), *Handbook on Governmentality*,  
Edward Elgar.

This is a draft chapter. The final version is available in *Handbook on Governmentality* edited by William Walters and Martina Tazzioli, published in 2023, Edward Elgar Publishing Ltd <https://www.elgaronline.com/edcollbook/book/9781839108662/9781839108662.xml>

#### Introduction

Global governmentality, postcolonial governmentality, humanitarian governmentality, colonial governmentality, neoliberal governmentality and, more recently, algorithmic governmentality are just a few of the terms that have come to diagnose our present, while mobilizing the methodological toolbox developed by Michel Foucault. The significance of method in Foucault's work can be gauged in the constant return to 'questions of method', at times even during the same lecture series. For instance, in *The Government of Self and Others*, after introductory 'remarks on method', he returns to a 'reminder of method' (Foucault 2010). In each of these instances, Foucault questions his methods by placing each series of lectures within the broader (always rearticulated) project and therefore reinterpreting it. The 'questions of method' are experimental and recurrent. Methods allow Foucault to revisit and reframe his project. As he puts it: 'I like to open a space of research, try it out, and then if it doesn't work, try again somewhere else ... What I say ought to be taken as "propositions", "game openings" where those who might be interested are invited to join in' (Foucault 1991, 90–91).

Yet, there have been many criticisms of research deploying the 'governmentality' toolbox exactly for forgetting these openings and provisional propositions and reifying a set of concepts. For anthropologist and theorist Paul Rabinow (2007), new 'concept work' is needed for studies of apparatuses and assemblages of power. Political theorist Thomas Biebricher (2008) sees governmentality as a moment of closure of Foucault's more radical genealogies, which focused on struggles. For other critics, governmentality has led to a pathological state of description, where diagnoses of neoliberalism, discipline or biopolitics are found again and again, through what International Relations scholar Anna Leander has called 'applicationism'. As she pointedly puts it, this pathology underpins even critical work at it seeks to 'apply Foucault to show that biopolitics is at work in the umptieth context' (Leander 2020, 63).<sup>2</sup> By contrast, Leander proposes a methodological strategy of 'composing collaborationist collages', which has the advantage of 'directing attention to non-linear, complex, materially entangled and ongoing socio-material processes and the open-ended emergence these generate' (Leander 2020, 66).

In this chapter, I approach algorithmic governmentality as methodological. This is perhaps appropriate given that Foucault moved from one ‘little experiment of method’ to another (Foucault 2007, 455). I take algorithmic governmentality as both a diagnosis of the present and an empirical worksite to revisit and recast these criticisms of governmentality. Algorithmic governmentality encapsulates a diagnosis of our present, where words, actions and gestures are rendered into actionable data. It is also a methodological orientation in the sense in which it focuses on how power relations, institutions, forms of knowledge, and subjectivities are transformed. While the literature on algorithmic governmentality could be hardly seen as a form of ‘applicationism’, I argue that it does not sufficiently account for the heterogeneity of the present. As the authors of a manifesto on technoprecarity have argued, ‘We are all born under surveillance, but not all of us are equally scrutinized’ (The Precarity Lab 2020). Their statement offers a cautionary note about how heterogeneity and homogeneity, contingency and obduracy of power relations need to be simultaneously addressed. Thus, rather than the languages of surveillance or digital platforms, they argue that we need a ‘new vocabulary that foregrounds “race, gender, nation, and empire”’ (The Precarity Lab 2020).

Drawing on research with Tobias Blanke (Aradau and Blanke 2022), I propose to start from controversies about rationalities and technologies of governing to resituate debates about algorithmic governmentality. Controversies have been a key methodological device in Science and Technology Studies and Actor Network Theory (Pinch 2015; Callon 2006; Latour 2005; Marres 2015). They bear resonances with the concept of problematization in Foucault’s work. Yet, as this chapter shows, controversies and problematizations are subtly different methodologically.

To develop this methodological proposal, the chapter starts by outlining the main elements of algorithmic governmentality and highlights a range of critiques of its diagnosis of the present. Secondly, I enter the empirical site of border and migration control to draw out some of the challenges to algorithmic governmentality. Thirdly, following on from this empirical site, I attend to methods of controversy analysis, particularly in relation to Foucault’s concept of problematization. This final section brings together controversy and governmentality and the methodological implications for diagnosing the present.

### **Algorithmic governmentality**

The coinage of ‘algorithmic governmentality’ can be traced to a chapter by legal theorist Antoinette Rouvroy and a joint article with political philosopher Thomas Berns (Rouvroy 2012; Rouvroy and Berns 2013). In their article, Rouvroy and Berns argue that algorithmic governmentality is a new mode of governing, which does not focus on individuals but on their relations, and which has developed new forms of knowledge different from statistics. Berns and Rouvroy had previously reflected on the power of statistics (Rouvroy and Berns 2010). Statistics helped produce the ‘average man’, the population and its distributions of normality and abnormality as objects of government. ‘The population’, Foucault argues, is ‘everything that extends from biological rootedness through the species up to the surface that gives one a hold provided by the public’ (Foucault 2007, 83). Statistical instruments make it possible to rethink phenomena through the ‘calculus of probabilities’ and integrate

‘individual phenomena within a collective field, but in the form of quantification’ (Foucault 2007, 65).

