

Articles from Computational Culture

Not just another database: the transactions that enact young offenders

2013-11-12 10:11:06 adrian

Abstract

The paper draws on Annemarie Mol's study of how a disease is a multiply enacted entity in the hospital to analyse how an electronic management information system (MIS) enacts subjects and populations as multiples. Its focus is the specificities of a MIS used by youth offending teams in England and Wales to join up and monitor cross-agency case-level data stored in separate case management systems (CMS) in order to identify and intervene in the likelihood of a young person (re)offending. A way of thinking about the MIS is developed that attends to how it not only represents but enacts the young offender as a composite of multiple contexts and subject positions—the subject multiple—and as an accumulation of relations with practitioners, regulations, sites, assessments and so on. While each entry in the MIS is an inscription, the paper focuses on the specific operations that translate and materialise sets of relations. They are conceived of as transactions between practitioners and the MIS, which form a field of multiple conjoined actions that cumulatively enact new entities. When transactions across the 158 YOTs in England and Wales are assembled into a 'centre of calculation,' a population multiple is enacted. But it is not a population of young offenders but of the different contexts and subject positions that make them up. In this way, the MIS makes it possible to move between subject and population multiples, between the different contexts that make both of them up, and connects the regularisation of populations to the shaping of individuals. These and other performative effects that go beyond policy precepts are analysed to suggest that software systems are too important to ignore, as they are constitutive of new ways of thinking and governing.

Introduction

Government practices from social work and criminal justice to health care and taxation rely on administrative databases to identify, track, monitor, evaluate, govern and intervene in the life chances and trajectories of people.¹ While governments have long compiled such databases their proliferation and the uses to which they are being put are being advanced in part because of the possibilities of digitised formats and the capacity of new information and communication technologies (ICTs) for storing, searching, tracing, tracking and joining up data across government sites. As a result, administrators and statisticians are promoting these databases as the way forward for identifying people, managing service delivery and generating official statistics for policymaking and performance evaluation.

In youth justice one impetus behind such data sharing was elaborated in the 2008 UK *Review of Criminality Information*.² The report focused on the networks and connections between processes, decisions, and outcomes of the numerous agents and agencies involved in criminal justice referred to as the 'Public Protection Network.' While it is a report on criminality, it says little about crime and more about how data and information should be recorded, secured, exchanged and shared and used to produce performance targets and assess practices. It asserts that through the sharing of data the 'whole' identity of individuals can be assembled. As in other government domains, the argument for such data sharing is that there is not a dearth of data but too much data that contains information beyond the reach of human perception in part because of its distribution (temporally and spatially). Thus, with ICTs, subjects hitherto unidentified can be known by sharing and joining up this data.

This is the logic of information sharing also advanced by the Youth Justice Board in England and Wales (YJB). Each local authority is required to establish a multi-agency youth offending team (YOT) with representation from the Police, the Probation Service, Social Services, Health Service, and Education.³ Information sharing between these various services is defined as key to identifying, diagnosing and intervening in the lives of young people who are at risk of offending or reoffending. To do so, YOTs utilise electronic management information systems (MIS) to join up and monitor cross-agency case-level data that is stored in separate case management systems (CMS). This includes biographical information, data on evaluations, assessments, interventions, judgments, and sentencing of young people (10-17 years of age) compiled across multiple government sites: schools/colleges, police, general practitioners, health service providers, social services, housing, voluntary organisations, courts, and so on. The data is then used to identify young people and their likelihood of (re)offending. A final stage in information sharing involves the quarterly transfer of some of this anonymised case-level data to a centralised and networked Youth Justice Management Information System (YJMS) which monitors YOT performance and generates national statistics and profiles on young (re)offenders. (For ease of reference I will refer only to young offenders).

For several years I have been following developments related to software services that have been designed for this purpose.⁴ But rather than examining how it represents young people, my approach is to analyse how the MIS is implicated in materialising relations, enacting subjects and governing young offenders. Or to put it another way how it does not simply share and provide information for implementing a youth justice government policy, but enacts its subjects of governing (who) and its targeted modes of intervention (i.e., what is to be done). So rather than a reflection or snapshot of the possible young offender (as the MIS is typically described) I investigate the performative effects of the MIS whereby sets of multi-sited practices

- meeting: 'an event held with multiple attendees to discuss a topic. This may include case workers, parents, social services, or any relevant person connected to one or more young people.'
- intervention: 'a single activity over a period of time, in response to one or more identified needs. Many interventions are wrapped up into a programme.'

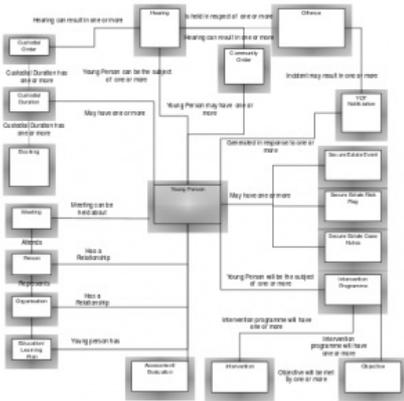


Figure 2

For each of these interventions 'attributes' are identified such as start and end dates of involvements, locational details (e.g., address), offences information, court data (charges, sentencing), intervention records (e.g., assessments, plans, dates of contacts, outcomes), assessments of 'assets' at various stages of contact (based on scores of twelve dynamic factors such as living arrangements, education, lifestyle, substance use, emotional health), indicators of vulnerability and risk (based on a series of questions), restorative justice interventions, parenting interventions (meetings) and mental health and substance abuse interventions (referrals, assessments, treatments). This 'contextual model' is intended to provide a 'high level view of the youth justice domain ... at a glance' and 'not to convey any logical structure or granularity but to provide an indication as to the semantics of the domain.'¹¹ It is a domain that is made up of multiple contexts to which different young people are variously related.

Young people and these multiple contexts are conceptually brought together in the MIS return model, which indicates their relations and how they flow into set reporting requirements to the YJMIS (Figure 3). The 'young person' is at the centre of the diagram and part of a web of relations. She/he is composed of a 'person class' (e.g., biographical details) and contexts consisting of properties (e.g., record creation dates), attributes (e.g., referrals, assessments) and relationships (e.g., agency/service), all coded according to specified semantics (e.g., GenderCurrentType, MentalHealthConcernsType). Links are also coded between related entities (e.g., between a hearing and intervention programme). All of the contexts are connected to and gathered up into the young person who is at the centre of the model and cumulatively make up her subjectivity and specificity as a young offender as well as the anonymous subject of quarterly returns to the YJMIS.

