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Calibrating families: Data behaviourism and the new algorithmic logic

Familien kalibrieren: Datengetriebener Behaviorismus und die neue algorithmische Logik wohlfahrtsstaatlicher Steuerung

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Abstract: Family intervention is a long-established mechanism of state control, but recent technological developments are facilitating new regulatory capacities and objectives. This paper will explore how contemporary welfare policy interventions in the UK are converging around a technological solutionist ideology that centres family relationships as core instruments of social management. The last decade has seen a marked techno-administrative turn, with family/state relationships increasingly mediated through online portals and dashboards. Over the last few years this data-centric model has accelerated towards an algorithmic approach to governance through the incorporation of big data surveillance, predictive analytics and behavioural interventions to monitor and socially engineer populations. In this paper we draw on policy analysis and freedom of information requests to trace the embedding of data collection frameworks into apparently conventional family intervention programmes in the UK, and show how this “datification” was made into a core delivery tool. We also highlight how secrecy, or at the very least strategic silence, has restricted public knowledge of how and why data is being collected and used in the UK. We show how parents and children are being quantified and translated into datapoints to support new logics of choice manipulation, ceding unprecedented power to financiers, data analytic and social marketing companies, platform developers and big tech industries. The resulting financialization of family welfare services tracks the contours of longstanding social divisions, reconfiguring and in many cases compounding the injustices of race, class and gender. This algorithmic calibration of children and parents is extending the regulatory powers of the state far beyond previous efforts to govern and control poor families, with under-explored consequences for the principles of democracy and justice.

Keywords: big data, algorithmic governance, family, welfare, behaviourism

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Zusammenfassung: Familienintervention ist ein seit langem etabliertes Instrument wohlfahrtsstaatlicher Einflussnahme. Die aktuellen technologischen Entwicklungen ermöglichen hier jedoch neue Regulierungsmöglichkeiten und -ziele. Der Beitrag untersucht mit Blick auf die Entwicklungen in Großbritannien, wie bei gegenwärtigen wohlfahrtspolitischen Interventionen eine solutionistische Ideologie an Einfluss gewinnt, die Familienbeziehungen in den Mittelpunkt des Managements des Sozialen stellt. Die letzten zehn Jahre waren geprägt von einer massiven technisch-administrativen Wende, in deren Zuge die Beziehungen zwischen Familien und Staat zunehmend über Online-Portale und Dashboards vermittelt werden. Dieses datenzentrierte Modell hat sich zu einem algorithmischen Governance-Ansatz entwickelt, mit dem durch die Einbeziehung von Big Data-Überwachung, prädiktiver Analytik und Verhaltensinterventionen Bevölkerungsgruppen überwacht und sozial gesteuert werden. Im Beitrag stützen wir uns auf Politikfeldanalysen und auf mittels FOIA-Anfragen gewonnene Auskünfte, um die Einbettung von Datenerfassungsstandards in scheinbar konventionelle Familieninterventionsprogramme im Vereinigten Königreich nachzuvollziehen und zu zeigen, wie diese „Datifizierung“ zu einem zentralen Hilfsmittel staatlicher Steuerung wurde. Wir zeigen auch, wie Geheimhaltung oder zumindest strategisches Schweigen das öffentliche Wissen darüber beschränkt, wie und warum Daten gesammelt und verwendet werden. Wir zeigen, wie Eltern und Kinder quantifiziert und in Datenpunkte umgewandelt werden, um neue Logiken der Manipulation von Verhalten und von Entscheidungen zu unterstützen, was wiederum Leistungsträgern, Datenanalyse- und Sozialmarketing-Unternehmen, Plattformentwicklern und der Big-Tech-Industrie eine nie dagewesene Macht verleiht. Die sich daraus ergebende Finanzialisierung von familienbezogenen Wohlfahrtsleistungen folgt dabei den Konturen anhaltender sozialer Spaltungen, indem sie ethnische, klassistische und Geschlechterungerechtigkeiten neu konfiguriert und in vielen Fällen noch verstärkt. Diese algorithmische Kalibrierung von Kindern und Eltern erweitert die Regulierungsmacht des Staates weit über frühere Möglichkeiten hinaus, arme Familien zu regieren und zu kontrollieren. Die Folgen für die Grundsätze von Demokratie und Gerechtigkeit sind hingegen noch weitgehend unerforscht.

