The Chronic Social

Relations of control within and without neoliberalism

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When it is complete, the Hudson Yards real estate development on the West side of Manhattan will be the largest construction project on the island since the Rockefeller Centre. It will consist of 16 new skyscrapers, containing office space, around 5,000 apartments, retail space and a school. Thanks to an alliance between the New York City government and New York University named CUSP, it will also be a vast laboratory for the study of community relations and social behaviour. Possibilities for data collection will be anticipated at the outset, and built into the design of this urban environment. CUSP expect to collect data on pedestrian flows, street traffic, air quality, energy use, waste disposal, recycling, and health and activity levels of

workers and residents. Residents will also be invited to opt in to more intrusive forms of surveillance, using their smart-phones and homes. CUSP refers to this as a study in 'quantified community'.

Yet the question of *why* so much data is to be collected may be of secondary concern, resting on a misunderstanding of the politics and epistemology of urban informatics and contemporary 'Big Data'. The use or benefit of quantified community is deemed to emerge only after the surveillance is under way. The President of the real estate company building Hudson Yards has said, "I don't know what the applications might be... But I do know that you can't do it without the data."[1] Within this epistemology, theoretical presuppositions and hypotheses can allegedly be abandoned, along with notions of causality, in favour of blanket surveillance of everyday life, out of which new social scientific discoveries will somehow emerge.[2] The Director of CUSP, a physicist by training, has stated that "disciplines will merge as a result of the data". In place of the methodological *a priori* of rival social sciences, surveillance allows for a behaviorist agnosticism and algorithmic pattern spotting. Once they are 'merged', disciplines will cease to be disciplines of profession, and become functions of software: norms of automated data analysis, rather than norms of expert conduct.

Few things demonstrate the prescience of Deleuze's 1990 article, 'Postscript on the Societies of Control', as well as urban informatics. This case of techno-politics exiting "spaces of enclosure" and flooding open spaces and networks offers an acute

[1] 'Huge New York Development Becomes a Data Science Lab', *New York Times*, 14th April 2014
[2] Viktor Mayer-Schonberger & Kenneth Cukier, Big Data: A revolution that will transform how we live, work and think, London, John Murray, 2013.

confirmation of the shift from 'societies of discipline' to 'societies of control' which he saw underway. Indeed, he notes that his co-author Felix Guattari:

> "has imagined a city where one would be able to leave one's apartment, one's street, one's neighbourhood, thanks to one's (dividual) electronic card that raises a given barrier; but the card could just as easily be rejected on a given day or between certain hours; what counts is not the barrier but the computer that tracks each person's position - licit or illict - and effects a universal modulation"[3]

The concept and construction of the 'smart city' has been driven by corporations such as IBM, in alliance with city governments, facilitated by the necessarily public-private collaborations already established for purposes of 'e-government' projects.[4] Technologies and techniques of 'control' can be dated back to the rise of the railways in the mid-19th century, when material goods first started to travel faster than people.[5] They were refined by corporations, as Deleuze notes, and are now being externalized by those same corporations for profit, often with assistance from state agencies. Behavioural experimentation and management which first occurred within the confines of the corporation (or towards specifically targeted consumer groups) can now be carried out across large communities, as news of the controversial Facebook mood experiment testified.[6]

[3] Gilles Deleuze, 'Postscript on Societies of Control', October, vol 59, (1992), pp3-7, p7
[4] Rob Kitchin, The Real-time city? Big data and smart urbanism, Geojournal, 79: 1, (2014), pp1-14.
[5] James Beniger, The Control Revolution: Technological and Economic Origins of the Information Society, Cambridge, Harvard University Press, 1986.
[6] Adam Kramer, Jamie Guillory, Jeffrey Hancock, 'Experimental Evidence of Massive-scale Emotional Contagion Through Social Networks', Proceedings of the National Academy of Sciences, 111: 23, (2014), pp8788-8790

Where Deleuze's article is perhaps even more pertinent is in anticipating some of the central characteristics of the epistemology and politics of contemporary data analytics. In particular, the sense that knowledge and judgement will no longer be bound by the strictures of discipline anticipates the 'discipline-free' science of data that is celebrated by the likes of CUSP. This has implications for the restructuring (possibly, the gradual overcoming) of the social sciences.[7] Separate disciplines, which date back to the marginal revolution in political economy of the 1870s, may no longer retain their authority. Mathematical expertise ('quants') will then hold a general epistemological authority, regardless of the empirical matter to being investigated - a capacity for "universal modulation" of behaviour, be it human or non-human. Deleuze makes a crucial claim about how the chronicity of expert observation is being transformed:

> "In the disciplinary societies one was always starting again (from school to the barracks, from the barracks to the factory), while in the societies of control one is never finished with anything... The apparent acquittal of the disciplinary societies (between two incarcerations); and the limitless postponements of the societies of control (in continuous variation) are two very different modes of juridical life, and if our law is hesitant, itself in crisis, it's because we are leaving one and entering another."[8]

This is resonant with the radically empiricist, behaviorist epistemology of Big Data, which purports to have no methodological *a priori*, nor any form of necessary temporal punctuation. As much data is collected as possible, and then assessments can be made in 'real time', as and when they seem useful or vaguely credible. But

[7] Mike Savage & Roger Burrows, 'The Coming Crisis of Empirical Sociology', Sociology, 41: 5 (2007), pp885-899
[8] Deleuze, op. cit., p5

there is no rhythm at work, in which a methodology is adopted, data is collected, then a judgement is delivered. Instead, as the President of the Hudson Yards developers indicates, more and more data is collected, and discoveries may or may not follow in its wake, at no particular intervals. Those living and working in Hudson Yards will be "never finished with anything", thanks to the "limitless postponements of the societies of control".

