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The New Politics of Numbers: An Introduction

Andrea Mennicken and Robert Salais

The business of government is increasingly run with a calculator to hand. Both policymaking activities and administrative control are increasingly structured around calculations such as cost-benefit analyses, estimates of social impacts and financial returns, measurements of performance and risk, benchmarking, quantified impact assessments, ratings and rankings, all of which provide information in the form of a numerical representation. Through quantification, public services and policies have experienced a fundamental shifting from “government by democracy” towards “governance by numbers”, with implications not just for our understanding of the nature of public administration itself, but also for wider

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debates about the nature of citizenship and democracy. This book scrutinizes the relationships between quantification, administrative capacity and democracy across different policy sectors and countries. In so doing, it seeks to offer unique cross-national and cross-sectoral insight into how managerialist ideas and instruments of quantification have been adopted and how they have come to matter.

More than thirty years ago, Alonso and Starr (1989) edited the by now classic “The Politics of Numbers”, which was amongst the first books that scrutinized relations between quantification and democratic government in North America (but see also Cohen, 1982). Amongst other things, Alonso and Starr’s collection of essays showed how government statistics had become vital to pursuing essential goals of a democratic polity, such as accountability and representation of diverse interests. The book also highlighted that a nation’s number system creates new invisibilities (e.g. of minorities). It showed how and to what extent political judgements and bias are embedded in the statistical systems of the modern state, or as Rose (1991, p. 675) put it, “how the domain of numbers is politically composed and the domain of politics is made up numerically”.

In parallel, also European scholars had begun to question the relation between numbers and democracy, and between government and numbers. In France, in particular Alain Desrosières and his colleagues, including Robert Salais and Laurent Thévenot, who contributed to this volume and at the time worked with Desrosières for the French National Institute of Statistics and Economic Studies (INSEE), interrogated the conventions and classifications underpinning the production, use, and consequences of statistics (e.g. Desrosières, 1987 [1983]; Desrosières, 1998 [1993]; Thévenot, 1979, 1981; Salais, 1986; for useful overviews see also Diaz-Bone & Didier, 2016; Diaz-Bone & Salais, 2011). In the UK, it was first and foremost Anthony Hopwood who triggered a critical-reflexive turn in the study of numbers, focusing on the multifaceted roles of accounting in representing and intervening in social and organizational life (see e.g. Hopwood, 1983; Hopwood & Miller, 1994; S. Burchell et al., 1980; but see also Miller, 1992; Miller & Rose, 1990). Further important early works on the production, history and influence of statistics were conducted by scholars with backgrounds in the history and philosophy of science (Daston, 1988; Gigerenzer et al., 1989; Hacking, 1990; Krüger et al., 1987; Porter, 1986).

Since then, particularly over the past fifteen years or so, there has been an increased interest in, and surge of, articles and books on governance by numbers, albeit in different fields (for a review see Mennicken & Espeland, 2019). In the field of public administration and public policy, especially the rise of New Public Management led to heightened attention to the roles of performance indicators in the governance of public services (see also Bruno et al., 2016; Bruno & Didier, 2013; Supiot 2015). Here, consideration has not only been given to problems of measurement (i.e. the limits of performance measures to capture what matters), but also gaming (Bevan & Hood, 2006; Strathern, 1997), reactivity (Espeland & Sauder, 2007) and the “audit explosion”, characterized by the rise and expansion of formal systems of performance evaluation and assessment aimed at making elusive notions, such as quality, auditable (Power, 1997; Strathern, 2000).

Bevan and Hood (2006) showed how governance by targets changed the behaviour of individuals and organizations in the English National Health System (NHS). They coined the famous phrase “hitting the target and missing the point” (ibid., p. 521). Building on Goodhart’s eponymous law that “any observed statistical regularity will tend to collapse once pressure is placed on it for control purposes” (Goodhart, 1984, p. 94, cited in Bevan & Hood, 2006, p. 521), they queried to what extent “governance by targets” subverts public service ethos, contributes to output distortions and a general narrowing of quality definitions. Also, Strathern showed for the case of the higher education sector in the UK that “when a measure becomes a target, it ceases to be a good measure” (Strathern, 1997, p. 308). More recently, Espeland and Sauder (2007) investigated reflexive interactions between people and measures by looking at the reactivity of US law school rankings. Amongst other things, they showed that these rankings contributed to a proliferation of gaming strategies, the redefinition of work and a redistribution of resources (Espeland & Sauder, 2016; but see also Bruno et al., 2016). Research has also drawn attention to new practices and strategies of gaming and manipulation that have emerged in the academic world over the past few years (Biagioli & Lippman, 2020a). These practices are different from the predictable gaming of academic performance indicators and may take the form of “massaging the definition what counts as a ‘successful student’ in metrics about schools’ performance, or of what counts as a ‘peer-reviewed’ paper in faculty evaluation protocols” (Biagioli & Lippman, 2020b, p. 1).

Rankings, ratings and other governance indicators, such as the Human Development Index, Gender Inequality Index or Social Progress Index, rest on multiple levels of aggregation (Mennicken & Espeland, 2019, p. 232). They are seductive as they allow for easy comparison and ranking of countries and organizations, which can lead to oversimplification and homogenization if not grounded in qualitative, locally informed knowledge production (Davis et al., 2012; Merry, 2016; Rottenburg et al., 2015; Salais, 2006; Supiot, 2015; Thévenot, 2009). This and the rise and proliferation of “governance by numbers” makes it all the more important to understand how such numbers are produced, calculated and aggregated, and with what consequences.

The essays collected in this volume interrogate what has changed in the relation between numbers and democracy, and between government and numbers, since the publication of “The Politics of Numbers” (Alonso & Starr, 1989). What is “new” in the politics of numbers and our approach to their study?

First, we observe an unprecedented expansion, acceleration and intensification of quantification not only in political life but also in everyday life. To a large extent such an expansion and intensification of quantification has been aided by the rise of new computer technologies for (big) data collection and data processing. Such new digital technologies, including machine learning algorithms, have changed how public administrations deploy resources and make decisions. They promise new possibilities of governing, as the contribution of Lam in this volume on the rise of China’s social credit system shows (Chapter 3). They also transform how we understand ourselves, what we attend to and consider important, as Vormbusch’s study of the “quantified self” movement in Germany in this volume demonstrates (Chapter 4).

Second, we witness an increasing decline in the “trust in numbers” (Porter, 1995), an antipathy to government statistics, and a disillusionment and tiredness with New Public Management’s “governance by targets”. In the age of “post-truth” politics, many have come to believe that numbers are manipulated. As Davies (2017) argues, many well-recognized indicators have lost their legitimacy. He quotes a study from the US that discovered that 68% of Trump supporters distrusted the economic data published by the federal government. For the UK, Davies highlights “that a research project by Cambridge University and YouGov looking at conspiracy theories revealed that 55% of the population believes that the government ‘is hiding the truth about the number of immigrants

living here” (Davies, 2017). Such distrust in numbers is further fuelled by the increasing distance between two objectives of public services and policies that service users have experienced over the past two decades: an increasing distance between attempts aimed at truly improving the situations of the people concerned, on the one hand, and the maximizing of quantitative performance, on the other hand. To counteract such developments, in the UK, an independent regulatory body was established in 2016, the Office for Statistics Regulation, to safeguard the “trustworthiness, quality and value of statistics” and to assure that “statistics serve the public good” acknowledging that statistics should meet the needs of a much wider range of users than public policy-makers and parliamentarians (see <https://osr.statisticsauthority.gov.uk/publication/osr-vision>, accessed 30 October 2020).

At the same time, and ironically, the presence of numbers in our lives seems to have never been greater. Such an increase in quantification can be the result of an “overproduction” of an administrative policy, a reaction (or even overreaction) to crisis, cognitive bias and uncertainty (Maor, 2018, 2019). As Miller points out in the Afterword to this book (Chapter 14), numbers have acquired an unassailable power, particularly in the wake of the Covid-19 pandemic. As he writes, “the phrase ‘follow the science’, and its numerical counterpart the ‘R’ number, has attained an ascendancy that none of us could have imagined only a few months ago”. The R number, and associated statistics, such as the 14-day or 7-day notification rate of newly reported COVID-19 cases per 100,000 of the population, have been used as devices to regulate our lives, to make decisions about whether schools, shops, restaurants, and much else besides, should be open or closed, whether, and in what constellation, one can meet with others or not. Miller’s contribution to this volume also shows that the R number is far from being a straightforward measure. It is not only incredibly difficult to calculate, it can also be potentially misleading or at least uninformative, because it does not necessarily tell you what is happening in your local area.