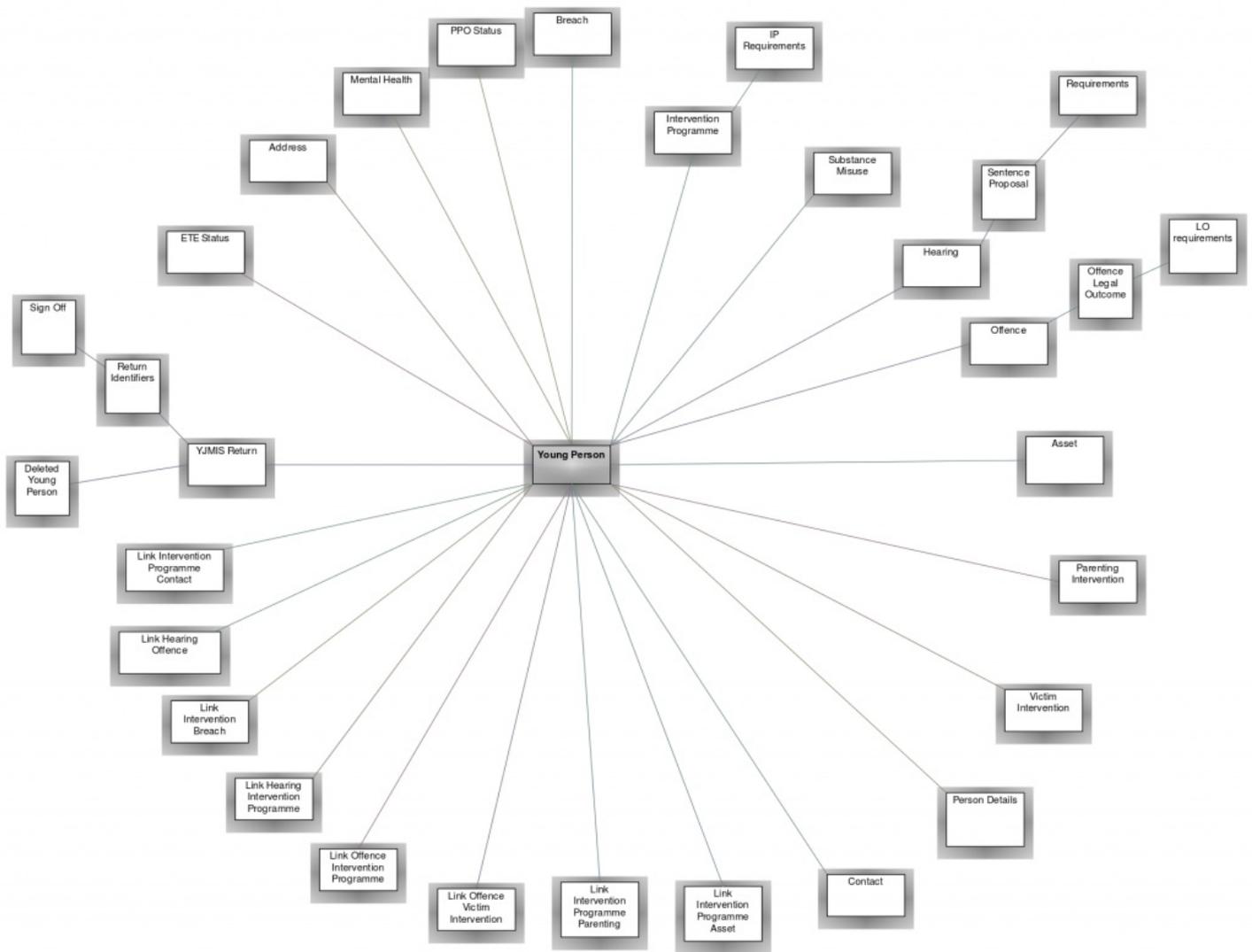


Figure 3

While the YJB establishes these models and reporting regulations, YOTs are responsible for adopting software that is operationally compliant and interoperable with the YJMIS and typically they purchase packages tailored to meet these requirements. The most widely adopted MIS is designed by CACI, a UK information technology company that provides software to the public sector on security and social services. Its ChildView software suite (which I will continue to refer to as MIS) includes a Youth Justice module used by over 75% of YOTs for 'what CACI describes as 'data driven decision-making.' Figure 4 is a screenshot of the web-based interface for the youth justice module of ChildView. CACI describes its software suite as a 'transformational technology' that moves from a focus on 'capturing the data' to making 'better use of that data.' To do so, it offers a number of 'tools for transformation' such as 'two-way' data exchanges for publishing, subscribing and consuming data from and to other compliant systems and by enabling users to modify functional aspects to suit local needs while still meeting statutory requirements.

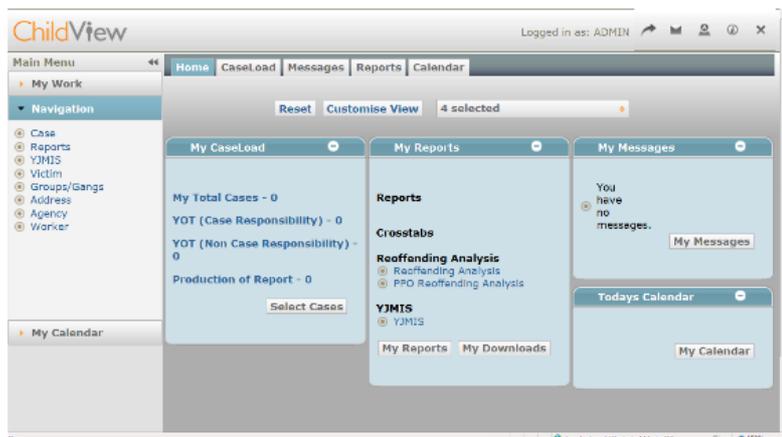


Figure 4

Many of these features are neither prescribed nor regulated. The software suite incorporates more information than that mandated by the YJB as well as functions such as the analysis of re-offending. It also facilitates interoperability between the Youth Justice module illustrated in Figure 4 with three other modules on Education, Social Care, and Early Years. Within each of these modules further sub-modules are incorporated. In education, this includes seven sub-modules such as a core biographical database and a CMS on social inclusion. These modules can be variously combined and arranged and joined up to provide a 'single view' of a young person across the modules. This includes an interactive case chronology and timeline feature that includes not only key youth justice events but also those of partner agencies. In this way ChildView provides for multi-agency access and 'joined-up-thinking' functionality by replacing and centralizing existing databases across a suite of services and programmes, which typically operate in isolation.