Schlüsselwörter: Big Data, algorithmische Sozialsteuerung, Familie, Wohlfahrtssystem, Behaviorismus

1 Introduction

Frameworks of legal and social powers surround the practice of childrearing, reflecting the significance placed upon the physical and moral development of the child as a self-determining, rational liberal subject. More recently though, govern-

ance techniques in the UK have accelerated into unchartered territory. Policy developments are increasingly characterized by advances in computer science and more particularly the amalgamation of big data with behavioural economics to produce a new paradigm of digital governance. Families in the UK are increasingly liable to “datafication”, meaning that their everyday lives and practices are translated into digital datapoints in order to analyse, monitor and make predictions (Mayer-Schonberger/Cukier 2013). Real-time surveillance is sought through the capture and merging of statutory and administrative records with other digital traces to profile, categorize and score parents and children. This emerging data regime marks a substantial change from previous efforts to safeguard the “normal” development of children and works instead to identify and manage expansive, geolocational indicators of risk. Family relationships remain a key site for state intervention, but the aim and focus has shifted away from engagement with individual subjects, towards attenuation and control at the level of broad, stratified populations.

Central to this new mode of governance is an instrumental public policy focus on behavioural science, which melds psychological and economic insights to steer individuals towards actions interpreted by the state to be in their own interests. Based on Thaler and Sunstein’s (2003) articulation of “libertarian paternalism”, widely known as the “nudge agenda”, behavioural interventions are designed to optimize the thoughts and actions of the public by shaping their “choice architecture”. In other words, they involve the deployment of subtle psychological techniques to identify and engineer the social conditions informing the choices of citizens. As we will outline, English households in particular, have been subject to increasing monitoring and manipulation via big data surveillance, automatic scoring and behavioural interventions.

The implications of this shift are profound, particularly for tracked and targeted populations. Yet public awareness and understanding of these new technologies is low, in large part because governance through datafication in the UK has been pursued quietly and surreptitiously. It is extremely difficult to get a clear picture of what personal data are captured, by which governing region, and for what purposes. There are no central registers of public data practices, consent is not routinely sought from data subjects and freedom of information requests are often obstructed (Gillies et al 2022). Even where information is forthcoming, it is commonly released in a format that is difficult to decipher. As Redden et al. (2020) note, big data processes can be highly complex and require specialist knowledge and skills to interpret and assess. As a result, public scrutiny of data analytic systems is extremely limited and confined to those with sufficient time, resources, determination and technological ability. Oversight has been further constrained by the speed at which data-led regimes have expanded in the UK and the extent to which this has occurred in partnership with private companies. The datafication of families has

been pursued quickly and quietly, with a largely privatized digital infrastructure becoming embedded within local governance frameworks before any sustained objections could be mounted.

In this paper, we explore how this silent transformation of state/family relationships has been enacted. We draw on the results of Freedom of Information requests sent to over 400 UK local authorities as well as detailed case studies of the regions that were the most open about their use of algorithms, data analytics and automation (Gillies et al 2022). Following Redden et al. (2020) we identify a “payment by results” family intervention project introduced a decade ago in England as a catalyst for the widespread datafication of families. We show how the funding structure underpinning this initiative forced English local authorities through a digitization gateway, financializing families’ data and reducing intervention to solution-based products to support private sector investment. More specifically, we highlight the extent to which this datafication project is grounded in a Skinnerian style behaviourist doctrine, with interventions surreptitiously manipulating and engineering social actions while riding roughshod over established principles of privacy, autonomy and democracy. The welfare system in the UK may differ from its European neighbours in many respects, but it is far from an outlier in pursuing algorithmic solutions to social problems (see Geiger 2023). As such it provides an illuminating example of a potential direction of travel for digitized welfare states.

2 Children, risk and the turn to data

The roots of the digital transformation of family governance in the UK date back at least to the early 21st century, when the New Labour Government initiated a turn to electronic methods as part of a broader reform of children’s services (Garret 2009). A variety of digital technologies were introduced to collect and store information about families, culminating in ContactPoint, an ambitious project to create a database containing the personal information of all children under 18 living in England. The plan was introduced in 2000 in the wake of a disturbing and high profile child abuse case (the murder of Victoria Climbié) and was ostensibly intended to improve information sharing across agencies to help prevent similar tragedies (Carvel/Batty 2003). The design of a mass family surveillance programme dovetailed with a broader pledge to reduce crime and antisocial behaviour, pursued as part of a marked trend toward the criminalization of social policy (Rodger 2008). As ContactPoint moved through its implementation stages, the then Prime Minister, Tony Blair, emphasized the importance of identifying criminogenic risk factors early. Accurate prediction of those likely to become a “menace to society” could be made in

childhood he claimed, so preventative work with families should be delivered early, preferably pre-birth (Blair 2006 Interview with the BBC). This marked the beginning of what Van Brakel (2016) described as a new logic of “pre-emptive surveillance”, pursued through methodical accumulation and processing of data to predict and prevent negative outcomes before they emerge. From Blair onwards, British politicians become increasingly convinced that data collection on families held the key to managing risk and securing the future.

