

It is time for institutions to ensure data infrastructures are more responsive to their publics

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*Contemporary data infrastructures have had transformative effects; not only on methods, technologies and standards relating to data but also on our social, political, economic and cultural worlds. Building on the open data movement's successes in the opening and sharing of data sets, **Jonathan Gray** argues it is time for a broader conversation around the making and development of data infrastructures. Until we institute processes to ensure data infrastructures reflect the concerns of their various publics, we risk sustaining systems that are disengaged from, or even damaging towards, those they are intended to benefit.*



The contemporary world is held together by a vast and overlapping fabric of information systems. These information systems do not only tell us things about the world around us. They also play a central role in organising many different aspects of our lives. They are not only instruments of knowledge, but also engines of change. But what kind of change will they bring?

Contemporary data infrastructures are the result of hundreds of years of work and thought. In charting the development of these infrastructures we can learn about the rise and fall not only of the different methods, technologies and standards implicated in the making of data, but also about the articulation of different kinds of social, political, economic and cultural worlds: different kinds of “data worlds”.



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Beyond the rows and columns of data tables, the development of data infrastructures tell tales of the emergence of the world economy and global institutions; different ways of classifying populations; different ways of managing

finances and evaluating performance; different programmes to reform and restructure public institutions; and how all kinds of issues and concerns are rendered into quantitative portraits in relation to which progress can be charted – from gender equality to child mortality, biodiversity to broadband access, unemployment to urban ecology.

The transnational network assembled in Madrid for the International Open Data Conference this week has the opportunity to play a significant role in shaping the future of these data worlds. Many of those present have made huge contributions towards an agenda of opening up data sets and developing capacities to use them. Thanks to these efforts there is now global momentum around open data amongst international organisations, national governments, local administrations and civil society groups – which will have an enduring impact on how data is made public.

Perhaps, around a decade after the [first stirrings of interest in what we now know as “open data”](#), it is time to have a broader conversation around not only the opening up and use of data sets, but also the making of data infrastructures: of what issues are rendered into data and how, and the kinds of dynamics of collective life that these infrastructures give rise to. How might we increase public deliberation around the calibration and direction of these engines of change?

Anyone involved with the creation of official data will be well aware that this is not a trivial proposition. Not least because of the huge amount of effort and expense that can be incurred in everything from developing standards, commissioning IT systems, organising consultation processes and running the social, technical and administrative systems which can be required to create and maintain even the smallest and simplest of data sets. Reshaping data worlds can be slow and painstaking work. But unless we instate processes to ensure [alignment between data infrastructures and the concerns of their various publics](#), we risk sustaining systems which are at best disconnected from and at worst damaging towards those whom they are intended to benefit.

What might such social shaping of data infrastructures look like? Luckily there is no shortage of recent examples – from civil society groups campaigning for changes in existing information systems (such as [advocacy around the UK’s company register](#)), to [cases of citizen and civil society data leading to changes in official data collection practices](#), to the emergence of [new tools and methods to work with, challenge and articulate alternatives to official data](#). Official data can also be augmented by “born digital” data derived from a variety of different platforms, sources and devices which can be [creatively repurposed](#) in the service of studying and securing progress around different issues.

While there is a great deal of experimentation with data infrastructures ‘in the wild’, how might institutions learn from these initiatives in order to make public data infrastructures more responsive to their publics? How can we open up new spaces for participation and deliberation around official information systems at the same time as building on the processes and standards which have developed over decades to ensure the quality, integrity and comparability of official data? How might participatory design methods be applied to involve different publics in the making of public data? How might official data be layered with other ‘born digital’ data sources to develop a richer picture around issues that matter? How do we develop the social, technical and methodological capacities required to enable more people to take part not just in using data sets, but also reshaping data worlds?

Addressing these questions will be crucial to the development of a new phase of the open data movement – from the opening up of data sets to the opening up of data infrastructures. Public institutions may find they have not only new users, but new potential contributors and collaborators as the sites where public data is made begin to multiply and extend outside of the public sector – raising new issues and challenges related to the design, governance and political economics of public information systems.

The development of new institutional processes, policies and practices to increase democratic engagement around data infrastructures may be more time consuming than some of the comparatively simpler steps that institutions can take to open up their data sets. But further work in this area is vital to secure progress on a wide range of issues – from [tackling tax base erosion](#) to tracking progress towards [commitments made at the recent Paris climate](#)

negotiations.

As a modest contribution to advancing research and practice around these issues, [a new initiative called the Public Data Lab is forming](#) to convene researchers, institutions and civil society groups with an interest in the making of data infrastructures, as well as the development of capacities that are required for more people to not only take part in the data society, but also to more meaningfully participate in shaping its future.

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Jonathan Gray is Prize Fellow at the [Institute for Policy Research](#) at the University of Bath, where he is currently writing a book on *Data Worlds and the politics of public information*. He is also Research Associate at the [Digital Methods Initiative](#) at the University of Amsterdam and the [médialab](#) at Sciences Po. Through his work as Director of Policy and Research at [Open Knowledge International](#) he has founded and co-founded initiatives such as the [Data Journalism Handbook](#), [Europe's Energy](#), [Open Data for Tax Justice](#), [OpenSpending](#), [Open Trials](#) and [Where Does My Money Go?](#). More about him can be found at [jonathangray.org](#) and he is on Twitter at [@jwyg](#).

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