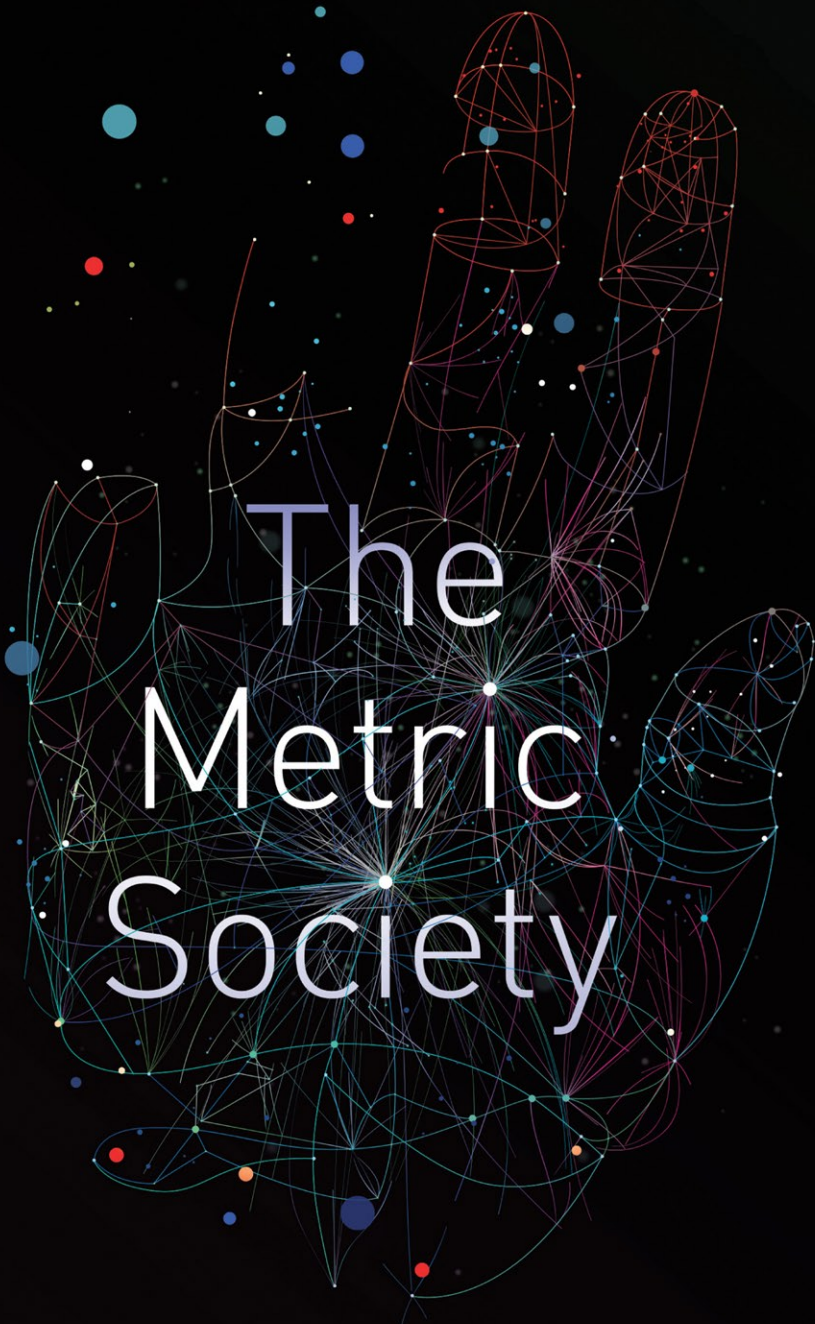


Steffen Mau

An abstract graphic of a hand, where the fingers and palm are formed by a dense network of thin, intersecting lines in various colors (red, blue, green, yellow). Small dots of the same colors are scattered throughout the network, particularly concentrated in the palm area. The background is a solid dark color.