From its inception though ContactPoint was deeply controversial, with many commentators fearing it signalled a drift towards a surveillance state. The administration of the database itself also proved difficult to manage within the existing legal frameworks, and the Government struggled to develop functional guidelines for information sharing and data security (Bellamy 2011). Objections multiplied when it was revealed that the information collected and shared would include family routines, evidence of a “disorganized/chaotic lifestyle” and parental conflict (Hughes 2008). The project quickly became a flashpoint for campaigners concerned about privacy and civil liberties. By 2010, before ContactPoint was even fully functional, both opposition parties were promising to scrap the database in their election manifestos, and pledging to restore Britain’s civil liberties. When a new Conservative-led coalition Government took power, the project was duly disbanded with a vow to “stop treating law abiding people as if they have something to hide” (DPMO 2011).

The regulatory powers of the state were indeed radically reordered under this new administration as a programme of sustained austerity economics was applied. Drastic public spending reductions saw funds shifted away from welfare, criminal justice services and other established tools of state control under the pretext of balancing a budget deficit caused by the previous New Labour Government’s overspending. However, it was amidst this frenzy of budget cuts that a new and considerably more powerful data governance regime was to emerge. As Edward Snowden, the whistleblowing US intelligence officer, later revealed, the UK Coalition Government apparently had no compunction about the unlawful mass interception and analysis of citizens’ online communications. The foundations for this new data regime and the behaviourist principles it supports were laid early on in 2010. Just months after taking office, the then Prime Minister, David Cameron, set up a Behavioural Insight Team (BIT) within his Central Office, aided by the Nudge Guru, Richard Thaler. The aim of the BIT was to inform and improve Government policy through more systematic engagement with psychological techniques (Leggitt 2014).

The scope of the BIT interventions were relatively modest at first, subtly altering the medium and framing of public communications in an effort to secure particular outcomes (e. g. prompt payment of tax or saving for a pension), but crucially each change was assessed using “raw” data captured from government administrative sources. This allowed multiple “nudges” to be applied and assessed simultaneously to

identify the most effective mechanism to influence behaviour (Halpern/Sanders 2016). Rouvroy (2013) has described this approach as “data behaviourism”, characterized by an algorithmic logic that circumvents the thoughts and perspectives of individual subjects to centre instead on patterns in data. The labour of researching and interpreting cause or effect is replaced with a rapid real-time statistical insight, with big data viewed as eliminating any need to classify or understand (Davies 2020). Significantly, this experimental data trawling also furnished the BIT with evidence to support the efficacy of their small scale, targeted interventions (Haynes et al. 2012). Hailing their successes, the Government expanded the influence of the BIT across national and local policy realms, privatizing the civil service team into a limited company. The aim was for the BIT to mainstream psychological techniques and rationales of governance around the globe. Having bought wholesale into the need to surreptitiously steer individuals toward more judicious choices, the British Government was keen to apply the same techniques to a range of enduring “wicked” social issues that have plagued liberal states for centuries (crime, poverty, debt, homelessness etc.).

Governance has long depended on the inscription, calculation and categorization of families, rendering populations knowable and regulatable through measurement of their proximity to statistical norms (Rose 1989). Data behaviourism, however, relies instead on complex correlations, generating what Couldry and Mejias (2019) have identified as a new social epistemology in which statistical variables act as proxies for social problems. The focus is shifted from actualities to potentialities through an anticipatory foregrounding of risk and probability (Rouvroy 2013). Rather than attempting to understand and reform the drivers of negative outcomes, efforts are directed towards identifying datapoints as predispositions and targeting behaviours accordingly. Far from being abandoned, the Blair administration’s attempts to instrumentalize pre-emptive surveillance were merely superseded by what was assumed to be a more efficient anticipatory system. Data behaviourism dispensed with the need for any controversial new databases by tapping already existing administrative data wells, while promising substantial savings in time and money.

The Conservative-led Coalition Government initially tied the introduction of this new digital era of governance to their rationale of austerity. While funding streams for public services were slashed, essential provision was streamlined, with the public facing interactions driven online as part of a “digital by default” strategy (Margetts/Dunleavy 2013). However, this efficiency rationale was overtaken by the mounting costs of relying on private sector provided IT infrastructure (Dunleavy et al. 2018). As welfare budgets shrank and poverty grew, UK government spending on digital services soared, with contract budgets alone exceeding £3.2 billion by 2017 (<https://www.gov.uk/government/news/government-spend-on-digital-services-passes-3bn-mark>). Moreover, this digital by default strategy rendered state support systems significantly

more bureaucratic and conditional. Access to benefits became effectively contingent on a claimant's ability to navigate complex automated online systems, further marginalizing the most disadvantaged members of society (Alston 2018). Concerns over the cost and impact of these digital reforms were overridden by a growing faith in the potential of big data to transform modes of governance. The digitization of welfare infrastructure and the introduction of automated portals propelled the Government further towards a technocratic promise of pre-emptive control via mass harvesting, processing and scoring of citizens data (Gillies and Edwards 2024).