Algorithmic governmentality undoes the tenets of statistics both as a mode of knowledge and as techniques of governing the conduct of populations. For Rouvroy and Berns, algorithmic governmentality marks several important ‘turns’ from existing practices of knowing and governing. Firstly, as Rouvroy had argued, despite claims to ‘objectivity’, algorithmic governmentality is characterized by a ‘turning away from the ambitions of modern rationality anchored in empirical experiment and deductive-causal-logic’ (Rouvroy 2012, 144). This move has been encompassed in the formula of ‘correlation instead of causation’ (Kitchin 2014). Big data and algorithmic practices of knowledge production are seen to have supplanted an epistemology of causation with one of correlation. As Matteo Pasquinelli and Vladan Joler (2021, 1263) explain, ‘[r]ather than evoking legends of alien cognition, it is more reasonable to consider machine learning as an instrument of knowledge magnification that helps to perceive features, patterns, and correlations through vast spaces of data beyond human reach’. Secondly, algorithmic governmentality no longer relies on hypotheses, experiments and trials, as it reverts to ‘real time, pre-emptive production of algorithmic reality’ (Rouvroy 2012, 144). This second point is later unpacked as both an inductive empiricism and the production of knowledge as ‘data-behaviorism’. Data or digital behaviourism names the transformation of the world into ‘raw data’ so that action and thought are directly rendered and operationalized as data. Data behaviourism short-circuits the relation between the world and statistical quantification, which required hypothesis and mediation through categorization. As a consequence, thirdly, algorithmic governmentality ‘bypasses and avoids any encounter with human reflexive subjects’ (Rouvroy 2012, 144).

In curtailing the encounter between individual subjects and power, algorithmic governmentality puts an end to the possibility of resistance and even recalcitrance. For Rouvroy and Berns, the statistical production of the ‘average man’ has been replaced by new techniques of aggregation and correlation. According to them, algorithmic governmentality is ‘a-normative’. This is the recognition that algorithms do not need a general norm against which to assess relations, nor do they produce a norm out of these relations. To use Foucault’s (2007) terms, neither normation nor normalization are relevant for algorithmic governmentality. Algorithmic governmentality avoids and bypasses individual subjects. Rouvroy pointedly observes that algorithmic governmentality entails ‘infra-individual data and supra-individual patterns without, at any moment, calling the subject to account for himself’ (Rouvroy 2012, 144). Algorithms, therefore, also reduce the scope of critique, if they do not eliminate it altogether.

Rouvroy’s and Berns’s investigations of algorithmic governmentality have inspired and found resonance in much of the critical literature on algorithms and big data. Their understanding of data-behaviourism is reflected in Shoshana Zuboff’s (2018) recent analysis of ‘behavioural surplus’ in surveillance capitalism. It also informs the understanding of associational and correlationist algorithms that eschew causality (Amoore 2014; Kitchin 2014; Flyverbom et al. 2017; Leese 2014). Other scholars highlight the elements of real-time and pre-emption that algorithms intensify (Andrejevic et al. 2020; Leszczynski 2016).

Philosopher Bernard Stiegler (2018) has offered an extended gloss on Rouvroy's and Berns's article on algorithmic governmentality. Stiegler concludes that automatization and the industry of digital traces leads to nihilism, a new form of totalitarianism and the destruction of knowledge. For Stiegler, as objects become fully calculable, they are futile, no-things or nihil. It is in that sense that he pushes Rouvroy's and Berns's insights further towards a nihilism that destroys objects and a 'functional stupidity' generated by the transfer of human analysis and discernment to algorithms (Stiegler 2018, 59–67).

These various aspects of algorithmic governmentality raise questions about the methodological underpinnings of the governmentality toolbox. We can read algorithmic governmentality as a radical undoing of the past, be that of the knowledge of statistics or the modern subject. This leads to a dire prognosis: the end of emancipation and human reflexivity. Since Rouvroy's and Berns's coinage of algorithmic governmentality, the effects and power of algorithms have become the focus of numerous critical inquiries across disciplinary boundaries. While there are many disagreements over the rationalities and technologies that algorithmic governmentality deploys, most critical work would concur with Rouvroy's and Berns's diagnosis of the undoing of political subjectivity and reflexivity. Their analysis of algorithmic governmentality resonates with the diagnosis that Wendy Brown (2015) has offered of neoliberal governmentality as 'undoing the demos'. For Brown, neoliberal governmentality – with its extensive economization of all social and political relations – is undoing the collective and individual subjects of liberal democracy.

These diagnoses of the present can be read in the lineage of work on governmentality across a range of spheres, which has focused on domination, silencing, and processes of undoing and de-democratizing. Indeed, the account of power in algorithmic governmentality seems more akin to Foucault's understanding of states of domination. While Foucault has not discussed the distinction between power and domination at length, he explains in an interview in 1984 that, in states of domination, 'the power relations, instead of being mobile, allowing the various participants to adopt strategies modifying them, remain blocked, frozen' (Foucault 1997, 283; see also Lorenzini, this volume). Feminist sociologist Vikki Bell (1993) has argued for the need in feminist thought to draw a distinction between power and domination. What does this distinction mean for analyses of (algorithmic) governmentality? Foucault has underscored the connection power-governmentality, as 'government is not a pure relation of force, or it is not pure domination, it is not pure violence' (Foucault 2016, 103). Thus, governmentality and power are entwined to the exclusion of domination. For instance, William Walters (2012, 11) has argued that governmentality does not address situations of domination, as these are 'limit situations'.

The conceptualization of algorithmic governmentality seems undergirded by states of domination rather than relations of power. Algorithmic governmentality morphs into algorithmic control, as the analytical focus is on dominant actors, technologies, and effects of domination. Following Bell's (1993, 41) reformulation of domination as 'a situation, still based on the operations of unstable tactics of power, but where a reversal in power relations appears to be almost impossible', I propose to expand analyses of algorithmic governmentality to attend to distinctions and conjunctions of power and domination. Foucault

gestures towards a triadic relationship of power-domination-government, as he briefly notes that ‘between games of power and states of domination, you have technologies of government’ (Foucault 1997, 299).