# The Metric Society

On the Quantification of the Social



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## On the Quantification of the Social

Steffen Mau

Translated by Sharon Howe

polity

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# Introduction

In spring 2015, the Chinese government announced the spectacular and truly revolutionary plan to develop a so-called Social Credit System by 2020. Under this system, data on individual conduct in every social sphere is to be gathered, evaluated and aggregated into a single score. Internet activity, consumption, driving offences, employment contracts, teachers' reports, supervisors' reviews, conflicts with one's landlord or one's children's behaviour – all this may be factored in and may affect an individual's score. Everyone is to be included, whether they like it or not. The idea is to build up an overall picture of each person's value as a basis for granting or refusing them certain opportunities in terms of housing, employment or access to credit. Authorities will be able to draw on this information when interacting with citizens, as will companies seeking to gain an insight into potential business partners. In this way, the Chinese government proposes to reward honest citizens and punish dishonest ones. The declared aim of the project is to create an environment of trust, a 'mentality of honesty' – and to do so by means of total social control.

Granted, this is an extreme and somewhat sinister example. But it illustrates a general trend towards *quantitative forms of social ranking* which are steadily evolving into a hierarchical classification system in their own right. This book is about

the emergence of a society of scores, rankings, likes, stars and grades. It is concerned with data and indicator-based methods of evaluation and monitoring which are encouraging a wholesale quantification of the social sphere. In short, it is a study of the all-pervasive phenomenon of *sociometrics*,<sup>1</sup> or the metric society. Sociologically speaking, quantified self-descriptions of this kind are not just a reflection of a pre-existing reality, but can be regarded as a generative method of constructing difference. Quantitative representations do not create the social world, they *re-create* it (Espeland & Sauder 2007); therefore, they should be regarded as a *sui generis* reality.

The new quantification cult – or the ‘number rush’ as it has been dubbed by Jürgen Kaube (after Hornbostel et al. 2009: 65) – should be viewed in close connection with the digitalization process that is radically restructuring so many different areas of life. The multitude of data we churn out and store is creating an ever-larger digital shadow – sometimes with our consent, but often without it. In the world of Big Data, information on users, citizens or people in general offers the ideal raw material for making a profit. Small wonder, then, that the information economy has evolved into a monster which not only swallows huge quantities of data but grinds them up with algorithms and spits them out again for a variety of purposes. The aim in every case is to create – and encode – difference, with far-reaching consequences for processes of classification and status assignment. Digital status data are becoming the ultimate ‘emblems of distinction’ (Bourdieu 1984: 141). The fact that practices of measurement, evaluation and comparison are not just creeping, but steaming, ahead is not in itself surprising, given the exponential growth in the possibilities of data generation and processing. But it would be too easy to interpret this general culture of quantification as a purely technological phenomenon: it depends equally on the active participation of a large number of social actors, who not only have to buy

<sup>1</sup> This term was originally coined to describe the science of group organization (Moreno 1934), but is equally fitting for all forms of social measurement using metric data.

into the processes and standards in question, but must surrender their data and allow themselves to be evaluated on that basis.

This trend is being driven not least by the popularization of concepts such as transparency, accountability and evidence-basing, in which ratings, rankings and quantitative forms of evaluation play a central role. Here, data are used in order to facilitate greater control and thus intervene more effectively in social affairs (Power 1994; Strathern 2000). Indicators are often relied on to capture complex social phenomena with a few figures that can then be used for making comparisons. As such, ratios, indicators and statistics are fundamental to those governance theories which are often lumped together under the catch-all term of ‘neoliberalism’, and whose key evaluation criteria are efficiency and performance (Crouch 2015). The ubiquitous performance or target rating is predicated on auditability, and, to enforce this, suitable indicators are required. New Public Management, for example – i.e. the application of private-sector management techniques to public administration – more or less automatically leads to an expansion of monitoring and reporting obligations. Meanwhile, public institutions as well as private businesses are constantly enlarging their pool of data on citizens, customers or employees in order to exert control and be able to target different groups more accurately. This trend is complemented by changes in terms of individual self-management, as reflected in the expanding role of the ‘entrepreneurial self’ (Bröckling 2016), along with self-enhancement techniques and new forms of self-optimization. Here too, there is a growing tendency to resort to measuring and quantification processes due to their apparent suitability for tracking individual performance curves and ‘measuring’ oneself against others. Society is on the road towards data-driven perpetual stock-taking.