Streamlined efficiency was the goal, but the practical implementation of this new data-led regime was a complicated and protracted process. Administrative data caches were held within hundreds of separate and/or incompatible local government and service databases across the country, with enforced storage protocols to ensure compliance with the General Data Protection Regulations (GDPR). The merging, processing and use of these data for purposes other than those it was collected for was broadly accepted as an actionable breach of law. But in their turn towards data behaviourism, the UK Government began to recast pre-existing legal restrictions as semi-porous boundaries to be routed or reconstituted for the public good. McQuillan (2015) draws on Agamben's "state of exception" thesis to explain this superseding of established principles of privacy and their supporting legal frameworks. A state of exception in this context describes how nations, in periods of crisis, extend executive powers above and beyond the existing legal and constitutional apparatus. According to Agamben (2005) this is enacted so frequently in late capitalism that it erodes the boundaries between executive, legislature and judiciary, generating a permanent state of exception as a normalized paradigm of politics. McQuillan focuses on the potential for algorithmic governance to administer partial and continuous states of exception by operating with the force of the law but at a distance from its formal structures. Data behaviourism as a policy technique deepens this executive power, prioritizing real-time surveillance and manipulation of populations over foundational commitments to due process, while also shifting the locus of control from democratically elected governments to what Couldry and Mejias (2019: 14) have called the "social quantification sector"; "the industry sector devoted to the development of the infrastructure required for extraction of profit from human life."

3 "Troubled Families" and the monetization of data

After cancelling ContactPoint in 2010 and declaring it an outrage to civil liberties, the Conservative-led Coalition Government began engineering more subtle strategies for capturing and making commensurate administrative data on families. By

late 2011 a major new family intervention project was announced. The Troubled Families Programme (TFP), like the “digital by default” agenda, stood out as a source of substantial public investment in the broader context of ruthless fiscal tightening. Launched in England as a response to a period of rioting and disorder that broke out just months after the Coalition Government took office, the TFP was officially tasked with “mending our broken society” (Cameron 2011). It was subject to considerable publicity and media attention, but as an intervention it was remarkably bereft of any novel thinking, relying instead on recycled tropes of the underclass and “problem families” (Crossley 2018; Lambert 2018; Welshman 2011).

The ostensive purpose of the TFP was to identify and “turn around” families with a propensity toward poverty, criminogenic and antisocial behaviour. Provocatively, the government estimated the extent and spread of this troublesome population through reference to an already existing index of multiple deprivation, thereby equating poverty with criminality and pathologizing desperately poor and struggling families. This misuse of figures drew widespread protest from social commentators and academics (Portes 2016; Levitas 2012) while the administration of the programme came to be associated more broadly with lack of credibility (Crossley 2018). Government claims of an improbable 99 % success rate for TFP interventions were contradicted by a damning independent evaluation in 2016. It pointed to the programme’s lack of impact on targeted families and poor value for money. These independent findings were roundly rejected by the government, who doubled down and extended the project, increasing its range, capacity and funding.

By this point £1.3 billion of public money had been spent on a programme shown to have little impact on targeted families, in a context where punishing spending cuts were being made in the name of fiscal discipline. We argue that while the TFP did not meet its stated objectives, its real impact was beyond the public view, in significantly re-ordering welfare mechanisms, and ingraining and normalizing a routine datafication of families. Beneath the derivative “problem family” rhetoric, the TFP was operating to incentivize English local government authorities to adopt data analytics and behavioural targeting through a payment by results system. Administered by central government, participation in the TFP came with an “introductory fee” for each eligible family identified by the regional authority, followed by a final payment on statistical evidence of a relatively modest behaviour change.

TFP funding did not compensate for the austerity cuts that had previously been administered to children’s services, but it represented a significant resource for cash-strapped local government regions. Accessing the fund, however, required an audit trail. This necessitated the unprecedented collection, linking and processing of data on local families, with the initial government criteria marking out a “troubled family” encompassing education (school attendance), health (mental illness),

welfare benefits (worklessness) and criminal justice (crime/antisocial behaviour). Prior to 2012, bringing together identifiable data profiles on this scale would have been categorically unlawful, but while arguments were raging as to whether troubled families existed and how to work with them, new legislation (including the 2012 Welfare Reform Act and the 2017 Digital Economy Act) was quietly introduced to provide de facto exceptions, allowing data to be linked without families' consent, for the specific purpose of identifying and monitoring "troubled families".

The funding structure underpinning the TFP and the data-centric logic it enforced is more than an administrative technicality. While the governing of poor families has always revolved around the recording, categorization and coding of their lives and relationships, digital technology and capacity transforms the way that families can be known and regulated (Edwards et al 2024). As such, the TFP helped pave the way for a radically altered family/state relationship characterized by the central involvement of private industry and investors (Redden et al. 2020). As Dencik et al. (2019) note, data driven governance is built upon the processes, logics and technologies of the private sector. The TFP exemplifies this embedding of market-based rationales through the collection and use of digital data in its "payment by results" framework. Local authorities were compelled to collect, share and link data on families in order to claim the funding necessary to cover the intervention.

