Ten Things We Know about Humanitarian Numbers

Joël Glasman

University of Bayreuth; joel.glasman@uni-bayreuth.de

Brendan Lawson

Loughborough University; b.b.lawson@lboro.ac.uk

Abstract

The modern humanitarian sector is gripped by a data frenzy. How can we take a step back and critically engage with what datafication means? This introduction to the special section begins by outlining three broad theoretical positions within the literature: positivist, constructivist, and reflexivity of actors. To dive deeper, and to tie together the four pieces in this special section, we point to 'ten things we know about humanitarian numbers'. The ten points cover issues of epistemology, institutionalisation, linguistics, social justice, technology, theorisation and power. Taken together, they offer different springboards from which academics can launch into critiques of data in the humanitarian sector.

Keywords: data; humanitarian; crises; knowledge; institutions; language

Nine years after the 'data revolution' (UN, 2014), the data frenzy in humanitarian aid has not abated. The number of numbers is on the rise. Data on war casualties, refugees, internally displaced persons (IDPs), malnutrition, shelter, education – all domains have increased their quantitative capacity. This has fed into a growth in ratings, indicators and tables: there have been over 160 global performance indicators, with more than eight new ratings added on average per year since 1999 (Bhuta *et al.*, 2018). It seems that the one thing that connects different crises is the need for more data about them. This is reflected throughout the pieces in this special section.

This special issue looks to question this call for more numbers. There is a push to produce *more* numbers, to go *more* digital and *more* transparent, as if such a call was self-explanatory and politically neutral. We interrogate this data frenzy in this introduction and throughout the four pieces that follow.

The opening article by Mamane Sani Souley Issoufou provides an in-depth analysis of a randomised trial of rotavirus vaccine run by Médecins Sans Frontières (MSF) through its Epicentre in Niger. His analysis draws our attention to the way data is structured by local relations. The contribution by Louise Beaumais follows, using interviews, workshops and report analysis to emphasise that the use of quantitative data by humanitarian workers is characterised less by day-to-day project management and more by a system of bottom-up accountability. The final piece, written by François Enten, draws on two case studies – Yemen and Madagascar – to explore the effectiveness of the Integrated Food Security Phase Classification (IPC) for drawing attention to, and preventing, famines. He emphasises that the full potential of the IPC can only be realised when the mediatisation of this system is fully embraced. These three articles are followed by an interview with Irina Mützelburg who discusses the politics of numbers in the current war in Ukraine, paying particular attention to the difficulties and implications of counting of refugees, evacuees and internally displaced persons (IDPs).

To set up the arguments in these four pieces, this introduction draws on a rapidly growing literature on humanitarian numbers (Beerli, 2017; Beerli and Weissman, 2016; Biruk, 2018; Dijkzeul and Sandvik,

Journal of Humanitarian Affairs Volume 5, No. 1 (2023), 1–10 © The authors
http://dx.doi.org/10.7227/JHA.098

2019; Fast, 2015; Glasman, 2020, 2023; Hilhorst, 2015; Lawson, 2021, 2023; Lugo-Ocando and Lawson, 2018; Macias, 2019; Merry, 2016; Murphy, 2017; Neuman, 2017; Nissen, 2015; Ramel *et al.*, 2020; Randall *et al.*, 2011; Read *et al.*, 2016; Rottenburg *et al.*, 2015; Sandvik, 2020; Schlichte, 2018). This literature is often compartmented into specialised silos, either disciplinary (history, sociology, political sciences, anthropology, media studies) or per domains of intervention (conflicts, protection, global health, nutrition, development). This introduction, and the four pieces that follow, attempt to form links between these silos.

One can distinguish between three types of approaches in the critical literature on humanitarian data. The first is *positivist*. This work focuses on the technical aspect of numbers, dealing with a central question: how well does the quantitative represent reality? The answer, for the positivists, lies in the appraisal of accuracy, reliability and validity. In doing so, there is a keen attention on the discrepancy between the figures we see and the reality that is quantified. Humanitarian numbers are fertile ground for such a critique, whether it is Olivier Bakewell's (1999) claim that refugee statistics are 'notoriously inaccurate' or Morten Jerven's (2013) assertation that much of the macroeconomic data on Africa are 'guesstimates'.

Many of these discrepancies can occur due to poor training, lack of technological infrastructure or human error. But they can also be due to manipulation. A whole series of studies shows that states often have an interest in disguising humanitarian statistics. For example, states where refugees are coming from generally have no interest in admitting the scale of the disaster, while host states have an interest in exaggerating the figures in order to increase financial support (Crisp, 1986). Governments fudge humanitarian figures to justify military interventions. Here we can think of the way NATO justified their bombings using the figure of 100,000 Kosovar Albanians massacred by Serbs – a figure ten times higher than the reality (Crisp, 1999). Humanitarian agencies themselves may have an interest in overestimating the number of refugees and victims. As Rony Brauman argues, the humanitarian organisation citing the highest figure gains a moral advantage because they appear to be recognising the severity of the crisis the most (Brauman, 2009: 88). Even aid recipients can affect the statistics – for example when refugees try to register several times at the same (or multiple) camps to receive more assistance, or when people in the surrounding community (who are not refugees) register in local camps (Kibreab, 2004).

The positivist approach distinguishes good numbers – those representing reality reliably, accurately and validly – and bad numbers, which sit at odds with the reality they describe. However, it does not allow us to understand how statistics have become enmeshed with power. To do so, we can turn to our second approach: *constructivist*. This literature focuses on the quantitative in relation to power. The bulk of this work included a historical approach – tracing the emergence of number-related disciplines in relation to the state from the eighteenth century onwards (Desrosières, 2008: 17).