Data indicate where a person, product, service or organization stands; they guide evaluations and comparisons; in short, they both generate and reflect status. Continuous measurement and evaluation lead to an intensification of both external and self-monitoring activities. If everything we do and every step we take in life are tracked, registered and fed into evaluation systems, then we lose the freedom

to act independently of the behavioural and performance expectations embodied in those systems. Rating and ranking, scoring and screening processes habituate us to patterns of perception, thought and judgement which rely increasingly on data and indicators. Consequently, 'status work' (Groh-Samberg et al. 2014) becomes a form of reputation management which is mostly about achieving the best grades, rankings and scores. This applies all the more in a climate of status insecurity, where people have a stronger interest in asserting their standing – ideally by means of objective data. To this extent, the desire for quantitatively defined status can be readily understood as a product of the new unease among significant sections of the middle classes. Here again, however, it is a double-edged sword, as the security afforded by objectivized status information is purchased at the cost of intensified status competition.

The possibilities of life and activity logging are currently growing apace: consumption patterns, financial transactions, mobility profiles, friendship networks, states of health, educational activities, work output, etc. – all this is becoming statistically quantifiable. True, it is still possible to remain outside, or at least on the margins of, the digital world, and thus to avoid leaving data trails, but only at the price of self-exclusion from relevant communication and networking contexts. All the evidence so far indicates that people are extremely open-handed when it comes to publishing or sharing personal information. This data voluntarism derives from a mixture of factors: the urge to communicate, a lack of caution and, ultimately, an interest in the new possibilities of consumption, information and communication. Furthermore, there is a growing demand for self-quantification which is turning individuals into willing data providers. Self-measurement and self-tracking technologies offer a rich vein for data miners seeking to maximize the available means of describing and predicting our behaviour. The combination of growing quantities of data and increasingly sophisticated analytical processes means that these individual pieces of information can be aggregated into collective units. We are becoming comparable in a multitude of ways: with norms, with other people, or with performance targets that we ought, or wish, to reach.

The cult of numbers that masquerades as rationalization has momentous consequences: it changes the way we construct and understand value or desirability. Indicators and metric measurement techniques stand for specific concepts of social worth, in terms both of what can be deemed relevant, and of what is or ought to be regarded as socially desirable and valuable. Within the quantification regime, such data receive high recognition, as we can see from the role of ratings on commercial evaluation platforms or citation indexes in the academic sphere. The more this mindset is instilled, the greater its social influence. The symbolic dimension of hierarchizing sociometrics is then reflected in an unquestioning acceptance of many of the criteria underpinning quantitative ranking. When those criteria come to be perceived as appropriate, self-evident and self-explanatory, then society can be said to have taken a major step towards the naturalization of social injustice.

In light of this, recent attempts have been made to investigate more closely how worth or ‘value’ is created and how grammars of classification, differentiation and hierarchization are established through quantification (Espeland & Stevens 1998, 2008; Fourcade & Healy 2017; Heintz 2010; Lamont 2012; Timmermans & Epstein 2010). These approaches are sometimes labelled ‘valuation studies’: economic valuation theory, for example, examines how the value of certain goods (such as environmental and natural resources) is determined, generally with respect to things which are not continually traded or for which there are no ready-made, demand-driven markets and therefore no prices. In the social contexts considered here, the focus is not on prices, but primarily on social worth perceptions and corresponding positions within the social structure. While valuation in its narrower sense refers to the *determination of value*, it is meant here in the wider sociocultural context of *valorization* – i.e. the act of endowing something with value. In this respect, there is no prior, neutral value existing independently of the observer and merely waiting to be ‘discovered’ or measured – hence the need for value assignment and value manifestation. Valuation, as Doganova et al. assert in a programmatic article, ‘denotes ... any social practice where the value or values of something are established, assessed, negotiated, provoked,