This datafication of families also helped to embed and accelerate a financialization of public policy by streamlining social impact bonds (SIBs) as a new transactional model of welfare. SIBs are financial products that generate private profit for an upfront capital investment in a public intervention or service on the basis that a set of pre-determined goals are met. For example, a financier can invest in a therapeutic intervention for at-risk young people. An upfront capital payment will cover intensive targeted therapeutic work with families to address behavioural and emotional issues. A set of performance measures are privately agreed (outside of the public realm) and if they are met local or central government will pay the investment back with an undisclosed profit to the financier as a return on their investment (for example see Hameed et al. 2021).

The UK has led the way in developing and instituting SIBs. Their numbers have expanded substantially over the past decade and their market value is soaring, having been heavily promoted and subsidized by recent UK Governments. They are complex and expensive projects to administer and their impact is unclear (Huckfield 2020; Child et al. 2017), yet policy ambitions have centred on growing the social impact bond market by over a billion pounds in order for them to become a standard funding vehicle for "more challenging public services" (Wilson 2016). State investment is required for this expansion, alongside a step change in how data is collected and processed. Like any market transaction, capital investors demand information on the raw material constituting the financial product (i. e. families) to

calculate risks. Moreover, if SIBs are to have a future independent from UK Government subsidy, detailed, reliable, real-time evidence of family change and children's progress is essential. Blockchain technology has been extolled by some as an administrative vehicle for such "ethical investing", allowing for individuals to be tracked via a certifiable digital record of behavioural impacts so that investors can claim pay-outs with each target met (see for example Menon 2020 or Husbands 2018).

4 "Troubles" and "solutions"

For local government authorities positioned within this increasingly financialized landscape, the continuous datafication of families and their problems exists as a problem in its own right (Edwards et al 2022). The tracking, targeting and measurement of children and families in real time required a major public data infrastructure upgrade and a commitment to sustained data collection and processing. In 2010, very few local authorities in the UK had the requisite inhouse technological abilities or resources to manage these data demands. The introduction of the TFP, however, forced them to "innovate" at speed, supported by a wide range of government funding streams and quangos (Gillies et al 2022). Most councils participating in the TFP turned to private companies specializing in "data solutions", guided by the central government's "digital marketplace", a procurement hub set up to promote access to approximately 3,000 data analytics companies, many of which offer products and services tailored towards family intervention.

An array of packages are offered, ranging from the design of inhouse portals, dashboards and data manipulation tools to the collection and storage of data in "warehouses" or "lakes" for the development of AI-driven prediction tools. Companies market bespoke dashboards that allow local authorities to efficiently manage the TFP requirements, bringing together the family data necessary to maximize payment by results funds and promising to "pinpoint which families are likely to meet or fail particular criteria". Having been incentivized (or coerced) by central government to invest in the digital infrastructure required to access TFP revenue, many English local authorities have embraced the available selection of tools and services, generically described as "solutions" (Gillies et al 2022; Edwards et al 2022). The details of how such products are put to use, the data they process and how they are deployed to profile and target families varies widely across different regions. Some, like Low Income Family Trackers (LIFTs), simply store and manage extensive data on poor households in a structured database, sold to local authorities as "a platform that lets you identify the drivers of poverty and build resilience" (<https://policyinpractice.co.uk/policy-dashboard/>). Others offer more sophisticated surveil-

lance capacities, generating “holistic” profiles of individual household members, often with the ability to categorize and flag characteristics, behaviours or social associations as “risky”. The data analytics company Sentinel Partners, for example, provides a range of English local authorities with “Single View”, a dashboard offering what they describe as a “true” account of designated individuals and “a fully joined-up view of all that is known and all that has gone before” (<https://www.sentinelpartners.co.uk/single-view>).

Rather than communicating this step change in service delivery to affected families, local authorities positioned it as merely an administrative upgrade in data management. Indeed, unlike previous intervention projects, the TFP operated largely beyond the knowledge and explicit engagement of the families concerned. Few of the targeted families received any official notifications that they were included in the programme, with many continuing to receive the same level of service involvement as before the TFP’s inception (Day et al. 2016; Crossley 2018). Those recruited as part of the programme were most commonly offered generic “family support” with no indication of their designation as a “Troubled Family” and no warning of the extra data privileges this classification unlocked for local authorities. The personal data of those categorized by the administrative markers of TFP began to be routinely collected, monitored and stored without the knowledge or consent of the individuals concerned. After two subsequent phases of expansion, the size and scope of the Troubled Families Programme had inflated to potentially include any family involved with non-statutory state services (Crossley 2018). By March 2021 the Troubled Families Programme had been re-named “Supporting Families” and allocated another £165 million from public funds, with an extra “data accelerator” fund attached to support digital innovation and the aim of “building stronger data” (MHCLG 2021).