The emergence of medical quantification from the late eighteenth century can be seen as a meeting of vaccination and the 'probabilistic revolution'. It was this period when medical doctors started to calculate the odds of dying from a particular disease and compared these odds with the chances of dying from the corresponding vaccine (Hacking, 1975; Porter, 1995). The nineteenth century witnessed an avalanche of numbers concerning 'the social' and economics as states cemented the role of bureaucracies and took a growing interest in in the standard of living of working-class families. The motivation of the state was one-part altruistic – in its desire to protect its people; and one-part self-preservation – in its need to avoid revolutions from workers who lacked the essentials to live (Desrosières, 2008).

Whereas states quantified to exert power domestically, colonial territories were deliberately left untouched. Colonised populations were almost always absent from statistical needs overviews. This omission was intentional: needs of colonised populations were to be ignored so as not to have to deal with them (Bonnecase, 2011; Breckenridge, 2012; Tilley, 2011). It is here that the constructivist approach is most useful; it helps to emphasise that quantification can be both an extension of knowledge *and* a form of governance.

Over the last few years, constructivist approaches have underlined the impact of quantification on the competition between agencies. For Hibou (2015), 'neo-liberal bureaucratization' of aid is shown in the adoption by aid agencies of private cooperation tools (numerical standards, audits, benchmarking, ratings…). The quantitative logic underpinning these tools provides the logic for competition (Read *et al.*, 2016). For example, a project for refugees in Sudan can be judged by the same criteria as assistance for malnourished children in Ukraine.

These constructivist approaches allow a critique of humanitarian statistics. But they tend to ignore the agency of actors. The third approach, therefore, emphasises the *reflexivity of actors*. Inspired by pragmatic sociology, this approach shows that humanitarians attribute specific values to specific tools. Humanitarian organisations tend to attribute to statistics not only a technical virtue, but also an intrinsically *moral* value. This is by no means new; statistics have historically been imbued with moral arguments.

The eighteenth-century 'probabilistic revolution' was fuelled by theological arguments. When it was shown that inoculation causes statistically fewer deaths than smallpox, the need to inoculate was considered a religious-meets-medical endeavour. Given that God gave people the gift of life, it was argued that God wanted men to inoculate (Fressoz, 2012: 32). In a more recent example, we can see how 'impartiality' has become a marriage of humanitarian principles and calculation. According to the Red Cross Code of Conduct, humanitarian aid should be 'calculated on the basis of need alone'. Thus, calculation is tethered to a notion of moral superiority – and vice versa (Glasman, 2020).

Yet another example from the literature is the concept of the 'social production of ignorance' (Gross and McGoey, 2015). Ignorance can mean a desire to hide, but it can also be an unintended result of knowledge production. While some methods for producing knowledge are considered 'noble', others are neglected or disregarded. The rise of randomised trials is a good example. The term 'evidence-based medicine' has its origins in clinical epidemiology developed in the 1970s in Canada. This method, which initially concerned only a sub-field of epidemiological medicine, was then adopted first by North American pharmaceutical research, and subsequently spread throughout medical research. The result of the rise of randomised controlled trials (RCTs) was the downgrading, in medicine as in economics, of competing methods (such as the case study) of knowledge production. But the elevation of randomised trials as *the* method for epidemiological medicine is not based in statistical proof that this *is* the best method – in fact, this evidence does not exist. Instead, it is chosen – again and again – because of the ideological position that randomised trials are the best form of knowledge production (Cohen *et al.*, 2004).

Sketching out these three broad approaches to humanitarian quantification – positivist, constructivist and reflexivity – is an important task. But all too often, there are not enough bridges *between* these different critiques. The rest of this section introduces ten talking points about humanitarian numbers. This is not an attempt at a theory – a word too grand for these diffracted claims – but a series of pathways for scholars to explore.

1. Numbers Look Like Facts: Quite Often, They Are Not

Some numbers are mere lies, and these manipulations might occur at the highest level. One well-documented example is from the 'Afghanistan Papers'. The United States Agency for International Development (USAID) publicly reported a 22-years increase in Afghan life expectancy from 2002 to 2010. The USAID administrator said that since the fall of the Taliban, 'child mortality has been cut [in Afghanistan] by 60 percent, maternal mortality has declined by 80 percent, and access to health services has been increased by 90 percent'. This assumption proved to be wrong.[1] As emerged in a testimony of the Special Inspector General for Afghanistan Reconstruction (SIGAR) before the US House of Representatives, the USAID 2002 baseline data was from a survey that was conducted in only four of Afghanistan's 360 districts. Afghanistan is a schoolbook case of political instrumentalisation with regards both to domestic politics and geopolitical interests – but there are countless others.

State authorities may manipulate numbers for different kinds of reasons, such as capturing international aid, delegitimising competing actors, or even justifying military intervention: Somalia lied about the numbers of Ethiopian refugees in the 1980s; the UN Secretary General lied about malnutrition in Somalia in 1992; NATO lied about the numbers of Kosovan Albanians killed by Serbia in 1999; the Russian government lied about the number of victims of Ukrainian violence in Donbas in 2022 (Crisp, 1999: Brauman, 2009: 87).

Even more often, number manipulation occurs at a lower level – within humanitarian organisations themselves – either to legitimise a project, maximise funding or minimise the risks.[2] This can be done intentionally or unintentionally, but the latter is more common than the former. Humanitarian organisations often produce bad numbers without being fully aware of doing so. Lack of access to certain areas, urgency of intervention and the breakdown of institutions concur to the production of poor data. These contexts mean that humanitarian numbers are often guesstimates or rough estimations. As a recent study shows, even experienced practitioners are prone to cognitive biases by using numbers. Uncertainty, limited resources, high cognitive load and high stakes distort the cognitive process of data interpretation. Humanitarian decision-makers tend to rely heavily on data – even when they have been informed that this data is biased (Paulus *et al.*, 2022).