The essays collected in this volume query the rise and spread, as well as resistance to, and disappointment in, the tools of quantification that have come to govern our lives. In so doing, they do not so much ask what quantification *is*. Rather, they are interested in describing and analysing what quantification *does*. This volume is concerned with the tracking and unpacking of various practices of quantification and their manifold consequences in different contexts of public and private life. Such a close-up

focus on quantification practice, or “quantification in action” to paraphrase Hopwood (1983), contributes to our understanding of the roles of numbers in public policy and public administration, and scholarship on quantification more generally, in at least four distinct ways.

First, it helps in developing a more nuanced understanding of the capacities and roles of the various calculative practices that have come to populate different domains. The contributions to this book highlight that quantification does much more than provoke gaming and reactivity. They offer valuable insights into the inner workings of (different) accountability regimes, their changing nature and the emergence of new regulatory spaces and practices.

Second, the contributions show how quantification is implicated in dreams and schemes of doing things differently, of creating new worlds and bettering society. In many respects, it appears now that the socialist countries have been pioneers in the political use of numbers. In the USSR, statistics played not only a key role in the operationalization of central planning; statistics were also inextricably linked to the articulation and specification of the “socialist dream” (see Mespoulet’s contribution, Chapter 2). Likewise, China’s current social credit system has to be seen as part of a bigger, long-term commitment to creating “good” citizens via the controlling power of numbers (see Lam’s contribution, Chapter 3). It is often such dreams and schemes, or programmatic ambitions, as Miller and Rose (1990) would put it, that animate the rise and spread of numbers and need to be attended to, rather than (unintended) behavioural effects, if we want to understand what keeps the machinery of quantification running despite its continuous failings.

Third, the book is concerned with providing deeper insight into how quantification travels. This book brings together works on governing by numbers by leading and emerging French, German, Italian, British and Anglo-American scholars. In so doing, the book makes not only French, Italian and German works on quantification accessible to an English-speaking audience. It also enhances understanding of the implication of quantification in different modes of regulating and governing. It gives insight into how different forms of quantification have been developed and deployed in the public administrations of varied countries (China, Mali, Guadeloupe, USSR, UK, France) as well as European institutions in different historical periods. The contributions collected here examine whether and how quantification—the shift from government by democracy to governance by numbers—has given rise to a shift in demands

on administrative capacities of public administrations (e.g. expectations regarding analytical skills, regulatory capabilities, legal staff or financial resources). To what extent do tools of quantification advance the capacities of public administrations, regulatory agencies, and other organizations across sectors and states in terms of being able to monitor and steer?

Fourth, and finally, the book revisits the power of numbers, and the changing relationship between numbers and democracy. It engages two central programmatic strands of research in a critical dialogue with each other: namely Foucault inspired studies of governmentality (see here in particular the contributions by Miller, Guter-Sandu and Mennicken, Vormbusch, Lam and De Leonardis), which first and foremost flourished in the English-speaking world, and studies of state statistics and economic conventions, which have their origins in France, in particular the INSEE (Institut national de la statistique et des études économiques) (see here the contributions by Thévenot and Salais, two of the founding fathers of the economics of conventions approach, and the chapters by Samuel, Mespoulet, Amossé, Didier and Eyraud). Such a critical dialogue helps advance debates about the power of numbers and relations between quantification and democracy, a topic that in our view is in need of renewed discussion and theoretical reflection. For when quantification becomes a “technology of government”, power may be understood, expressed and resisted differently, depending also on the specific characteristics of the instruments of quantification used and what these afford actors to do. For numbers are not only a device of rational rule, public administration and domination. As the contributions by Thévenot (Chapter 7), Samuel (Chapter 11) and Salais (Chapter 12) in this volume demonstrate, they can also aid social mobilization and empowerment, a theme that particularly more recently published works on quantification have often overlooked (but see the recent French works on stactivism published by Bruno et al., 2014).

While some recent literature, particularly social studies of finance, has devoted a lot of attention to the technological infrastructures of calculation, it has tended to neglect or downplay the roles that political ideas, programmes or myths play in articulating and mobilizing them. Foucault-inspired studies of the governmentality of quantification (Miller, 1992, 2001; Miller & O’Leary, 1987; Miller & Rose, 1990) emphasize that we need to attend to both instruments and ideas of calculation, and the interplay between them, as it is through that interplay that each dimension

finds its conditions of operation. Similarly, also the economics of convention approach (Desrosières, 1985; Diaz-Bone, 2016; Diaz-Bone & Salais, 2011; Eymard-Duvernay, 1989; Salais, 2016; Salais & Thévenot, 1986; Thévenot, 2011) stresses the significance of ideas and conventions for the shaping of practices of quantification, and it assumes a plurality of possible ways in which numbers can come to govern. Yet, as Demortain (2019) points out, whereas governmentality studies have tended to approach quantification in terms of its (variable) political rationalities and disciplinary effects, the economics of convention approach has paid more attention to the collective mobilization capacities it offers (or not). We argue that it is important to understand processes and consequences of quantification from both angles. The contributions to this volume show that it is important to look at quantification as both a “technology of government, that reproduces a power structure” and as “a tool that can facilitate political action towards this structure, and its change” (Demortain, 2019, p. 974).

In our view, the time is ripe for such a joined-up, historically and contextually sensitive approach to get to grips with the multiplicity of quantification and “governing by numbers”. This volume assembles contributions from different disciplines and contexts to deepen our understanding of “quantification in action”. It is structured into three main parts. The first (Part I), explores *Quantification as Utopia*. Here, contributions scrutinize the implication of quantification in imaginaries of the future, “the ideal city” or “imagined community” as Anderson (1983) would say, that possesses highly desirable or nearly perfect qualities for its citizens. Statistics and other forms of quantification offer the promise of anchoring such ideals and imaginations in something tangible (Davies, 2017). But under what conditions and with what consequences?

The second part (Part II), revisits the roles of numbers in *Politics of Evidence*. Here, contributions probe the facticity of numbers and interrogate to what extent evidence-based quantification is in itself utopian. The third and final part (Part III, entitled *Voicing for Democracy*) scrutinizes changes in the relation between quantification and democracy. Nowadays democracy is less than ever a peaceful and established social activity. New relationships of power have emerged that dissimulate themselves under the cloak of technicalities which can lead to a weakening of democratic rights. Contributions in this part query the implication of quantification in the rise of what Crouch (2004) has termed “post-democratic society”, a society “that continues to have and to use all the institutions of

democracy, but in which they increasingly become a formal shell". Yet, we also ask what would be needed to disrupt this trend. Under what conditions can the exercise of political voice be made possible in and through quantification (see here in particular Samuel's and Salais' contributions, Chapter 11 and Chapter 12, but see also the contribution by Guter-Sandu and Mennicken, Chapter 10)?

In the following, we introduce each of these parts and the individual contributions that make them up in more detail to help readers navigate and comprehend the overall architecture of the book. We conclude our overview with a return to the question of where the economics of convention approach meets Foucault and Foucauldian studies of governmentality and what such a joining up brings to the furthering of debates about quantification and governing by numbers.

QUANTIFICATION AS UTOPIA

As Frank Manuel and Fritzie Manuel's (1979) witty and erudite book *Utopian Thought in the Western World* shows, imagining utopias has been a long-term characteristic of the western world since the Ancient Greeks. Yet, types, subjects, and political uses of utopia have changed over time and place. Whereas in the seventeenth century "utopia came to denote general programs and platforms for ideal society, codes and constitutions that dispensed with fictional apparatus altogether" (Manuel & Manuel, 1979, p. 2), more rationalist, systematic utopias appeared around the end of the eighteenth century. According to Manuel and Manuel (1979, p. 2), "the means of reaching utopia was transformed from an adventure story or a rite of passage to Elysium into a question of political action". The way of attaining the ideal city came to affect the very nature of the city itself (Manuel & Manuel, 1979, p. 3). This is still the case today. Utopias can reveal themselves as good or bad, but that is not our concern here. We are interested in the different ways utopian thought has influenced, and continues to influence, the building of the knowledge a society has of itself; concepts of the common good; the making of policies and their implementation; and the roles that come to be ascribed to citizens and their formatting.