One development which the article does not foresee, however, is one which sits at the heart of the Hudson Yards experiment: quantified *community*. In Guattari's image of a smart city, referred to by Deleuze, surveillance is driven by a normative distinction between 'licit or illicit' behaviour. Deleuze still assumes that control is a "mode of juridical life", the assumption being that it involves judgement of people. But current trends in data analytics suggest there is at least as much concern with probing, constructing, manipulating and reinforcing *social life* (for various utilitarian purposes of health, wellbeing, sustainability, efficiency, profit etc) as there is in imposing norms or defending security. Community is being nudged into a certain type of ethical fruition, rather than regulated into conformity, suggesting a form of 'neo-communitarianism'.[9]

Associated with the rise of ubiquitous digitisation and Big Data has been a return of the 'social', in a new technical, quantifiable and governable guise. This is manifest in a host of new modes of expertise and intervention, such as 'social neuroscience', 'social prescribing', 'social enterprise', 'social media' and so on. In some respects, this can be attributed to a trend that Deleuze *did* recognise, namely the ongoing expansion of the corporation as a space of power and life. The 'social' today, in

[9] William Davies, 'The Emerging Neocommunitarianism', Political Quarterly, 83: 4, (2012), pp767-776

cases such as 'social marketing' or 'social enterprise', sees techniques mastered within or for corporations pushed outwards into new spaces. But this still invites further theoretical and empirical analysis of how societies of control are politically constituted, in the context of long-standing questions regarding the 'social' and its relation to the 'economic'. Why have societies of control become manifest as societies of sociality?

In this article, I want to use Deleuze's insight about the 'limitless postponements' of control societies to consider the re-emergence of the 'social' in the context of neoliberalism. It has often been assumed that neoliberalism is a project which seeks to eliminate social logics of governance altogether.[10] But in the light of Deleuze's essay, perhaps we can re-frame neoliberalism as a project which seeks to accelerate the shift from discipline to control, in which markets are simply the best available technologies for this, with entrepreneurship the idealised mode of subjectivity for the control society. With adequate technological facilitation - such as urban informatics - social relations are no less amenable to this shift than market relations. The result is a form of sociality which is perpetually incomplete, just as prices are perpetually seeking some ultimate judgement, never quite reached. To explore these issues, I draw on the 'sociology of critique', as developed by Boltanski and Thevenot, and ask what forms of knowledge and theory are involved in performing the transition from discipline to control. While Deleuze's article does not address neoliberalism, nor use the term, it potentially casts valuable light on questions of neoliberalism, indicating the ways in which neoliberal thinkers (such as Hayek) were implicitly critical of discipline, and advocates for control.

[10] Nikolas Rose, 'The Death of the Social? Re-figuring the territory of government', Economy & Society, 25: 3, (1996), pp327-356

I argue, by way of conclusion, that control societies (like corporations) rest on diverse assumptions about the capacity of individuals to cope with uncertainty and indeterminacy. Everyone who dwells in a control society must cope with an absence of conclusive judgement or clear rules. But, mitigating this, some inhabit environments (such as Hudson Yards) which are designed to steer them in certain directions, whereas others are possessed of a more political form of indeterminacy, as the executives of technologies and infrastructures. This division may turn out to be the crucial political faultline of societies of control.

Critical and uncritical knowledge

Societies of control, as Deleuze depicts them, have no clear demarcations. They are endlessly joined up, in a "continuous network". To live in a control society is to 'surf' through time, never settling within any enclosure or arriving at any destination. "Perpetual training tends to replace the school, and continuous control to replace the examination".[11] The control society offers freedom from the constraints and judgments of delimited institutions, on which the disciplinary society had depended. But the disciplinary society at least offered a certain rhythm, periodically releasing individuals from the expert gaze, once they had passed a given test or through a given institution. "Control is short-term and of rapid rates of turnover," he argues, "but also continuous and without limit, while discipline was of long duration, infinite and discontinuous. Man is no longer man enclosed, but man in debt".[12]

[11] Deleuze, op. cit., p5.
[12] Ibid., p6.

Freedom, as it existed in the disciplinary society, was the freedom to be periodically judged and then released, at least until the next trial or examination came along. During the period between two trials, disciplinary societies are regulated as matters of social and economic *fact*, which keep doubt at bay. This pertains at various scales of expert knowledge and governmental rationality. For example, the question of macroeconomic performance is settled every three months with the production of GDP figures, allowing a certain freedom for policy-makers and economic agents to act without constant uncertainty. In Deleuze's example, those in school are examined at regular intervals, granting them periods of time when their ability is not in doubt. Techniques of audit, which emerged in the late 19th century to allow shareholders to evaluate corporate managers, have since become a central tool of new public management. These involve reports, targets, evaluations and scores, all of which involve a certain non-continuous rhythm or ritual.[13]

In their pragmatic analysis of critical knowledge, Boltanski and Thevenot stress the way in which critical situations *interrupt* ordinary stable social relations. To ask 'who caused this car accident?' or 'how intelligent is this pupil?' or 'has this hospital satisfied its patients?' is to depart *temporarily* from normal conduct, and to reach outside of it in search of some principle or measure of judgement. Such a principle or measure must transcend the limited circumstances where it is to be applied. They argue that "those situations are necessarily transitory because they break the ordinary course of action. Nobody can live constantly in a state of crisis".[14] It is worth remembering that the term crisis originally held various overlapping meanings, of judgement, decision or turning point; things are put to the test, and then resume

[13] Michael Power, The Audit Society: Rituals of Verification, Oxford, Oxford University Press, 1997.
[14] Luc Boltanski & Laurent Thevenot, 'The Sociology of Critical Capacity', European Journal of Social Theory, 2: 3, (1999), pp359-377, p360

some normality (possibly a new normality). In any case, it involves the appearance of uncertainty (be it of a moral, empirical or political form), which requires some higher principle to be found so as to be resolved. "One of the ways to get out of a crisis is to return to an agreement", which means seeking some shared value or principle that is external to the dispute.[15] Crisis ends when some limited consensus is found, be it moral or empirical.