2. Crises Break Knowledge. Numbers Are Unreliable When We Most Need Them

Crises bring forward urgent demands for numbers. Yet at the same time, crises make the production of numbers more uncertain than ever. COVID-19 is a case in point: the pandemic has fuelled a fascination with figures – cases, hospitalisations, deaths and

vaccinations – leading to an 'avalanche of numbers' in public discourse (Hacking, 1975; Lawson, 2023). But simultaneously, the production of numbers has been a challenge.

In the first months of the pandemic, historian of sciences Lorraine Daston (2020) wrote: 'we've suddenly been catapulted back to the seventeenth century'. Used to seventeenth-century controversies, she found striking similarities with the early scientific question on the propagation of COVID-19. This has been, Daston writes, 'a moment of ground-zero empiricism, in which almost everything is up for grabs, just as it was for the members of the earliest scientific societies – and everyone else – circa 1660'. Daston admits she was exaggerating the analogy between now and then, but her point was clear:

> For them, just figuring out what a phenomenon was (Was heat or luminescence or for that matter, the plague, all one kind of thing?), how best to study it (Collect comprehensive natural histories? Count instances? Perform experiments – if so, what kind? Systematically observe – if so, what exactly, and how long?), why it happened when and where it did, and, above all, what to do with it or about it – none of these basic questions had an agreed-upon answer. It wasn't just a question of lacking knowledge. (Daston, 2020)

The drive for more research holds our partial knowledge as its underpinning logic. It is that 'there [in] no settled script for how to go about knowing' (Daston, 2020). Even months after the start of the pandemics, worries about *lack of data*, *hidden data*, *shadow numbers* or *silent epidemics* still existed.

This is a feeling that the United Nations Children's Fund (UNICEF) nutritionists, refugee officers for the UN High Commission for Refugees (UNHCR) or Epicentre epidemiologists may feel quite often. Even basic questions such as 'how many people died'?, 'how many people are on the run'?, 'how many people have no shelter?' might find no answer. Facing the cholera outbreak in Yemen, Jamie McGoldrick, the UN Resident and Humanitarian Coordinator in Yemen, stated: 'No one knows how many people have died. No one knows how many people have been killed because of this crisis, because 50% of all health structures that record the actual deaths and injuries are not working. People go to villages and die because there's no health services for them' (Snyder, 2017). Thus, this is not by coincidence that humanitarian data are often poor data. Neat colour graphs on the screen should not delude us.

3. Numbers Might Expose Social Injustice. Sometimes, They Hide It

Numbers may be used to expose injustice. They are, by design, obviously *political*. Take Oxfam's numbers on wealth inequality: in 2022, Oxfam calculated that ten billionaires own *six* times more wealth than the poorest *3.1 billion* people (Ahmed *et al.*, 2022). This number may defy imagination, because few can envisage '3.1 billion people', or have a mental image of a huge 'wealth gap'. However, this number deliberately encapsulates a strong political explosivity. It points directly to individual and social responsibilities. Numbers like '[t]he 22 richest men in the world have more wealth than all the women in Africa' (Coffey *et al.*, 2020) or 'the top 10% of global emitters (771 million individuals) … are responsible for about 48% of global CO2 emissions' (Chancel, 2021) are, likewise, political numbers – they expose man-made injustices.

Other figures point to injustices but are not obviously political. In theory, any number on malnutrition, refugees or shelter should point to the *man-made* nature of these phenomena. Yet they frequently fail to do so. These numbers frequently hide power relations. The UN Office for the Coordination of Humanitarian Affairs' (OCHA) estimation of 'people in need' is a case in point.

In 2021, according to OCHA, '235 million' people on the planet were 'in need' of urgent humanitarian aid (OCHA, 2021). The report disaggregates this number into different 'vulnerable groups' (refugees, IDPs, unaccompanied children, older persons, disabled persons, marginalised people, etc.). These numbers tend to represent poverty as an intrinsic characteristic of those groups of people – not as the result of a power struggle. If not taken with caution, humanitarian numbers tend to *naturalise* inequalities and *depoliticise* injustice. 'Hunger is on the rise,' the OCHA report reads, 'with conflict the main driver of acute hunger for 77 million people in 22 countries.' This might be statistically accurate. But what it really means is: some people are actively starving other people to death in order to win wars, conquer territory and gain more power and wealth. It goes on, 'By the end of 2020, the number of acutely food insecure people could be 270 million. The impacts of the pandemic and climate change are seriously affecting food systems worldwide' (OCHA, 2021). Here again, the framing of numbers is key. A quick read might lead one to think that hunger is triggered by almost natural, unavoidable things like 'pandemic and climate change'. But those things are neither natural, nor unavoidable.

4. Information Travels Fast: Numbers Travel Faster

At the beginning of the invasion of Ukraine by Russia, the UNHCR (2022) claimed that 'over 4 million people could flee from Ukraine'. This figure circulated through

the international and local news media in late February 2022 – from India's *The Economic Times* (2022) to *France24* (2022). In a sea of testimony, geopolitical analysis, world leaders' speeches, popular discussion about the effect of an invasion and other non-numerical noise, the number of '4 million' stood out.

Such was the power of the figure that the qualitative context surrounding '4 million' was excluded when circulated. Crucially, the organisation that produced the number emphasised that this was a guesstimate, as discussed by Irina Mützelburg in her interview concerning the current politics of numbers during the war in Ukraine. Before the invasion, they surveyed Ukrainian people and asked how many would leave if Russia invaded. One in ten said that they would leave and this was extrapolated across the entire population, leading to 4 million of 40 million being expected to leave. The shaky empirical basis was highlighted when the number of refugees surpassed 4 million by the fifth week of the invasion.