Attending to conjunctions and disjunctions between domination and power is especially important to understanding the reconfigurations of racism and capitalism in algorithmic governmentality. However, by working with an (implicit) assumption of states of domination, the toolbox of algorithmic governmentality has eschewed the struggles, tensions, or controversies that both constitute and resist algorithmic practices (Aradau and Blanke 2022). A critique of inattention to struggles is not new in debates about governmentality. Thomas Biebricher situates governmentality in opposition to genealogy and argues that, in his lectures on governmentality, Foucault no longer pays attention to ‘societal struggles, revolts and other forms of resistance’, except in an abstract way (Biebricher 2008: 395). Geographer Clive Barnett has also criticized ‘[t]he instrumental use of notions of governmentality’ in analyses of neoliberalism as supporting ‘a two-dimensional understanding of political power – which is understood in terms of relations of imposition and resistance – and of geographical space – which is understood in terms of the diffusion and contingent combination of hegemonic projects’ (Barnett 2005, 7). Moreover, according to Biebricher, Foucault evacuates contingency from studies of governmentality, building a more teleological history. What is key for genealogy is that it ‘sheds a thoroughly destabilizing light on the history of the present’ (Biebricher 2008: 367). Yet, this embrace of instability, indeterminacy, and contingency seems to offer another abstract reading of history.

While indeterminacy can open to a different understanding of the present, the reading of contingency focuses only on malleable and reversible relations – power relations as opposed to relations of domination. What is key is not to prioritize power over domination or vice versa, but to trace connections between the two. To speak of an ascendant algorithmic reason, does not mean that domination and control spell the undoing of democracy, politics and subjectivity. As Tobias Blanke and I have argued elsewhere, algorithmic reason renders the conditions of possibility of heterogeneous practices and their circulations globally (Aradau and Blanke 2022). It does not reproduce the binary of contingent practices and the imaginaries of algorithmic objectivity and efficiency promoted by the tech companies. It aims to hold contingency and obduracy, power and domination together, while also accounting for transformation.

Sociologist Bilel Benbouzid (2019) has proposed a critical intervention that similarly challenges the analysis of algorithmic governmentality as ineluctable control and domination. Benbouzid sees the diagnosis of the end of critique as itself limiting concrete possibilities for emancipation by confining actors, and sociologists themselves to a stance of powerlessness. If the sociology of science and technology is to contribute to the study of algorithmic prediction, and at the same time to justify its relevance and usefulness in this context, Benbouzid argues that it must develop a specific art of inquiry that allows it to create critical tests specially designed for the purpose (Benbouzid 2019, 2). He traced the algorithms used by PredPol – one of the best known (and most infamous) companies producing predictive policing software – to an earth scientist in France. Following Benbouzid’s intervention,

which connected the two practices – policing and earth science – a controversy involving the use of algorithms and their predictive affordances ensued. Benbouzid highlights the two ways in which algorithms work in different contexts:

Contrary to the seismologist, police officers cannot experience ‘failed’ predictions, because in their practice, prediction is expressed not in terms of truth or falsehood, but in terms of ‘good’ and ‘bad.’ The problem is not to believe or disbelieve in the machine’s predictions, but to do something rather than nothing, following the machine’s recommendations. (Benbouzid 2019, 2)

In fact, Benbouzid aimed to spark a controversy between the actionable knowledge produced through predictive policing algorithms and the knowledge produced by a seismologist. The controversy that Benbouzid traces remains a localized one, as George Mohler, the mathematician who developed the PredPol algorithms, has continued his work with the company. More recently, PredPol has erased the language of prediction from its website and marketing; the company now operates under the new name Geolitica, arguing that it is not prediction that they do, but ‘geographical analytics’ based on the time and location of crimes (PredPol 2021). By changing its name, the company claims that their models are about ‘patrol operations management’ rather than predictive policing. In fact, analyses of predictive policing have shown that the algorithms are less about predicting a crime and more about allocating police resources in the present (Aradau and Blanke 2017; Egbert and Leese 2021; Benbouzid 2019).

This controversy between policing and earth science applications can be supplemented by the significant public controversy that emerged around the discriminatory and racializing effects of PredPol algorithms. The Stop LAPD Spying Coalition alongside academics and activists engaged in painstaking work and argumentation around these discriminatory effects (Stop LAPD Spying Coalition 2016, 2019). By attending to struggles and controversies over data, algorithms and models, analyses of algorithmic governmentality can challenge assumptions of domination through algorithms.

A second aspect of algorithmic governmentality is that it implies – perhaps in the lineage of neoliberal governmentality – that algorithms work, and they work even a little too well. The performativity of algorithms has been intensified through the language of ‘executability’ from computer science. Media theorist Wendy Chun has argued that the language of code has reinforced the performativity of algorithms:

Code as law as police, like the state of exception, makes executive, legislative, and juridical powers coincide. Code as law as police erases the gap between force and writing, language and parole, in a complementary if reverse fashion to the state of exception. It makes language abstract – erases the importance of enunciation – not by denying law, but rather by making logos everything. Code is executable because it embodies the power of the executive. (Chun 2016, 98)

These analyses build on earlier insights by Alexander Galloway, Katherine Hayles and Lawrence Lessig about the difference between code and language, as code is ‘executable’ while language is not (for a discussion see Introna 2015). As Hayles succinctly puts it, ‘Code

that runs on a machine is performative in a much stronger sense than that attributed to language' (Hayles 2010, 50). The focus on executability has been less prominent in recent debates, which have been more concerned with inscrutability. The power of algorithms has been related to the characters of inscrutability and executability (Introna 2015, 25).

