The Laws of Lists and the Demos of Data

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Introduction

"[T]here is nothing more wonderful than a list" states the narrator, Adso of Melk, in Umberto Eco's *The Name of the Rose*.[1] It is, in Adso's description, an 'instrument of wondrous hypotyposis'. 'Hypotyposis' is not a word with which I was familiar and so I turned to a lexicographical list – the *Oxford English Dictionary* – to discover its meaning: a '[v]ivid description of a scene, event, or situation, bringing it, as it were, before the eyes of the hearer or reader'.[2] The list, in Adso's account, brings things before our eyes; it makes visible.

In this paper, I wish to call into question this connection between lists and the making visible. I do so in a context in which the list seems – at least from some vantage points – to be proliferating as a global regulatory technique.[3] As I will go on to discuss, that proliferation seems evident in regard both to conventional lists as well as to algorithmic lists – that is, lists of processing instructions organised according to an 'if, then' logic.[4] Recourse to one of other of these devices, or a combination of algorithmic and list-oriented governance techniques, seems increasingly apparent in the exercise of legal authority globally today. Whether in immigration or national security, customs regulation or financial governance, endangered species preservation or shipping control, climate policy or humanitarian relief, the list and the algorithm are, roughly speaking, everywhere.

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[1] Umberto Eco, *The Name of the Rose* (1995 [1980]) 73.

[2] 'hypotyposis, n.', OED Online (2013), http://www.oed.com.ezproxy2.library.usyd.edu.au/view/Entry/90603?redirectedFrom=hypotyposis (last accessed 12 January 2014).

[3] Witness a recent workshop assembling law, international relations and social science scholars under the auspices of the EU's COST Network: 'The Politics of the List: Law, Security, Technology' 1 November 2013, University of Kent, Canterbury UK (at which a paper similar to this one was delivered by the author as a keynote). See also Urs Stäheli, 'Listing the Global: Dis/Connectivity beyond Representation?' (2012) 13 *Distinktion: Scandinavion Journal of Social Theory* 233-246.

[4] Tarleton Gillespie, 'The Relevance of Algorithms' in Tarleton Gillespie et al. (eds), *Media Technologies: Essays on Communication, Materiality and Society* (2013) available at http://governingalgorithms.org/resources/discussion-papers/ (last accessed 12 January 2014). See also 'algorithm, n.', OED Online, (2013) <http://www.oed.com.ezproxy1.library.usyd.edu.au/view/Entry/4959?redirectedFrom=algorithm>. ('A procedure or set of rules used in calculation and problem-solving; (in later use *spec.*) a precisely defined set of mathematical or logical operations for the performance of a particular task.') (last accessed 12 January 2014).

This global turn – if you will – towards list-oriented and algorithmic governance seems to be provoking considerable anxiety. For even as Adso's observation makes intuitive sense, a contrary yet related account of the relation between the list and visibility seems to be taking hold today in at least some of the aforementioned contexts. For many, list-making and algorithmic analysis surrounding vast datasets dissemble as much, if not more, than they disclose. Even as they signal an ongoing preoccupation with predictive foresight and pre-emption, these practices are also identifiable, quite readily, with disorientation and a sense of loss of control.

In some instances, practices of list-oriented and algorithmic governance seem especially to mark a breakdown in prevailing vocabularies of relationship between governed and governing. Faced with such instances – of which I will say more below – recourse is commonly had to visibility, in Adso's terms. More precisely, appeals are made to transparency: demands for more transparency; promises of more transparency; both are ubiquitous. Transparency is one of the main ways that we frame the prospect of putting right some foundering of governed-to-governing relations in democratic settings. Yet, could it be that the whole question of visibility and concealment that such a vocabulary evokes simply bypasses much of the contemporary politics of the list and the algorithm, especially its juridical dimensions? Could we be misplaced in our collective preoccupation with the list – and its frequent partner, the algorithm – bringing something *other than itself* to light, or shielding that *something other than itself* from sight? These are among the intuitions that this paper pursues.

There is much to be fleshed out in the preceding paragraphs. This paper will begin by presenting a brief typology of some uses to which lists are being put in contemporary governance on a global scale. It will then elaborate on some anxieties and difficulties provoked by juridical recourse to list-oriented and algorithmic techniques, before highlighting stalemates that one is likely to confront when seeking to appease these anxieties through transparency. Finally, it will briefly sketch a different sort of approach to the profusion of the list and the algorithm in global governance: one focused on thinking *with* these techniques in juridical terms, rather than trying to think against, or look behind them.

Juridical Formulations of the List

Non-exhaustively speaking, there are four recurring ways in which the list is approached or articulated globally as a form of law.

First, the list sometimes appears as a delivery mechanism for legal decision, or as a conduit between legal orders. The list's juridical force, in such accounts, is derived from a pre-existing legal instrument or agreement. It is further derived from the prospect of its later duplication in smaller scale or more particularised legal forms. The lists of species in the three Appendices to CITES – the Convention on International Trade in Endangered Species of Wild Fauna and Flora – have this juridical form. These lists are commonly rendered as actualizations or elaborations of national governments' international agreement to ensure that the global trade in specimens of wild animals and plants does not threaten their survival.[5] Listing confers precision upon, and gives content to, states parties' Convention undertaking to 'take appropriate measures to enforce [its] provisions' (Article VIII). Lists also offer a way of evaluating, in a box-checking mode, the measures that states parties adopt in their own national laws to give effect to this commitment. Lists are crucial in this context. States parties' Convention obligation to penalize trade in or possession of certain specimens, and to provide for their confiscation or return, would have no real meaning without the lists set out in the Convention Appendices. Yet, the list itself has no juridical status, in this setting, beyond that of a *modus operandi*. Let us call this juridical form of the list as conduit or messenger 'List One'.