How, then, did the valuable qualitative context become divorced from the number? To answer this, we need to consider the way numbers function within public discourse as a universalising language – a language that allows people to count and measure the world around them and then compare these numbers to someone in a different space and time. Four sticks or three stones can be counted the same way, whether you are in Kinshasa or Santiago. This means numbers function as ever-present and universal pieces of knowledge detached from the context in which they were produced. Therefore, when the '4 million people' number emerged, people thought that no context was needed. It was presumed that for someone in England, Cameroon or Seychelles, '4 million' was a number that could be immediately understood – even if these people did not have a proper sense of its scale, they could appreciate how this number represents 'hugeness'.

This gives numbers a special power. If something is said in Italian, it will travel quite fast. Say the same thing in English, it will travel faster. But if you say it using numbers, it will – almost without fail – travel further and faster than almost any other language. Thus, using numbers to say something (rather than words) comes with considerable responsibility. Those in the humanitarian sector are responsible for the accuracy and reliability of the numbers they produce, as it is the number (not the surrounding qualitative information) that will come to represent a phenomenon.

5. Numbers Can't Be Better than the Institutions that Produce Them

Proponents of the 'data revolution' may dream aloud about numbers produced by artificial intelligence and remote sensing. This dream has been somewhat validated with spending on big data, machine learning, digital tools and data analysis over the past decade. But the hype for digital data production has concealed the fact that the production of numbers is still a labour-intensive process. The reality is that most numbers are still produced by institutions – configurations made up of labour, materials, technology, hierarchies and expertise. Even cutting-edge technologies do not replace institutions. To produce sound data requires long-lasting investments in bureaucratic capacities and qualified staff.

The key methodologies of data production and analysis all rely heavily on manpower, local knowledge and local bureaucracies. USAID's Demographic and Health Surveys (DHS) and UNICEF's Multiple Indicator Cluster Surveys (MICS) often offer the best available demographic and health data, but they are required to visit a large number of households, which requires in turn qualified local staff and solid administrative backup.

Action Against Hunger's Standardized Monitoring and Assessment of Relief and Transition (SMART) as well as UNHCR's Standardised Expanded Nutrition Survey (SENS) are used to produce numbers on acute malnutrition, but again, the quality of the data they can produce depends on the qualification of local staff and on the quality of local bureaucracies (for instance the existence of an extensive list of inhabitants of a district, the accessibility of a village, the accuracy of regional maps, the cooperation of local authorities, etc.). Even UNHCR's Refugee Registration and the International Organization for Migration's Displacement Tracking Matrix (DTM) relies more on local administration and staff than we tend to think. In almost *any* case of humanitarian data production, there is no good substitute for a close-knit network of functioning local bureaucratic structures.

This is acutely highlighted when these structures are subject to an external shock. When the actions of Boko Haram caused the refugee crisis of 2015 in the northern part of Cameroon, the production of numbers was a nightmare. Not only because both the numbers of refugees and IDPs were mere estimations – given the security issues – but also because nobody could tell how many people were normally living in the region. The last demographic survey had taken place ten years earlier, and OCHA had to work with the United Nations Population Fund's guesstimates that considered a growth of approximately +3% per year. Everybody knew that this was an arbitrary figure, but there was no better alternative. Different services did not agree on numbers. More than 260,000 people were missing from the health database produced by the Ministry of Public Health compared to the administrative database produced by the Ministry of Territorial Administration (Glasman, 2020: 170–2, 196–197).

Back at the agencies' headquarters, whether Paris or New York, it is easy to forget that high quality numbers ultimately depend on an army of local bureaucrats, policemen or nurses. In northern Cameroon, a large chunk of the population is missing from administrative records. This is because less than one in five births are assisted by a healthcare professional and therefore likely to be registered. After birth, access to local police services is difficult – children often remain without official identification. Thus, instead of attempting to bypass institutions through remote technologies, we need to focus our attention on the institutions that produce them – including hospitals, police stations and civil status bureaucracies.

6. All Data Are Local

Sara Randall *et al.* (2011) provide an interesting critique of household surveys – a form of data-creation used by humanitarian organisations across the world. They highlight how these surveys rely on a standardised definition of 'household': a monogamous nuclear family that involves children, parents and, in some cases, grandparents living in the same house. The definition, rooted in a very specific notion of Western family and housing, stood at odds with the varying notions of 'household' in non-European societies. In an African context, polygamous relationships, large extended families and communitarian notions of living in certain communities meant that these household surveys struggled to produce meaningful data. The surveys both under-counted and over-counted, without a proper understanding of which they were doing. This produced data that could compare regions and countries, but the data itself was poor.

This drive for comparability is symptomatic of a broader view of data. Because data uses the language of numbers to organise information about the world and is considered to exist in an ethereal world of digital data collection and storage (characterised by the placeless and timeless 'cloud'), data is positioned as something that exists in an abstract virtual world. But all data are local, even if they are later positioned as a 'view from nowhere' (Daston, 1992).

As Yanni Loukissas (2019) argues, we are better thinking of 'data settings' rather than 'datasets'. Data may end up as an ethereal object of knowledge stored in a cloud, but this is just an impression. Creating data is an intensely local project. To quantify individuals, for example, involves an array of localised issues to solve: finding people to quantify, ensuring their cooperation, trusting their responses, dealing with technology, the weather and specific social contexts, as well as accounting for the subjectivity of the quantifier themselves. The local nature of data is most clear in attempts at standardisation. In driving for comparability, there is an attempt to erase the local context of data production. But the localised nature of data always rears its head in opposition.