That in brief is how the MIS is organised and understood, as a system of joining up data to 'see' and identify the young offender who is made up of multiple contexts. Much attention and critique has been waged against such social work and criminal justice standards and reporting requirements and the informational demands and consequences of the computerization for government working practices.¹² But the formatting and performative work of infrastructural and software coding systems is typically not addressed, usually out-of-sight and their mediating steps left opaque.¹³ However, like other software systems, both the YJB reporting requirements and the functionality and design of ChildView do not involve a simple translation but in-and-of-themselves are authoritative practices that deploy constitutive conventions.¹⁴ Their organization and codings 'render objects, events and relations into communicable signs,' but in the process of materializing these they also 're-make' them.¹⁵ It is this remaking and the constitutive effects of the MIS that I analyse below to argue that such software systems or 'algorithm machines'¹⁶ do not merely implement a policy or programme but are generative of both their subjects of governing and modes of intervention. I do this by first conceiving of contexts as specific situated inscription practices—what I will call transactions—that enact young people as multiple subjects. Through the virtual context of the MIS—another situated context—multiple subjects are then assembled into a 'centre of calculation'¹⁷ that actualises connections otherwise beyond reach of the imagination.¹⁸ But rather than simplifying or reducing inscriptions or flattening out multiplicity, the MIS coordinates and holds multiple subject positions together to enact the young offender not as a singularity but as a multiplicity.

The subject multiple

As noted, the MIS designates the multiple sites and engagements with a young person as 'contexts' that practitioners 'record' through administrative 'data entry.' These terms connote straightforward processes of reflecting and accounting for various engagements, interventions and interactions with young people. But what exactly are contexts? They are specific locations and situated practices (e.g., substance misuse intervention) that involve practitioners (counsellors, doctors, social workers), things (e.g., assessments, plans, treatments, regulations, programmes, medications) and young people. Contexts are thus practices made up of specific events involving sets of relations. As Mol has put it, without patients and multiple other elements a doctor cannot make a diagnosis and as such each of these—the people and things—'give shape' to the 'reality' of a phenomenon.¹⁹

For example, a social worker meets with a young person who has already come into contact with the criminal justice system and assesses their likelihood of re-offending based on an assessment tool called *Asset*.²⁰ The assessment is a specific context (see Figure 3) and consists of the evaluation of twelve dynamic factors related to a young person's behaviour and lifestyle. The worker assesses and provides a score for the likelihood that each of the following factors is linked to further offending: living arrangements, family and personal relationships; education, training and employment; neighbourhood; lifestyle; substance use; physical health; emotional and mental health; perception of self and others; thinking and behaviour; attitudes to offending; and motivation to change. The scoring systems for each varies; for example, on living arrangements, a score from 1 to 4 is assigned based on subjective evaluations of the instability or unsuitability of accommodations to living with known offenders. The young person is later enrolled in a substance abuse program and his/her relations with another practitioner are also recorded. She/he then drops out of school and yet another set of entries are made. Via each of these contexts she is assigned a different subject-position: a previous or likely (re)offender, mental health patient, substance misuser, or NEET (not in education, employment or training). Rather than straightforward data entry and recording, each entry is an inscription and the result of specific operations that mediate, translate, summarise and materialise the sets of relations that make up each context such as the scoring system summarised above.²¹ It is through these practitioner inscriptions in relation to specific 'set-ups' that all of these elements get summarised and visualised.²² They make present absent things, that is, all of the elements and relations that are part of its 'set-up' and in that regard they are the 'fine edge and the final stage of a whole process of mobilization'²³ that includes not only practitioners but procedures, regulations, assessment criteria, software, data entry screens, and so on.

But inscription does not capture the action or specific operation that takes place in the contexts described above. An inscription is the materialisation of contexts (or set-ups) mediated by the MIS. It is this mediation that the term transaction captures, a usage suggested by pragmatist philosophers Dewey and Bentley in their

formulation of a theory of how knowledge is communicated and cooperatively advanced.²⁴ For them, trans-activity is an event where knowing and the known are part of a single process and are mutually changed: 'The namings and the named are one transaction. No instance of either is observable without the other. Namings and the named develop and decline together.'²⁵ This is in contrast to inter-action, where inter connotes 'between, among, amid, in between, in the midst' where interaction involves the 'influence of persons or things on each other'. Instead, trans connotes 'beyond, surpassing, and transcending' and transaction a 'physical operation, action, or process.'²⁶ With the MIS situated contexts and actions are made into transactions by being digitally inscribed and made mobile. That is, with each transaction (data entry) knowing and knowledge are materialised and transmitted and the known—a subject such as NEET, mental health patient, likely reoffender—is enacted. Rather than the MIS simply reflecting or constructing knowledge about or simply a perspective on different subjectivities, both knowing (representing) and bringing subjects into being (real) are done simultaneously.²⁷

How is a multiple subject possible?²⁸ People assume various subject positions that involve processes of subjectivation. 'Subjects' thus are positions that people occupy and that come to be described by governing authorities as students, poor, unemployed and so on. When an action is attributed to a subject this does not indicate that a subject position is acting but that a person is acting under a *given* subject position. People may or may not recognise subject positions that have been ascribed to them. But that is not the point. It is that people inhabit and are inhabited by governing practices, which subjectify them and open them up to particular forms of intervention. A person is a unique combination of subject positions since it is unlikely that any two people will occupy or take up the exact same combination. What the MIS enables is the assembly of a young person's multiple subject positions, each inscribed via a series of transactions involving different contexts or set-ups, which taken together enact them as combinations of multiple subject positions. The young offender is thus a category or subject position made up of multiple categories where each is maintained as a separate constellation of transactions that make up their 'fine grained' individualisation.²⁹

While one transaction may enact a school leaver, teenage mother, resident of a secure estate or benefits recipient, it is when all of them are assembled together that the 'whole view' of the young offender comes into being. Or as Jane Bennett has interpreted it, every action is but a trans-action as it is part of a field of multiple conjoined actions that collectively have a consequence that is not simply a sum of the parts but a becoming of something else.³⁰ The MIS is thus made up of multiple conjoined transactions that collectively enact new entities labelled young offenders.³¹ The young offender is thus an assembly of changing labels and a materialisation of what Latour has called a traceable social that is rendered visible, not by extracting it from something else but by making it visible.³² Or as Strathern has put it, digital inscriptions do not abstract and detach from the social only then to be put back into it but are part-and-parcel of the very relations that get materialised in data.³³ But importantly it is through the 'performativity of circulation' that such materialisations come to have enacting effects.³⁴ Be that as it may, while traceable it is difficult if not impossible to trace and account for the numerous dispersed judgments involved and the many decisions that have come to make up the subject.³⁵