A second and related understanding of the list is as a more or less independent jurisdictional device or arrangement. In this mode, the list breaks free, juridically speaking, from the conditions of its initiation to carry lawful authority in its own right. A jurisdictional baton-passing or 'hand-off' may occur between a non-list-centered legal regime and a list-oriented one.[6] An illustration of lists so operating may be drawn from the global use of anti-circumvention clauses in copyright law. Anti-

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[5] Convention of International Trade in Endangered Species of Wild Fauna and Flora, 3 March 1973, 993 UNTS 243, 12 ILM 1085, 1088 (entered into force July 1, 1975).
[6] The notion of 'handoff' is drawn from Helen Nissenbaum, 'From Preemption to Circumvention: If Technology Regulates, Why do we Need Regulation (and Vice Versa)?' (2011) 26 *Berkeley Technology Law Journal* 1367, 1380.

circumvention clauses have been introduced in the laws of a range of countries pursuant to Article 11 of the WIPO Copyright Treaty.[7] Such clauses do not prohibit breach of copyright as such. Rather, they prohibit the circumvention of 'effective technological measures' designed to protect copyright (and to defend the business models and economic narratives underpinning that goal). These technological measures often include encryption algorithms. You will recall that I argued earlier that an algorithm may be understood as a particular – albeit distinctive – elaboration of the list. Encryption systems are also list-based in the sense that they may involve recourse to certificate revocation lists, whereby the invalidation or withdrawal of a 'key' used in encryption and decryption may be made apparent. Software developers developed this certification technology on the model of credit card blacklists, introduced in the 1970s.[8]

Anti-circumvention clauses perform a double move. In the first instance, they devolve the treaty-derived or legislative goal of maintaining copyright protection to technology. In the second instance, they recognize the vulnerability of technological measures, such as encryption, and strive to bolster their effect. They do so, however, not by reasserting any direct authority to constrain copyright-breaching behavior. Rather, they strive to 'shape how people [see], underst[and], and interpret[ ] prevailing' technological protection measures – that is, by configuring efforts towards their circumvention as illegal.[9] In this context, lawful authority is enacted in the sphere of algorithmic design, operation and use as much as within treaty-based or parliamentary jurisdiction. Treaty-makers' or legislatures' juridical work becomes, at least in part, a matter of shadowing and affirming the jurisdiction of an algorithm. Let us call this juridical form of the list – as a distinct jurisdictional configuration – 'List Two'.

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[7] World Intellectual Property Organization (WIPO) Copyright Treaty, adopted 20 December 1996, entered into force 6 March 2002, (1996) 36 ILM 65, available at http://www.wipo.int/treaties/en/ip/wct/trtdocs_wo033.html#P8_189 (last accessed 12 January 2014) (requiring contracting parties to '...provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law').

[8] Peter Gutmann, 'PKI: It's not Dead, Just Resting' (2002) 35 *Computer* 41, 43 available at http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1023787 (last accessed 12 January 2014).

[9] Nissenbaum (2011), above n6, 1380.

A third and, once again, related version of the list is as a juridical short-cut or work-around implanted within a legal regime. The list in this mode maximizes efficiencies or otherwise enhances legal operations, at least from some vantage points. From others, it works as a kind of bug in the system undermining rights and circumventing lines of accountability. Consider, by way of illustration, so-called safe country of origin lists. These are lists of countries from which refugees are presumed not to emanate; they are assumed, in other words, not to be jurisdictions in which a well-founded fear of persecution could legitimately be held. Widespread reference is made under many states' migration and asylum laws to such lists. Asylum applications emanating from listed countries, or from those who have traveled from a listed country, are typically presumed to lack foundation and, on that basis, processed under truncated mechanisms with limited rights of appeal. Asylum seekers from places appearing on safe country of origin lists are often subject to return or transfer.[10] Let us call this mode of the list – as an embedded juridical short-cut – 'List Three'.

Fourth, and finally for the time being, one encounters the list as an object, goal or intended output of legal work, rather than a mechanism for the transmission, handover or by-passing of such work. In this version, interlocking lists set out a kind of holding pattern. It is this holding pattern which legal efforts labor, in large part, to generate and maintain. In this mode, the list operates as a kind of structuring or background-conditioning device.

In the domains of international law concerned with ensuring existential security, one finds lists at work in this mode everywhere. Maintaining and giving effect to lists of 'heightened risk individuals and organisations' absorbs a tremendous amount of regulatory and compliance energy worldwide.[11] The listing of entities and persons subject to sanctions has been a key dimension of

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[10] Henry Mårtenson and John McCarthy, '"In General, No Serious Risk of Persecution": Safe Country of Origin Practices in Nine European States' (1998) 11 *Journal of Refugee Studies* 304; Cathryn Costello, 'The Asylum Procedures Directive and the Proliferation of Safe Country Practices: Deterrence, Deflection and the Dismantling of International Protection?' (2005) 7 *European Journal of Migration and Law* 35; Joanne van Selm, 'Access to Procedures: "Safe Third Countries", "Safe Country of Origin" and "Time Limits"', Background paper, UNHCR Global Consultations on International Protection (June 2001), available at http://www.refworld.org/pdfid/3b39a152d.pdf (last accessed 12 January 2014).