Louise Beaumais points to the way these 'data settings' are systematically ignored in favour of the universalising notion of data. In her article, she emphasises how donors see data as a strategic asset, the value of which lies in the way local experiences, opinions and memories are turned into standardised indicators. These indicators are then used to 'understand' the crisis and direct financial flows effectively and efficiently.

Mamane Sani Souley Issoufou's paper shows how local relations impact numbers emerging from a randomised trial of a rotavirus vaccine in Niger. Narratives of 'evidence-based' medicine and randomised trials do lead to a new apparatus of knowledge production, but social hierarchies (for instance between principal investigators and data managers, 'expatriates' and 'nationals', investigators and patients) also impact results. While randomised trials are often thought to be universal and objective, Issoufou shows how local relations in and around Madarounfa inform and shape statistics.

7. Machines and Formulas Do Not Exist Outside Society and Politics

In contemporary humanitarianism, the production of data is not just a human activity. While the role of humans is greater than in other data-production processes, machines and mathematical formulas are key. This can include the use of mobile phones and computers to collect, store, process and analyse data. But it also involves more complex processes, such as algorithms. The logics of these algorithms – transforming input data into output data through a series of formulas – hold a considerable amount of power. This can be an exclusively human task – deciding on a set of formulas and iterating on them – or, as is increasingly the case, the interaction between humans and artificial intelligence (or machine learning).

Either way, automation and algorithms are not just a technical task. Those concerned with 'data justice' would push us to see how their logics reflect the context within which they are made and deployed. The criminal justice sector provides some of the most pertinent examples. For example, the use of automatic facial recognition technology by the police in the United States has a higher chance of misrecognising black faces compared to white faces due to the software learning from a database of faces that are skewed towards white faces over other ethnic minorities (and a lack of institutional push to

address this bias). The racial bias of this software has real-world consequences: with more black people wrongly accused of crimes (Najibi, 2020).

Another aspect of power relations being intertwined with data production is given in François Enten's article in this issue. The *Integrated Food Security Phase Classification tool* has been developed since 2004 to classify the risk of famine. It involves different indicators – on mortality, wasting, and food consumption – and defines different categories of crisis – food insecurity, humanitarian emergency, and famine. Enten shows how power relations and emotional registers intersect with numbers to produce a narrative on 'famines'. As his comparison between the emergencies in Yemen (an 'overexposed crisis') and Madagascar (a 'silent crisis') shows, figures alone do not trigger massive humanitarian responses – full-fleshed narratives including numbers, stories and an iconography of suffering do.

8. There Are Things Said in Numbers that Would Not Be Taken Seriously If Said Otherwise

Which is why, from time to time, we need to translate numbers to words in order to grasp the implication of what numbers actually tell us.

This use of numbers to enforce doubtful claims are frequent in the world of development. No one would take seriously someone claiming that 'all states on earth should look like Norway'. But shown as a bunch of quantitative indicators and a few infographics, the same claim might sound reasonable.[3] This is what ranking and benchmarking actually do: compare different entities through numbers, instead of comparing them through words. This should not be seen as illegitimate per se – comparison is a powerful tool of analysis. However, it is crucial to ensure that practitioners are able to express in words what they are saying in numbers. For the euphemisation of political decision through mathematical language is even more true of humanitarian numbers. Humanitarian indicators may have a decisive impact in terms of *triage*, that is, the classification of populations according to their needs and the prioritisation of the most urgent cases. Take the cholera outbreak in war-torn Yemen. In 2017, when the water, sewage and garbage collection infrastructure collapsed, Yemen experienced a very large cholera outbreak. However, humanitarian funds remained insufficient. In the midst of the epidemic, the World Heath Organization (WHO) announced the suspension of the vaccination campaign. The WHO did not say 'in order to save money, we're not going to vaccinate people against cholera, instead we will offer life-saving medical care after they get it'. But this is what the published data on caseloads and mortality rates actually meant (Snyder, 2017).

9. Sometimes, We Do Not Need *More* Data: We Just Need to Know the Data that Already Exists

Since the mid-1990s, there has been a growth in humanitarian organisations placing an emphasis on the collection and publication of data. The most iconic, ReliefWeb, is an online portal of humanitarian information that stores an impressive stock of situation reports, evaluations, maps and so on. In the past decade there has been a shift in emphasis towards 'big data' and 'open data' in the humanitarian sector. This is perhaps best epitomised in the rise of open-data projects. Open Data for Developing Countries (ODDC), the Open Data for Development (OD4D) and the Open Data Barometer (ODB) all push for countries to make their existing data available to the public. But is the drive for *more* data the answer?

This was certainly the prevailing logic inside and outside the humanitarian sector in the 2000s. In 2008, Chris Anderson wrote an article for *Wired* titled 'The End of Theory: The Data Deluge Makes the Scientific Method Obsolete'. He argued that the scale of information collected and stored in the Petabyte Age meant that 'massive amounts of data and applied mathematics [would] replace every theory of human behavior, from linguistics to sociology'. During the fever of digital utopianism that characterised much of the 1990s and early 2000s, such a claim made a lot of sense. But in the subsequent years, this statement has aged more like milk than wine.

From 2008, we have witnessed an ever-increasing expansion of data collection: from the Petabyte to the Zettabyte Age. The greatly increased capacity for storing information has been met within ever-more sophisticated tools from data science and statistics that more often than not rely on machine learning to process this data. The ability to hold and process such large amounts of information has normalised the idea that every element of humanitarianism can, and therefore should, be stored online. It is this logic that underpins the idea that every government should upload all the data they have onto the internet. It is not just about opening up governments but making the most of the technological affordances of the Zettabyte Age.