What Boltanski and Thevenot suggest is that the same formal structure of crisis/critique is found at various scales (between the macro and the micro) and at various levels of power and authority (between the 'expert' and the everyday). The rhythm of crisis afflicts capitalism itself, whereby a regime of accumulation can persist for decades, before its inadequacies become matters of widespread social, political and economic concern, generating a crisis, as regulation theorists have explored.[16] It is a feature of critical theory, which seeks to actively generate crisis through directing judgement upon issues that were otherwise overlooked or accepted as fact. It is also how positive social sciences proceed, whereby theories dictate the sorts of data that are gathered (e.g. psychologists conduct surveys on 'attitudes'), data is collected, questions are asked, answers are given, and then a new set of facts is established. And, as Boltanski and Thevenot stress, it is how we go about everyday situations, whenever there is a dispute as to how to proceed: if two people disagree as to who should do the washing up, they can only move on once they've agreed the principle that is at stake, and applied it to the case at hand.

In each case, doubt arises, becoming eventually impossible to ignore, a principle of decision/evaluation is found, and then it is employed to re-establish some agreed-

[15] Boltanski & Thevenot, op. cit. p360
[16] Robert Boyer, The Regulation School: A Critical Introduction, New York, Columbia University Press, 1989

upon normality or socio-economic reality. What this account suggests is that the temporal structure of discipline is embedded in a more fundamental temporality of modernity itself. The foundational example of this critical temporality would be Descartes' sudden moment of existential crisis, resolved thanks to the thinking mind.

If we consider Boltanski and Thevenot's sociology of critique alongside Deleuze's depiction of control, some significant contrasts of existential temporality become apparent. In its permanent, uninterrupted quality, the control society might appear to require individuals to live "constantly in a state of crisis", in a way that Boltanski and Thevenot deem impossible. At least, technologies of control mean that matters of 'fact' and states of 'uncertainty' are constantly bleeding into one another. The status of 'crisis' as a form of interruption is downgraded by societies of control. Is the denizen of the control society living "constantly in a state of crisis", or are they engulfed by some alternative temporality altogether? How, for example, will the residents of Hudson Yards cope with the 'limitless postponement' of the evaluation being conducted on their community? One answer to this is that the society of discipline is not being replaced as such, but being *supplemented*. Indeed, Deleuze's claim that the society of discipline "succeeded that of the societies of sovereignty" is possibly an exaggeration.[17] Foucault himself argued:

> "We should not see things as the replacement of a society of sovereignty by a society of discipline, and then of a society of discipline by a society, say, of government. In fact we have a triangle: sovereignty, discipline and

[17] Deleuze, op. cit. p3.

> governmental management, which has population as its main target and apparatuses of security as its essential mechanism."[18]

By the same token, we should not see things as the replacement of societies of discipline with those of control, but a layering of the latter upon the former. Institutions of discipline - hospital, school, etc - have not disappeared, and are indeed subject to ever newer forms of meta-disciplinary power, as manifest in new public management. Yet it is also clear that the pressure on such institutions is being dealt with through, for example, the teaching of 'wellbeing' behaviours, which aim to reduce pressure on medical or social services. An alliance between discipline and control is what emerges.

It is not the case that the inhabitant of the control society is *never* conclusively judged, known, or evaluated. The endurance of disciplinary institutions suggests that critical and epistemological elements of modernity still pertain. Yet experts and non-experts are increasingly reliant on forms of knowledge and decision-making which do not result in any stable agreement or facts. They lack what Boltanski and Thevenot characterise as a transitory capacity to interrupt. In terms of the representation of data, this might be witnessed in the supplementation of *reports* (the product of audit) with *dashboards* (real-time representations), where the latter are able to permeate far more parts of everyday life. The report is still published quarterly; but the dashboard indicators of health, wellbeing, stock market performance, weather, twitter sentiment is constant, and consequently harder to escape or ignore for any period of time. City

[18] Michel Foucault, Security, Territory & Population: Lectures at the College de France, 1977-78, Basingstoke, Palgrave MacMillan, 2007, pp108-108

dashboards are one example of how real-time data is coming to represent everyday life as a constant flux.[19]

Perhaps the reason why societies of control are existentially tolerable (in a way that 'constant crisis' is not, according to Boltanski and Thevenot) is that the knowledge that they produce is not really critical knowledge at all, but a form of uncritical knowledge. This is knowledge which lacks a transcendental or methodological *a priori*, but is instead intuited in a radically empirical or affective sense. Precisely because it lacks the temporal rhythm of crisis/critique - stability, doubt, judgement, stability - it is not possible for such knowledge to ever cast any judgement over us. Instead, judgement and doubt are fused into an epistemological orientation which probes uncertainty, in search of pragmatic responses. In place of the facts produced by audit, social science, statistics and discipline, there is the observation that certain things *seem to be happening*. If my iPad dashboard tells me that traffic *seems to be* building up around Oxford Circus, I will take a different route. If recycling levels in Hudson Yards *seem to be* declining, an experimental intervention can take place aimed at nudging the community towards different behaviour.

Critical knowledge, resting on a rational, disembodied Cartesian ego, involves a withdrawal from a situation in search of certainty. The pursuit of such knowledge is, as Weber saw, a necessarily lonely experience.[20] Uncritical knowledge is affective, embodied and immersed in real-time. In his critical account of Big Data epistemology, Andrejevic argues that in an age where there are more pieces of data than humans

[19] Rob Kitchin, Tracey Lauriault, Gavin McArdle, 'Knowing and governing cities through urban indicators, city benchmarking and real-time dashboards', Regional Studies, Regional Science, 2: 1, pp6-28

[20] Max Weber, 'Science as a Vocation' in H. H. Gerth and C. Wright Mills, From Max Weber: Essays in Sociology, London: Routledge, pp. 129-156

are able to cognitively process, 'post-comprehension' strategies become central.[21] Decisions become attributed to our bodies (most often our brains), calculations become entangled with emotions, communication becomes a function of our faces and sentiments. The individual is merely 'surfing', as Deleuze notes, between different situations but never pausing in search of a judgement or an objective perspective. This is a new form of empiricism, which is oriented towards an emergent future, meaning that it cannot be held to the same epistemological standards as already-existing empirical facts. As Amoore argues, it aims “to preempt an unfolding and emergent event in relation to an array of possible projected futures”, making it ‘possibilistic’, not ‘probabilistic’.[22]

Deleuze's reference to control as the 'modulation' of behaviour is absolutely right. But his description of it as a new 'mode of juridical life' is potentially misleading, implying as it does that transitory moments of critical judgement are involved. Living under control is not so much to inhabit 'constant crisis' - an oxymoron - but to inhabit 'constant emergency'. Situations become *exceptional*, in the sense described by Schmitt and Agamben, being neither inside nor outside of rules, but in an uncritical zone "where inside and outside do not exclude each other but rather *blur with each other*".[23] Similarly control societies blur the distinction between 'right' and 'wrong' conduct, which is so critical to disciplinary societies. 'Nudges' based on behavioural economics, for example, do not seek normative rationality, but the right form of irrationality. Crises come to an end. Exceptions, on the other hand, are temporal in nature, but needn't be time limited, and can endure to the point of permanence.