[11] The language of 'heightened risk individuals and organisations' comes from the World-Check database of Politically Exposed Persons (PEPs) and Heightened Risk Individuals and Organisations, used across the public and private sector for purposes including financial compliance, due diligence, identity authentication, background screening and risk mitigation. Established in 2000 by the UK company, Global Objectives Ltd, the World-Check business was acquired by

United Nations' counter-terrorist strategy.[12] Lists – such as the United States' No-fly List and Automatic Selectee List – have come to be understood as central features of national security policy and practice, as well as lightning rods for public debate, across many jurisdictions.[13] Comparable techniques are deployed widely in the immigration context, as Louise Amoore's work has shown.[14]

One could regard the lists operating in these settings as conduits along the lines of List One, as some scholars do. That is, they might be seen as enforcement mechanisms designed to deliver on preexisting policy prescriptions and actualise legislative or executive mandates. Yet, as we saw in the Umar Farouk case mentioned earlier, much of the work that these lists do entails conditioning or reconditioning the populations to which they are addressed, irrespective of the particular outcomes they do or do not deliver. People are encouraged by these listing practices to experience themselves as secure in particular ways and insecure in others. Thinking with Foucault's notion of 'security', these lists help to 'plan a milieu' by working on probabilities associated with 'a series of possible elements', minimizing some elements and enabling the best possible circulation for others.[15] Let us call this version of the list – concerned with conditioning for security – 'List Four'.

Thomson Reuters in 2011. See http://www.world-check.com (last accessed 12 January 2014); George Gilligan, 'PEEPing at PEPs' (2009) 16 *Journal of Financial Crime* 137, 139 ('World-Check's…extensive PEP database [is] utilised by more than 2,000 institutions and 200 government agencies in more than 120 countries').

[12] Craig Forcese & Kent Roach, 'Limping into the Future: The U.N. 1267 Terrorism Listing Process at the Crossroads' (2010) 42 *George Washington International Law Review* 217.

[13] Yoram Danziger, 'Changes in Methods of Freezing Funds of Terrorist Organisations Since 9/11: A Comparative Analysis' (2012) 15 *Journal of Money Laundering Control* 210 (215-216, 218-219, 221-223); Daniel J. Solove, 'Data-Mining and the Security-Liberty Debate' (2008) 75 *The University of Chicago Law Review* 343; Elspeth Guild, 'The Uses and Abuses of Counter-Terrorism Policies in Europe: The Case of the "Terrorist Lists" (2008) 46 *Journal of Common Market Studies* 173; Justin Florence, 'Making the No-Fly List Fly: A Due Process Model for Terrorist Watchlists' (2006) 115 *Yale Law Journal* 2148. For background, see Matthew J. Peed, 'Blacklisting as Foreign Policy: The Politics and Law of Listing Terror States' (2005) 54 *Duke Law Journal* 1321. For recent evidence of public anxiety concerning data-mining and automated governance by list, see the string of articles referenced in 'Edward Snowden and the NSA Files – Timeline', *The Guardian Online*, 24 June 2013, available at http://www.guardian.co.uk/world/2013/jun/23/edward-snowden-nsa-files-timeline (last accessed 12 January 2014).

[14] Louise Amoore, 'Data Derivatives: On the Emergence of a Security Risk Calculus for our Times' (2011) 28 *Theory Culture Society* 24 (discussing algorithmic models and their derivatives in operation within the United Kingdom's e-Borders programme); Costello (2005), above n10 (discussing the use of safe third country lists in lieu of individualised assessment of asylum seekers).

[15] Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France 1977-1978* (Michel Senellart ed; Graham Burchell trans., 2007) 19-20.

These four juridical formulations of the list are not, of course, mutually exclusive. It will often be possible to describe a single list in any one of these ways. Nonetheless, as a matter of *relative emphasis*, lawful listing practices can be broken down according to this rough typology.

So now we have a list of our own – a list of intermingled juridical vernaculars and techniques that have been identified with the list in international legal scholarship and practice:

1.   List One is the juridical conduit or messenger;

2.   List Two is the distinct jurisdictional formation to which another defers;

3.   List Three is the embedded juridical short-cut or by-pass;

4.   List Four is the background-conditioning device.

Now it might seem odd – hyper-formalistic, even – to group these various instances of international legal work together solely on the basis of the prevalence of the list form. The matters of substantive concern, operative political debates, and types of lawful authority at play in each of these settings are quite diverse. The peoples, places and things these lists bring into relation and the implications of their doing so vary enormously. Nonetheless, I wish to persist with the redescription of diverse instances of list-making in terms of shared juridical practice. In so doing, I want to suspend the idea of list-making as a practice which law and lawyers must incessantly look *behind*. Instead, I want to redescribe the list as a juridical arrangement in its own right; a form of law in motion; a way of bringing people, places and things into lawful relation. Thinking in this way might, I suspect, take us some way beyond the sorts of stalemates and despair than an orientation around transparency often evokes. I will develop the beginnings of this account a little further below, but let me now come back to the point with which this paper started: the false promise of visibility.

Lists, Data and their Discontents

For all a list's powers of 'taking the measure…lumping and splitting, grouping and dividing the world about us', lists today are anxiety-riddled tools of global governance.[16] Listing things can

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[16] Robert Belknap, *The List: The Uses and Pleasures of Cataloguing* (2004) xii.

signify incapacity to figure out how the listed elements otherwise fit together, perhaps even abandonment of that aspiration, and it seems that they quite frequently do so in contemporary governance matters. Consider, for example, how the White House Press Office summarised a White House Review of intelligence failure surrounding the unsuccessful attempt by Umar Farouk Abdulmutallab to detonate an explosive device aboard a flight from Amsterdam to Detroit in December 2009: 'The information that was available to analysts,' the Press Office reported, 'was fragmentary and embedded in a large volume of other data' and 'America's counterterrorism…community' had in this instance 'failed to connect the dots'.[17]

Lists were at issue here because the White House Review focused, in large part, on the failure to include Umar Farouk on U.S. government's counter-terrorist watch-list known as the Terrorist Screening Database (TSDB) even though he was recorded in another related database. Listing was also placed at issue by the generic reference to 'a large volume of…data'. Data are, of course, not always organised as lists, but data in large volumes are typically mined and analysed using algorithms. While they are quite commonly (and with good reason) taken as objects of study in their own right, I have already suggested that algorithms might be regarded as particular elaborations of the list. Algorithms are, as noted above, lists of specified inputs and processing instructions organized according to an 'if-then' logic.[18] Because the 'if-then' commands comprising an algorithm are often multiple and sequential, data proceed through an algorithm much as one works through a list.