maintained, constructed and/or contested' (2014: 87). If value is not regarded as given, but socially manufactured, any analysis of such social processes must be premised on the possibility of an alternative reality. From this point of view, such diverse phenomena as university rankings, performance measurement in the workplace, hotel staff reviews, daily step counts or the publication of hospital mortality rates can be understood as part of the same broad trend. All these things are paving the way to an *evaluation society* which rates everything and everybody on the basis of quantitative data, and, in so doing, establishes new orders of worth.

This being the case, I argue in this book that the quantification of the social world is not just a particular way of describing society, but has an impact in three sociologically relevant (and hitherto little considered) respects. *Firstly*, the language of numbers changes our everyday notions of value and social status. The spread of the numerical medium is also driving forward the 'colonization of the lifeworld' (Habermas 2007) by instrumental concepts of predictability, measurability and efficiency. *Secondly*, the quantitative measurement of social phenomena fosters an expansion, if not a *universalization, of competition*, in that the availability of quantitative information reinforces the tendency towards social comparison, and hence towards rivalry. Nowadays, we can be measured against others via more-or-less or better-or-worse comparisons in many areas of our social existence hitherto uncondusive to such procedures. Expanding competitive rankings actively depend on the establishment and subjective appropriation of indicators in order to isolate competition from specific temporal and spatial contexts. In many fields, quantification practices are actually responsible for the *enactment of competition*, of a kind that revolves around numbers. *Thirdly*, a trend is emerging towards further social hierarchization, in that representations such as tables, graphs, lists or scores ultimately transform *qualitative differences* into *quantitative inequalities*. The consequences of this for the structuring and legitimation of social inequality have so far received scant attention. Quantitative status assignments, as this book consistently argues, change our inequality structure by rendering hitherto non-comparable things comparable and placing them in a hierarchical context.



The following chapter begins by demonstrating the instrumental role that the numerical medium, calculation and metric standardization have played in the institutionalization of politics and markets. From this position of hindsight, it focuses on the digitalization and economization of society, identifying these as two key drivers of social quantification. Chapter 2 then proceeds to examine the relationship between the numerical medium and social comparison. It shows how the availability of statistical data leads society to develop an apparatus or '*dispositive*' of *comparison* which places us in direct competition with each other. Without data, in a word, there is no competition. The next four chapters go on to explore some specific fields of quantification. Chapter 3 looks first at ratings and rankings and their social impact, as illustrated by global university rankings and rating agencies whose job is to assess the creditworthiness of states, companies and investment opportunities. Chapter 4 turns to scoring and screening as methods of determining social worth at an individual level, citing credit ratings, health and mobility scores and academic performance measurement as examples. Chapter 5 deals with the new evaluation cult that constantly encourages us to rate products, services or individuals, to like websites or posts, and to feed back our satisfaction levels. Lastly, chapter 6 assesses how far self-tracking practices are contributing to the spread of new forms of competition and optimization. Against this background, chapter 7 ponders the question of who actually wields the power of nomination in this game of numbers. It begins by observing that economic indicators and performance parameters are gaining ascendancy, and, with them, economically trained personnel and associated interests. It also shows how expert systems and algorithms are increasingly determining which worth-perceptions should prevail and what form new competitive environments should take, noting the particular ability of algorithmic power to evade the issue of legitimacy and bolster commercial interests. Chapter 8 investigates some of the side-effects of quantification, notably the supplanting of professional standards, the creation of false incentives due to target indicators, and the wasting of time or other resources through intensified competition. Chapter 9 analyses the relationship between quantification and control, highlighting the