But more data does not lead to more *meaningful* data. Instead of saying 'data can tell us everything we need to know about society', it is now more common for people to ask, 'but what can this data actually tell us about culture, experience, psychological states, intentions and

behaviours?' This is not just the position taken by those holding onto the theories of linguistics and sociology (as Anderson points to), but also those within the 'hard sciences'. To quote biologist and Nobel Prize winner, Sydney Brenner (2012): 'we are drowning in a sea of data and thirsting for some theoretical framework with which to understand it.'

This implores us to spend more time developing ways of *theorising* data rather than just producing *more* of it. We cannot see more data as the endpoint – as many within 'open data' drives do. A piece of data cannot 'speak for itself' and single-handedly address pressing humanitarian concerns. People need knowledge to understand data, they need institutions in place to implement policies based on data and they need time to process and relate to data.

10. There Are Things that Cannot Be Expressed in Numbers but Matter Nevertheless

Our final point is probably the most obvious, but also the most frequently forgotten. The most pertinent phenomenon to the humanitarian sector must be death. It is the death toll or the mortality rate that features most prominently in the communication of humanitarian numbers. These figures allow us to understand the ultimate price of conflict, food insecurity or natural disaster. But these numbers only give one perspective on death: the tight definition of the biological transition of an organism from living to not living.

It was this definition that underpinned MSF's estimate of the number of Rohingya refugees that died during the attacks in Myanmar in August and September 2017. They conducted 'six retrospective mortality surveys' with the heads of Rohingya households in refugee camps in Bangladesh. They were asked how many members of their family died between 25 August and 24 September 2017. Pooling together the results of these surveys, MSF estimated that 'at least 6,700 Rohingya were killed' (MSF, 2017).

While the figure was undoubtedly needed to shine a light on the atrocities in Myanmar, these surveys systematically excluded other aspects of death. It could not account for the feeling of dying from terminal illness compared to an unexpected violent death, the pain of losing a child compared to the death of a distant cousin, the way a person continues to live in collective memories and how displacement often means you cannot visit the burial site.

Sure, there are other surveys designed to capture this cultural, psychological and familial experience. But no Likert-scale or yes/no question can ever attempt to convey the trauma, solidarity and memory that constitutes death itself. For this, we need to turn away from data and towards other forms of expression – towards testimonies, descriptions, poems, songs, stories, diaries, novels or film. In comparison to these representations, statistics about death falls short.

This is all to say that data should be considered as only one representation of the world; a representation that should be treated as fallible and partial, rather than flawless and complete. This allows us to reject the automatic assumption that data equals evidence, knowledge or experience, and it emphasises the value of non-quantitative knowledge about the world.

Michael Billig (2019) makes a special case in his appraisal of Marie Jahoda's *Marienthal* (originally published in 1933). Set in a German town during the depression, her work looked to combine statistics with narrative. It is the narrative that shines through. Jahoda (1971: 22) writes that 'when a cat or a dog disappears, the owner no longer bothers to report the loss; he knows that someone must have eaten the animal, and does not want to find out who.' For Billig, no statistic could capture 'the communal spirit of Marienthal and the simultaneous threat that poverty makes to the spirit' (2019: 228).

Given the nature of humanitarian work, it is unsurprising that a similar sentiment emerged in this special issue. Louise Beaumais dedicates an entire section to 'the refusal to dehumanize the profession' in her paper. Here she points to the complaints of humanitarian workers that individual stories and narratives have been displaced by statistics and datasets. In doing so, the unquantifiable elements of crises – best represented through testimony and personal experience – are not considered valuable knowledge by those at the top of humanitarian organisations.

……

The ten talking points listed above provide different 'ways into' humanitarian numbers. They look to include existing literature, from anthropology to media studies, while also offering a thread that links the different articles in this special section. No article can hope to address all ten points raised, but they provide an empirically grounded and theoretically rich case for at least one of the points.

Acknowledgements

This special issue is a product of a workshop on humanitarian numbers held in September 2021 and a panel at the 6th International Humanitarian Studies Association Conference on Humanitarian Studies held

in Paris in October 2021. We are thankful to the participants of the workshop and the conference's panel for their comments on earlier versions of this article, as well as to the journal's reviewers and editors for insights and support. Joël Glasman would also like to thank the Africa Multiple cluster, funded by the German Research Foundation as part of its excellence strategy (EXC 2052/1–390713894).

Notes

1 A World Health Organization (WHO) report showed only a 6-years increase in Afghan life expectancy for males and an 8-years increase for females between 2002 and 2010 – a very different figure than the 22 years that USAID claimed (Whitlock, 2012: 203).
2 For some examples on MSF, see Joxe (2019: 244, 293–4); on UNHCR, see Glasman (2020: chapter 5).
3 We thank Morten Jerven for this metaphor that he used during a workshop.

Works Cited

Ahmed, N., Dabi, N., Lowthers, M., Lawson, M. and Mugehera, L. (2022), *Inequality Kills: The Unparalleled Action Needed to Combat Unprecedented Inequality in the Wake of COVID-19* [Methodology Note] (Oxford: Oxfam GB for Oxfam International), doi:10.21201/2022.8465.

Anderson, C. (2008), 'The End of Theory: The Data Deluge Makes the Scientific Method Obsolete', *Wired*, 23 June, www.wired.com/2008/06/pb-theory/.

Bakewell, O. (1999), 'Can We Ever Rely on Refugee Statistics?', *Radical Statistics*, 72, www.radstats.org.uk/no072/article1.htm.

Beerli, M. J. (2017), 'The Power to Count and the Stakes of Counting: An Inquiry into the Quantified Production of Humanitarian Insecurity', *Global Governance*, 23:1, 57–70.

Beerli, M. J. and Weissman, F. (2016), 'Humanitarian Security Manuals: Neutralising the Human Factor in Humanitarian Action', in Neuman, M. and Weissman, F. (eds), *Saving Lives and Staying Alive: The Professionalization of Humanitarian Security* (London: C. Hurst & Co Publishers Ltd), pp. 71–81.