In both respects – the particular and the generic – the White House's evocation of the list seems to indicate at once an ongoing preoccupation with data collection and classification on a vast scale, and an abandonment of much by way of a claim to its mastery. Expert analysts 'failed to connect the dots' the White House announced. The problem was not a want of power, data or willingness to share information, the review concluded. Rather a 'series of human errors occurred'

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[17] Office of The White House Press Secretary, White House Review Summary Regarding 12/25/2009 Attempted Terrorist Attack, 7 January 2010, available at http://www.whitehouse.gov/the-press-office/white-house-review-summary-regarding-12252009-attempted-terrorist-attack (last accessed 12 January 2014).
[18] Gillespie, above n4.

for which there was no ready fix. All that the Review could offer was a suggestion that another list be drawn up: this time, a list of 'legacy standards and protocols' the 'ongoing suitability' of which might be subject to review.

We see these hand-wringing, shoulder-shrugging gestures from other institutions seen as exerting great power over global affairs.[19] Among contemporary public policy-makers, open avowals of uncertainty and incapacity in relation to list-making and algorithmic analysis, are at least as common as assurances of expert insight. Rarely is claim laid to definitive answers. Rather, the answers might reside somewhere amid a deluge of data, or the promise of data yet to come, over which no mastery is professed. Lists tend to mark ways in and way out of such inundations. Data inputs will typically be organized according to lists of criteria. Outputs of data analysis frequently assume the form of a list. Yet in neither of these inputting or outputting contexts does a list necessarily signify control or reveal knowledge. Collation, classification and systemization continue apace, but today's policymakers do not seem to hold out much hope of being able to 'connect…dots' in any comprehensive or reliable way.

The list announces order's fragility and knowledge's elusiveness in other ways as well. Worries about the problematic ways that lists are put together and utilised, for governance and policing purposes, have been well aired by human rights scholars and other legal commentators; these seem largely well-founded.[20] Indeed, perhaps because of the relative simplicity and rapidity of some lists' assembly, as well as the powers of sanction with which they may be associated, lists may provoke *more* anxiety than other forms of regulation. Conventional anxieties about over- and under-inclusiveness that attend any rule often seem *heightened* in the context of lists.[21] Legal scholars continually place emphasis on the wrongful inclusion on lists of '[i]nnocent individuals'.[22]

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[19] See, e.g., the remarks of then-serving IMF Managing Director Dominique Strauss-Kahn, on the IMF's failure to foresee the global financial crisis: Howard Schneider, 'In the Wake of Financial Crises, IMF Seeks a New Role with Broader Authority', *The Washington Post*, 20 May 2010, available at http://www.washingtonpost.com/wp-dyn/content/article/2010/05/19/AR2010051905688.html (last accessed 12 January 2014).

[20] See, e.g., Iain Cameron, 'European Union Anti-Terrorist Blacklisting' (2003) 3 *Human Rights Law Review* 225.

[21] On over-inclusiveness as a property of rules, see Frederick Schauer, 'Rules, the Rule of Law, and the Constitution' (1989) 6 *Constitutional Commentary* 69, 72-73.

[22] Danielle Keats Citron, 'Technological Due Process' (2008) 85 *Washington University Law Review* 1249, 1256.

Under-inclusiveness is similarly a source of anxiety: consider, for example, concern surrounding the finding that the details of one of the Boston bombing suspects were incorrectly entered in the Terrorist Identities Datamart Environment, or TIDE database, thereby preventing any flight list security alert being triggered by his 2012 travel to Dagestan and Chechnya.[23] The prospect of errors being made in data-entry, copying and transcription only compounds these anxieties.[24]

Legal scholars have often identified lists with lawful authority having been generically *displaced*, away from some historical locus or rightful repository. This sense of displacement is related to the tendency to identify lists with a loss of knowledge or visibility, mentioned earlier. It also overlaps, sometimes, with concerns about public-to-private transfers of power and contracting out. Automated categorization and algorithmic analysis allied with listing signal, for many scholars, the emergence of power 'removed from traditional mechanisms for resistance' and review.[25] Lawful reliance on lists manifests, in many accounts, movement away from qualitative, publicly reasoned, case-specific analysis.

A second feature of lawful authority identified with these phenomena is a kind of ubiquitous *unknowability* – unknowability, that is, that runs all the way down. The labyrinthine workings of modern administrative states have long been seen as elusive and distributions of authority within them difficult to map.[26] Yet the prevailing sense of legal authority's inscrutability has intensified with its encoding in data. Even those perceived as on the 'inside' of the technologies to which I have alluded often disavow knowledge of them. Computer programmer Ellen Ullman has remarked on a phenomenon 'not often talked about: we computer experts barely know what we are doing. We're good at fussing and figuring out. We function in a sea of unknowns…Over the years, the horrifying knowledge of ignorant expertise became normal, a kind of background level of anxiety.'[27] Likewise, Kate Crawford notes that '[a]lgorithms do not always behave in predictable ways, and extensive

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[23] Eric Schmitt and Michael S. Schmidt, '2 U.S. Agencies Added Boston Bomb Suspect to Watch Lists' *The New York Times*, 24 April 2013, available at http://www.nytimes.com/2013/04/25/us/tamerlan-tsarnaev-bomb-suspect-was-on-watch-lists.html?_r=0 (last accessed 12 January 2014).