[21] Mark Andrejevic, InfoGlut: How too much information is changing the way we think and know, New York, Routledge, pp141-142.
[22] Louise Amoore, The Politics of Possibility: Risk and Security Beyond Probability, North Carolina, Duke University Press, 2013, p7.
[23] Giorgio Agamben, State of Exception, Chicago, Ill, Chicago University Press, 2005, p23. Itallics added.

The uncritical entrepreneur

We can glean from Deleuze's essay that societies of control have their origins at the turn of the 20th century, but only become really visible with the crisis of Fordist capitalism in the 1970s. He notes that the organisational archetype of control societies is the corporation (an artifact of the late 19th century) and that Kafka's *The Trial* (written in 1914-15) occupies "the pivotal point" between discipline and control. A worthy addition to this account, who will help connect it to the question of neoliberalism, is Hayek. In particular, Hayek makes a sustained attack on scientific, Cartesian forms of social knowledge, which privilege facts, statistics and objectivity, and stresses the value of perspectival, embodied knowledge that intellectuals have tended to devalue. In this respect, we can view Hayek as a defender of the form of 'uncritical knowledge' which is instrumental to how control societies operate.

In 'The Use of Knowledge in Society', Hayek poses the question of why we venerate knowledge that can be easily centralised or distributed as a matter of expertise, while overlooking those forms of knowledge that are necessarily local and hard to share.[24] Economists and policy-makers suffer from an epistemological perspective that privileges aggregates and stable representations, at the expense of particular details and dynamic situations. Statistics and disciplinary social science are accused of obscuring the ways in which economic activity actually takes place, which is thanks to the acquired skills and instincts of managers and entrepreneurs acting on the basis of practical knowledge. They 'know how', rather than 'know that', or in

[24] Friedrich Hayek, 'The Use of Knowledge in Society', The American Economic Review, 35: 4, (1945), pp519-530

Heidegger's formulation, encounter a world which is *zuhanden* rather than *vorhanden*.[25]

The elevation of intellectual, social scientific perspectives over those of entrepreneurs and practitioners would be inconsequential, for Hayek, were it not for the fact that capitalism itself is a dynamic system. This had already been highlighted by Mises as the central reason why socialist planning could not succeed: socialist tools of accounting are static, whereas human needs and tastes are dynamic.[26] To put that in today's jargon, the perceived problem of socialism was that its accounting mechanisms would never be 'real time'. Mises even accepted that socialist planning could be entirely efficient, if only industrial society reached some 'steady state', but this is anathema to capitalism.[27] Statisticians, planners and social scientists (all equally dangerous, as far as Hayek was concerned) were imposing an *a priori* rationality on a complex adaptive system. Hayek argued:

> "If we can agree that the economic problem of society is mainly one of rapid adaptation to changes in the particular circumstances of time and place, it would seem to follow that the ultimate decisions must be left to the people who are familiar with these circumstances, who know directly of the relevant changes and of the resources immediately available to meet them."[28]

Viewed against the backdrop of Deleuze's essay, Hayek's epistemology can be read as an attack on the formal conditions of the society of discipline, indeed a considerable amount of his writing during the 1940s was dedicated to deconstructing

[25] Martin Heidegger, Being and Time, Oxford, Blackwell, 1962.
[26] Ludwig von Mises, Economic Calculation in the Socialist Commonwealth, Alabama, Ludwig von Mises Institute, 1990.
[27] Mises, op. cit. p16.
[28] Hayek, op. cit. p524.

the authority claims of professional social scientists.[29] The sense that capitalism involves *constant uninterrupted change*, whereas formal expertise (such as that of the statistician) involves a periodic construction of facts, is treated as the fundamental reason why the latter's aspiration to socio-economic representation must fail. Forms of uncritical, non-representational knowledge, as embodied in the businessman, must therefore become instrumental in an economy not dominated by *a priori* ideas. Policy-makers will rediscover their juridical authority when they give up seeking objective social knowledge altogether.[30] This is a ground-clearing exercise, which opens up political and epistemological territory to be occupied by technologies and techniques of control.

As becomes even more explicit in the work of Schumpeter during this time, the virtue of entrepreneurship is its capacity to over-ride normative divisions of discipline, profession and scientific specialism. The entrepreneur acts instinctively, without adequate facts at his disposal, and *discovers* whether or not his actions were worthwhile or not. The mind-set is one of strategy, that is, of navigating an uncertain situation, rather than one of judgement, evaluation or critique:

> "As military action must be taken in a given strategic position even if all the data potentially procurable are not available, so also in economic life action must be taken without working out all the details of what is to be done. Here

[29] Friedrich Hayek, 'Scientism and the Study of Society, Part 1', Economica, 9: 35, (1942), pp9-35; Friedrich Hayek, 'The Facts of the Social Sciences', Ethics, 54: 1, (1943), pp1-13; Friedrich Hayek, 'The Intellectuals and Socialism', The University of Chicago Law Review, Spring 1949, pp417-433

[30] Friedrich Hayek, The Road to Serfdom. London, Routledge, (1944), p80.

> the success of everything depends upon intuition, the capacity of seeing things in a way which afterwards proves to be true."[31]

In place of scientific discipline and method, a plurality of competing perspectives serves as a means of pursuing truths, which are never ultimately grasped. In Hayek's terms, competition is a 'discovery process' that lacks any destination.[32] In order for this to work epistemologically, *a priori* conditions and principles of knowledge need to be abandoned. That in turn means dispensing with professional disciplines, tests and strictures of governmentality, in favour of an immanent, constant stream of sensations.