Bhuta, N., Malito, D. V. and Umbach, G. (2018), 'Introduction: Of Numbers and Narratives –Indicators in Global Governance and the Rise of a Reflexive Indicator Culture', in Bhuta, N., Malito, D. V. and Umbach, G. (eds), *The Palgrave Handbook of Indicators in Global Governance* (Cham, Switzerland: Palgrave Macmillan), pp.1–29.

Billig, M. (2019), *More Examples, Less Theory: Historical Studies of Writing Psychology* (Cambridge: Cambridge University Press).

Biruk, C. (2018), *Cooking Data: Culture and Politics in an African Research World* (Durham, NC: Duke University Press).

Bonnecase, V. (2011), *La pauvreté au Sahel. Du savoir colonial à la mesure internationale* (Paris: Karthala).

Brauman, R. (2009), *La Médecine humanitaire* (Paris: Presses Universitaires de France).

Brenner, S. (2012), 'Life's Code Script', *Nature*, 482(461), doi:10.1038/482461a.

Breckenridge, K. (2012), 'No Will to Know: The Rise and Fall of African Civil Registration in Twentieth-Century South Africa, *Proceedings of the British Academy*, 182, 357–82.

Chancel, L. (2021), *Climate Change and the Global Inequality of Carbon Emissions*, World Inequality Lab, October, https://wid.world/news-article/climate-change-the-global-inequality-of-carbon-emissions/.

Coffey, C., Revollo, P. E., Harvey, R. et al. (2020), *Time to Care: Unpaid and Underpaid Care Work and the Global Inequality Crisis*, Oxfam Briefing Paper, doi:10.21201/2020.5419, https://policy-practice.oxfam.org/resources/time-to-care-unpaid-and-underpaid-care-work-and-the-global-inequality-crisis-620928/.

Cohen, A. M., Stavri P. Z. and Hersh, W. R. (2004), 'A Categorization and Analysis of the Criticisms of Evidence-Based Medicine', *International Journal of Medical Informatics*, 73:1, 35–43.

Crisp, J. (1986), 'Ugandan Refugees in Sudan and Zaire: The Problem of Repatriation', *African Affairs* 86(339), 163–80.

Crisp, J. (1999), 'Who Has Counted the Refugees? UNHCR and the Politics of Numbers', *New Issues in Refugee Research Working Paper No. 12* (Geneva: UNHCR).

Daston, L. (1992), 'Objectivity and the Escape from Perspective', *Social Studies of Science*, 22:4, 597–618.

Daston, L. (2020), 'Ground-Zero Empiricism', *Critical Inquiry Blog*, 10 April, https://critinq.wordpress.com/2020/04/10/ground-zero-empiricism/ (accessed 25 April 2023).

Desrosières, A. (2008), *Gouverner par les nombres. L'argument statistique II* (Paris: Presses de l'Ecole des Mines).

Dijkzeul, D. and Sandvik, K. B. (2019), 'A World in Turmoil: Governing Risk, Establishing Order in Humanitarian Crises', *Disasters* 43:S2, S85–S108.

Fast, L. (2015), 'Unpacking the Principle of Humanity: Tensions and Implications', *International Review of the Red Cross*, 97(897/898), 111–31.

Fast, L. (2017), 'The Data Divide: Overcoming an Increasing Practitioner–Academic Gap', *ICRC Blog*, 2 November, https://blogs.icrc.org/law-and-policy/2017/11/02/the-data-divide-overcoming-an-increasing-practitioner-academic-gap.

France24 (2022), 'Exodus from Ukraine: A Night Spent with Civilians Fleeing Russia's Invasion', 26 February, https://france24.com/en/europe/20220226-exodus-from-ukraine-a-night-spent-with-civilians-fleeing-war-russia-s-invasion.

Fressoz, J.-B. (2012), *L'apocalypse joyeuse. Une histoire du risque technologique* (Paris: Seuil).

Glasman, J. (2020), *Humanitarianism and the Quantification of Human Needs: Minimal Humanity* (London and New York: Routledge).

Glasman, J. (2023), *Les humanités humanitaires. Petit manuel d'autodéfense à l'attention des volontaires* (Paris: Les Belles Lettres).

Gross, M. and McGoey, L. (eds) (2015), *Routledge International Handbook of Ignorance Studies* (London and New York: Routledge).

Hacking, I. (1975), *The Emergence of Probability: A Philosophical Study of Early Ideas about Probability, Induction and Statistical Inference* (Cambridge: Cambridge University Press).

Hibou, B. (2015), *The Bureaucratization of the World in the Neoliberal Era: An International and Comparative Perspective* (New York: Palgrave Macmillan).

Hilhorst, D. (2015), 'Taking Accountability to the Next Level', in *On the Road to Istanbul: How Can the World Humanitarian Summit Make Humanitarian Response More Effective?*, 2015 Humanitarian Accountability Report (Geneva: CHS Alliance), pp.104–12.

Jahoda, M., Lazarsfeld, P. F. and Ziesel, H. (1971), *Marienthal: The Sociography of an Unemployed Community* (New York: Aldine-Atherton).

Jerven, M. (2013), *Poor Numbers: How We Are Misled by African Development Statistics and What to Do about It* (Ithaca, NY and London: Cornell University Press).

Joxe, L. (2019), Les ressorts de l'(in)satisfaction : le cas du personnel international humanitaire. (PhD thesis, Sociologie, Université Sorbonne Paris Cité).

Kibreab, G. (2004), 'Pulling the Wool over the Eyes of Strangers: Refugee Deceit and Trickery in Institutionalized Settings', *Journal of Refugee Studies*, 17:1, 1–26.