This interpretation fits with the stated purpose of the MIS, which is not to serve the data needs of individual practitioners or government services, but to facilitate the shared, integrated—or accumulated—knowledge that emerges out of conjoined actions that are more than the sum of their parts. It is an accumulation rather than summation for when individual transactions are merged their details are maintained in the MIS. Instead of an ever-simplifying cascade leading to a final score or inscription, the multiple subject positions of young offenders are maintained. In part this is because the types of inscriptions are highly variable: they can be numbers (meeting dates, identification numbers, postcode), include detailed notes and narratives (e.g., general notes fields, details fields) and attributes can vary and include biographical (gender, age), criminal justice decisions (warnings, offences, remand decisions, legal outcomes), treatment and interventions (mental health, parenting, substance misuse), and risk scores (of (re)offending, vulnerability, serious harm). But more significantly, instead of a 'global view' the MIS generates an accumulated or connected view of the young offender in a process that Mackenzie and McNally refer to as not a flattening but a thickening of worlds.³⁶ Another way of putting this is that the inscriptions of different practices are not made to 'cohere' in a single authoritative inscription of the young offender. He/she is instead a different, variable and unique composition and the system maintains this multiplicity. Like case files and archives have constituted people's lives as singularities,³⁷ the MIS enables young offenders to be identified as 'individuated' beings. As such the young offender is an accumulation of cascades of inscriptions, a condensation of relations temporally and spatially distributed. It thus generates a 'composite portrait' like that produced by Frances Galton in the nineteenth century to visualize the archetypical criminal.³⁸

In sum, it is in the MIS that myriad relations are materialized rather than reflected and the young offender enacted. So while different practices decentre the ontology of the subject the MIS re-centres it and at the same time maintains it as a composite. Maintaining multiplicity though is also necessary because ultimately the objective of the MIS is not only to identify the young offender but also to identify specific and targeted interventions to prevent the risk of re-offending. It is through their different subject positions and in relation to specific contexts that programmes of intervention (e.g., secure estate, mental health) are identified, targeted and implemented. In this way the enactment of the young offender precipitates new contexts and relations, which then in turn get transacted and materialized in the MIS and in turn both naming and the named are changed. This is an understanding also

suggested in the recent Munro Review of Child Protection which recommended a 'systems' approach with feedback loops, reflexivity, and on-going adjustment as integral to programmes for monitoring, evaluating and identifying children-in-need.³⁹ Such an approach is intrinsic to the MIS, which can be described as recursive: data that enacts the young offender leads to interventions and new contexts that act upon and change the young offender's make up within the MIS. Data is thus recombinant and recursive and shapes as well as merely captures phenomena.⁴⁰ In relation to identity, Hacking calls this a process of dynamic nominalism whereby a classification interacts with and reinforces a person so classified, which then leads to changes in their classification as well.⁴¹

Over time the enactment of the young offender thus changes as new interventions are inscribed into data as practitioners transact with the MIS. In addition to providing web-based access for remote working, it enables data entry even from a mobile handset so that 'users can now access and input data from wherever and whenever they need to' and 'give decision-makers the most up-to-date information, as it becomes available.... eliminating any potentially serious delays in taking prompt action.' CACI, *eYOIS: Connecting you now and for the future*. Accessed 11 April 2012. <http://www.caci.co.uk/>.] Enacting captures this dynamic whereby both the MIS and young offender are on-going accomplishments such that realities (young offenders) and representations (MIS) are only temporarily stabilised effects. Enacting young offenders is thus a continuing process where relations only hold if they are enacted again and again⁴² and are not stable but involve a 'continuing effort.'⁴³ It is a continuing effort that involves new or changing relations, and where small adjustments with assessment criteria, working practices, or with data definitions, model designs and computer algorithms can have constitutive effects. The MIS thus generates uncertainty and like other technologies of care, it is not simply a tool that is easy to control but rather shifts and changes.⁴⁴ So while the MIS promises completeness and 'decision taking,' like other software systems, it can lead to 'ambiguity, undecidability and incompleteness' as it 'constantly enhances and widens the possibility of variations and deviations that are difficult to contain or control.'⁴⁵ The MIS widens possibilities also through its modular structure. Above I noted how maintaining the subject multiple in all of her complexity and the recursive nature of the MIS contribute to instability. In addition to these performative effects the capacity to link different modules to youth justice such as one on education and its further sub-modules enables various combinations, arrangements and joined up views of a young person over time and across partner agencies. Though such a modular approach allows for a 'holistic view' it is one that is changeable as different modules can be added or removed.

Evaluations of similar digital devices in child welfare have also argued that these systems lead to uncertainty and many versions as practitioners variably interpret, record, and understand instructions and categories.⁴⁶ Practitioners argue that information systems in practice are different from those imagined in policy in part due to the embodied, contingent, and uncertain world of practice that leads to the multiplicity of actually-operating devices. Yet others complain that they constitute a shift from a narrative to database way of thinking with the result being that practitioners now operate less on the terrain of the 'social' and more on the terrain of the 'informational.'⁴⁷ Probation officers, for example, complain that they spend three-quarters of their time on work that does not involve them in direct contact with offenders but rather with 'computer activity, drafting correspondence and reports, meetings and dealing with other red tape.'⁴⁸ However, as I have argued above, the MIS is not simply informational but performative and practitioners are not simply reporters or recipients of information but through their transactions are part of the enactment of young offenders. Their role also increasingly extends beyond the informational as features such as the re-offending analysis are introduced.⁴⁹ In this way, not just information but practices are being reshaped by the software systems that they depend on.⁵⁰

These observations and accounts also identify uncertainty and variability as a consequence of practitioner 'informational' work rather than a constitutive effect of the software system. Instead, as I have argued above, the very conditions that the MIS is organised to capture—multiple subjects, up-to-date, distributed, complex, variable and changing data—are the very sources of instability and uncertainty such that practitioners must constantly 'negotiate with fluid findings.'⁵¹ Such uncertainties and instabilities are ironic given that software systems are often introduced to redress the same conditions that result from a reliance on human judgment to detect and identify particular individuals or populations.

How then is this resolved? As I have argued elsewhere, information systems are part-and-parcel of a topological ontology of subjects understood as unique individuals made up of multiple elements and of a governmental logic of modulating controls.⁵² I have already elaborated how the former is immanent in the MIS. Regarding the latter the governmental aim is to identify the likelihood or risk of a young person (re)offending and to then develop individualised interventions to prevent them from becoming a particular kind of person. This risk or susceptibility is not identified following a logic of induction or deduction but instead abduction: the MIS does not generate an overall risk score or evaluation but is based on precautionary principles and is organised to provide clues for making reasonable speculations.⁵³ Decision taking then is in relation to likelihoods and potentials and reasonable guesses. So while the information system is portrayed as a technical tool for better decision taking, its logic depends on the very subjective evaluations it presumably surpasses. Rather than risk-based approaches to information sharing increasing 'risk by seeking to curtail the professional judgment of practitioners on the ground'⁵⁴ I suggest they reconfigure and re-orient judgment such that uncertainty is not a failure but a rationale and justification for taking precautionary steps.

The population multiple

Yet some of this complexity and uncertainty are perhaps tamed through the final edge of inscriptions when individual young offenders are assembled into a population. The YJB requires that each YOT transmit anonymised case-level data to a centralised and networked Youth Justice Management Information System (YJMIS), which generates national statistics on young (re)offenders and monitors YOT performance. It is this operation of the software system that constitutes a 'final edge' as it involves the simplification, flattening and circulation of cascades of inscriptions so that what is distant is brought close, merged and 'flattened out onto the same surface.'⁵⁵ And once circulated to the YJMIS the inscriptions are relatively immutable and thus can be combined, recombined, reshuffled and superimposed and made part of a government report. The YJMIS can generate new indicators and YOTs can also tailor their own reports and analyse trends specific to their interests such as more targeted resourcing.