The ideal-typical entrepreneur is therefore a peculiar type of radical empiricist. He makes no theoretical generalisations, but nor does he build up a careful empirical picture of the world inductively either. He is constantly launching himself upon the future in a state of ignorance, scarcely taking the time to look at the past in search of lessons either. Having only intuition, embodied knowledge and the specifics of a given time and place, he remains constantly in this somewhat idiotic position of trying things out, but never reaching any firm conclusions as to whether they really worked. As Foucault argued, this becomes the model for a more generalised form of neoliberal subjectivity, once individual conduct is modeled upon the immanent, uncritical, strategic behaviour of enterprise.[33]

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[31] Joseph Schumpeter, The Theory of Economic Development, New Brunswick, Transaction Publishers, 2008, p85.
[32] Friedrich Hayek, 'Competition as a Discovery Process', The Quarterly Journal of Austrian Economics, 5: 3, (2002) pp9-23
[33] Michel Foucault, The Birth of Biopolitics: Lectures at the College de France, 1978-79, Basingstoke, Palgrave MacMillan, 2008.

Where Schumpeter was more anthropologically sophisticated than his neoliberal contemporaries was in recognising that only a small minority of people can dwell in this existential state. Rather than deal in common psychological or anthropological attributes, as Mises, Hayek and the later Chicago School were in various ways, Schumpeter was interested in heroic elites.[34] Certain exceptional leaders or entrepreneurs would navigate uncertainty, without resort to evidence or norms, but the majority of people needed rules and rationality, that is, they were reliant on discipline. This accounts for his pessimism regarding the future of capitalism, which he believed would eventually become submerged under bureaucratic procedures (the society of discipline), and eventually into socialism.

What none of these Austrian economists remarked on was that, between instinctive entrepreneurship and socialist bureaucracy, a third option was also emerging during the 1920s and '30s, which we have come to associate with the notion of control. These were the techniques of behavioural and affective influence, that were quickly imported into corporate marketing and human resource management.[35] Within the reaches of corporate control, individuals could behave instinctively and uncritically - just like the entrepreneur - but without the lonely existential burden (or the disruptive threat) carried by the entrepreneur. Behaviorism relieves ordinary people of Cartesian rationality or critical autonomy, handing responsibility over to the architects, designers and scientists who shape the social environment. The rise of social psychology during the 1930s, and its subsequent instrumentalisation, meant that corporations could begin to produce and harness horizontal relationships, teamwork and intimacy. It wasn't until the post-1950s Chicago School that an

[34] William Davies, The Limits of Neoliberalism: Authority, Sovereignty & the Logic of Competition, London, Sage, 2014, p52.
[35] Loren Baritz, The Servants of Power, Middletown, Connecticut, Wesleyan University Press, 1960; Nikolas Rose, Inventing Our Selves: Psychology, Power and Personhood, Cambridge, Cambridge University Press, 1996.

explicitly pro-corporate neoliberal position would emerge, though even this gave no account of how corporations achieved control.[36] I will return to this important vacancy in neoliberal thought in the Conclusion.

Socialist discipline vs market control

Neoliberal thought has its earliest origins in 1920s, as a critique of the very possibility of efficient socialism.[37] By depicting substantively rational goals as (instrumentally) 'irrational', Mises depicted all ethical claims about collective action or collective needs as matters of personal taste or guesswork. Building upon this, Hayek expressed deep suspicion of the very idea of the 'social' as a domain of human life, and represented sociology and socialism as ways in which intellectuals sought to impose their own goals upon the collective. The idea of the 'social' was therefore a construct of the elite methodologies and theories through which it was rendered objective. It is produced by *'specialists'*.[38]

By contrast, the price system is a form of quantitative representation which has no *a priori* theories or methodologies. It is not dependent on disciplines or intellectuals in any way, but emerges spontaneously from the distributed behaviour of consumers and entrepreneurs. More importantly, it is a communication system, which channels knowledge between those various actors. Hayek is quite explicit about the role of price as a form of information and communication technology:

[36] William Davies, 'Economics and the 'nonsense' of Law: The case of the Chicago Antitrust Revolution, Economy & Society, 39:1, (2010), pp64-83; Robert Van Horn, 'Chicago's Shifting Attitude Toward Concentration of Business Power (1934-1962), Seattle University Law Review, 34:4, (2011) pp1527-1544

[37] Nicholas Gane, 'The Emergence of Neoliberalism: Thinking Through and Beyond Michel Foucault's Lectures on Biopolitics', Theory, Culture & Society,

[38] Hayek, 1944 op. cit.

> "It is more than a metaphor to describe the price system as a kind of machinery for registering change, or a system of telecommunications which enables individual producers to watch merely the movement of a few pointers, as an engineer might watch the hands of a few dials, in order to adjust their activities to changes of which they may never know more than is reflected in the price movement."[39]

The great advantage of market price, over other forms of social representation, is that nobody 'consciously' determines it. There is no judge, expert or critic, employing their specialist disciplinary methods, who establishes what a 'correct' or 'fair' or 'objective' price is. In that sense, the price system offers an escape from Cartesian and objective forms of socio-economic knowledge, which Hayek viewed as the basis of political tyranny.