Utopias could be said to set forth a horizon of expectations that is believed to open a new future viewed as enlarging and facilitating the actions of those who form it, ultimately aimed at making them more powerful. These can be scientists, philosophers, ideologues, managers,

politicians, all people who more or less occupy the role of “conseillers du prince” in government matters. Policy-driven quantification often carries with it a utopian perspective. It is implicated in the promise and dream of creating an infrastructure that can facilitate the making of a new (better) order. In this respect, quantification is deeply ideational (Power, 2019; Miller & Rose, 1990); and it is often utopian thought that motivates its production and expansion.

Quantification is further sustained by beliefs in its own rationality. Simply put, the belief that often motivates in the political domain the recourse to quantification is the assumption that *more equals better*. Qualities are reduced to quantities, and difference is transformed into magnitude (Espeland & Stevens, 1998). As Espeland and Stevens (1998, p. 316) have highlighted, this transformation “allows people to quickly grasp, represent, and compare differences”. It offers “ways of constructing proxies for uncertain and elusive qualities” (ibid.). For us the key issue here is not so much of a technical nature (i.e. how this transformation is achieved), but concerns the shift in cognition it entails. How can we be sure that the resulting loss of information, the moving away from in-depth and shared qualitative knowledge, will not affect the very way political decisions are taken, the way political objectives are formulated, motivated and legitimized? How is it conceivable not to worry about the claim of a universal toolbox that is able to emancipate itself from all material, socio-historically-built and nationally-rooted specificities whatever the domain in which we are acting, as if such particularities should have no meaning and impact?

For by their very nature utopias cannot be achieved. The political and ethical prudence (Raynaud & Rials, 1992) should be to recognize this impossibility of realization and to conceive of utopian thought in terms of a series of markers that guide, but not determine, an endless pragmatic progress towards something that can only be loosely referred to. The problem with any utopia begins when the prince’s advisors and the prince himself try to implement it as it is formulated, take it literally, as a blueprint for action and to transform social reality and expectations so that they come to strictly obey to the precepts of the utopia in question. In that case, far from liberating, utopia comes to confine freedom and initiative in a straitjacket, eventually destroying them and utopia itself.

In this volume, Martine Mespoulet (Chapter 2) examines how statistics and national accounting came to be invested with dreams and schemes aimed at creating a new socialist society and a new human being. Statistics

should help symbolically construct the (new) Soviet social and economic world, and reform collective spirit and behaviour. Mespoulet traces the tensions and twists and turns this involved. She shows how statistical debates were mingled with internal political rivalries and rifts. The new Bolshevik state had inherited an already well advanced statistical apparatus that had been developed in the Tsarist Empire in exchange with other western European countries. How could such an apparatus be adapted to the new political representations of society, where numbers were not only an information and decision support tool, but also an instrument of power designed to prove the soundness of state action?

The old guard of statisticians came to clash with the Bolsheviks. For the Bolsheviks, the production of figures was to be controlled by their immediate practical applicability, that is their usefulness in guiding actions and decisions. The autonomy of statistics as an independent science was thus questioned. The search for information became selective and had to satisfy political choices rather than statistical laws. As Mespoulet writes, “statistical law came to be perceived as contradicting the principle of political action, as it portrayed social processes as fatalistic [random, added] and the effects of political action on society as illusory”. A new quantification language had to be invented which did not resort to statistical theory as a resource (such as the law of large numbers and randomization). Yet, although national accounting seemed to provide such a new language (the accounting for input and output), statistics were never abandoned, Mespoulet shows. Statisticians learned to adapt to the new world. They “became a kind of ‘right hand’ providing the economic planners with statistics needed for elaborating the plan, for instance for building blocks of flats, schools or leisure facilities”. Furthermore, a whole new area of statistics developed, based on economic forecasting and the construction of indexes. And especially from the 1950s onwards, Soviet statistics began to increasingly resemble those used in capitalist countries. As Mespoulet remarks, “the Soviet socialist system [...] had to demonstrate its superiority in the same economic and social fields as the capitalist countries, which meant that they tended to adopt the same tools, while re-interpreting their uses”. What separated socialist statistics from their western capitalist counterparts was thus far from clear. Such separation had to be actively forged, time and again and was often rooted in similarity.

Also Tong Lam (Chapter 3) investigates the multifaceted roles of numbers and calculative expertise in state-building, albeit of a different

kind. He turns our attention to China's new social credit system, a national system that is currently being developed under Xi Jinping's administration as part of the project of "The Chinese Dream" aimed at rejuvenating the Chinese nation. For long, China's political and intellectual elites have had the desire to create national citizens, motivated and enlightened enough to participate in China becoming, as Lam puts it, "a unified body politic to counter the encroachment of foreign countries". More than one century later, the dream of engineering new citizens is being drastically reformulated. Moving away from a paper-based bureaucratic surveillance system that rests on the maintenance of personal dossiers, Lam shows how the new social credit system seeks to track, evaluate and modify the financial, moral, social and political behaviour of citizens and companies with the help of new digital "evaluative infrastructures" (Kornberger et al., 2017).

Lam highlights that this new system seeks to modulate behaviour not via oppression, but gamification, individual responsabilization and incentivization. Drawing on Foucault's writings on governmentality, he points out that this system is "a technology of subjectivity and citizenship that seeks to calibrate and modify the behaviour of individuals and groups, compelling them to align themselves with the desired social and political order as defined by the state". Power is thus exercised indirectly through what Foucault referred to as "the conduct of conduct" (Foucault, 1991 [1979]). Responsibility and self-regulation are instilled through a credit-point based reward and punishment system that affects career and promotion prospects, possibilities of travel and mobility, and much else besides. The numerical reward system creates incentives not to simply obey, but to maximize one's score so as to enlarge one's field of possibilities. The new focus, Lam argues, "is no longer on ideological purity for political purposes but on trustworthiness as a basic condition for economic efficiency". In this respect, Chinese policy thinkers have come to share many of the assumptions of (Western) rational choice and game theorists. Lam cautions us to be careful not to demonize China as the foreign Other, as the social credit system looks "at once dystopian and strangely familiar". Despite the many differences that exist between China and Western market democracies, Lam emphasizes that the two sides converge significantly in how their corresponding surveillance infrastructures have produced a new governing paradigm that, according to Zuboff, has replaced "the engineering of souls with the engineering of behavior" (Zuboff, 2019, p. 376, quoted in Lam).

Lam's contribution prepares the ground for a number of questions on which other chapters in this volume seek to shed light. First, we should not forget that the effectiveness of the system relies on its ability to adequately capture the behaviour it seeks to modify, which is by no means a trivial (and often unattainable) task. Second, following the economics of convention (Diaz-Bone and Salais, 2011) social coordination does not necessarily obey to formal institutions, but is shaped by shared informal conventions of appropriate conduct. Such conventions are much more stable in the long run than the recourse to formal institutional rules. Hence, governing via credit scores might be much more difficult to achieve than envisaged, and we need to pay attention to the consequences of such uncertainty. Relatedly, we should also not underestimate people's ability to game the system's rules. Third, and finally, the chapter invites us to critically revisit and unpack what neoliberal governing entails. It reminds us of neoliberalism's multiple manifestations and the increased blurring of differences between East and West.

Uwe Vormbusch's chapter (Chapter 4) transposes us from dreams and schemes of national quantification to the Quantified Self (QS) movement. Born in California, the movement aims to obtain self-knowledge through self-tracking, using new digital mobile and wearable technologies. Self-tracking as such is not new (see e.g. the history of diaries and bathroom scales). Yet, digitization and automation equip quantifications of the self with new possibilities, allowing for ever more detailed and accelerated measurement that can be shared, compared and circulated on the web. Vormbusch explores how such quantifications bring forth new "taxonomies of the self" drawing special attention to the diversity of representational forms and moral conflicts contained in such taxonomies. Combining a Foucauldian approach (e.g. Miller, 1992) with studies of the economics of convention (Diaz-Bone & Salais, 2011; Boltanski & Thévenot, 2006 [1991]), which have highlighted the practical capabilities of individual actors enmeshed in conventions, he argues that self-quantification emerges as a contemporary "institution of the self" that does not displace but co-exists with other established "technologies of the self" (Foucault, 1988), such as religious confession and therapeutic and psychoanalytic approaches to identity and authenticity.