But while aggregation results in a quantity (total population), it is metrics or performance indicators that also reveal this population as multiple.⁵⁶ That is, out of a multitude of data numerous permutations and combinations are possible enabling multiple social orderings of the population such as:

- number/per cent first-time entrants to the youth justice system who receive their first reprimand, warning or conviction;
- number of restrictive physical interventions used in the youth secure estate;
- number of youth rehabilitation orders issued broken down into 18 categories (e.g., curfew orders, unpaid work, supervision requirement).⁵⁷

What these collectively constitute is not a population of individual youth offenders but of multiple contexts and subject positions. Each ordering of the data indicates a different population of contexts (reprimands, rehabilitation orders) that cumulatively do not add up to an overall profile but instead a series of indicators. As Figure 5 illustrates, young offenders are turned into disaggregated contexts and subject positions that are tracked as they flow through the youth justice system and thus the statistics on youth justice are greater than the total number of unique individuals making up YOT caseloads.⁵⁸ The statistics on young offenders illustrated in this flow do not refer to unique young people. Instead, as configured by the MIS, it is multiple contexts (offences, interventions etc.) that make up the young person and also come to make up the population. While biographical data are also included, particularly on age, gender and ethnicity, it is numbers on what youth have done and what has been done to them that 'indicate' them and the populations to which they can multiply belong.

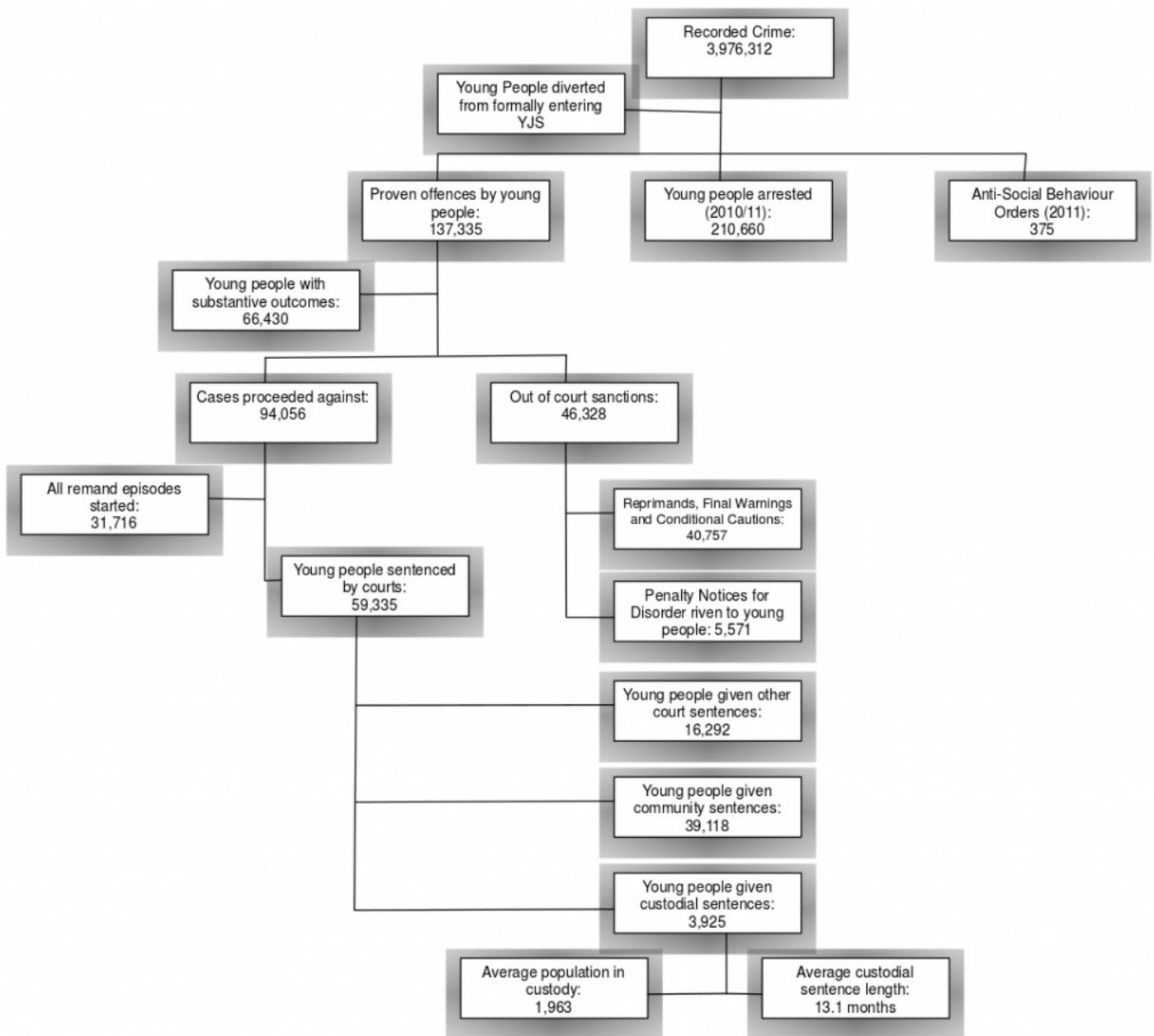


Figure 5

In this regard the YJMS establishes a relation between the subject multiple and the population multiple. It materialises what Foucault defined as the relation between biopower and governing: the former track, regularise and manage populations and the latter guide and shape individual bodies.⁵⁹ The individual may be generalised to become part of a population (totalising) but at the same time her/his multiplicity and individuality is maintained thus opening her/him up to targeted governing interventions (individualising). For aggregation into the whole population does not eliminate Individual specificities and variations as these are maintained in the individual YOT MIS. This makes it possible to move between subject and population multiples, between the different contexts that make them both up, and connects the regularisation of populations to the shaping of individuals.

Conclusions

Under the common paper-based public service delivery method, personal files manage each individual's relations with a government service. Administrative sorting, assembling and categorising of data occurs in relation to data about a person compiled by each service agency and the values, objectives and rules of the agency.⁶⁰ Even when digitised, each database is only a partial register of an individual's relations with government agencies. Certainly subjects have always been multiple in relation to governments. But these subject positions have typically remained isolated. With the MIS, instead of paperwork traveling 'from one department to the other,'⁶¹ software systems make a composite enactment possible by assembling the distributed transactions of government agencies that make up young people. They also give data social lives: they do not remain sequestered in files but travel from case management systems to the MIS (and its various modular components) and on to the YJMS.