This public data revolution was by now centred on the development of new techniques of prediction and prevention using data mining and machine learning. These tools allow large quantities of accumulated data to be searched (or “mined”) for identifiable patterns or correlations with the intention of making future risk inferences. Data mining and machine learning can generate predictive algorithms to guide decision-making and practice, generally known as predictive analytics.

Such algorithmic governance techniques are controversial, and their accuracy and impacts highly contested (Waller/Waller 2020). Widespread unease about the application of predictive models by state actors has not stopped a sweeping range of local authorities and police forces from appropriating predictive models, often in collaboration. For example, Bristol County Council’s Supporting Families Programme (formally TFP) is located within Insight Bristol, a data analytic hub run by the local police force. Insight Bristol run a range of data-led predictive projects aiming to estimate the risks of youth crime, sexual exploitation and young

people “not in education or employment” (<https://insightbristol.wixsite.com/home/predictive-analytics>). This convergence of family intervention with policing is now evident across a wide range of English local authorities (Author reference 1,4).

5 From nudge to smack

The algorithmic regulation of children and parents amounts to more than a mechanical upgrade in the long history of governing poor families. Technological practices are extending beyond administrative risk scoring and preventative targeting to incorporate broader behavioural interventionist infrastructures with undetermined implications for democratic values and civil rights. The datafication of families is supporting an experimental approach in which population groups, communities or even institutional staff bodies are manipulated through social or environmental cues designed to effect or prevent particular actions. Behavioural expertise has emerged as a powerful industry, mainstreaming policy interventions and techniques in an attempt to correct for human “misjudgement”. Psychologically driven governance approaches project the dysfunctions and failures of neoliberal economic models onto the minds and behaviours of individuals, attributing social ills to cognitive biases and irrational choices. In the process, market-based rationality is reinforced as an orthodoxy from which “misjudgements” can be assessed and corrected (Whitehead et al. 2017). Data behaviourism, and the set of practices it encompasses, are styled as theory neutral, identifying and seeking to correct “bad decisions” through the subtle alteration of “choice architecture”.

Many behavioural initiatives consist of low impact reminders, prompts and reinforcements which sit closer to what Mols et al. (2015) describe as “persuasion” rather than behavioural nudging. Text messages, for example, are utilized across a variety of settings to encourage targeted populations to adopt particular actions. This approach is exemplified by the Behavioural Intervention Team’s Tips by Text project, which sends selected parents strategically timed messages prompting them to undertake simple tasks designed to improve their infant’s “literacy, language, numeracy and social and emotional skills” (Education Endowment Fund 2021). Such interventions are not however, particularly effective. An independent evaluation of Tips by Texts found no significant impact on the targeted families (NCRM 2022). As Bovens (2008) notes, nudges work better in the dark, when bypassing conscious awareness and surreptitiously reframing heuristic cues, environment surroundings and social norms.

More successful behavioural interventions have deployed personalized targeting of families to highlight their distance from social norms and practices. For

example, in Central regions of England parents of primary school pupils flagged as part of a national child measurement programme have been sent letters informing them that their children are “in the minority of local children who are overweight or very overweight” and that “two in three” children have a healthier weight than them. The letters included images illustrating “healthy” and “unhealthy” children’s bodies, selected to match the age and gender of the targeted child along with personalized booking forms for local weight management services (LGA 2016). This initiative was subject to an independent randomized controlled trial which demonstrated its ability to secure significantly higher engagement with weight management services (Sallis et al. 2019). Whether the experiment would have achieved the same results had parents been aware they were personally targeted is highly debatable. As Mols et al. (2015) outline, attempts to “govern by stealth” can and do backfire if the public find out they are being manipulated.

The power of “nudge” is assumed to be located in the unconscious mind, with “stealth” now becoming a common strategy pursued by UK policymakers. The national membership body for local authorities in England and Wales, the Local Government Association (LGA), regards this personalized weight management intervention as exemplary practice (LGA 2016). The LGA is an enthusiastic advocate of data behaviourism and have publicized and funded a wide variety of similar projects, many in collaboration with the social quantification industry. Designed to shape, restrict or remove individual choice, the LGA have dubbed these behavioural approaches “Nudge, Shove and Smack” (LGA 2013), extending the spectrum of these techniques well beyond the liberty-preserving margins of neoliberal paternalism.