[24] On the danger of errors in data mining processes, see e.g., Tal Z. Zarsky, 'Governmental Data Mining and its Alternatives' (2011) 116 *Penn State Law Review* 285, 298. On lists and copiability, see Jack Goody, *Domestication of the Savage Mind* (1977), 95, 127.

randomized testing – called A/B testing – is used with search algorithms just to observe how they actually function with large datasets'.[28]

Movement compounds this inscrutability. For algorithms, their inputs, and the norms or assumptions to which they give expression are not fixed, but mobile, as are the endless iterations of the list they are often called to yield. Lucas Introna observes that 'machine learning algorithms based on neural nets…adapt themselves through experience (exposure to a specific data set)', giving the example of facial recognition systems which are used widely in immigration contexts.[29] Louise Amoore observes that data in such contexts is '[n]o longer pursuing a clear delineation of norm from anomaly', but rather 'functions through a *mobile norm*'.[30]

At the same time, techniques of list-making and algorithmic analysis do not appear to trump or derail, in any wholesale or consistent way, conventional vehicles of lawful authority or methods of legal reasoning. Indeed, the hierarchies of nested decision for which lists often provide may articulate quite well with conventional enactments of law and legal process.[31] Remember Lists One, Two, Three and Four? The effects of list-making seem, nonetheless, diffusive and disabling in many accounts. Of course, not all the juridical formulations of the list that I described above provoke such

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[25] John Cheney-Lippold, 'A New Algorithmic Identity: Soft Biopolitics and the Modulation of Control' (2011) 28 *Theory Culture Society* 164, 177.

[26] See, e.g., Alan C. Cairns, 'The Past and Future of the Canadian Administrative State – Part I: The Nature of the Administrative State' (1990) 40 *University of Toronto Law Journal* 319, 320 ('The developed western state is a sprawling, labyrinthine giant, with numerous dispersed power centres, a limited capacity for co-ordinated action, and a ubiquitous presence in the societies for which it plays a fragmented leadership role').

[27] Ellen Ullman, *Close to the Machine: Technophilia and its Discontents* (1997) 110.

[28] Kate Crawford, 'Can an Algorithm be Agonistic? Ten Scenes about Living in Calculated Publics' Governing Algorithms Conference, New York University, 16-17 May 2013, available at http://governingalgorithms.org/resources/discussion-papers/ (last accessed 29 July 2013).

[29] Lucas Introna, 'Algorithms, Performativity and Governability', Governing Algorithms Conference, New York University, 16-17 May 2013, available at http://governingalgorithms.org/resources/discussion-papers/ (last accessed 29 July 2013); Lucas Introna and David Wood, 'Picturing Algorithmic Surveillance: The Politics of Facial Recognition Systems' (2004) 2 *Surveillance & Society* 2/3, available at http://library.queensu.ca/ojs/index.php/surveillance-and-society/article/view/3373 (last accessed 29 July 2013). See generally Anil K. Jain, 'Technology: Biometric Recognition' (2007) 449 *Nature* 38.

[30] Amoore (2011), above n14, 31.

[31] Describing the methodology of *shari'a* law, *usul al-fiqh* (*fiqh*), David Westbrook observes, '*[f]iqh* works by establishing algorithms for judgment, hierarchies of knowledge': David A. Westbrook, 'Islamic International Law and Public International Law: Separate Expressions of World Order' (1993) 33 *Virginia Journal of International Law* 819, 825.

concerns. Rather, the sense of the list that predominates, when worries about displacement and inscrutability are uppermost, is List Three (the list as by-pass or work-around).

Consider, by way of illustration, American University law Professor Kenneth Anderson's remarks on the Obama administration's decision-making process surrounding the so-called 'kill list': '[T]he administration', Anderson writes, 'has an obligation to create lasting…institutional settlement around these policies. It owes it to future presidencies; every current president is a fiduciary for later presidents. It also owes it to the ordinary officials and officers, civilian and military, who are deeply involved in carrying out killing and death under the administration's claims of law - it needs to do everything it can to ensure that things these people do in reliance on claims of lawfulness will be treated as such into the future'.[32]

Anderson envisages the members of the security apparatus who join with President Obama in deliberating over 'kill lists' having broken away from those who work alongside them under shared 'claims of law'. Legal processes have not broken down, in Anderson's account.[33] Rather, they have been displaced or thrown off centre, in part by recourse to the list. The week-by-week revisability of the list signals a departure from 'lasting institutional structures [and] processes'. These demand restoration. What is especially required, in Anderson's account, is some 'convey[ance] to the public' of the fact of the President's 'considered attention'; some 'say[ing] clearly' to the public 'that these processes are legitimate for the executive'. The work of the list must, in other words, be made visible in a particular light; more precisely, the listing process must be made *transparent* to those in whose name it is deployed.