Lawson, B. T. (2021), 'Hiding behind Databases, Institutions and Actors: How Journalists Use Statistics in Reporting Humanitarian Crises', *Journalism Practice*, 17:3, 429–49.

Lawson, B. T. (2023), *The Life of a Number: Measurement, Meaning and Media* (Bristol: Bristol University Press).

Lugo-Ocando, J. and Lawson, B. (2018), 'Poor Numbers, Poor News', in Nguyen, A. (ed.), *News, Numbers and Public Opinion in a Data-Driven World* (New York and London: Bloomsbury Academic), pp. 62–77.

Macias, L. (2019), 'Digital Humanitarianism in a Refugee Camp', in Smets, K. et al. (eds), *The SAGE Handbook of Media and Migration* (London and Thousand Oaks, CA: Sage), pp. 334–45.

Merry, S. E. (2016), *The Seductions of Quantification: Measuring Human Rights, Gender Violence, and Sex Trafficking* (Chicago and London: The University of Chicago Press).

Médecins Sans Frontières (MSF) (2017), 'MSF Survey Estimate That at Least 6,700 Rohingya Were Killed during the Attacks in Myanmar', press release, 12 December, www.msf.org/myanmar-bangladesh-msf-surveys-estimate-least-6700-rohingya-were-killed-during-attacks-myanmar.

Murphy, M. (2017), *The Economization of Life* (Durham, NC: Duke University Press).

Najibi, A. (2020), 'Racial Discrimination in Face Recognition Technology', *Science in the News Blog, Science Policy*, Harvard University, 24 October, https://sitn.hms.harvard.edu/flash/2020/racial-discrimination-in-face-recognition-technology/ (accessed 25 April 2023).

Neuman, M. (2017), 'Dying for Humanitarian Ideas: Using Images and Statistics to Manufacture Humanitarian Martyrdom', MSF-CRASH, 15 February, https://msf-crash.org/en/publications/humanitarian-actors-and-practices/dying-humanitarian-ideas-using-images-and-statistics.

Nissen, L. P. (2015), 'Gandalfs and Geeks: Strengthening the Accountability of Humanitarian Decision-Making', in *On the Road to Istanbul: How Can the World Humanitarian Summit Make Humanitarian Response More Effective?*, 2015 Humanitarian Accountability Report (Geneva: CHS Alliance), pp. 28–31.

OCHA (2021), *Global Humanitarian Overview 2021*, www.unocha.org/global-humanitarian-overview-2021 (accessed 25 April 2023).

Paulus, D., Fathi, R., Fiedrich, F., Van de Walle, B. and Comes, T. (2022), 'On the Interplay of Data and Cognitive Bias in Crisis Information Management', *Information Systems Frontiers*, doi:10.1007/s10796-022-10241-0.

Porter, T. M. (1995), *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, NJ: Princeton University Press).

Ramel, F., Sangar, E., Makki, S. et al. (2020), DATAWAR Project. 'How Data Make Us See and Expect War: The Impact of Research Practices in Quantitative Conflict Analysis on Perceptions of Political Violence by NGOs, Political Institutions, and the Media (DATAWAR), https://sciencespo.fr/ceri/en/content/how-data-makes-us-see-and-expect-war-impact-research-practices-quantitative-conflict-analysi.html.

Randall, S., Coast, E. and Leone, T. (2011), 'Cultural Constructions of the Concept of Household in Sample Surveys', *Population Studies*, 65:2, 217–29.

Randall, S., Coast, E., Antoine, P., Compaore, N., Dial, F.-B., Fanghanel, A., Gning, S. B., Thiombiano, B. G., Golaz, V. and Wandera, S. O. (2015), 'UN Census "Households" and Local Interpretations in Africa since Independence', *SAGE Open*, 5:2, 1–18, doi:10.1177/2158244015589353.

Read, R., Taithe, B. and Mac Ginty, R. (2016), 'Data Hubris? Humanitarian Information Systems and the Mirage of Technology', *Third World Quarterly*, 37:8, 1314–31.

Rottenburg, R., Merry, S. E., Park, S.-J. and Mugler, J. (eds) (2015), *The World of Indicators: The Making of Governmental Knowledge through Quantification* (Cambridge: Cambridge University Press).

Sandvik, K. B. (2020), 'Digital Dead Body Management (DDBM): Time to Think It Through', *Journal of Human Rights Practice*, 12:2, 428–43.

Schlichte, K. (2018), 'Warum Zahlen nicht reichen. Plädoyer für eine erweiterte Erfahrung der Internationalen Beziehungen', *ZIB: Zeitschrift für Internationale Beziehungen*, 25.1, 154–64.

Snyder. M. (2017), 'Unanswered Questions from Yemen's Cholera Outbreak', *#Outbreak Thursday Blog*, 28 September, Outbreak Observatory, https://outbreakobservatory.org/outbreakthursday-1/9/28/2017/unanswered-questions-from-yemens-cholera-outbreak.

The Economic Times (2022), 'At Least 370,000 Flee Ukraine after Russian Invasion', 27 February, https://economictimes.indiatimes.com/news/international/world-news/at-least-370000-flee-ukraine-after-russian-invasion/articleshow/89872634.cms?from=mdr.

Tilley, H. (2011), *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870–1950* (Chicago: Chicago University Press).

UNHCR (2022), 'Ukraine Situation: Regional Refugee Response Plan. Summary and Inter-Agency Funding Requirements March–August 2022', 1 March, https://interagencystandingcommittee.org/inter-agency-standing-committee/ukraine-situation-regional-refugee-response-plan-summary-and-inter-agency-funding-requirements-march.

Whitlock, C. (2021), *The Afghanistan Papers: A Secret History of the War* (New York: Simon & Schuster).