As I have suggested, with each move and flow the performativity of data is different and captured by the concept of enacting, which shifts attention from the verb

'making' to the 'doing' of realities and renders what is at stake not only questions of epistemology but ontology. I have also linked performativity to a style of thought referred to as 'joined up thinking' made possible by the virtual context of the MIS which does not simply reflect thought but is constitutive of new ways of thinking and governing. Cornford et. al. have called this 'distributed cognition' and in relation to family policy have argued that information systems in the UK affect the 'kinds of families that it is possible to think and to support.'⁶² Software systems change how we know, think and what we know, and like algorithms 'represent a particular knowledge logic' and are built 'on specific presumptions about what knowledge is and how one should identify its most relevant components.'⁶³ In these respects, the introduction of new or changes to inscriptions change mentalities change the way we argue, prove and believe.⁶⁴

I began thinking about the MIS through the lens of Mol's analysis of how a disease is multiply enacted in a hospital. My object of analysis is of course different—she ethnographically follows practices in the clinic, laboratory and operating theatre. Instead, I have traced how the system design, architecture and logic of a software system is a practice and virtual context that enacts subjects through a particular conceptualisation and materialisation of entities, contexts, elements, attributes, relations, links and so on. But that has been my objective: to pay attention to software systems as not simply techniques and tools for reflecting or knowing young offenders but as having a specific performativity and constituting one of many enacting moments. We could say that there are chains of performativity at work in all governmental practices where software systems are but one of the microscopes of Mol's clinicians another.

The MIS is only one example of many government attempts to mobilise and link data through virtual contexts as a way of knowing and governing individuals and populations. There are many others in social welfare, health, e-Borders and taxation that are more-or-less in place or being developed with a similar logic. Studies of how software systems operate within these different domains are important as their infrastructures are becoming evermore dispersed and dependent on private software developers, platforms, interfaces, standards and protocols. Their constitutive effects, which extend beyond policy precepts, are thus too important to ignore.

Biographical note

Evelyn Ruppert is a Senior Lecturer, Department of Sociology, Goldsmiths, University of London.

Acknowledgements

I am grateful for the suggestions and ideas from discussions with colleagues at the Centre for Research on Socio-cultural Change (CRESC), especially John Law, and the comments of two anonymous reviewers.

References

- Perri, Charles Raab, and Christine Bellamy. 'Joined-up Government and Privacy in the United Kingdom: Managing Tensions Between Data Protection and Social Policy. Part I.' *Public Administration* 83, no. 1 (2005): 111-133.
- Amoore, Louise and Alexandra Hall. 'Taking people apart: digitised dissection and the body at the border.' *Environment and Planning D: Society and Space* 27(2009): 444-464.
- Anderson, Ross, Ian Brown, Terri Dowty, Philip Inglesant, William Heath, and Angela Sasse. *Database State*. York: Joseph Rowntree Reform Trust Ltd., 2009.
- Becker, Howard. *Outsiders: Studies in the Sociology of Deviance*. New York: The Free Press, 1963.
- Beer, David and Roger Burrows. 'Popular Culture, Digital Archives and the New Social Life of Data.' *Theory, Culture & Society* 30, no. 4 (2013): 47-71.
- Bellamy, Christine, Perri 6, and Charles Raab. 'Joined-up Government and Privacy in the United Kingdom: Managing Tensions Between Data Protection and Social Policy. Part II.' *Public Administration* 83, no. 2 (2005): 393-415.
- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Durham and London: Duke University Press, 2010.
- Cornford, James, Susan Baines, and Rob Wilson. 'Representing the family: how does the state 'think family'?' *Policy & Politics* 41, no. 1 (2013): 1-18.
- Daston, Lorraine and Peter Galison. *Objectivity*. Cambridge, Mass.: Zone Books, 2007.
- Dewey, John and Arthur F. Bentley. *The Knowing and the Known*. Boston: Beacon Press, 1949.
- Featherstone, Mike. 'Archive.' *Theory, Culture & Society* 23, no. 2-3 (2006): 591-6.
- Foucault, Michel. *Abnormal*. Translated by Burchell, Graham. *Lectures at the Collège de France, 1974-75*. New York: Picador, 2003.
- Foucault, Michel. *The History of Sexuality, Volume 1: An Introduction*. Translated by Hurley, Robert. New York: Vintage Books, 1980.
- Garrett, Paul M. *'Transforming' Children's Services: Social Work, Neoliberalism and the 'Modern' World*. Maidenhead: McGraw Hill and Open University Press, 2009.