Following Foucault, Vormbusch considers power "as a productive network which runs through the whole social body, much more than as a negative instance whose function is repression" (Foucault, 1980, pp. 118). He stresses that self-measurement does not only lead to an

intensification of surveillance, coercion and self-discipline. It also opens up new spaces for self-discovery and self-modulation. It is this tension between autonomy and subordination that he is interested in further exploring. Vormbusch shows that self-quantifiers are not necessarily using new technologies and data uncritically. He portrays them as capable and reflexive actors (Boltanski & Thévenot, 2006 [1991]) who are actively inventing and manipulating technology to explore who they are and could become. To be sure, such use of technology is not without problems and conflicts. Vormbusch shows how quantifying your self is as much about coping with new forms of cultural incertitude and precariousness as well as keeping oneself “fit” and adept to today’s neoliberal “flexible capitalism” (Boltanski & Chiapello, 2007).

There is a striking proximity between the social utopias of the self-quantifiers and the Chinese Dream of forging the body into a new object of knowing and governing via digital tracking, although both are situated at opposing ends of the spectrum of neoliberal governing. In the former case, we are dealing with a network of supposedly autonomous individuals who are seemingly free to choose what to measure and how to adjust their behaviour accordingly; in the latter case, we are dealing with a highly centralized apparatus of authoritarian control. Yet, both resort to benchmarking as a key instrument of neoliberal, market-oriented governance (Bruno & Didier, 2013).

The dream of the self-quantifiers is to make visible the self, to make it comparable and manageable, which requires classification, scales of evaluation, the decontextualization of observations and the application of the same methodologies for all. How can one be sure not to lose essential information about the self? The self-quantifiers Vormbusch interviewed oscillate between confidence in numbers and worries, even despair, about the numbers’ ability to grasp their (distinctive) selves. The metrics introduce an irreducible distance between forms of objectified external judgement and quests to learn more about ones’ (unique) self. Such distance is also problematized in the contribution by Ota De Leonardis (Chapter 5).

De Leonardis examines measurements of inequality and their implication in dreams of “indifferent power”. She shows how attempts aimed at quantifying poverty and inequality were accompanied by a semantic shift in which the meaning of inequality as a (historical) bond of domination and subjection was being obscured. Inequality as defined by quantification, she argues, “tends to designate a distributive difference, a

gap, a disparity: a distance, and no longer a tie". It has no longer a relational meaning that refers to power relations between unequal people, where a bond is recognized between the "high" and "low" that creates for both sides obligations and claims. She focuses in her analysis on the dispositif of the *threshold*, in particular poverty thresholds, and their effects on redefining welfare policies in Europe (above all Italy).

She highlights that "threshold" is not only a quantitative measure but also a spatial metaphor which shapes social spaces with divisions and separations. It is aimed at "governing at a distance" as Miller and Rose (1990) would say. De Leonardis distinguishes between space and territory (or place), a distinction also developed by Supiot (2008). Space refers to abstract geometries (distance, direction, size, shape, volume) detached from any material, living, cultural and historical contents. De Leonardis interrogates how a "spatialized" configuration of notions of inequality, helped by measurement and the definition of quantitative poverty thresholds, represents the negation of any relationship between privileged and deprived people, and especially one of domination. As she writes, when inequality is captured in a quantitative format, a poverty threshold, the "vertical configuration, which anchored inequality to burning issues of power, politics, and institutions, is being obfuscated". Questions of inequality are reduced to "a comparison between linear positions and intended merely as a matter of plus or minus, more or less, yes or no, according to a binary code". De Leonardis emphasizes that quantitative poverty thresholds render inequality relative, and no longer relational (see here also Townsend's definition of relative poverty from 1979, quoted in De Leonardis). Inequality loses its "absolute" that is, its societal and political, dimension, as Sen (1983) would put it. Such "flattening effects" of quantification come also to light in other contributions to this volume. Quantification is thus far more than an instrument to envisage and realize a new, "better" world. Quantification technologies, such as poverty measurements or social credit scores, reconstitute the very object they are asked to help create ("the ideal city" or "the ideal citizen"). As Espeland and Stevens (1998, p. 323) write, quantification "reconstructs relations of authority, creates new political entities, and establishes new interpretive frameworks".

Part II of this volume, to which we now turn, takes a closer look at the implication of quantification in "politics of evidence"—attempts aimed at undergirding policies with an "undebatable truth" produced via numbers. The creation of such truth is not only difficult and laborious. What counts

as an undisputable fact, and the ways how such facts are produced, have changed over time, and therewith also the very meaning of facticity itself.

THE POLITICS OF EVIDENCE

Numbers have come to be integral to how democracy is justified and operationalized (Rose, 1991). To paraphrase Rose (1991, p. 684), to govern legitimately does no longer mean to govern at the mercy of opinion and prejudice, but to govern in the light of quantifiable facts (see also Porter, 1995). Although “evidence-based policy making” has a long history that spans several centuries, it gained renewed popularity—particularly in the Anglo-Saxon world—with the rise and spread of New Public Management. Evidence-based policy making is based on the assumption that public policy decisions should be grounded in rigorously established “objective evidence” (facts), rather than “common sense” or ideology. To become fact, knowledge should be detached from both the context of observation in which it was generated and contemporary theoretical controversies (that are relegated to the rank of ideologies) (Salais, 2016).

Daston (1992) has coined such objectivity as “aperspectival”. Numbers are often seen as a crucial element in realizing an aspiration to “escape from perspective” (Daston, 1992) and to obtain a univocal, impersonal interpretation of the phenomena around which political decisions come to be framed (Samiolo, 2012). The objectivity of numbers, in turn, following Porter (1992), is rooted in standardization, a process whereby decisions are “linked to replicable calculative methodologies which are seen to transcend individual subjectivity and deemed universally applicable” (Samiolo, 2012, p. 383). Yet, how the objectivity of numbers is generated, stabilized or disrupted, is culturally contingent and context-specific (Fourcade, 2011; Samiolo, 2012).

Alain Desrosières’ works (see e.g. Desrosières, 1998 [1993], 2008) as well as studies by the economics of convention (see e.g. Diaz-Bone, 2016; Salais 2016; Thévenot, 2001) have shown that the production of objective quantitative evidence relies on conventions of measurement, categories and classifications that are rooted in specific socio-historical processes and projects of nation-building. These conventions, categories and nomenclatures are historically and geographically contingent, as for instance studies of changes in the measurement and categorization of employment and unemployment or the professional occupations have

demonstrated (Boltanski, 1987 [1982]; Desrosières & Thévenot, 1988; Salais et al., 1986).

The Baconian dream of eliminating variation due to the specificity of context and different theoretical foundations of debates—when transposed to the social—is impossible to achieve. Evidence-based quantification in itself is a utopia one might say. The contributions collected in this part of the volume trace different aims and modes of intervention that have come to be attached to quantification-based politics of evidence over time and in different settings. Following the economics of convention, they highlight, amongst other things, that it is important to accept a plurality of positions and perspectives as valid in the search for evidence. Amartya Sen referred in this context to “positional objectivity” (that he distinguished from subjectivity) arguing that “the idea of objectivity requires explicit acceptance and extensive use of variability of observations with the position of the observer” (Sen, 1990, p. 114).

A key element of evidence-based politics are state statistics. In this volume, Thomas Amossé (Chapter 6) traces the history of France’s public statistical infrastructure aimed at knowing its population. The chapter distinguishes between three different models of quantification that came to sustain the relationship between the French State and its statistical citizens since 1950. Although these models appeared successively, they co-exist today. These are the “representative household survey” (which emerged in the 1950s), the “biographical investigation” (which was developed in the early 1980s) and “the matched panel” (which emerged at the end of the 1990s). According to Amossé, “these models articulate, each in a specific way, social science theories, statistical methodologies, and public action conceptions”, and they correspond to three different types of “statistical being” (*homo statisticus*)—subject, person and individual—modelled on Supiot’s exploration of the development of the legal subject (Supiot, 2007 [2005]).