Inscrutability is not the same as secrecy, but it can be perhaps better characterized as opacity. Algorithms are opaque both in the sense in which their operations are unknown or secret and in the sense in which they cannot be known, even to their designers (Burrell 2016). The latter has been particularly the case for machine learning algorithms such as neural networks. By working so well and due to their intensified performativity, algorithms also appear to afford much more granular knowledge of individuals and social life.

Yet, research on algorithms as well as big data and artificial intelligence has more recently shown that these techniques often do not work so well (Broussard 2018). They are plagued by bias, reproduce and exacerbate inequalities and discrimination (Benjamin 2019; Madianou 2019). Moreover, all these techniques require a lot of labour to be set in place, deployed, maintained and updated (Chun 2016). Algorithms are often messy and ambiguous. They have become the object of public controversy exactly because they work for some and do not work for others, as their errors translate into systematic bias and discrimination. Errors, glitches and failures have brought algorithms to public attention (Aradau and Blanke 2021).

Thirdly, algorithmic rationalities have an ambiguous relation with statistical reasoning. The algorithmic processing of (big) data appears to sidestep many of the processes of creating equivalences and relatively stable objects, which could become debated publicly. According to Bernard Harcourt, the digital world is a 'quantum leap' (Harcourt 2015, 156) from statistical reasoning: 'The object of the algorithmic data-mining quest of the digital age is to find our perfect double, our hidden twin. It deploys a new rationality of similitude, of matching, without regard for the causal link' (Harcourt 2015, 157). Although the assumption of disregard for causality is recurrent in the critical literature, an analysis of controversies shows that these questions are crucial to algorithmic processes (Aradau and Blanke 2022). Moreover, statistical knowledge and instruments are not simply discarded or surpassed.

In the next section, I turn to an illustration of how algorithmic rationalities are mobilized for migration control, starting from a controversy around the use of algorithms and big data to forecast migration flows.

### **Algorithmic rationalities of migration control**

Critical scholarship on borders and migration has analysed the effects of the European Union databases, particularly the increased use of biometrics, and the production of digital borders (Broeders and Dijkstra 2015; Glouftsiou 2021; Amelung et al. 2021; Leese 2022). For instance, the European Asylum Dactyloscopy Database (Eurodac), which contains fingerprints of applicants for international protection in the Member States and fingerprints of persons apprehended crossing borders irregularly, has been shown to increasingly blur the boundaries between asylum, policing and security (Tsianos and Kuster 2016). Although the Eurodac database was envisaged primarily to allocate state responsibility for processing asylum claims under the Dublin Regulations, it has been the object of key changes that have transformed it into 'a powerful tool of mass surveillance, whereby national authorities will be



able to track third-country nationals whose data are recorded within the EU for as long as they remain on EU territory' (Vavoula 2020, 15).

Alongside databases such as Eurodac, EU agencies have also increasingly turned their attention to big data and algorithms to govern migration and asylum. The European Union Asylum Support Office (EASO) started a process of social media monitoring as part of an earlier drive, which can be traced back to 2016, to use big data for 'forecasting and early warning'. In its 2018 Annual Report, it acknowledged that 'EASO also expanded its social media monitoring programme, both by adding languages and by developing additional report types (thematic and ad hoc)' (EASO 2019, 34). In an earlier report on migration forecasting, representatives from EASO and the Organisation for Economic Co-operation & Development (OECD) argued that:

Examples of big data potentially relevant to early warning of forced migration movements include communication based information sources such as social media, internet searches, smartphone apps, the IP addresses of website logins and emails, and call detail records. Interestingly, since some such data sources can be 'geolocated', they have even greater potential for early warning and monitoring of migration movements. The use of private data in this context raises, however, some privacy and confidentiality concerns. (EASO and OECD 2018, 4)

Subsequently, the use of big data and machine learning algorithms has been justified in terms of the preparedness of national and local authorities. In an article by former and current EASO staff, big data and adaptive machine learning algorithms are seen as transcending the impasses of statistical and demographic data for forecasting migration and asylum flows. The authors argue that 'adaptive machine learning algorithms that integrate official statistics with non-traditional data sources can effectively capture early warning signals of asylum-related migration and forecast asylum applications in countries of destination' (Carammia et al. 2020). Big data and its algorithmic processing do not entail the discarding of statistical or demographic data, but they combine statistical data with new forms of data to recast asylum and migration flows as an object of government. Machine learning algorithms in combination with big data promise to forecast asylum and migration flows in near-real time (though the article so far focuses on a four-week timeframe).

EASO's earlier experimentation with social media monitoring needs to be understood in relation to the impasses of statistical reasoning and the limits of predictive knowledge. In 2019, the European Data Protection Supervisor (EDPS) made public a report about the use of social media monitoring by EASO (EDPS 2019). This controversy, which led to the temporary suspension of social media monitoring at EASO, remained largely a professional one and only occasionally filtered into a more public debate. The EDPS report offers an important problematization of how algorithms and big data are mobilized to govern asylum. It clarifies that EASO's social media monitoring 'target[ed] persons pertaining to certain language groups and using certain keywords in their social media posts' (EDPS 2019, 2). Then EDPS proceeds to contest EASO's justifications through the prism of data protection by recasting EASO's claims about using open-source intelligence into a 'personal data

processing activity that creates high risk for individuals' rights and freedoms' (EDPS 2019, 3).