- Gillespie, Tarleton, 'The Relevance of Algorithms'. In *Media Technologies*, eds. Gillespie, Tarleton, Pablo Boczkowski and Kirstin Foot. Cambridge: MIT Press, 2013 (forthcoming).
- Hacking, Ian. 'Kinds of People: Moving Targets.' *Proceedings of the British Academy* 151(2007): 285-318.
- Henman, Paul. *Governing Electronically: E-Government and the Reconfiguration of Public Administration, Policy and Power*. Basingstoke: Palgrave Macmillan, 2010.
- Huysmans, Jef. 'What is an act? On security speech acts and little security nothings.' *Security Dialogue* 42, no. 4-5 (2011): 371-83.
- Isin, Engin. *Citizens Without Frontiers*. London: Bloomsbury, 2012.
- Latour, Bruno. *Science in Action: How to Follow Scientists and Engineers Through Society*. Cambridge, MA: Harvard University Press, 1987.
- Latour, Bruno. 'Drawing Things Together'. In *Representation in Scientific Practice*, ed. Michael Lynch and Steve Woolgar. Cambridge, MA: MIT Press, 1990.
- Latour, Bruno. 'Thought Experiments in Social Science: from the Social Contract to Virtual Society'. Paper presented at the *1st Virtual Society? Annual Public Lecture*, Brunel University, 1998.
- John Law, 'On Sociology and STS,' *Sociological Review* 56, no. 4 (2008): 623-49.
- Lips, Miriam, John Taylor, and Joe Organ. 'Identity Management, Administrative Sorting and Citizenship in New Modes of Government.' *Information, Communication & Society* 12, no. 5 (2009): 715-34.
- Mackenzie, Adrian. 'The Performativity of Code: Software and Cultures of Circulation', *Theory, Culture and Society*, 22, no. 1 (2005): 71-92.
- Mackenzie, Adrian and Ruth McNally. 'Methods of the multiple: how large-scale scientific data-mining pursues identity and differences.' *Theory, Culture & Society* 30, no. 4 (2013): 72-91.
- Mackenzie, Adrian and Theo Vurdubakis. 'Codes and Codings in Crisis: Signification, Performativity and Excess.' *Theory, Culture & Society* 28, no. 6 (2011): 3-23.
- Magee, I. (2008) *Review of Criminality Information*. London: UK Home Office.
- Mol, Annemarie. *The Body Multiple: Ontology in Medical Practice*. Durham, NC: Duke University Press, 2002.
- Mol, Annemarie, Ingunn Moser, and Jeanette Pols. *Care in Practice: On Tinkering in Clinics, Homes and Farms*. Bielefeld: Transcript, 2010.
- Munro, Eileen. *The Munro Review of Child Protection: Part One – A Systems Analysis*. London: The Stationary Office, 2010.
- Parton, Nigel. 'Changes in the Form of Knowledge in Social Work: From the 'Social' to the Informational?' *British Journal of Social Work* 38(2008): 253-269.
- Pithouse, Andrew, Christopher Hall, Sue Peckover, and Sue White. 'A Tale of Two CAFs: The Impact of the Electronic Common Assessment Framework.' *British Journal of Social Work* 39(2009): 599-612.
- Ruppert, Evelyn. 'The Governmental Topologies of Database Devices.' *Theory, Culture & Society* 29, no. 4-5 (2012): 1-21.
- Ruppert, Evelyn, 'Making Populations: From Censuses to Metrics'. In *Sichtbarkeitsregime: Überwachung, Sicherheit und Privatheit im 21. Jahrhundert (Visibility Regimes: Monitoring, security and privacy in the 21st Century)*, eds. Leon Hempel, Susanne Krasmann and Ulrich Bröckling. Wiesbaden: VS Verlag, 2010.
- Strathern, Marilyn, 'Abstraction and decontextualisation: an anthropological comment or: e for ethnography.' Paper presented at the *Virtual Society? Get Real!* Conference, University of Cambridge, 2000.
- Travis, Alan. 'Probation Officers Spend 75% of Time Not Dealing with Offenders, Report Finds.' *The Guardian*, 27 July 2011. Accessed 22 October 2012. <http://www.guardian.co.uk/>
- Turkle, Sherry. *Simulation and its Discontents*. Cambridge, Mass.: The MIT Press, 2009.
- Youth Justice Board. *YOT Data Recording Guidance 2010/11*. London: Ministry of Justice, 2010.
- Youth Justice Board. *Information sharing and technology: Youth justice data standards, Youth Justice Domain Models*. Accessed 20 September 2012. <http://www.nationalarchives.gov.uk/catalogue/>
- . *Youth Justice Statistics 2011/12: England and Wales*. London: Ministry of Justice, 2013.

1. One report surveyed 46 of these databases and argued that over the past several years the UK government has built or extended information collection on every aspect of people's lives. The databases surveyed largely consist of

- data collected by government departments as a by-product of their administration of services (e.g. health, education, justice, treasury, transport, work and pensions): Ross Anderson, et. al., *Database State* (York: Joseph Rowntree Reform Trust Ltd., 2009). (up)
2. Ian Magee, *Review of Criminality Information* (London: UK Home Office, 2008). (up)
 3. In 2011/12, there were 158 YOTs in England and Wales as reported in: Youth Justice Board, *Youth Justice Statistics 2011/12: England and Wales* (London: Ministry of Justice, 2013). Under the Coalition government elected in 2010, the Youth Justice Board functions moved to the Ministry of Justice. The practices and uses of the management information systems discussed in this article were retained and developed further under the new government. (up)
 4. The information and data about these systems has been compiled from Ministry of Justice reports and documents on the system architecture and design, metadata, instructions and guidance to YOTs and annual reports. All were compiled from the Ministry of Justice website though with the election of the Coalition government in 2010 some have now been moved to the National Archives website. It is also based on an interview with a representative of the software firm, CACL. (up)
 5. John Dewey and Arthur F. Bentley, *The Knowing and the Known* (Boston: Beacon Press, 1949). (up)
 6. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham and London: Duke University Press, 2010). (up)
 7. Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham, NC: Duke University Press, 2002). I am grateful to John Law who suggested this connection at a CRESC meeting in London in July 2011. (up)
 8. The textbook definition of atherosclerosis is that it is a disease of thickened vessel walls that makes it difficult for blood to pass through the arteries of the legs. (up)
 9. Adrian MacKenzie, 'The Performativity of Code: Software and Cultures of Circulation,' *Theory, Culture and Society* 22, no.1 (2005): 4 (up)
 10. I have derived and designed Figures 1, 2, and 3 from schematics and visualisations produced by the YJB for software suppliers. (up)
 11. Youth Justice Board, *Information sharing and technology: Youth justice data standards, Youth Justice Domain Models*. Accessed 20 September 2012. <http://www.nationalarchives.gov.uk/catalogue/>. (up)
 12. See for example Perri 6 et al., 'Joined-up Government and Privacy in the United Kingdom: Managing Tensions between Data Protection and Social Policy. Part I,' *Public Administration* 83, no. 1 (2005): 111-33; Christine Bellamy et al., 'Joined-up Government and Privacy in the United Kingdom: Managing Tensions between Data Protection and Social Policy. Part II,' *Public Administration* 83, no. 2 (2005): 393-415; Paul M. Garrett, *'Transforming' Children's Services: Social Work, Neoliberalism and the 'Modern' World* (Maidenhead: McGraw Hill and Open University Press, 2009); Paul Henman, *Governing Electronically: E-Government and the Reconfiguration of Public Administration, Policy and Power* (Basingstoke: Palgrave Macmillan, 2010); and, Parton, N., 2008, 'Changes in the Form of Knowledge in Social Work: From the "Social" to the Informational?,' *British Journal of Social Work*, 38: 253-269. (up)
 13. As others have argued, such as: Sherry Turkle, *Simulation and Its Discontents* (Cambridge, Mass.: The MIT Press, 2009). (up)
 14. Mackenzie, 'The Performativity of Code.' (up)
 15. Adrian Mackenzie and Theo Vurdubakis, 'Codes and Codings in Crisis: Signification, Performativity and Excess,' *Theory, Culture & Society* 28, no. 6 (2011): 4. (up)
 16. Tarleton Gillespie, 'The Relevance of Algorithms,' in *Media Technologies*, eds. Tarleton Gillespie, Pablo Boczkowski, and Kirstin Foot (Cambridge: MIT Press, 2013 (forthcoming)). (up)
 17. Bruno Latour, 'Drawing Things Together,' in *Representation in Scientific Practice*, eds. Michael Lynch and Steve Woolgar (Cambridge, MA: MIT Press, 1990). (up)
 18. Marilyn Strathern, 'Abstraction and Decontextualisation: An Anthropological Comment Or: E for Ethnography' (Paper presented at the *Virtual Society? Get Real! Conference*, University of Cambridge, 4-5 May, 2000). (up)
 19. Mol, *The Body Multiple*. (up)
 20. Youth Justice Board, *YOT Data Recording Guidance 2010/11* (Ministry of Justice, 2010). (up)
 21. What remains 'offline' are case notes and detailed narratives on meetings, assessments, treatments and intervention plans, the idiosyncratic notations and scribbling of clinicians studied by Mol. (up)
 22. Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard University Press, 1987). (up)
 23. Latour, 'Drawing Things Together,' 16. (up)
 24. Dewey and Bentley, *The Knowing and the Known* (up)
 25. *Ibid.*, 127 (up)
 26. OED Online. December 2012. Oxford University Press: <http://bit.ly/ZbGaSe> and <http://bit.ly/ZpTYXp> (accessed 6 March 6 2013). (up)
 27. John Law, 'On Sociology and STS,' *Sociological Review* 56, no. 4 (2008): 623-49. (up)
 28. The following conceptualisation of 'people' and 'subject positions' is summarized from Engin Isin, *Citizens without Frontiers* (London: Bloomsbury, 2012). However, Isin refers to the body instead of person. (up)
 29. Michel Foucault, 'Abnormal,' *Lectures at the Collège De France, 1974-75*, trans. Graham Burchell (New York: Picador, 2003). For a discussion of how MIS classifications are a different form of normalisation and open up modulating modes of intervention, see: Evelyn Ruppert, 'The Governmental Topologies of Database Devices,' *Theory, Culture & Society* 29, no. 4-5 (2012): 1-21. (up)
 30. Bennett, *Vibrant Matter*, 100-1. (up)