Imported from the US in the 1950s, the representative household survey sought to provide a snapshot of society. The surveys were aimed at representing the entire population and became one of the most important sources of social and demographic statistics. Their main variables (such as age, gender, income and socio-professional categories) were primarily of an administrative nature and assumed to be unanimously and uniformly understood. Amossé shows that, today, such surveys have not disappeared, but they have become supplanted with other statistical tools. Biographical investigations, born out of social scientific reflection and

critique in the 1980s, gave less primacy to standardized, institutional categories and questions of statistical representativeness. They focused on the tracking of a respondent's individual trajectory (birth, move, promotion). Grounded in interpretive sociology, they were based on the assumption that the individual bears multiple identities which must be explored. Both models (household surveys and biographical investigations) respected the respondents as owners of a practical experience deemed valuable for the formulation and implementation of public policies. In contrast, the third form of statistical infrastructure (the matched panel) that Amossé explores is of a very different nature.

It responds to a micro-causalist agenda, where the statistical infrastructure is not focused on individuals as persons or members of the collective entities to which they belong (e.g. a household). Rather, the “statistical beings” making up matched panels can be seen as “dividuals” (Appadurai, 2016; Moor & Lury, 2018) resulting from an assembling of matched data, multiple data marks and imprints. As Amossé writes, matched panels are based on “libraries of information which, for each respondent, store a great number of fragmentary and heterogeneous pieces of a puzzle, which are put back together once they have been re-aggregated to represent the targeted individuals”. In this form of statistical infrastructure, the metrological objective is preeminent. The collected variables rarely, or only secondarily, refer to practical experience or institutional categories. Statistical data are “purified” and abstracted from context and convention.

The theme of abstraction is also of importance in the politics of evidence examined by Laurent Thévenot (Chapter 7). Thévenot examines sustainable palm oil certification as a new mode of global governing that operates away from states. Voluntary governing schemes, such as that of the Roundtable for Sustainable Palm Oil (RSPO), have gained legitimacy through the implementation of multi-stakeholder governance. Thévenot interrogates what such governance arrangements entail. He argues that “governing by standards” has shifted the political debate about power, legitimacy and the common good to questions of measurable certifiable characteristics of products and services that are to be chosen by “autonomous opting individuals”. What kind of alternative to the rule of law do certification standards offer? How do actors, including local smallholders in developing economies, cope with the standards' reliance on measurable objectives? What does this format of governance, and the liberal grammar underpinning it, do to voices of concern? These are some of the central questions Thévenot explores.

Building on his earlier research on the politics of statistics (Thévenot, 1990), economics of convention (Eymard-Duvernay et al., 2006), investments in form (Thévenot, 1984), orders of worth (Boltanski & Thévenot, 2006 [1991]) and the plurality of regimes of engagement (Thévenot, 2006, 2015), Thévenot studies governing by standards “in action”. This demands close-up fieldwork, including following the most vulnerable actors, from their daily life in remote rural areas to their participation in the “open spaces” of the public roundtables that are a key element of the certification process.

As Thévenot writes, each year the general assembly of the “Roundtable on Sustainable Palm Oil” (RSPO) meets in a “convention” which votes for resolutions and changes to the standard (of sustainable palm oil). Thévenot describes the arrangements and procedures designed to allow for wide participation in deliberations over the standard. These procedures urge participants to formulate their voice in a particular manner—as “engagement in a plan” and “in a format of individual choice between optional plans”. Discussions are organized in an open space akin to a marketplace, where participants shop for information and ideas. Scrutinizing the liberal grammar of the “open space technology”, Thévenot shows how it transforms (and limits) participants’ (in this case a smallholder and representative from a local community) ability to engage in critique. The “open space technology” does not fit “grammars of practice which support pluralist constructions of commonality and difference”. Thévenot shows that to be truly heard and understood requires the training of rhetoric abilities, the learning and use of the right language, and concepts specific to the object.

The registration of a complaint with the RSPO (here a complaint that the rules of the certification standard were not being properly implemented by the corporation) demands its “right formatting” in accordance with RSPO’s standards. “Local familiar” and “customary formats” of evidence have to be translated into evidence legible by the organization (in this case the RSPO)—quantifiable and auditable markers, which in turn limit the very possibility to articulate dissent. For such transformation deprives the most vulnerable (local smallholders, communities and NGOs) of their primary resource: practical knowledge.

Such “dogmas of universal competition” (Supiot, 2009) and standardized “best practice” are also present in the case of implementation of development aid in Mali, which Ousmane Ousmarou Sidibé studies in this volume (Chapter 8). When writing his contribution, Sidibé was a

senior civil servant of the Malian government. Hence, he speaks not only as a researcher, but also as a participant.

In a quest to make development aid more efficient and effective—to reduce waste and transaction costs and enhance accountability—governmental and non-governmental organizations involved in the provision and use of development signed on 2 March 2005 the Paris Declaration on Aid Effectiveness which, amongst other things, commits donors and recipients of aid to “management by results”, a shift from “project aid” to “budget support”, increased coordination and mutual accountability. Performance indicators have become a cornerstone in the implementation of the declaration.

Sidibé explores how “management by indicators” contributed to the undermining of public policies in Mali focusing on the cases of education and public health. Amongst other things, he highlights that a national indicator, by its very nature, does not reflect the conditions and results of a public policy in distinct geographic areas. In Mali, there are large disparities between regions. Such regional differences are not captured by the national indicators that average local results. Likewise, the public health indicator stating the percentage of the population that lives within five kilometres of a functional healthcare centre (56% in 2013) does not say much about the actual accessibility of healthcare. Accessibility to healthcare is shaped by many more factors than geographical distance, such as availability of appropriate medications, staffing levels, and staff’s expertise. Another problem of performance-based management to which Sidibé draws attention consists in the difficulty to reach consensus on targets. As Sidibé states, “the aims of public policy are multiple, and sometimes contradictory, so reaching consensus can be extremely laborious”.

How can under such circumstances a new social contract be devised, which sets reciprocal obligations for families, communities, local authorities, civil society and the national government, Sidibé asks. According to him, “performance indicators have become a formidable tool in the hands of a few international experts, who insidiously impose far-reaching public policy choices on states, in the absence of any real debate among citizens”. Paradoxically, the states with the least institutional capacity to handle the weighty apparatus of “management by indicators”, are often those on whom donors impose the most stringent terms of conditionality, because these states lack the capacity to negotiate. This does not mean that management by indicators should be abandoned altogether. But Sidibé warns against its blind, mechanical application. As he concludes:

“An indicator should be just that, literally furnishing an indication of the quality of governance, but not in itself a full appraisal of quality. From this point of view, indicators can send a warning on the state of public policy, and foster discussion, without issuing a judgement with no appeal, and are much less a guilty sentence”.

Also Corine Eyraud examines a case of “management by indicators” (Chapter 9). She turns our attention to the development of governmental performance indicators for French universities. As a participant observer, she followed the numbers from their birth through their detailed construction to their concrete uses. The development of these indicators began in France in 2001 with the “*Loi organique relative aux lois de finance*” (LOLF) that took effect in 2006. This law sought to bring New Public Management (NPM) ideas to France. One of its main objectives was to make the government and the public services accountable to parliament for the results of their actions. The law further sought to give more power to parliament over budgetary policies and choices. Lastly, it sought to reform the allocation of resources to administrations and public services. Yet, from the three projected uses of “management by indicators” only the third one was actually realized.

Eyraud shows that MPs did not pay much attention to numerically based performance reports in budgetary debates. First, the LOLF did not link performance to budgetary funding. Second, the MPs did not find the indicators particularly meaningful in relation to public policy making. They did not participate in their construction and found the indicators too technical and too detached from their concerns. Yet, a few years later, the performance indicators (e.g. number of publishing academics, number of PhD degrees delivered, undergraduate success rate, number of master degrees delivered, the rated research quality of a research centre) became an essential element in a new system of university resource allocation, called “Sympa”. From 2009 onwards, a university’s performance became financially rewarded, while non-performance was financially punished. This new way of funding introduced competition amongst universities and led to various forms of “reactivity” (Espeland & Sauder, 2007), including gaming and the redirection of financial and human resources from teaching towards research. Yet, at the same time, Eyraud also describes how this system became contested, especially by academics, and eventually abandoned under Hollande’s government in 2012.

Eyraud highlights that the various policy reforms and implied quantification instruments did not form a very integrated assemblage. The changes that the performance measures were supposed to help bring about were at the same time significant and very limited. Similar to Sidibé, also Eyraud does not seek to argue against quantification per se. But, she cautions, citing Supiot (2012), that one should not confuse measurement with assessment. Furthermore, the setting of indicators should not become “a way of surreptitiously encapsulating values and hierarchies”. Rather, she pleads for the opening up of quantification, the setting and use of performance indicators, to public debate and scrutiny, which brings us to the third and final part of this volume, Part III, devoted to exploring the changing relation between numbers and democracy.