The tenor of the scholarly and popular writing to which I have referred can be reassuring, at times, in its readiness to yield precise and definitive solutions to such worries: the list, it seems, can often be fixed. Add someone. Delete something. Or fix the process of list-making. Change the input parameters. Reassign design responsibility. Insert some review capacity. Because of the revisability it carries on its face, these sorts of remediation strategies always seem available with a list. In

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[32] Kenneth Anderson, 'The Secret "Kill List" and the President' (2013) 3 *Journal of Law* 93, 96.
[33] Anderson, ibid, 95.

contrast, the prospect of revising, say, some qualitative legislative standard or overturning some common law precedent never promises clear deliverance from difficulty to quite the same degree. Yet problems and powers surrounding the list are not so easily dispensed with, as many writing about these matters have recognised. Appeals to transparency along the lines of Anderson's are, accordingly, at once surprisingly upbeat and ultimately quite defeatist. And, as the next section will explain, that defeatism may be justified.

Lists and the Limits of Transparency

Transparency is widely championed on the international policy plane, not just in connection with list-oriented or algorithmic governance. In the evaluation of regulatory infrastructure, the World Bank would have us regard it as a 'meta-principle'.[34] And it has long been so. Jeremy Bentham is among those who famously lauded the power of transparency – or, as he put it, publicity – to 'constrain [political leaders] to perform their duty', to 'secure the confidence of the people' in their so doing, to enable the public 'to form an enlightened opinion' and to share that with their leaders.[35] Before Bentham, Jean-Jacques Rousseau's 'dreams of total transparency and immediate communication' are equally well documented and debated.[36]

In contemporary registers, transparency is invoked with particular frequency and virulence against list-making activities: against the use of no-fly lists and welfare eligibility lists, for example.

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[34] Ashley C. Brown, Jon Stern, and Bernard Tenenbaum with Defne Gencer, *Handbook for Evaluating Infrastructure Regulatory Systems* (World Bank: Washington DC, 2006) 55, 59-60, 71. Now somewhat less prevalent versions of more or less the same principle include 'openness' and 'publicity': Michael Taggart, 'The Province of Administrative Law Determined', in Taggart (ed.), *The Province of Administrative Law* (Oxford: Hart Publishing, 1997) 1–20, 3; Jeremy Bentham, 'Of publicity', *The Works of Jeremy Bentham* 2 (1843), 310-17. See generally Axel Gosseries, 'Publicity', Stanford encyclopedia of philosophy (2007), available at http://www.science.uva.nl/~seop/archives/fall2007/entries/publicity/ (last accessed 12 January 2014).

[35] Bentham (1843), ibid.

[36] Jean Starobinski, *Jean-Jacques Rousseau: Transparency and Obstruction* (Arthur Goldhammer trans., Chicago: University of Chicago Press, 1988) 153; contra Jonathan Marks, 'Jean-Jacques Rousseau, Michael Sandel and the Politics of Transparency' (2001) 33 *Polity* 619-642.

Loss of transparency is, for many, the nub of the problem afflicting these lists, and more transparency the answer to that problem.[37]

Not only does the ideal of transparency in this context hold out hope for a restoration of the civilizing effects of publicity. It also seems responsive to the anxieties about displacement highlighted earlier. Made transparent, lists and the various technologies in which they are embedded might yet become, once more, mere media – instruments awaiting human manipulation. In aspiring to *see through* a list, and to grasp the processes of its production and operation, we aspire, it seems, to see *ourselves* in the acts of both seeing technology and making its operation visible, thereby returning willful human subjectivity to governmental centre stage. Transparency is a name we give to the effort to re-inscribe subject/object distinctions that we sense to be globally under threat.

One difficulty with these appeals to transparency is how hopeless a hope they offer. As Jodi Dean has highlighted, 'a politics of concealment and disclosure...[appear] inadequate' to the decoding tasks at hand. More information simply does not seem likely to be revealing or redemptive. 'Many of us', Dean suggests, 'are overwhelmed and undermined by an all-pervasive uncertainty' amidst 'seemingly bottomless vats of information'. 'Having it all', Dean continues, 'bringing every relevant and available fact into the conversation' threatens to 'entangle us [still further] in a clouded, occluded nightmare of obfuscation'.[38]

Another problem surrounding appeals to transparency is that of demotic mismatch. This is the problem of labouring to render one form of lawful authority transparent to some delimited demos, only to find it inextricably entangled with authority constituted elsewhere. Consider, by way

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[37] See, e.g., Keats Citron (2008), above n22, 1290, 1292. Keats Citron is concerned about the flouting of 'transparency mandates' in US law, but the sorts of 'mandates' on which she focuses (notice-and-comment requirements and legal provision for access to information) may be regarded as generic features of global administrative law: See Nico Krisch and Benedict Kingsbury, 'Introduction: Global Governance and Global Administrative Law in the International Legal Order' (2006) 17 *European Journal of International Law* 1.

[38] J. Dean, 'Theorizing Conspiracy Theory' 4 *Theory and Event* (2000), available at http://muse.jhu.edu/journals/theory_and_event/v004/4.3r_dean.html (last accessed 12 January 2014).

of illustration, the safe country of origin lists to which I referred earlier.[39] Making the exercise of regulatory authority transparent, in this context, would seem fairly straightforward. According to one expert, this is a matter of ensuring that the decision on any one person's plight is made by a central authority within each state and that such decisions are subject to appeal, in the short term, and to national and international oversight, in the longer term.[40] The demos in question would, therefore, appear to be those subject to such national laws and/or with access to such appellate jurisdiction, shadowed by specified institutional representatives of a larger demos: cast as the 'international refugee protection community' or simply the 'international community'.