Inevitably, this commitment to pragmatic rationalism traces the contours of longstanding social divisions, reconfiguring and in many cases amplifying the injustices of race, class and gender (Benjamin 2019). Poverty is characterized by behavioural scientists as a condition sapping mental processing skills, placing a heavy load on already flawed human reasoning capacities and self-control (Gandy et al. 2016). From this perspective, the poor are more likely to require shoving or smacking to secure their best interests, through for example, the replacement of cash welfare payments with “healthy food vouchers” (Big Brother Watch 2022), benefit sanctions for insufficient job seeking (Gandy et al. 2016) or the removal of formula milk from food banks (Wise 2020). This representation of poor families as mentally diminished, lacking cognitive bandwidth and self-control has also coincided with a marked interventionist turn within child protection services (Featherstone et al. 2018; Bilson/Hunter Munroe 2018).

6 Data behaviourism and the post-choice agenda

As we have demonstrated, the moderate language of “nudge” hides a distinctly illiberal intervention framework currently operating within UK government networks. More significantly, data behaviourism offers the capacity to deliver far-reaching policy impacts that discriminate between population groups, while bypassing the knowledge and consent of those impacted. As Yeung (2017) suggests, real-time data feeds can uniquely personalize algorithmic outputs, calibrating interventions through recursive feedback loops and delivering scale efficient “hypernudges”. While they remain largely undisclosed, there is evidence that such techniques are being incorporated into frontline UK public policy initiatives. Intensive investigations have revealed a widespread use by local and central government of automated risk scoring, predictive analytics, geodemographic profiling, unstructured web scraping and facial recognition tools alongside and in collaboration with behaviourist interventions and social media influence operations (Big Brother Watch 2023, 2022; Collier et al. 2022).

For example, Collier et al. (2024; 2022) have uncovered extensive UK government engagement with the tools and services of social marketing companies like Mosaic to target and personalize interventions with the aim of manufacturing cultural norms and consent. In this instance state and industry are working in close partnership, pooling and categorizing data from administrative services and commercial and consumer sources (e. g. search tracking, social media analytics, marketing profiles etc.). As Collier et al. (2022) make clear “this is not simply a case of algorithms being used for sorting, surveilling, and scoring; rather this suggests that targeted interventions in the cultural and behavioural life of communities are now a core part of governmental power which is being algorithmically-driven.” Such practices are pursued with little regard for core liberal capitalist values of freedom and privacy and with no transparency or claim to legitimacy.

The regulatory powers of the state were built on a moral framework of liberal democracy, centring individual will and political deliberation as crucial to the co-creation of policy. Yet data behaviourism works to foreclose rather than discourage or even prohibit choices, and thereby seeks to remove entirely the capacity for any individual consideration, disagreement or dissent (Zoido-Oses 2014). This can be understood as a form of design-based regulation (Yeung 2017) in which structures are deliberately embedded with the intention of compelling or coercing individuals towards actions deemed by the state to be desirable. Such practices contrast with more traditional “command and control” modes of governance enacted within legislative and criminal justice frameworks and enforced through state sanctions (fines, incarceration, deportation etc.). Tools designed to direct or foreclose behaviour range from digital mediation via webpage manipulation (personalized map

routes, adverts or search results) to physical and mechanical design features. For example, reduced flow saltshakers issued to take-away restaurants to decrease the consumption of sodium (LGA 2016) or the fitting of Rear Occupant Alert systems in cars which alarm loudly if a child is left alone in the backseat.

Similar “smart” technologies are featuring extensively in digital strategies published by UK local government authorities, representing what Jasanoff and Kim (2015) describe as “sociotechnical imaginaries”, embodying digitally inspired visions of social life and social order. Kent County Council, in the South East of England for example, are aiming to link their omnivorous data lake to feeds from devices connected to the “Internet of Things” via cloud network services, promoting an imaginary of smart cities and buildings, integrated with wearable and home-based technology (Kent County Council 2020). Such plans are likely aspirational and overhyped given practical and resource limitations, but they highlight the extent to which top-down, solutionist modes of governance are normalized within UK policy circles as offering an unproblematic route to a “progressive” future. The underlying assumption appears to be that big data, digital technologies and the patterns in individual and social behaviour they identify will have the power to open society up to the kind of mechanistic modifications strived for since the Enlightenment.

This strong empiricism serves to elevate data behaviourism beyond ethical objection and public scrutiny. Policy solutions can be framed as neutral and pragmatic, transcending human-tainted ideology and politics to deliver simply “what works” (Corey 2023). It is this claim to pure, unmediated technical knowledge and the resulting obviation of debate and dissent that sets data behaviourism apart. While governance in the previous century was similarly data led, based on the categorization, measurement and mapping of populations, old style statistics were in the main publicly collected and positioned at the centre of competing social theories and prescriptions for reform (Couldry/Mejias 2019). In contrast, data behaviourism promises to predict and correct rather than explain and inform, replacing deductive inquiry with inductive calculation. From this perspective big data is regarded as superseding policy deliberation, occupying a space somewhere between computation and divination (Smith 2019).