31. In relation to labelling theory and the larger body of work on deviance (e.g., Howard Becker, *Outsiders: Studies in the Sociology of Deviance* (New York: The Free Press, 1963)) this analysis of the MIS establishes a label as an accumulation of varied and changeable labels. (up)
32. Bruno Latour, 'Thought Experiments in Social Science: From the Social Contract to Virtual Society' (Paper presented at the 1st Virtual Society? Annual Public Lecture, Brunel University, 1 April 1998). (up)
33. Strathern, 'Abstraction and Decontextualisation.' (up)
34. Mackenzie, 'The Performativity of Code.' (up)
35. A point Huysmans takes up in relation to security practices: Jef Huysmans, 'What Is an Act? On Security Speech Acts and Little Security Nothings,' *Security Dialogue* 42, no. 4-5 (2011): 371-83. (up)
36. Adrian Mackenzie and Ruth McNally, 'Methods of the Multiple: How Large-Scale Scientific Data-Mining Pursues Identity and Differences,' *Theory, Culture & Society* 30, no. 4 (2013): 72-91. (up)
37. Mike Featherstone, 'Archive,' *Theory, Culture & Society* 23, no. 2-3 (2006): 592. (up)
38. Lorraine Daston and Peter Galison, *Objectivity* (Cambridge, Mass.: Zone Books, 2007): 168-9. Instead of artist depictions of criminals, which were considered subjective and biased, Galton overlaid exposed photographs to simultaneously eliminate judgment and capture in one image the archetypal criminal group itself. Amooore and Hall compare this practice to contemporary border management where 'new digital abstractions at the border also generate "composite" visualisations of risk': Louise Amooore and Alexandra Hall, 'Taking People Apart: Digitised Dissection and the Body at the Border,' *Environment and Planning D: Society and Space* 27(2009): 454. (up)
39. Eileen Munro, *The Munro Review of Child Protection: Part One – a Systems Analysis* (London: The Stationary Office, 2010). (up)
40. David Beer and Roger Burrows, 'Popular Culture, Digital Archives and the New Social Life of Data,' *Theory, Culture & Society* 30, no. 4 (2013): 47-71. (up)
41. Ian Hacking, 'Kinds of People: Moving Targets,' *Proceedings of the British Academy* 151 (2007): 285-318. (up)
42. Law, 'On Sociology and STS.' (up)
43. Mol, *The Body Multiple*, 43. (up)
44. Annemarie Mol, Ingunn Moser, and Jeanette Pols, *Care in Practice: On Tinkering in Clinics, Homes and Farms* (Bielefeld: Transcript, 2010). (up)
45. Mackenzie and Vurdubakis, 'Codes and Codings in Crisis, 7.' (up)
46. Andrew Pithouse et al., 'A Tale of Two CAFs: The Impact of the Electronic Common Assessment Framework,' *British Journal of Social Work* 39 (2009): 599-612. (up)
47. Parton, 'Changes in the Form of Knowledge in Social Work.' (up)
48. Alan Travis. 'Probation Officers Spend 75% of Time Not Dealing with Offenders, Report Finds.' *The Guardian*, 27 July 2011 (<http://www.guardian.co.uk/> ; accessed 2 August 2012). (up)
49. The design of early versions of the MIS initially focused on providing data for information managers to do research and predictive analytics and for the purposes of generating reports for the YJB. However, changes are now being implemented so that frontline practitioners can both work with the data and perform predictive analytics. (up)
50. Gillespie, 'The Relevance of Algorithms.' (up)
51. Mol, *The Body Multiple*. (up)
52. Ruppert, 'The Governmental Topologies of Database Devices.' (up)
53. Ibid. (up)
54. See for examples: James Cornford, Susan Baines, and Rob Wilson, 'Representing the Family: How Does the State "Think Family"?,' *Policy & Politics* 41, no. 1 (2013): 1-18. (up)
55. Latour, 'Drawing Things Together,' 16. (up)
56. Evelyn Ruppert, 'Making Populations: From Censuses to Metrics,' in *Sichtbarkeitsregime: Überwachung, Sicherheit Und Privatheit Im 21. Jahrhundert (Visibility Regimes: Monitoring, Security and Privacy in the 21st Century)*, eds. Leon Hempel, Susanne Krasmann, and Ulrich Bröckling (Wiesbaden: VS Verlag, 2010). (up)
57. Youth Justice Board, *Youth Justice Statistics 2011/12: England and Wales* (London: Ministry of Justice, 2013). (up)
58. The YJB notes this in its annual report on youth justice statistics: Youth Justice Board, *Youth Justice Statistics 2011/12*. The figure is derived from the 2011/12 annual report, which describes the population as 'flows through the Youth Justice System.' (up)
59. Michel Foucault, *The History of Sexuality, Volume 1: An Introduction*, trans. Robert Hurley (New York: Vintage Books, 1980). (up)
60. Miriam. Lips, John Taylor, and Joe Organ, 'Identity Management, Administrative Sorting and Citizenship in New Modes of Government,' *Information, Communication & Society* 12, no. 5 (2009): 721-22. (up)
61. Mol, *The Body Multiple*, 84. (up)
62. Cornford, Baines, and Wilson, 'Representing the Family,' 13. (up)
63. Gillespie, 'The Relevance of Algorithms.' (up)
64. Latour, 'Drawing Things Together,' 20. He further states that the 'role of the mind has been vastly exaggerated.' (up)

Series Navigation

<< Relational and Non-Relational Models in the Entextualization of Bureaucracy
The Algorithmization of the Hyperlink >>