increased surveillance that comes with the promised transparency of numbers. With regard to our earlier insight concerning the high level of popular engagement demanded by social quantification, it is worth noting that surveillance does not only come from outside: we ourselves are likewise helping to drive such developments. Finally, chapter 10 looks at the reconstitution of social inequality as a result of quantification. What sort of inequality regime is emerging alongside the growing power of numbers and the rise of the metric society? By signalling reputation, status data act as a form of symbolic capital which can be used to one's own advantage and converted to other social currencies. The quantified society is engaged in a constant process of monitoring, and establishing differences between, individuals, which are expressed as inequalities and associated with very specific advantages and disadvantages. The logic of social inequality is, one might say, switching from class conflict to individual competition.

When addressing this issue, it is important to avoid the pitfall of crude and overly biased cultural critique; it is, after all, only too easy to denounce every quantification measure as a reduction of complexity and a tightening of control. This temptation is ever-present, and, to make at least a half-decent attempt to overcome it, let me reiterate that statistical data unquestionably have an important, indeed indispensable, role in modern society, whether in markets, science, politics or the private domain. Quantified measurements are a key to progress, knowledge and rationalization; they help us to identify causal relationships and make sense of the world around us. Moreover, they are of fundamental importance to many groups fighting for recognition and rights. There is no doubt that the numerical medium also has an emancipatory potential, in that it highlights discrimination or disadvantage and is able to challenge inequalities that are based on prestige or background. What this book seeks to uncover is the multitude of social consequences arising from social quantification. For this is, without question, a megatrend whose ramifications have so far been insufficiently studied, but which is restructuring our social environment down to the last detail. As a social scientist and user of quantitative research techniques myself, I am – I hope – above suspicion of harbouring a general aversion to figures and rejecting

quantitative measuring instruments out of hand. But perhaps this very preoccupation with quantitative data sharpens one's awareness of the various problems associated with the use of apparently simple and impartial instruments of social measurement. Alongside the benefits to be gained from data, there are also substantial risks and weighty social problems to consider. And these will be all the greater if we yield too readily to the emerging cult of 'omnimetrics' (Dueck 2013: 37) – or universal measurement – without subjecting it to critical scrutiny.

Even if there is only one name on the cover, the work that goes into a book is nearly always a collective enterprise. My thanks go firstly to Susanne Balthasar, for reminding me throughout the writing process to temper the sociological jargon, and for her many contributions in the form of ideas and recommended reading. Fabian Gülzau and Thomas Lux diligently test-read the manuscript and supplied valuable feedback. Oscar Stuhler worked through a first draft and helped me formulate many of my insights. Milan Zibula assisted me with my research, and Katja Kerstiens provided critical proofreading. My friend Thomas A. Schmidt inspired me to write the book in the first place, thanks to his enduring curiosity. Hagen Schulz-Forberg shared many an observation on the quantification trend with me while out jogging (with step counters, needless to say). Philipp Staab provided me with constructive criticism, and Martina Franzen invited me to the Big Data Brown-Bag Seminar at the Berlin Social Science Centre (WZB) in autumn 2016, where I was able to try out my ideas on a large, specialist audience. And finally, Heinrich Geiselberger introduced me to the publisher Edition Suhrkamp, and polished the text with tireless dedication. The book project was supported by the 'Freiräume' programme of Humboldt University Berlin. My sincere thanks to all!

# 1

## The Measurement of Social Value

By ‘the quantification of the social’, I mean that we are both complicit in and witness to a trend whereby social phenomena are increasingly measured, described and influenced by numbers. Interestingly, the German word for ‘measure’ (*vermessen*) has three distinct meanings, each of which will play a central role in this book. The first meaning denotes an action performed in order to make a quantitative statement about an object by comparing it with an established standard (a dictionary definition gives: ‘to ascertain the precise dimensions of something’). The second meaning – and here the German language provides a telling hint – is to ‘mismeasure’, or measure incorrectly. In other words, the process used to measure the object in question (systematically) produces mistakes, and the results do not reflect reality. Thirdly, *vermessen* can be used in an adjectival sense to mean ‘inappropriate’ or even ‘presumptuous’, which raises the critical question of where to draw the line between ‘good’ and ‘bad’ measurements.