VOICING FOR DEMOCRACY

In democratic political systems, the law guarantees citizens the freedom of opinion and expression, including the right to demonstration and protest (see here also Articles 19, 20 and 21 of the 1948 Universal Declaration of Human Rights of the United Nations). How does the rise and spread of “governance by numbers” (Miller, 2001; Supiot, 2015) affect individual and collective capacities to exercise voice? Quantification may be motivated by a democratizing ambition, the desire to hold to account, and to counteract despotism and arbitrariness (Alonso & Starr, 1989; Cohen, 1982; Kurunmäki et al., 2016; Porter, 1995). Yet, numbers also change how we perceive things, how decisions are framed and how concerns become articulated. Numbers promise a “de-politicization” of politics. But as Rose (1991, p. 676) remarks, “numbers do not merely inscribe a pre-existing reality. They constitute it”. And with that new conduits of power are brought into being (see also Miller & Rose, 1990). “Numbers delineate fictive spaces for the operation of government” (Rose, 1991, p. 676). In so doing, they generate new forms of visibility and invisibility. They create new actors and new relations which might thwart political engagement and participation.

Contributions assembled in this part interrogate possibilities for the incorporation of voice in numbers. To paraphrase Morgan (2010), they examine the ways in which quantification can (or cannot) express citizens’ experience about political, economic, and social arrangements that affect them. They also scrutinize the relationship between quantification and public debate (Mennicken & Espeland, 2019, pp. 232–233),

and investigate the role that numbers play in generating and framing public discussions and deliberations, for example about public goods and services, such as public security, fiscal policies or employment. Finally, they query prospects for a pluralization of quantification (*ibid.*). They examine how numbers can come to be unsettled, challenged and changed through the development of alternative measures, “counter-quantifications”, as the literature on “statactivism” has highlighted (Bruno et al., 2014).

Andrei Guter-Sandu and Andrea Mennicken (Chapter 10) use the case of prison privatization in England and Wales to scrutinize what it means to “economize the social” through numbers. Guter-Sandu and Mennicken show how ratings and rankings of organizational entities, such as hospitals, universities or prisons, are often closely linked to aspirations aimed at facilitating competition and the establishment of (quasi) markets in the public services. Further, they highlight that particularly over the past fifteen years or so, we have witnessed an increase in quantified social impact assessments seeking to make the value of public sector work knowable in financial terms not only for evaluation purposes but also to attract (private) investment. Guter-Sandu and Mennicken analyse this multiplicity of quantification and its implication in different processes of economizing distinguishing between activities aimed at curtailing, marketizing and financializing.

Tracing the history of quantification and performance measurement in the HM Prison Service of England and Wales, they attend, first, to the introduction of prison performance metrics in the 1990s which, amongst other things, was stimulated by prison privatization and concerns with the accountability of prison governors. They examine then the evolution of these metrics, including their translation into aggregated prison ratings from the early 2000s onwards. Underlying the introduction of the prison ratings, the authors argue, was a belief in the power of market incentives and the aspiration to govern through competition. But the chapter also shows that we need to be careful not to equate quantification with economization. It describes how measures seeking to capture the quality of prison life from a prisoner’s perspective were introduced to “moralize” the prison ratings (Liebling, 2004). Of course, we need to be cautious when labelling this as democratization. Nonetheless, the performance measures served as an important platform for debate about prison values and reform, not least because of the public attention and criticism they attracted.

Yet, these “moralized” measures were, in turn, destabilized in the wake of the government’s austerity policies. Concerns with the measurement and management of costs came to the fore which overruled the Prison Service’s “balanced” performance measurement system. Ironically, contracted-out private prisons were largely spared from these cuts, due to the inflexible nature of the 15- or 25-year contracts under which they were operating. Thus, they were largely shielded from economization in the form of budgetary savings requests. This does not mean that private prisons are not economized, but different mechanisms of economization (and quantification) are at work here, which the authors disentangle examining experimentations with Social Impact Bonds (SIBs). These mechanisms of economizing relate first and foremost to processes of financialization and a logic of (financial) “capitalization” (Muniesa, 2016; Muniesa et al., 2017) where prisons and prisoners come to be viewed as (financial) assets, as vehicles for the generation of future returns. Guter-Sandu and Mennicken conclude by cautioning us to be mindful of the multiple ways in which quantification and financial concerns come to be interlinked—reinforced, mitigated or undermined.

Subsequent chapters (see in particular Chapters 11 and 12) explore in what ways and under what conditions quantification can be turned against programmes of marketization, financialization and austerity. They examine instances when quantification is subjected to scrutiny, debate and critique; when forms of disruption are sought that go beyond “gaming the numbers”; when numbers become (re)attached to dreams and schemes of doing things differently.

Boris Samuel’s analysis (Chapter 11) focuses on the struggle against high living costs in Guadeloupe in 2009. He investigates a case of “statactivism” (Bruno et al., 2014), where calculation and figures came to be used as a “weapon” by a social and civic movement, led by local trade unions, to fight what they identified as “pwofitasyon”. “Pwofitasyon” [in French: *profitation*] is a Creole term that denotes the capturing of undue profit resulting from the existence of excessive sales prices, particularly in relation to basic consumer goods, such as food. Samuel shows how the movement, called LKP [l’alliance contre la *profitation*], engaged in the calculation and collection of data to reevaluate purchasing power and challenge the setting and regulation of prices by the administrative authorities. Samuel assesses to what extent “the statactivistic momentum” of the LKP and other non-state actors was capable of shifting generally accepted price measurement methods and, more generally, debates on price.

His analysis shows that the struggles with numbers lead to unequal outcomes, in which technical but also relational resources determined the balance of power between the actors. The alternative calculations (counter-quantifications) put forward by the LKP were effective in generating a public debate on “pwofitasyon”, yet, at the same time the measurements came to be deemed as “too simplistic” to be considered legitimate by the public authorities. Instead, a statistically more sophisticated analysis of price differences between Guadeloupe and mainland France undertaken by the INSEE (France’s Institute of Statistics and Economic Studies) became an important reference point in the negotiations. But here the reported price differences rested on averages, and the reported average gap of approximately 15% made it impossible to expose the abusive pricing of individual goods, for example chocolate powder or yoghurt, where price differences could be as large as 100% and more.

The common and rigorous statistical methods used by the INSEE were thus not socially acceptable and led to further controversy and social unrest. Yet, the report formed the basis for the development of a new strategy of communication on price differentials. This strategy represented prices no longer on the basis of average values, but focused on the representation of particular extreme values which, in the end, came to be considered a fairer representation of the inequitable situation lived by many Guadeloupians. This strategy was supported by a report of the Competition Authority which identified several violations of competition law in the large-scale retail and import sectors. This report, Samuel writes, “turned each price, as experienced by the consumers in their everyday life, into an indication of abuse and injustice, deserving to be discussed and publicly denounced”.

Samuel’s study helps gain a deeper understanding of the multiplicity of price level measurement and the shifting legitimacies associated with it. It also shows that the increased complexity and sophistication of statistical techniques may reduce possibilities for public scrutiny and the utilization of quantification as an emancipatory device. Further, Samuel’s analysis raises important questions about what should count as “right and fair” statistical proof in a democratic debate, and in what way statistical data are, or should be, able to capture lived experience, a topic which also Robert Salais’ contribution addresses (Chapter 12), to which we turn next.

Salais investigates the development and transformation of a social and statistical category, namely that of unemployment, in three major European countries (France, Germany, Great Britain) and at European level (Salais, 2007). In his analysis, Salais differentiates between statistics and governance-driven quantification. He shows that both rely on quantification, but differ with regards to the political status of social and cognitive conventions. As he writes: “The purpose of statistics is *to build general knowledge* ‘extracted’ from the plurality and variety of *social conventions* people use in daily life to understand their world [...]. The purpose of governance-driven quantification is to find ways *to rationally transform social conventions* toward some pre-given political objective, judged by the centre as optimal”. According to Salais (but see also Desrosières, 1998 [1993]), in statistics, the establishment of facts logically precedes the design and implementation of public policies. In governance-driven quantification, the “fabrication” of facts is internal to public policies and driven by the search of maximizing these policies’ quantitative performance. Put differently, the ultimate outcome (or aim) of “governance by numbers” is to modify the conventions upon which people rely as landmarks to identify what can be their legitimate claims.