Not only are these aspects of risk and personal data ignored by the agency, but in EASO's communication with EDPS, they also eschew questions about the accuracy of social media data. As the EDPS report highlights, by producing and circulating statements such as '195 migrants/asylum seekers from Nigeria, who were aiming at crossing to Europe from Libya, returned voluntarily to their home country', EASO ignores the lack of accuracy of much social media data. We can read this controversy between EASO and EDPS as using data protection as 'as a crucial form to problematize both the will to govern through data and the will to govern data' (Bellanova 2017, 333). At the same time, EDPS also raises questions about knowledge production, vulnerability and rights. Even as EASO's claims reproduce the rationalities of algorithmic governmentality, these do not remain uncontested.

In 2019, Privacy International announced that Frontex 'mysteriously' withdrew a call for tender for social media monitoring in the wake of questions the civil liberties organization submitted on the eTendering site (Privacy International 2019). NGOs and journalists had raised public questions about the Frontex call for tender. Privacy International submitted a question to Frontex, asking how the agency envisaged monitoring that was not aimed 'at collecting, processing, storing, or sharing personal data of social media users?' (Privacy International 2019). The call for social media analyses focused on an anticipatory capability, resonating with EASO's earlier efforts at forecasting and early warning. As Frontex put it in the Terms of Reference, 'The report should be forward-looking and go beyond the formal customer-driven requirements process in order to provide not only an understanding of the current landscape but also a strategical warning system on changes such as the socio-political, economic or human security environment that could pose challenges to Frontex policies' (Frontex 2010). This overarching question was then unpacked into a series of sub-questions about Frontex responsibility. Rather than answering these questions, Frontex cancelled the call for tender.

These attempts to introduce big data and algorithmic processing of social media data for migration and border control highlight two different aspects of algorithmic governmentality. Firstly, big data and algorithms do not replace statistical techniques and modes of knowledge. Rather, they supplement them and promise to surmount their impasses. As statistical knowledge could move from the individual to the population but not back to the individual, big data holds the promise to move between the two and recompose the small and the large in the government of populations (Aradau and Blanke 2022). Social media monitoring multiplies probabilistic forecasts and early warnings of movement, circulation and flow. Secondly, algorithmic governmentality is a site of scientific and public controversy. Algorithmic operations on social media data for the purposes of migration control are contested by journalists, civil society actors and data protection agencies. In the next section, I show how these modes of contestation around algorithmic governmentality can be understood as controversies.

### **Controversy and algorithmic governmentality**

Controversies are an established method of analysis in Science and Technology Studies (STS). They can be understood as a broader approach ‘for studying the partiality of knowledge’ (Marres 2015, 656). For STS scholar Trevor Pinch (2015), scientific controversies are effectively ‘moments of contestation’, when certain taken-for-granted assumptions or existing struggles and imaginaries become visible. Controversies are moments of openness followed by closure and temporary stabilization. Bruno Latour has situated controversy particularly in relation to the agency of nonhumans in the production of scientific knowledge:

By using the word ‘controversy’ in a positive sense, I have suppressed not the certainties of the sciences but one of the old barriers set up between the visible assembly of humans discussing and arguing among themselves and the scientific assembly that did of course discuss and argue a good deal, but in secret, and that in the end produced only indubitable matters of fact. (Latour 2004, 66)

Through controversies, things are not just mobilized in laboratories but become public and political. In that sense, controversies have highlighted how ‘making things political and public often involves difficult technical work’ (Walters 2014: 103). Yet, controversies and controversy analysis have also been criticized for ‘flattening’ contestation by ignoring the asymmetric relations that shape contestation. If symmetry is understood as a methodological precaution of not assuming that asymmetries are given a priori, a different understanding of symmetry and asymmetry is possible. Symmetry is provisional and it needs to be supplemented by analytical devices that orient research to how asymmetry is enacted. As Sheila Jasanoff explains, once controversies are not limited to laboratories and the pages of scientific journals, then we need to ‘confront actors equipped with vastly different resources from the visible stuff of laboratories: law, money, political influence, enforcement capability, regulatory authority, media access, the power to make and unmake institutions’ (Jasanoff 2012, 439). Even actors in laboratories are also equipped with different resources, instruments, funding, or media access. For instance, situating such laboratories geopolitically makes visible the power of borders and bordering in scientific controversies. But more importantly, as Jasanoff highlights, controversies are not limited to laboratories. Nor do they need to start in laboratories. In his analysis of AIDS activism, sociologist Steven Epstein has shown how ‘activist movements, through amassing different forms of credibility, can in certain circumstances become genuine participants in the construction of scientific knowledge – that they can (within definite limits) effect changes both in the epistemic practices of biomedical research and in the therapeutic techniques of medical care’ (Epstein 1995, 409).

Thus understood, an analysis of controversies attentive to asymmetries resonates with Foucault’s concept of problematization or perhaps, more precisely, with a problematization of problematization. Foucault coined problematization to render an orientation of his work. According to him, problematization ‘develops the conditions in which possible responses can be given; it defines the elements that will constitute what the different solutions attempt to respond to’ (Foucault 2000: 118). Thus, problematization renders both problems and solutions into a question. In revisiting the concept, Rabinow restricts problematization to an

institutionalized or expert domain, as the concept of problematization ‘requires that the situation in question contain institutionally legitimated claims’ (Rabinow 2003, 33). In that sense, controversies are not far from the analysis of difficulties and problematizations that emerge in specific historical moments. However, they need not be limited to ‘institutionally legitimated claims’ and in that sense are closer to a problematization of problematization.