Especially thanks to later Chicago School manifestations of neoliberal thought, neoliberalism has frequently been associated with 'economic imperialism'.[40] By viewing all action as, fundamentally, economic in nature, both Mises and Hayek might be described as 'economic imperialists'. Hayek himself argued that "there is no separate economic motive", a claim that is integral to the work of Chicago School scholars such as Becker. 'Social' questions can be abandoned, if they are simply reframed as 'economic' ones, hence even informal social ties can be evaluated in

[39] Hayek, 1945, op. cit. p527.
[40] Ben Fine & Dimitris Milonakis, From Economics Imperialism to Freakonomics: The Shifting Boundaries Between Economics and Other Social Sciences, London, Routledge, 2009; Hayek, 1944, op. cit. p93; Gary Becker, The Economic Approach to Human Behavior, Chicago, University of Chicago Press, 1976.

terms of the quest for instrumental efficiency.[41] Given the relentless attacks on sociology, socialism, social policy and social democracy, neoliberalism has understandably been viewed as a project of strategic dismantling of the very idea of the 'social', as an empirical, governable domain.[42] Along these lines, Rose has suggested that the 'social', as "the sum of the bonds and relations between individuals and events - economic, moral, political - within a more or less bounded territory governed by its own laws", was born in the mid-19th century, but went into terminal decline in the late 20th century.[43]

But if we consider Hayek's argument against the historical backdrop described by Deleuze, the political project of neoliberalism comes to appear subtly different. It is no longer about seeking to colonise the 'social' with the 'economic', or striving to replace collective action with markets. But rather, it is about rolling back instruments of discipline, and making way for instruments of control, of which the price system is the pre-eminent example, but no more than that. The price mechanism, as Hayek depicts it, possesses all of the attributes which Deleuze attributes to societies of control. It is a constant, inconclusive, real-time, computational, immanent representation, which enables constant 'modulation' of behaviour. It does not exist in an enclosed space; on the contrary, it connects up distributed actors and institutions, as "a system of telecommunications". In contrast to the rhythm of discipline (which, as I've highlighted, is the same rhythm of crisis), price has no interruptions or punctuation, but is in constant motion. There is no human judge, specialist or critical actor involved in the creation of prices. Nor is there any obvious moment when to accept a price as 'correct' or 'just'. As happens to law in the state of exception, the

[41] Ben Fine, Social Capital Versus Social Theory: Political Economy and Social Science at the Turn of the Millenium, London, Routledge, 2001.
[42] Nicholas Gane, 'Sociology and Neoliberalism: A missing history', Sociology, 48:6, (2014), pp1092-1106
[43] Rose op. cit. 1996, p328

'right' and the 'wrong' price "blur with each other". From a Hayekian perspective (as opposed to the rationalism of Chicago School neo-classical economics), the only way to know when to act on a price is to trust in one's entrepreneurial-consumer instinct, which is affective and embodied. Just as with the contemporary epistemology of Big Data, price indicates what *seems to be happening*. It is a technology for what has since come to be known as 'now-casting'.

Likewise, the Hayekian critique of socialism and social science is specifically that it depends entirely on regimes of discipline. The disciplines of the social sciences are required to survey and objectify the public, produce statistics and organise data collection.[44] The disciplines of bureaucracy are required to administer the allocation of resources. From around 1870 onwards, social democratic government introduced new disciplinary institutions and policies, of universal education, healthcare, social policies, aided by the 'specialists' from progressive institutions such as the London School of Economics. The opposition which Hayek draws between 'liberals' and their enemies is not as simple as individualism vs. collectivism, or economisation vs socialisation. Rather, it maps perfectly onto Deleuze's distinction between societies of discipline and societies of control. At the same time, it is an argument over political epistemology, whether to trust the critical objectivity of the expert, or the uncritical instinct of the entrepreneur.

One of the successes of this reinvention of market liberalism was that many socialists have felt compelled to argue on its own terms, that is, to explain how socialism could operate via technologies of control.[45] In establishing the socialist accounting debate as a debate about real-time complex calculation, as Mises did,

[44] Hayek, 1942, op. cit.
[45] David Steele, From Marx to Mises: Post Capitalist Society and the Challenge of Economic Calculation, London, PGW, 1992

socialist arguments moved away from a defence of disciplinary institutions (where they were strongest), and towards an enquiry into radically new and unproven technologies of control. Thus, the possibility of socialism became a question about adequate computing and telecommunications power, rather than adequate scientific or political authority of policy-makers themselves. Recent surges in computational power have therefore seen the case for socialism made once more, only now with scarce surviving socialist authorities available to implement such technologies, were they ever proven.[46]

The limits of control under actually existing neoliberalism

The globalisation and computerisation of financial markets from the late 1960s onwards was amongst the main reasons why the Fordist-Keynesian model of capitalism (with its national, analogue systems of capital regulation) was unable to survive. Digitised financial markets come as close as any to approaching the Hayekian ideal of information-processing, and in doing so, the apogee of the control society. As Crary has lamented, the world of finance lacks any interruption, not even from sleep, seeing as it spans the entire globe and operates in a constant real-time flow.[47] Along with the time, the date and the weather, the present state of financial markets is now data that is almost impossible to ignore in post-industrial societies, seeing as it runs across TV screens, digital matrix systems in urban centres, the 'dashboards' of smart phones and tablets, and so on.

[46] Paul Cockshott & Allin Cottrell, Towards New Socialism, Nottingham, Spokesman, 1993.
[47] Jonathan Crary, 24/7: Late capitalism and the ends of sleep, London, Verso, 2013

To live with this constant stream of fluctuating prices is to live in a state of constant anxiety, regarding what they mean and how (or whether) to respond. This is an acute case of the "limitless postponements of the societies of control", "no longer man enclosed, but man in debt".[48] Crucially, for the political economy of 'actually existing' neoliberalism from the 1970s onwards, this includes states, who come to operate under the constant, non-specific threat that they might be punished by financial markets. While credit-rating agencies work through the traditional discipline of economic analysis, critical evaluations and published reports, this is really an effort to anticipate the more pervasive, indeterminate, uncritical control which is exerted by financial markets over political institutions.

Personal finance is also a basis for control.[49] The combined effects of financial deregulation and increased computing power means that credit is no longer offered on the basis of any identifiable judgement (for instance, through a conversation with a bank manager), as it was in the society of discipline. There is no single test of credit-worthiness under this 'actually existing' neoliberalism, and consequently nothing to actually fail at. Rather, all available knowledge about the person is combined from various sources, to establish what terms credit *will* be provided. The criteria of assessment are obscure, although they are multiplying rapidly thanks to ubiquitous digitization: the British online pay-day lender, Wonga, boasts of using 8,000 data points when assessing a borrower.[50]

[48] Deleuze, op. cit.
[49] Maurizio Lazzarato, The Making of the Indebted Man: An Essay on the Neoliberal Condition, Cambridge, Mass, MIT Press, 2012.
[50] Joe Deville, 'Wonga is watching you… how payday lenders follow your online trail', The Conversation, 28th May, 2013.