Upon closer scrutiny, however, a clear line of vision cannot be so readily delineated. Centralising authority over the generation of the safe country list in any receiving country – and perhaps demanding its publication – would pin down the operative public authority to some degree. Yet the process of attributing particular applicants to particular countries on or off that list turns out to involve a much larger array of interlocking datasets and lists. In European countries, for example, it involves deployment of the Eurodac fingerprint system, in which the finger prints of asylum seekers crossing the EU's external frontier 'irregularly', and those of 'irregular border-crossers' found within the territory of the EU, are stored and analyzed algorithmically.[41] Country listing also entails recourse to a dispersed, constantly changing global dataset of information as to the political conditions and threats of persecution in any one country. This is typically amassed by a combination of governmental and non-governmental agencies the mix of which varies from region to region.[42]

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[39] Mårtenson and McCarthy (1998), above n10, 324-325; Van Selm (2001), above n10, 19-20.

[40] Van Selm (2001), above n10, 59.

[41] Evelien Brouwer, 'Eurodac: Its Temptations and Limitations' (2002)4 *European Journal of Migration and Law* 231; Jonathan P. Aus, 'Eurodac: A Solution Looking for a Problem?' (2006) 10 *European Integration Online Papers,* No. 6, available at http://eiop.or.at/eoip/texte/2006-006a.htm (last accessed 12 January 2014). For a snapshot of complexity and controversy surrounding the design and use of fingerprint matching algorithms and other forms of automated biometric identification, see Soweon Yoon, Jianjiang Feng and Anil K. Jain, 'Altered fingerprints: Analysis and Detection', (2012) 34 *Pattern Analysis and Machine Intelligence, IEEE Transactions* 451-464; Katja Lindskov Jacobsen, 'Biometrics as security technology: Expansion amidst fallibility', No. 2012: 07, DIIS Reports/Danish Institute for International Studies (2012), available at http://www.econstor.eu/handle/10419/59833 (last accessed 12 January 2014).

[42] See, e.g., Robert Gibb and Anthony Good, 'Do the Facts Speak for Themselves? Country of Origin Information in French and British Refugee Determination Procedures' (2013) *International Journal of Refugee Law* (forthcoming), available at http://rrn.uit.yorku.ca/sites/default/files/Tony%20Good%20Toronto%20Paper_0.pdf (last accessed 12 January 2014); France Houle, 'The credibility and authoritativeness of documentary information in determining refugee status: The Canadian experience' (1994) 6 *International Journal of Refugee Law* 6.

Determinations of the credibility of a particular individual's claim to be from a certain country will similarly mobilise disparate datasets and data analysis practices surrounding credibility assessment, including those concerned with speech patterns, demeanour, lists of linguistic properties and indicators of linguistic affiliation.[43]

The demos that might be assembled by and around the Eurodac system does not correspond to those evoked by human rights fact-finding or credibility assessment. Moreover, none of these fit into the notion of centralized authority and split-level oversight by which safe-country-of-origin-list-related decision-making was supposed to be made transparent. Yet the workings of safe country of origin lists cannot be made visible without grappling with these further listing and data analysis practices and their disparate demotic associations.

Difficulty also arises from the expectation – implicit in appeals to transparency – that there will be something substantive, meaningful and determinative *to* disclose, lying behind the list. As the safe country list illustration shows, behind listed data one tends to encounter more data and often quite dissimilar data analysis practices, stubbornly irreducible to one other. Indeed, the form of the list, as a governance instrument, seems to prefigure this insight. The list seems a momentary conjunction, always awaiting alteration by way of addition or striking off.[44] The expectation that any one version of a list will continually be optimized reinforces that contingent temporality.[45] Because lists are always changing, transparency will only ever convey a snapshot of settings about to be superseded. And in any event, as Latour has written, 'we still don't know how to assemble, in a single, visually coherent space, all the entities necessary for a thing to become an object'; this is as

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[43] See, e.g., Michael Kagan, 'Is Truth in the Eye of the Beholder? Objective Credibility Assessment in Refugee Status Determination' (2003) 17 *Georgetown Immigration Law Journal* 367; Robert Thomas, 'Assessing the Credibility of Asylum Claims: EU and UK Approaches Examined' (2006) 8 *European Journal of Migration & Law* 79.

[44] Cornelia Vismann makes a similar observation: Cornelia Vismann, *Files: Law and Media Technology* (2008) 6.

[45] Martha Poon, 'Response to Tarleton Gillespie's "The Relevance of Algorithms"', Governing Algorithms Conference, New York University, 16-17 May 2013, available at http://governingalgorithms.org/resources/discussion-papers/ (last accessed 12 January 2014) (identifying this commitment to tinkering with 'the pragmatics of [software] engineering'). See also Amoore (2011), above n14, 33 (discussing the orientation of 'data derivatives' towards discarding or screening out items of data and associated refinement of their rules). Keats Citron notes that a 2008 Airport Security Report explained that measures taken to ameliorate the process for innocent individuals getting off the 'No-Fly' list provide little help as the lists are fluid and regularly updated: Keats Citron (2008), above n22, 1275, n180.

true of a list as it is of any other thing.[46] Where visualization does seem possible, one risks falling victim to 'apophenia: seeing patterns were none actually exist, simply because enormous quantities of data [underlying a list] can offer connections that radiate in all directions'.[47]

Given the difficulties of realising transparency's promise, it may be that widespread appeals to this ideal surrounding the list are more concerned with affirming human authority over data *in principle*, than they are with exposing particular lists to effective scrutiny. Transparency might be a provisional way of rallying and re-authorising the agentive subject, otherwise trembling before a deluge of data. This is not, however, all that we are encouraged to seek in the pursuit of transparency; much larger remedial aspirations and revelatory promises are put forth in its name. It is these aspirations and promises that I regard as missing their mark. For all of these reasons, it seems to me that questions of visibility and disclosure that legal scholars habitually raise may lack purchase on practices of governance by list and algorithm.