Controversies can emerge in relation to heterogeneous claims to knowledge or intervention. As we saw in the previous section, computer and data scientists mobilize to produce knowledge for the purpose of governing. Through big data and algorithms, they produce asylum and migration flows as specific objects of government. Controversies between big data and statistics have emerged in these professional worlds. At the same time, the controversies that have emerged in relation to social media monitoring by EASO and Frontex have taken a public dimension. It is perhaps here that we can see another distinction between controversy and problematization. According to sociologist Cyril Lemieux, controversies have a triadic rather than a dyadic dimension, as there is always an element of publicity (Lemieux 2007). This element of publicity can be that of professional peers as in scientific controversies or other publics who become constituted in the controversy. In that sense, controversies are also different from struggles, which have a dyadic structure. The distinction dyadic/triadic relies on how conflicts are to be resolved. The triadic relation can be perhaps rendered through Bourdieu’s analysis of the judicial situation as entailing ‘a specialized body independent of the social groups in conflict’ (Bourdieu 1986, 830). ‘This body’, explains Bourdieu, ‘is responsible for organizing the public representation of social conflicts according to established forms, and for finding solutions socially recognized as impartial’ (ibid.). We can think of similar bodies across different situations – social, economic, political.<sup>3</sup> In contradistinction to Bourdieu, pragmatic sociology and STS do not limit controversy to particular fields, but map controversies across time as well as geographical and social space. Building on these analyses, controversies, problematizations and struggles can be understood as different forms of contestation, with heterogeneous dynamics and materializations.<sup>4</sup>

Both controversies and problematizations challenge existing regimes of truth, but they do so in different ways. Problematizations are more specifically focused on solution-based approaches to how particular objects or phenomena have been constituted as problems, while controversies attend to how contestations unfold, without being articulated in the vocabularies of ‘problem’ and ‘solution’. Problematization and controversy also differ in that problematization ‘mobilises specific subjects and events in order to question the mechanisms of subjugation at play in our society’ (Tazzioli and Lorenzini 2020). In that sense, problematization is intimately connected with struggle and resistance to subjugation. Controversy does not start from relations of subjugation, but from an event of (limited) openness, where different actors, devices and resources can be provisionally mobilized.

The brief analysis of how migration and asylum flows are rendered into objects of algorithmic government through forecasting and early warning has shown how scenes of controversy are set in motion, where different actors and devices are mobilized. These controversies invite us to approach algorithmic governmentality methodologically beyond the

worlds of science and laboratories. Controversies supplement vocabularies of contestation alongside problematization, struggle, resistance, denunciation, scandal or dispute. Controversies make visible how the knowledge produced through algorithms is not consensual and homogeneous, but heterogeneous and disputed.

## **Conclusion**

This chapter has approached algorithmic governmentality as a ‘question of method’. Discussions of algorithmic governmentality have highlighted conceptual aspects of knowledge and power that go beyond statistical reasoning and the government of populations. Yet, in so doing, they have also often depicted an emergent algorithmic governmentality as a new mode of domination and control. Like other uses of governmentality across the social sciences, algorithmic governmentality raises similar questions about the relation between discourse and practice, dominant knowledge and struggles, power and subjectivity.

Through the method of controversy, we can trace an emergent algorithmic governmentality through sites where claims to knowledge and justifications for interventions vie against each other. I have proposed to attend to how algorithmic rationalities are deployed in relation to migration as an object of government. While databases and biometrics have been long used for the purposes of identifying, confining and pre-empting movement, big data and its algorithmic processing have only more recently started to be used by migration and asylum agencies in EU. Here, social media becomes big data or big data is algorithmically processed to forecast migration and asylum flows. Rather than supplanting statistical reasoning, big data and algorithms come to supplement statistical and demographic data. Rather than surpassing the law, they need to work with data protection law. Rather than eschewing subjectivity, they work upon particular ‘exposures’ of subjectivity. Moreover, these knowledge claims and interventions have become the object of public controversy. As we have seen, several controversies have unfolded, as data protection authorities, NGOs and journalists have contested (and even stopped) the use of social media monitoring. Through this analysis, controversy is deployed as a methodological device with which to approach the emergence of arts of governing and political rationalities.

## **Notes**

## **References**

- Amelung, Nina, Granja, Rafaela, and Machado, Helena (2021), *Modes of Bio-Bordering: The Hidden (Dis)Integration of Europe*, Basingstoke: Palgrave Macmillan.
- Amoore, Louise (2014), *The Politics of Possibility: Risk and Security Beyond Probability*, Durham, NC: Duke University Press.
- Andrejevic, Mark, Dencik, Lina, and Treré, Emiliano (2020), ‘From Pre-Emption to Slowness: Assessing the Contrasting Temporalities of Data-Driven Predictive Policing’, *New Media & Society* **22**(9), 1528–1544.