It is undoubtedly the case that neoliberalism brings more and more areas of life under the controlling technology of financial markets.[51] But the history of 'actually existing' neoliberalism since the 1970s also demonstrates the limits of control via markets. Hayek, in common with most European neoliberals of the 1930s and '40s, believed that markets could only allocate specific types of goods, and a form of collective welfare provision was necessary outside of these limits.[52] Where price was not in effect, disciplinary institutions would be necessary instead. A progressive manifestation of this would be the 'social market' model, combining high levels of public provision with strict neoliberal policies in relation to anti-trust and monetary regulation.[53] But a more influential alternative has been to use the disciplinary power of accounting, management and economics as a perpetual critique of state, society and public.[54] Hence, actually existing neoliberalism has witnessed *both* increased power for control by financial markets, *and* increased power for discipline by audit, risk assessment, cost-benefit analysis, appraisal, evaluation, customer satisfaction surveys, target-setting and so on. What Foucauldian scholars characterised during the 1990s as 'advanced liberalism', manifest in governance, governmentality and endless risk management, suggested that the society of discipline (at various social scales) was still in rude health.[55]

[51] Greta Krippner, Capitalizing on Crisis: The Political Origins of the Rise of Finance, Cambridge, Mass, Harvard University Press, 2012.
[52] Angus Burgin, The Great Persuasion: Reinventing Free Markets Since the Depression, Cambridge, Mass, Harvard University Press, 2013.
[53] Ralf Ptak, 'Neoliberalism in Germany: Revisiting the Ordoliberal Foundations of the Social Market Economy', in Philip Mirowski & Dieter Plehwe, Eds. The Road From Mont Pelerin: The Making of the Neoliberal Thought Collective, Cambridge, Mass, Harvard University Press, 2009, pp98-138
[54] Foucault 2008, op. cit.
[55] Graham Burchell, Colin Gordon, Peter Miller, The Foucault Effect: Studies in Governmentality, London, Harvester Wheatsheaf, 1991; Nikolas Rose & Peter Miller, Governing the Present: Administering Economic, Social and Personal Life, London, John Wiley & Sons, 2008.

In its historical practice, therefore, neoliberalism has involved an expansion of the scope of disciplinary technique, precisely so as to open up new possibilities for control by financial market. Post-2008 austerity measures, for example, have involved more acute forms of discipline placed upon public services, welfare claimants and government finances, out of a generalised feeling that this is what financial markets 'want'. But of course it is in the nature of the constant, fluctuating nature of markets that they never reach a judgement on this one way or the other. As Streeck argues, "much as 'the markets' want clarity from governments, they are not prepared to give it themselves".[56] When discipline and control combine in this way, the relationship is sharply asymmetrical, indeed parasitical. We might further challenge Deleuze's assumption that 'control societies' are *succeeding* 'disciplinary societies', and suggest instead that the former are sucking the energy and power from the latter, but nevertheless depend on them.

On the other hand, the disciplinary techniques that were adopted and invented under applied neoliberalism were typically extracted from or inspired by the domain of power which Deleuze saw as providing the logic of the control society, namely the corporation. 'New public management' began by adopting the more rationalist, disciplinary techniques of corporate management, as they had developed from the 1950s onwards.[57] The endless auditing of public services suggested that they were quasi-corporations, in which taxpayers (or bond-holders) were the shareholders. The reinvention of the state as a corporation, which must aim for 'competitiveness' in everything it did, involved critical, expert techniques of discipline. These were not disciplines of the 'social', as attacked by Hayek, but disciplines of enterprise.

[56] Wolfgang Streeck, Buying Time: The Delayed Crisis of Democratic Capitalism, London, Verso, 2014, p113.
[57] Christopher Hood, 'The "new public management" in the 1980s: variations on a theme', Accounting, Organizations and Society, 20:2-3, (1995), pp93-109

Neoliberal 'governance' principally involved reinventing non-market actors as 'enterprising'.

The metaphor that a nation is a 'corporation', its politicians the 'managers' and the President its 'CEO' was a largely metaphorical exercise, conducted by business gurus and think tanks.[58] But arguably it was a crucial step towards a more complete shift into a society of control, than the digitisation and globalisation of financial markets was adequate to achieve. Once the population is viewed as a corporation and political institutions as 'brands', then the next step may be to employ the same techniques of control that corporations have been using since the 1920s, in order to 'modulate' behaviour in a constant, uncritical fashion. This is what we now witness in the return of the 'social', as something which can be quantified, nudged, mined and probed. In an age of ubiquitous digitisation and algorithmic data analytics, the same anti-disciplinary qualities which Hayek applauded in the price system are now manifest in non-market social relations.

Conclusion: the chronic social

One way of understanding what is happening to social relations today, as they become digitised, quantified and analysed, is that they are taking on the phenomenology of financial markets. Quantification of relationships, affects and behaviours is happening in real-time, very often in ways that can be seen and studied by those whose data is gathered. 'Feeds' and 'streams' of 'social' data now flow through digital displays in an equally interminable, liquid fashion as financial prices

[58] Davies, 2014, op. cit.

have done on TV screens and dot matrix displays since the 1980s. City dashboards offer plural, real-time indicators of weather, traffic, financial markets and twitter sentiment/trends, all in a single place. If neoliberalism is viewed only as 'marketisation', 'individualism' or 'economic imperialism', then we might argue that social relations have reappeared as private goods to be priced and consumed.

But this misses a feature of the 'social' today, which Deleuze's essay helps us to interrogate, namely its chronic nature. The 'social' that Hayek criticised belonged to the societies of discipline, involving the production of facts. This meant that it possessed its own punctuation: evaluations, measurements, disciplinary social sciences, norms. It had tests and procedures, to be followed, including both the methodologies involved in representing it by experts, and the practices which individuals were required to follow as members of this 19th century model of 'society'. By contrast, the 'social' that is emerging today, in cases such as the Quantified Community of New York's Hudson Yards, is one that lacks critical moments or tests. It generates no facts, but only sensory impressions.