Let me assemble, then, a second list: a list of worries about transparency in connection with the use of lists and algorithms for governance:

1. Transparency may offer little more than an obfuscatory data dump upon those already swimming in information;

2. Lists and datasets assembled in one jurisdiction are often imbricated across other jurisdictions, complicating the 'what' and 'to whom' of transparency;

3. Transparency presumes timeliness or timelessness of that which is disclosed, neither of which is likely to be the case in list-related contexts; and

4. Making visible often presumes a supernumerary capacity for envisioning and decoding; this prospect may do more to affirm the claims to authority with which a list comes embedded than to open those claims to question.

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46 Bruno Latour, 'Can we get our Materialism Back, Please?' (2007) 98 *Isis* 138, 142.
47 D. Boyd and K. Crawford, 'Critical Questions for Big Data: Provocations for a Cultural, Technological, and Scholarly Phenomenon' (2012) 15 *Information, Communication & Society* 662, 668.

List-borne Associations

Alongside all the effort that goes into making list-making processes more transparent, and pinpointing the origination and distribution of power within those operations, it might perhaps be at least as illuminating to try to understand what lists make, in a juridical sense, of the elements they assemble. Such an inquiry might cleave closer to the technical operations in which list-making is often embedded. After all, data analytics are supposedly 'mov[ing] [us] away from always trying to understand the deeper reasons behind how the world works to simply learning about an association among phenomena and using that to get things done'.[48] Many lists and listing technologies work on the basis of precisely this sort of shallow claim: this list works, for the meantime. What if one were to try to linger in these shallows, to track the alliances and resistances that a list forms on its surface, rather than trying to plumb its political or ethical depths? So here, in place of a conclusion, is an intimation of an alternative approach suggested earlier. Might legal scholars be at least as well-occupied probing lists' implications and associations *as such*, rather than rushing to look to what might lie *behind* or *underneath* them, or to track what they might have displaced?

This might entail, for instance, focusing on so-called safe countries of origin as a listed group and trying to better understand and relate the particular forms of persecution common to those countries, since a perceived lack of persecution is the condition of their list-borne association. Such inquiry might involve tracking, more closely, historical and technical relationships between Lists One, Two, Three and Four according to my earlier typology. Building, in particular, upon insights surrounding List Two (the list as distinct jurisdictional arrangement), this might imply reading rules of list-generation as lawful orders in their own right, productive of relationships variably configured. It might entail, for example, examining relationships that data-mining association rules routinely instantiate as *juridical* associations. Association rules suggest particular ways of bringing people, places and things into momentary alliance and transmitting authority among them. Cluster analysis algorithms, for instance, iteratively generate groupings based on the evaluation of the relative

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[48] Kenneth Cukier and Viktor Mayer-Schoenberger, 'The Rise of Big Data: How its Changing the Way we Think about the World' (2013) 92 *Foreign Affairs* 28, 32.

strength of associations with a 'centroid' or 'seed point'. The centroid itself gets defined and redefined according to ongoing measurement of these groupings' associations (that is, their similarities and dissimilarities), so that the grouping may continually be reconfigured based on new inputs.[49] What would it entail to conceive of these associations in juridical terms? And could juridical associations of this sort be actualized otherwise? Might we make as much of the juridical relationship among those co-placed in a pattern (among the co-listed, for instance) as we do of the relationship between a list and its institutional sources? Serial linkage or co-placement of this kind might support, say, gatherings of people who have had their welfare eligibility denied in particular jurisdictions, in order to probe their common conditions and organize around these, for so long as their sense of allegiance held. Lists and the allied techniques described above do not depoliticize as much as shift the register of politics. Juridical thought needs to enter that register with a view to discerning what might yet be made of the political within it.[50]

Recalling some of the words which I quoted earlier – those public lamentations of one or other failure to 'connect the dots' – perhaps it is time to suspend, for a time, our appetite for projects that purport to offer some way out of the conundrumical politics of lists and algorithms, and for the assurance that such projects deliver. The list might yet be made, in legal scholarship and practice, an 'instrument of wondrous hypotyposis', as Eco's Adso suggested, but not, perhaps, one to which we should look to deliver the wonder of transparency. Instead, these lists of which I have written might afford us some vivid descriptions of scenes and mechanisms of juridical association with which to experiment, if only for the time being. Reading lists in this way may not deliver all that one might seek; it would not yield, for instance, any *one* account of the 'politics of the list' or its laws. It may, nonetheless, enable renewed reflection upon our own responsibilities and capacities for association – and for the political – under current conditions. It might suggest a range of ways of living the list and of elucidating more fully its demotic implications. At this untimely stopping point,

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[49] Leonard Kaufman and Peter J. Rousseeuw, *Finding Groups in Data: An Introduction to Cluster Analysis* (2009).
[50] Chantal Mouffe, *On the Political* (2005); Carl Schmitt, *The Concept of the Political* (G. Scwab trans., 1996); Oliver Marchart, *Post-Foundational Political Thought: Political Difference in Nancy, Lefort, Badiou and Laclau* (2007).

the words of another of Umberto Eco's protagonists may seem apt – those of William of Baskerville, whom the novice Adso of Melk had accompanied:

> At the end of my patient reconstruction, I had before me a kind of lesser library, a symbol of the greater, vanished one: a library made up of fragments, quotations, unfinished sentences, amputated stumps of books…And it is a hard thing for this old monk, on the threshold of death, not to know whether the letter he has written contains some hidden meaning, or more than one, or many, or none at all.[51]

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[51] Eco (1995), above n1, 500-501.