Rather than being rooted in collective deliberation, the informational basis of governance-driven quantification is predetermined and imposed by “the Centre”; it incorporates norms without discussion and directs the decisional process towards prefixed political outcomes. These norms are mostly incorporated into technicalities (e.g. definitions of operational categories). All this creates a move towards what Salais terms an “a-democratic regime” of quantification. According to Salais, “a-democracy” is a political regime that maintains the formal procedures of democracy, but impedes any effective participation of citizens and other actors who could speak on their behalf (see here also Crouch’s definition of post-democracy, 2004).

Salais shows how European employment policies came to be based on such governance-driven quantification and “a-democracy”. European authorities substituted the search of Keynesian full employment for the maximizing of the rate of employment as their main target. In this new regime, employment took on a very different meaning, encompassing any job, regardless of wage, working conditions, duration, or type of labour contract. Salais goes on to explore ways by which this turn could be counter-acted and social justice expectations be brought back into quantification processes so that another understanding of the collective issue

to deal with can be developed. For him, producing and interpreting data should thus be seen as a collective undertaking. Informants (e.g. people who are asked to respond to a survey on employment) should be considered as active interpreters bringing with them valuable practical experience and knowledge that should be used in defining the issue at hand (e.g. helping to arrive at a collectively shared understanding of what should or should not count as employment).

Quantification, in this context, has to become legitimate in terms of both fairness and correctness of the data it helps produce. Drawing on Amartya Sen's concept of "the informational basis of judgement in justice" (IBJJ) (Sen, 1990; but see also Salais, 2019), Salais argues that a major aim of quantification should be the generation of an informational basis which has not only been produced with the help of rigorous methodologies, but satisfies also accepted requirements of justice. This informational basis is thus no longer merely objectified "aperspectival" evidence reflecting reality; it is also elaborated by (lay) people through the prism of their own feelings on what is or is not justice and injustice, taking into account relevant features of their "factual territory". Such an understanding of quantification opens up the possibility of a plurality of "data-makings" for the same situation. It also does not oppose qualitative and quantitative methodologies and, more importantly, has as its foundation effective freedom.

Also the chapter by Emmanuel Didier (Chapter 13) problematizes the divide between qualitative and quantitative methodologies. Examining the history of what is now called "qualitative sociology" in the US, Didier asks how we can account for the political production of the border of qualitative enclaves which exclude quantities. The founding fathers of sociology never chose between quantification and non-quantification. So, how did the conceptual pair "qualitative vs. quantitative" come to settle within sociology?

Didier pays attention to both the epistemic and political forces that participated in the production of the border between the qualitative and quantitative in sociology. His analysis begins with a discussion of Herbert Blumer's *Symbolic Interactionism*, who located the social primarily in situations of interaction. Deeply influenced by American pragmatism, he examined how a member's action is guided and formed by a process of interpretation. Blumer was against surveys (as e.g. conducted by Paul Lazarsfeld at the time), but he was not against quantification per se. Next to symbolic interactionism, ethnomethodology, originally developed by

Garfinkel in the mid-1950s, elaborated another criticism of statistics. As Didier writes, ethnomethodology is aimed at developing “a generalized social system built solely from the analysis of experience structures”. But also ethnomethodological criticisms of quantification did not oppose all and every quantification. Indeed, Garfinkel was probably the first to take a sociological interest in examining the production of statistics, as early as 1956, arguing that the process through which quantitative rates are produced should be conceived as a socially organized activity.

Later, qualitative sociologists, such as Becker and Horowitz, labelled as “the radicals” by Didier, became more defensive when trying to fight the wave of quantitative scholarship that washed over their discipline. Glaser and Strauss’s publication of *The Discovery of Grounded Theory* consolidated the divide between the categories of “qualitative” and “quantitative” further. Today, Didier shows, qualitative sociology has become a category where two sets of “good examples” of published papers he examined are in opposition. On the one hand, there are those which belong to a “Lazarsfeldian” cluster where qualitative and quantitative are in a hierarchy and the former is serving the latter. On the other hand, there are papers pertaining to an “interpretative” definition of the qualitative which seeks to set itself apart from “quantitativist” uses of qualitative information. Didier concludes by cautioning us not to forget that such a divide had been produced over time, and that many of the classical qualitative sociologists had criticized a certain method of quantification (surveys and opinion polls), not the general use of quantities. It is neither possible (nor desirable) to completely wipe out quantities from an epistemic system. Rather, we ought to scrutinize their production.

In this respect, both ethnomethodology and symbolic interactionism bear strong proximities with the economics of convention, an approach which was developed in France in the 1980s, amongst other things, by statisticians who at the time were working for the INSEE (France’s National Institute of Statistics and Economic Studies) (see also the special issue of *La Revue économique*, March 1989 [edited by Dupuy et al., 1989]). Now the approach has taken hold more widely in sociology, socioeconomics and history (Desrosières, 2011; Diaz-Bone, 2018 [2015]; Salais et al., 2019). The developers of the economics of conventions approach tried to converge American pragmatist sociology with their own lived experience as state statisticians. This unique positioning enabled them to move beyond “positivism” and “structuralism”, beyond

a sterile division between qualitative and quantitative approaches, which also Didier argues against.

In this context, it is also worthwhile to recall Alain Desrosières' notion of the "convention of equivalence", which has largely escaped North-American sociology, including more recent (qualitative) studies of quantification. Conventions of equivalence (commensurate scales as Espeland & Stevens, 1998, would put it) allow the rise to generality, from the singular (by essence qualitative) to the general (based on numbers). They ensure continuity from the qualitative to the quantitative, instead of separation, opposition or domination. Such a perspective considerably enlarges the scope and ambition for the study of social life, including practices of quantification.

Many of the contributions assembled in this volume draw on the economics of convention in their study of quantification. Others, as we have highlighted earlier, examine governing by numbers with reference to Foucault, in particular Foucault's works on governmentality. This volume seeks to engage these two strands of research in a critical dialogue. Where does the economics of convention approach meet Foucault? And what does such a joining up bring to the furthering of debates about quantification and the politics of numbers?

QUANTIFICATION: WHERE THE ECONOMICS OF CONVENTION APPROACH MEETS FOUCAULT

Neither the economics of convention (EC) nor Foucauldian studies of quantification represent coherent and unitary research programmes. As Diaz-Bone (2019, p. 311) recalls, "EC was projected not as a coherent paradigm, but as a scientific movement, organized around some core concepts and methodological positions. EC has developed the concept of conventions as logics of coordination". Also Foucauldian studies of quantification do not form a "school". To borrow Colin Gordon's (1991) apt way of characterizing governmentality research three decades ago, studies in this area amount to a "zone of research", rather than a "fully formed product" (Mennicken & Miller, 2012, p. 18).

Both the EC and Foucauldian studies of quantification are concerned with relations between "quantified objectivity", as Thévenot writes in this volume (Chapter 7), "and modes of governing that make the world calculable". Both seek to examine the various ways in which the administering

or governing of lives in a wide range of settings has been made thinkable and practicable through quantification. Peter Miller, who laid the foundations for governmentality studies of quantification with Nikolas Rose in the early 1990s in the UK (Miller & Rose, 1990; Rose & Miller, 1992; but see also Hopwood, 1992), highlighted that accounting numbers have a distinctive capacity for “acting on the actions of others”, one that goes far beyond the abstract injunctions of economic theory (Miller, 1992; but see also Mennicken & Miller, 2012 for a review of Foucauldian studies in accounting). Also Alain Desrosières, who initiated a sociologically reflexive turn in the study of statistics in France and was involved in the development of the economics of convention approach, was interested in examining questions related to the governing by numbers. He associated different modes of government with different modes of quantification, distinguishing, amongst other things, between five forms of state and associated (different) modes of quantification, the neoliberal state being one amongst others (Desrosières, 2003) (but see also Diaz-Bone & Didier, 2016, pp. 14–15).