Taken together, these three meanings provide a triangular framework within which this book proposes to consider the issue of social quantification. Its aspiration extends beyond the mechanics of measurement itself, however, as I am less concerned with measuring techniques and errors, or the calibration of measuring technologies, than with the question of

how the quantification of the social leads to new forms of social organization. My starting observation is that of a rapidly growing tendency to quantify the social world, accompanied by changes in the assignment of worth which are then translated into new hierarchies. Quantified measurements institutionalize certain 'orders of worth' which provide us with benchmarks and justifications for viewing and evaluating things in a particular way. They tell us which activities, achievements or qualities have a high 'value' and which do not, thereby establishing specific normative principles (Boltanski & Chiapello 2005; Boltanski & Thévenot 2006). Through quantification, classificatory processes of definition, evaluation and categorization are imposed in which the worth status of a person or thing is expressed in numbers. The use of new indicators, data and numerical notations to identify, describe and evaluate the self is gradually transforming the social society into a metric one. Data make visible and define who we are, where we stand, how we are seen by others, and what our expectations should be.

The process of quantification is by no means a new social phenomenon. Its history dates back several millennia, to the early days of counting and the spread of mathematical knowledge. At first, the exploration of the world through numbers was the preserve of a small elite. Science, as a specific practice of rationalization, has of course shaped and developed the language of numbers from the outset. The rise of modern statehood and the expansion of markets and capitalist economics brought about a massive surge in the use of numbers in everyday economic, political and social practices. The availability of figures in the form of official statistics made possible techniques of governance which replaced the sacred with objectivity and rationality. On the markets, the spread of 'calculative practices' (Vormbusch 2012) – as in bookkeeping and accounting, or the standardization of measurements and conversions – led to the emergence of a particular kind of economics and trade.

In the following, I aim to show that, although the state and markets were important starting points for the expansion of calculative practices, the language of numbers has since become universalized to a degree that far transcends both these domains and that of science. A new 'quantitative

mentality' (Porter 1996: 118) has arisen, with profound implications for our social environment. This mentality accords numbers an almost auratic pre-eminence when it comes to identifying social phenomena, and is now leading to an ever-widening reliance on all things numeric. Everything can, should or must be measured – nothing seems to be possible without numbers any more. Social semantics, in the sense of how society observes and describes itself, draws increasingly on the measurable side of the world, and of life in general. Of course, this shift is part of a long tradition of rationalization efforts aimed at organizing social and economic life according to the principles of efficiency and predictability. But that's not the whole story. In the context of new forms of governance, a regime of control and evaluation has emerged which is based on the acquisition and processing of data and whose objective is performance enhancement, capitalization and competition in very diverse domains; this regime operates via targets, performance indicators and incentive systems which require growing volumes of data to be produced and used for evaluation purposes. Qualitative methods of assessment based on specifics are being replaced by quantitative-style evaluations and measurements. To put it another way, the logic of optimization and performance enhancement which neoliberalism has imposed on every conceivable aspect of life is leading to a straightforward battle for the best figures. Moreover, the more figures are produced, and the more advanced the methods of data collection and processing become, the easier it is to embed the standards for performance and self-improvement within the social fabric. Now that data have evolved into the reserve currency of digitalized society, there are scarcely any natural boundaries left to halt this process. It is, in effect, infinite.

## What does quantification mean?

First, let us consider the question of what quantification actually means, and what it does. In general terms, quantification entails an act of translation: it expresses phenomena, characteristics or states of affairs in a general, abstract and universally accessible language – that of mathematics. This can be