7 Beyond freedom and dignity?

In this paper we have described how a linking of administrative records introduced as part of financialized parenting interventions has worked to help normalize the “datafication” of everyday family lives. We have also highlighted the power ceded to financiers, data analytic companies, platform developers and big tech companies

in this new governance regime. The interests of the state and the private sector appear to be converging around the collection, processing and extraction of data to monitor and manipulate populations. As we have outlined, extensive, real-time data feeds are merging deeply personal information about children and families for government authorities and their corporate social quantification partners to target, experiment on and modify behaviours. This digital governance regime has been rolled out at speed, (Gillies and Edwards 2024). Digital governance and behaviour modification techniques are now widely deployed across the UK, their practices extending far beyond the original disciplinary focus on marginalized and deprived households to potentially encompass all families.

While there is nothing new about the codification and processing of families' information to allocate resources and entitlements, data behaviourism stands apart from longstanding deserving/eligible verses underserving/ineligible categorizations. The narratives and labels that once responsabilized "problem families" are increasingly merged into a vast expanse of datapoints to create new opaque classifications, targets and practices (Couldry/Mejias 2019). Contemporary "datafied" modes of regulation move beyond attempts to discipline and subjectivize through shame, stigma and threats, towards an actuarial management applied at scale. The fate of individuals becomes intimately tied to the actions, behaviours and data trails of others, not through generalizations or typologies but through the aggregation and linking of variables across populations (Mühlhoff 2021; Keddel 2019). Machine learning techniques search for similarities and differences across vast data fields, drawing out complex patterns from thousands, often millions, of anonymous data users. De-individualized profiles are then used to predict fragmented behaviours and reactions, re-individualizing subjects as a set of probabilities to be managed accordingly. Parents and children come to be known in ways they themselves cannot recognize, understand or challenge, as their lives are reconstituted by a "surveillant assemblage" of data flows (Haggerty/Ericson 2003).

The power of any technology is bound up with social beliefs about its capacities and potential which reflect particular logics and world views (Beer 2017). Expensive solutionist infrastructures are not just reorganizing state/family relationships in the UK, they are restructuring the post-war welfare state and conceptions of liberal democracy to fit an idealized model of market equilibrium. Efforts are directed to shoring up neoliberal rationalities through the production and management of self-interested economic subjects, in effect strengthening the "invisible hand of the market" with the invisible hand of data behaviourism. The ethos of the state is directed beyond the rights and common good of citizens to pursue whatever works to shape society in the interests of the data controllers (Couldry/Mejias 2019). Advocates point to the capacity of data behaviourism to reform and improve capitalist societies, overlooking the extent to which foundational principles of liberalism are

dismantled in the process. As Rouvroy (2013: 153) notes “algorithmic governmentality does not produce any kind of subject. It affects without addressing them ...”. The self-determining subject centred in liberal morality is abrogated along with fundamental concepts of privacy, freedom and social justice.

The impact on children and families is yet to be fully appreciated, but concerns are growing about the potential for serious personal harm. Profiling and risk scoring have been found to exacerbate inaccurate and discriminatory categorizations, legitimating biased decision-making and gross injustices (Vannier Ducasse 2021; Keddell 2019; Eubanks 2017). Data behaviourist techniques cede unprecedented power to computer scientists, social marketing and IT executives with a limited grasp of the real-world effects of their calculative predictions and manipulations. With their purview extending ever further into previously ungoverned spaces of family life, datafying and stripping out cultural context, the scope for unintended consequences looms large. As Eubanks (2017) has demonstrated, automated welfare systems work to police and punish the most vulnerable families in society, constructing a digital version of the Victorian poorhouse.

Meanwhile, for all the grand prophecies, there is no sign of the expected benefits of this mathematical mapping and reshaping of the social world. Indeed, evidence is emerging that this digital capture and punishment of the poor may simply encourage a more active avoidance of public services, engraining marginalization and exacerbating the social problems data behaviourism promises to fix (Gorin et al 2024). Algorithmic reasoning has now been deeply embedded in British state systems for over a decade, calculating and automating governmental responses, and yet the ills attributed to “troubled families” (poverty, crime, under achievement and mental illness) continue to rise steeply. And far from reducing costly family intervention through efficient targeting, mass surveillance has merely created new imperatives to act. For example, the numbers of UK children removed from their parents and placed into state care has doubled since 2011, along with a tripling of child protection investigations finding no evidence of harm (Samuel 2023; Bilson and Hunter Munro 2019). As social researchers have long known, correlations do not scale up to social causation and meaningful quantifiable proxies for complex social variables are elusive to non-existent. UK policymakers are not yet ready to give up on their behaviourist utopia. Nevertheless, data behaviourism is shaping up to become yet another expensive and harmful failure in the long history of family intervention.

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