Nonetheless, for long, both approaches did not take much note of each other. Curiously enough, in France, the founders of the economics of convention were aware of Foucault’s work on nomenclatures (Foucault, 1966), but they did not take cognizance of Foucault’s works on governmentality (Diaz-Bone & Didier, 2016, pp. 14–15). One reason for this might be the fact that these works became only widely available in French in 2004 (see Foucault, 2004), whereas Foucault’s lecture on governmentality delivered at the Collège de France was translated into English as early as 1979 by Colin Gordon (Foucault, 1979), a British philosopher who had attended Foucault’s lectures at the time. Some years later, Gordon co-edited *The Foucault Effect* with Graham Burchell and Peter Miller (G. Burchell et al., 1991), which contained further English translations of Foucault’s works and became a cornerstone in Anglo-Saxon governmentality studies.

For the EC, statistics and other forms of calculative practice have to be related to the foundational conventions of data production (measurement) and data interpretation, modes of justification and orders of worth, to be fully understood (see Thévenot in this volume, Chapter 7, but see also Diaz-Bone, 2019). In contrast, Foucauldian analyses of quantification draw attention to the inherently political character of calculation. They highlight that accounting and other numbers, through their ability to produce certain forms of visibility and transparency, both create

and constrain subjectivity (Miller, 1992; Miller & O’Leary, 1987). This creates distinctive possibilities for intervention while potentially displacing others (see also Mennicken & Miller, 2012, p. 7). Yet, despite differences in theoretical heritage, in our view, and as the contributions to this volume demonstrate, the EC and Foucauldian approaches converge in at least three important respects.

First, both are concerned with the study of practices of quantification. Instead of concentrating on the interests of politicians, scientists or bureaucrats, both seek to investigate and unpack different stages in “the statistical [or accounting, added] production chain” as Thévenot puts it in this volume, from data collection, classification, codification, to the processing of information and its effects on the “making up” (Hacking, 2002) of people and entities. As Diaz-Bone (2019, p. 309) writes, “both have an anti-substantialist ontology: properties, qualities and valuations of people, objects and actions are results of practices”. Such a focus on practices of quantification helps to develop a more nuanced understanding of the different capacities and roles that numbers have come to assume in political life. It helps generate insight into the inner workings of accountability regimes, their changing nature, and the emergence of new regulatory spaces and practices.

Second, both approaches are interested in examining the variable ways in which the capacities and attributes of subjects are constituted, shaped and changed, through quantification. Both do not “posit a universal form for the human subject” (Mennicken & Miller, 2014, p. 15). See here, for instance, Vormbusch’s study of the emergence of new taxonomies of the self in this volume (Chapter 4) or Thévenot’s unfolding of different regimes of engagement with standardization and quantification (Chapter 7).

Third, as Thévenot highlights (Chapter 7), both seek to move beyond “the state” and “the neoliberal” as an all-encompassing notion (see here also the contributions by Mespoulet, Lam, De Leonardis, Guter-Sandu and Mennicken, and Salais in this volume). Both are interested in developing what Raffnsøe et al. (2016) have termed a “dispositional analytic” of quantification (see also Diaz-Bone, 2019). Both draw attention to the implication of quantification in what Foucault termed “dispositif” or “apparatus”, “a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, law, administrative measures, scientific statements, philosophical, moral and

philanthropic proportions – in short: the said as much as the unsaid” (Foucault, 1977, p. 299, quoted in Raffnsøe et al., 2016, p. 278).

In so doing, both approaches share a relational and processual understanding of power and the state. Power is not a property—something that can be possessed. For what defines a relationship of power, according to Foucault, “is that it is a mode of action that does not act directly on others. Instead, it acts upon their actions, whether an existing action or one that may arise in the future. And, the ‘other’ over whom power is exercised remains resolutely a person who acts, who is faced with a whole field of possible actions and reactions” (Foucault, 2001 [1982], pp. 341–342, cited in Mennicken & Miller 2014, p. 15).

However, one concept that is absent from Foucauldian studies of quantification which is central to the EC is the notion of “convention”. As Thévenot points out in this volume, in the economics of convention, activities of “in-forming, trans-forming and formatting through invested conventional forms are central operations, because they sustain coordination power under uncertainty” (see also Boltanski & Thévenot, 2006 [1991]; Thévenot, 1984). Comparing France and USA, Storper & Salais (1997) focus on the plurality of conventions of the state on what people agree on the reciprocal roles and actions of citizens and state institutions with regards to defining, quantifying and contributing to common goods (see also Salais, 2015; Salais & Storper, 1993). The economics of convention approach is interested in the pluralism of (different) modes of evaluation (and quantification) constituted by conventions, orders of worth, modes of coordination, worlds of production and regimes of engagement (Boltanski & Thévenot, 2006 [1991]; Eymard-Duvernay, 1986, 1989; Salais, 2006; Salais et al., 1986; Salais & Storper, 1993; Storper & Salais, 1997; Thévenot, 2001, 2007).

Here, authors seek to break down policies and politics into a variety of modes of coordination (e.g. market, industrial, civic) or worlds of production (e.g. interpersonal, market, industrial, immaterial) (see the chapters by Thévenot, Salais and Vormbusch). This allows the EC to account more systematically for differing voices and evaluative orientations, conflict and contestation. It also makes it possible to draw more explicitly attention to the agency of participants and “their capacities of critique”, as Vormbusch points out (see Chapter 4). Put differently, the EC makes us query to what extent people “have a grip” (Bessy & Chateauraynaud, 2014 [1995]) on the specificity of the situation, are able to challenge and change its definition, and the way in which numbers work.

Yet, in both approaches, human freedom is always present. How can we then conceive the dynamics of socio-historical processes? How can we draw renewed attention to the diverse arts of government, resistance and freedom—to the conflicts and compromises that are the engine of history? Foucault deeply acknowledged the contradictory and dialectic (Grant, 2010) nature of historical processes and was always concerned “with the multiple and dispersed surfaces of emergence of disparate and often humble practices” (Miller & Napier, 1993, p. 633). Nonetheless, as Raffnsøe et al. (2019, p. 162) highlight, a preoccupation of scholarship with the image of “discipline as subjugation” led some to reinstate the very dualism between power and freedom that Foucault’s notion of power sought to overcome (see also Foucault, 2010, 2011) (for a critique see Jameson, 1984).

The economics of convention approach seeks to overcome such dualism by explicitly recognizing that coordination in real situations is structured by a plurality of conventions (Diaz-Bone, 2018). In so doing, it makes recourse to actors’ competencies to master and recognize the plurality of conventions; to their ability to use different grammars for interpreting the situation of coordination they face. Yet, under what conditions and circumstances can such competence be assumed and assured? This, in our view, is something that warrants further exploration, also in relation to the production and use of numbers in economic and political life.

We ought to acknowledge that “real situations” are often characterized by inequality and asymmetrical power relations. Inequalities exist, for example, with regards to access to public life; the knowledge and expertise participants possess; economic resources; control over conditions of work (and life more generally); recognition and respect for cultural differences; age; gender; class; race; and much else besides. Such inequalities shape the capacity to exercise voice, including the capacity to exercise voice in the production and use of numbers. Amartya Sen has developed the idea that society should promote equality in the space of *capabilities* (see e.g. Sen, 1992). We propose that both Foucauldian studies of quantification and the economics of convention would benefit from making use of Sen’s concept of *capability* (see also De Leonardis et al., 2012).

Sen acknowledges that persons are not similarly situated in their capability to convert resources brought by the situation to freedom of choice. Sen’s notion of capability captures both competency and effective freedom to act—the ability to choose the life one wants to live

from amongst a wide variety of valued functionings to which one has effective access (Sen, 1992, 1993). According to Sen, capabilities are not only a function of fixed personal traits and divisible resources, but also social relations, organizational and institutional environments, and the practical configuration of situations, in short, what Foucault termed “dispositif” (see also Salais’ chapter in this volume and Salais, 2011). Struggling against inequalities in capabilities to understand numbers and their production should be at the heart of concerns with effective democracy, even more so today, where numbers have taken an unprecedented rise in the governing of our lives.

In conclusion, we think it is time for a renewal of the study of the politics of numbers. The two strands of scholarship brought together in this volume move quantification scholarship beyond the tired dichotomies between autonomy and discipline, compliance and resistance, power and freedom by moving our attention to the processes of quantifying and calculating, and the possibilities for action these open up or foreclose. In so doing, they do not only provide in-depth empirical insight into the multi-varied nature of governing by numbers and its consequences in different sites. They also help more generally to rethink the study of the politics of numbers, acknowledging plurality, contingency and “the differential structuring of freedom, performative and indirect agency” (Raffnsøe et al., 2019, p. 155).

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