The return of the 'social' represents a new phase in the project of neoliberalism, that affirms a Hayekian commitment to technologies of control. Neoliberal critique has often appeared resolutely hostile to the very idea of the 'social' but, as I have argued, this hostility was really aimed at the specialists, the disciplinarians, the social scientists, the methodologists, who rendered the social world 'objective'. Their technologies of knowledge were critically abstracted from the dynamic world which they sought to represent. By contrast, the age of social media, urban informatics and social analytics is one in which relationships, friendship, crowds and community are technologies that can perform a *similar* role to money and prices. To say that the

social is therefore being 'priced', 'sold', 'economised' or 'commodified' is too simplistic. On the contrary, the new technicity of the 'social' may represent a genuine challenge to the role of money and price as forms of calculation, holding out possibilities for radically new forms of valuation and resource allocation.[59] Suddenly the 'social' has acquired a visibility which is no longer dependent on social theories, discipline or methodologies, meaning that it now displays the dynamic phenomenological and epistemological qualities which Hayek sought to rescue from the perceived threat of disciplinary socialism.

In this epistemological and phenomenological sense, both the inhabitant and the analyst of a 'quantified community' can now dwell in the same state of constant anxious fluidity as a financial trader or an entrepreneur. If the 1979-2008 phase of 'actually existing' neoliberalism depended heavily on techniques of discipline in order to establish a global financial stream of control, perhaps the new phase of neoliberalism will gradually roll back the disciplinary society once and for all. Even those who do not work in the higher reaches of finance or corporate business will gradually learn the entrepreneurial art of what Schumpeter termed "seeing things in a way which afterwards proves to be true". A utopian vision of a control society, present in Hayek's theory of price, in paeans to the 'network society', and in boosterish accounts of urban informatics, would see this as the goal: the end of discipline, the end of specialism and the end of critique.

Can we avoid the seduction of this vision, without simply appealing to the sanctity of past discipline, like Weberian throwbacks? In stressing the importance of the corporation to societies of control, Deleuze at least gives us a clue as to how we

[59] Adam Arvidsson & Nicolai Peitersen, The Ethical Economy: Rebuilding Value after the Crisis, New York, Columbia University Press, 2013.

might do so. The utopian vision of control societies assumes that everybody can be simultaneously 'smart' and 'dumb' in an identical way. Everybody is taking decisions, the whole time, neither obeying nor disobeying, just modulating and being modulated. Nobody is really in charge of a system that lacks any institutional boundaries or routines, nor can anyone sit outside of it as a pure observer. Financial markets provide a paradigmatic case of this type of control technology.

But if the corporation is viewed as the paradigm of control, rather than the market, various types of political inequality start to become visible. Schumpeter was fully aware that only a tiny minority of people could cope psychologically with a life of constant surfing, without rules or discipline: these people were leaders and entrepreneurs. Others needed rationalist structures and norms which they could inhabit. In practice, corporations made increasing use of behaviorist and affective techniques to manage employees and consumers, rather than bureaucratic discipline. This facilitated the ideological illusion that the consumer, middle manager or the employee was just as autonomous and heroic as the CEO or the entrepreneur; *everyone is a leader*. Yet the very fact that consumers, middle managers and employees are subjected to constant surveillance, behaviorist experimentation, emotional monitoring and manipulation, is an indication that the corporation is a dualistic political entity, involving two different forms of affective orientation. There is strategic leadership for a small coterie of executives; there is behaviorism for everybody else. As the corporation has become financialised, two parallel sets of control technologies are at work side by side, scarcely ever touching each other. Executives must orient themselves emotionally in the face of constantly moving financial markets. Everyone else must orient themselves emotionally in the face of constantly moving brands, symbols and affective interventions. If Hayek saw the

virtue of the market in making everyone equally smart and equally dumb at the same time, the virtue of the corporation is that it makes a small minority unusually smart, and the vast majority unusually dumb, with some gradations in between.

Deleuze suggests that this same political and epistemological project is now being projected outwards, beyond the limits of the corporation, across society at large. The adoption by governments of behaviorist tools, such as 'nudges', Cognitive Behavioural Therapy and 'social marketing', appears to confirm that he was right. Ubiquitous surveillance and Big Data allows techniques of corporate power to flood spaces that were previously beyond rationalisation, even by markets. While all of this may be suffocating, it is also potentially more politicising than a society dominated by discipline. In a disciplinary society, a judgement or methodology was enacted, a conclusion was reached, and that was the end of the matter. The facts were established, and people moved on. But where such resolution is never achieved, decision-making has nowhere to hide. While the data ideologues continue to argue that we no longer need managers or experts, merely machines for interrogating data, serious sociological analysis would explore the ways in which consultants, contractors, IT companies, software engineers are ever more reliant on *decisions*, because numbers are no longer capable of settling disputes in the way Boltanski and Thevenot explore. These are not the consumer 'decisions' beloved of behaviorists, but the executive decisions taken by the architects of control technologies. These decisions do not go on in public, and these experts have largely inherited the same invisibility that the disciplinary societies granted to bureaucrats. Their lack of clear accreditations or specialism, their peculiarly fact-free empiricism, their lack of any clear measures of evaluation and their constant, far-reaching meddling in everyday life, means that one great challenge for critical theory in such societies of control is

how to avoid falling into conspiracy theory. In addition to the "limitless postponements" of this epoch there is also the sense, born out of widespread behaviorist experimentation, that social reality (for instance, the built environment) has been designed around the needs of corporate managers and finance.

The most urgent objects of critical analysis, in control societies, are the divergent assumptions that are constantly being made about our capacity to cope with freedom, which then become embedded into technological infrastructures. We may all be 'entrepreneurs', 'surfing' through networks, never stopping to comprehend or to criticise, simply deciding and steering. But as infrastructures become 'smarter', so it becomes possible to hand over more decision-making power to the social environment, to the point where even consumer choices can be delivered 'predictively' on the basis of sensors and algorithms.[60] It is not just that people are placed in multiple different consumer niches; they are granted different degrees of autonomy, based upon existential distinctions regarding their capacity to cope with the sheer indeterminacy of the control society.

[60] Cass Sunstein, 'Shopping Made Psychic', New York Times, 20th August, 2014