- Aradau, Claudia and Blanke, Tobias (2017), 'Politics of Prediction: Security and the Time/Space of Governmentality in the Age of Big Data', *European Journal of Social Theory* **20**(3), 373–391.
- Aradau, Claudia and Blanke, Tobias (2021), 'Algorithmic Surveillance and the Political Life of Error', *Journal of the History of Knowledge* **2**(1).
- Aradau, Claudia and Blanke, Tobias (2022), *Algorithmic Reason: The New Government of Self and Other*, Oxford: Oxford University Press.
- Barnett, Clive (2005), 'The Consolations of "Neoliberalism"', *Geoforum* **36**(1), 7–12.
- Bell, Vikki (1993), *Interrogating Incest: Feminism, Foucault, and the Law*, London: Routledge.
- Bellanova, Rocco (2017), 'Digital, Politics, and Algorithms: Governing Digital Data through the Lens of Data Protection', *European Journal of Social Theory* **20**(3), 329–347.
- Benbouzid, Bilel (2019), 'To Predict and to Manage: Predictive Policing in the United States', *Big Data & Society* **6**(1). <https://doi.org/10.1177/2053951719861703>.
- Benjamin, Ruha (2019), *Race after Technology: Abolitionist Tools for the New Jim Code*, Cambridge: Polity Press.
- Biebricher, Thomas (2008), 'Genealogy and Governmentality', *Journal of the Philosophy of History* **2**(3), 363–396.
- Bourdieu, Pierre (1986), 'Force of Law: Toward a Sociology of the Juridical Field', *Hastings Law Journal* **38**, 805–853.
- Broeders, Dennis and Dijstelbloem, Huub (2015), 'The Datafication of Mobility and Migration Management', in Irma van der Ploeg and Jason Pridmore (eds), *Digitizing Identities: Doing Identity in a Networked World*, New York: Routledge, pp. 242–260.
- Broussard, Meredith (2018), *Artificial Unintelligence: How Computers Misunderstand the World*, Cambridge, MA: MIT Press.
- Brown, Wendy (2015), *Undoing the Demos: Neoliberalism's Stealth Revolution*, New York: Zone Books.
- Burrell, Jenna (2016), 'How the Machine "Thinks": Understanding Opacity in Machine Learning Algorithms', *Big Data & Society* **3**(1). <https://doi.org/10.1177/2053951715622512>.
- Callon, Michel (2006), 'Pour une sociologie des controverses technologiques', in Madeleine Akrich, Michel Callon, and Bruno Latour (eds), *Sociologie de la Traduction: Textes Fondateurs*, Paris: Presse des Mines, pp. 135–157.
- Carammia, Marcello, Iacus, Stefano Maria, and Wilkin, Teddy (2020), 'Forecasting Asylum-Related Migration Flows with Machine Learning and Data at Scale', *arXiv preprint arXiv:2011.04348*.
- Chun, Wendy Hui Kyong (2016), *Updating to Remain the Same: Habitual New Media*, Cambridge, MA: MIT Press.

- EASO (2019), *EASO Annual General Report 2018*, Luxembourg: Publications Office of the European Union.
- EASO and OECD (2018), ‘Can We Anticipate Future Migration Flows?’ *Migration Policy Debates* **16**, 1–9.
- EDPS (2019), *Formal Consultation on EASO’s Social Media Monitoring Reports* (Case 2018-1083). European Data Protection Supervisor.
- Egbert, Simon and Leese, Matthias (2021), *Criminal Futures: Predictive Policing and Everyday Police Work*, London: Routledge.
- Epstein, Steven (1995), ‘The Construction of Lay Expertise: AIDS Activism and the Forging of Credibility in the Reform of Clinical Trials’, *Science, Technology, & Human Values* **20**(4), 408–437.
- Flyverbom, Mikkel, Madsen, Anders Koed, and Rasche, Andreas (2017), ‘Big Data as Governmentality in International Development: Digital Traces, Algorithms, and Altered Visibilities’, *The Information Society* **33**(1), 35–42.
- Foucault, Michel (1991), ‘Questions of Method’, in Graham Burchell, Colin Gordon, and Peter Miller (eds), *The Foucault Effect: Studies in Governmentality*, Chicago: University of Chicago Press, pp. 73–86.
- Foucault, Michel (1997), ‘The Ethic of Care for the Self as a Practice of Freedom’, in Paul Rabinow (ed.), *Ethics: Subjectivity and Truth*, New York: New Press, pp. 281–302.
- Foucault, Michel (2000), ‘Polemics, Politics, and Problematizations’, in Paul Rabinow (ed.), *Essential Works of Foucault 1954–1984. Ethics: Subjectivity and Truth*, London: Penguin Books, pp. 111–119.
- Foucault, Michel (2007), *Security, Territory, Population: Lectures at the Collège de France, 1977–78*, Basingstoke: Palgrave Macmillan.
- Foucault, Michel (2010), *The Government of Self and Others: Lectures at the Collège de France, 1982–1983*, Basingstoke: Palgrave Macmillan.
- Foucault, Michel (2016), *About the Beginning of the Hermeneutics of the Self: Lectures at Dartmouth College, 1980*, trans. Graham Burchell, Chicago: University of Chicago Press.
- Frontex (2010), ‘Frontex/Op/534/2019/Dt Invitation to Tender. Annex II’. <https://etendering.ted.europa.eu/>.
- Glouftsiou, Georgios (2021), *Engineering Digitised Borders: Designing and Managing the Visa Information System*, Basingstoke: Palgrave Macmillan.
- Harcourt, Bernard E. (2015), *Exposed. Desire and Disobedience in the Digital Age* Cambridge, Mass.: Harvard University Press.
- Hayles, N. Katherine (2010), *My Mother Was a Computer*, Chicago: University of Chicago Press.
- Introna, Lucas D. (2015), ‘Algorithms, Governance, and Governmentality: On Governing Academic Writing’, *Science, Technology & Human Values* **41**(1), 17–49.

- Jasanoff, Sheila (2012), 'Genealogies of STS', *Social Studies of Science*, **42**(3), 435–441.
- Kitchin, Rob (2014), 'Big Data, New Epistemologies and Paradigm Shifts', *Big Data & Society* **1**(1).
- Latour, Bruno (2004), *Politics of Nature: How to Bring the Sciences into Democracy*, trans. Catherine Porter, Cambridge, MA: Harvard University Press.
- Latour, Bruno (2005), *Reassembling the Social: An Introduction to Actor-Network-Theory*, New York: Oxford University Press.
- Leander, Anna (2020), 'Composing Collaborationist Collages About Commercial Security', *Political Anthropological Research on International Social Sciences (PARISS)*, **1**(1), 61–97.
- Leese, Matthias (2014), 'The New Profiling: Algorithms, Black Boxes, and the Failure of Anti-Discriminatory Safeguards in the European Union', *Security Dialogue* **45**(5), 494–511.
- Leese, Matthias (2022), 'Fixing State Vision: Interoperability, Biometrics, and Identity Management in the EU', *Geopolitics* **27**(1), 113–133.
- Lemieux, Cyril (2007), 'À quoi sert l'analyse des controverses?' *Mil neuf cent. Revue d'histoire intellectuelle* **25**(1), 191–212.
- Leszczynski, Agnieszka (2016), 'Speculative Futures: Cities, Data, and Governance Beyond Smart Urbanism', *Environment and Planning A: Economy and Space* **48**(9), 1691–1708.
- Madianou, Mirca (2019), 'The Biometric Assemblage: Surveillance, Experimentation, Profit, and the Measuring of Refugee Bodies', *Television & New Media* **20**(6), 581–599.
- Marres, Noortje (2015), 'Why Map Issues? On Controversy Analysis as a Digital Method', *Science, Technology, & Human Values* **40**(5), 655–686.
- Pasquinelli, Matteo and Joler, Vladan (2021), 'The Nooscope Manifested: AI as Instrument of Knowledge Extractivism', *AI & Society* **36**(4), 1263–1280.
- Pinch, Trevor (2015), 'Scientific Controversies', in James D. Wright (ed.), *International Encyclopedia of Social and Behavioral Sciences*, Amsterdam: Elsevier.
- PredPol (2021), 'Geolitica: A New Name, a New Focus' (2 March).  
<https://blog.predpol.com/geolitica-a-new-name-a-new-focus>.
- Privacy International (2019), '#Privacywins: EU Border Guards Cancel Plans to Spy on Social Media (for Now)'. <https://privacyinternational.org/advocacy/3289/privacywins-eu-border-guards-cancel-plans-spy-social-media-now>.
- Rabinow, Paul (2003), *Anthropos Today: Reflections on Modern Equipment*, Princeton: Princeton University Press.
- Rabinow, Paul (2007), 'Aftword: Concept Work', in Sahra Gibbon and Carlos Novas (eds), *Biosocialities, Genetics and the Social Sciences: Making Biologies and Identities*, Abingdon: Routledge, pp. 188–192.
- Rouvroy, Antoinette (2012), 'The End(s) of Critique: Data-Behaviourism vs. Due-Process', in Mireille Hildebrandt and Katja de Vries (eds), *Privacy, Due Process and the*



*Computational Turn: The Philosophy of Law Meets the Philosophy of Technology*, London: Routledge, pp. 143–168.

Rouvroy, Antoinette and Berns, Thomas (2010), ‘Le nouveau pouvoir statistique’, *Multitudes* **40**, 88–103.

Rouvroy, Antoinette and Berns, Thomas (2013), ‘Gouvernementalité algorithmique et perspectives d’émancipation: Le disparate comme condition d’individuation par la relation?’ *Réseaux* **1**(177), 163–196.

Stiegler, Bernard (2018), *Automatic Society: The Future of Work*, trans. Daniel Ross, Cambridge: Polity Press.

Stop LAPD Spying Coalition (2016), ‘Predictive Policing: Profit Driven Racist Policing’ (7 December). <https://stoplapdspying.org/predictive-policing-profit-driven-racist-policing/>.

Stop LAPD Spying Coalition (2019), ‘Stop LAPD Spying Coalition Wins Groundbreaking Public Records Lawsuit’ (10 December). <https://stoplapdspying.medium.com/stop-lapd-spying-coalition-wins-groundbreaking-public-records-lawsuit-32c3101d4575>.

Tazzioli, Martina and Lorenzini, Daniele (2020), ‘Critique without Ontology: Genealogy, Collective Subjects and the Deadlocks of Evidence’, *Radical Philosophy* **2**.07. <https://www.radicalphilosophy.com/article/critique-without-ontology>.

The Precarity Lab (2020), *Technoprecarious*, London: Goldsmiths University Press.

Tsianos, Vassilis S. and Kuster, Brigitta (2016), ‘Eurodac in Times of Bigness: The Power of Big Data within the Emerging European IT Agency’, *Journal of Borderlands Studies* **31**(2), 235–249.

Vavoula, Niovi (2020), ‘Transforming Eurodac from 2016 to the New Pact. From the Dublin System’s Sidekick to a Database in Support of EU Policies on Asylum, Resettlement and Irregular Migration’, European Council on Refugees and Exiles (ECRE).

Walters, William (2012), *Governmentality: Critical Encounters*, London: Routledge.

Walters, William (2014), ‘Drone Strikes, Dingpolitik and Beyond: Furthering the Debate on Materiality and Security’, *Security Dialogue* **45**(2), 101–118.

Zuboff, Shoshana (2018), *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, New York: Public Affairs.

## Notes

---

<sup>1</sup>. Research on this chapter was supported by funding from the European Research Council (ERC) under the European Union’s Horizon 2020 research and innovation programme (SECURITY FLOWS, grant agreement No. 819213).

<sup>2</sup>. A similar point is made by Nikolas Rose in this volume; see also Walters (2012, 15 and passim).

---

<sup>3</sup>. Bourdieu, however, sees the political field as defined by relations between friends and enemies, and the tendency ‘to exclude the intervention of any third person as arbiter’ (Bourdieu 1986, 831).

<sup>4</sup>. Other concepts such as dispute, contention or conflict can be added to these vocabularies.