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#3 *Unstable Infrastructures*

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THE EXPERIENCE OF DIGITAL OBJECTS – TOWARD A SPECULATIVE ENTROPOLOGY

I. PROLOGUE

Instead of attending the wedding of the cybernetic avant-garde with hippie modernism, society at large has decided to celebrate a sober solutionism whose sole aim is to capture and contain the contingency of expression. Uncertainty is circumscribed by risk analysis, prediction has been accorded the status of a core cultural technique. Weakened by the evolutionary violence of automation and a withdrawal from the social encouraged in a new literature of decline, labour is facing extinction as a model of subjectivity and self-determination. And unlike the movements of micropolitics in search of a shared self in spaces of appearance, the political economy of the algorithmic machine is sustained by an asignifying semiotics no longer even concerned with the constitution of publics.

Turning the momentum of micropolitics into the energy source of systemic change is a matter of exhaustion. Struggling to scale local successes, the breathless pragmatism of organization continues to circumscribe the horizons of political thought. Captivated and consumed by countless calls to empathy, we seem ill-prepared to reclaim senses of futurity in which ideas, in Baudrillard's words, would once again be ahead of their worlds.[1] Yet we should, if for no other reason than to recuperate the processes of collaborative constitution that produce us as common subjects.[2]

The question of human agency and intervention is increasingly side-

1 Cp. Jean Baudrillard, "Radical Thought", trans. David Macey, *Parallax*, 1(1), 1995, pp. 53-62.

2 Cp. Sylvia Federici, *Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle*, Oakland, CA, PM Press, 2012.

lined by the operational superiority of the machine. It turns out that our commitment to the subject, to questions of subjectivity and its constitution, has distracted our attention from the question of the agency of autonomous systems. Subjectivity is never divorced from the world of objects, it is always enmeshed with and constituted by parametric architectures in turn engineered from within the operation of digital objects. So above all, we need to attend to the status of the digital object – its role in processes of governance, its constitutive force in dynamics of institutionalization, its mise-en-scène in intimations of the future.

II. Speculative Entropology

It is the object that can tell us something about our own futurity. At least this is the case if we take seriously the possibility that distribution is our condition. The integration of systems of organization with computational architectures on a planetary scale has produced a technical society of distribution. How, then, to proceed in developing analytical registers of such conditions? To prototype a technique of method, we enlist the transcriptive persona and analytical device of the *entropologist*. For Claude Lévi-Strauss, entropology is "the discipline concerned with the study of the highest manifestations of this process of disintegration".[3] Lévi-Strauss is referring here to what he sees as the finitude, even termination, of human life brought about by the entropic cultivation of inertia, of civilizational disappearance precipitated by the fracturing and fragmentation of social structures.[4] In our usage, entropology is the study not of the acceleration of disintegration but rather of the computational amplification of distribution. When digital extraction technologies underscore the mode of accumulation, the intensification of distribution within a capitalist world system may well contribute to the disintegration of human existence. But this is not our focus. The speculative entropologist generates scenarios, literally understood as a mise-en-scène of conceptual ensembles to stage experimental encounters.

By elaborating an entropology that acknowledges the actuality of distribution and the need to reopen a speculative futurity over and against the determinist logics of prediction, this effort positions itself in the context of conditions in which digital objects are setting out to change who we are – they constitute and transform labour and life, subjectivity and experience, economy and society. While prediction is about

3 Claude Lévi-Strauss, *Tristes Tropiques*, trans. John and Doreen Weightman, London, Jonathan Cape, 1973.

4 For a critique of Lévi-Strauss and entropology, see Bernard Stiegler, *Automatic Society: Volume 1, The Future of Work*, trans. Daniel Ross, Cambridge: Polity, 2016, p. 14, pp. 242–247.

calculation (as in game theory), and contingency is approached as an accommodation made within a finite range of possibilities, speculation offers a utopian gesture (even in speculation by day traders in stock markets). This is a gesture to hold on to, wherever we find it, a gesture of hope that another world is not only possible, but will happen.

Rather than accepting the grammatization of gesture through prediction, we affirm the power of the gesture of speculation to "awaken other gestures".[5] As a way of thinking that is both corporeal and open to conceptual encounter, gesture is both utopian and minor – critique begins with the simple gesture of a "what if", and with the rise of prediction as the master paradigm of futurity we need to revisit the minor question of what futurity is, how it operates as a thought, but also how it is being turned into a logic of operation. There is also a mode of anticipation in which older media aesthetics and conventions preempt our gestural dispositions and affective states in the encounter with digital objects. Think, for example, of how when addressing facial recognition technologies in airports we routinely adopt a pose equivalent to the photograph in our passports. Facial recognition software does not require such a gesture since it primarily operates through a diagrammatic analysis and database comparison of the relation between key facial features (eyebrows, eyes, nose, mouth, jawline, cheekbones). Pulling a face does not alter the relation between these core elements. Nonetheless, our social-technical training in the protocols of identification effectively predetermines the gestures we make in the world. The society of the spectacle, intensification of self-inspection and a culture of general narcissism posit gesture as an act always-already grammatized by the technical. A speculative entropology is expression not constrained by calculation or the parameters of the program. Instead it unfolds modes of relation open to contingency. And as entropology, it allows us to remain attentive to processes of subjectivation in an entropic drama of dissipation and distribution in which the digital object has come to play a leading role.

III. Sovereign Distributions

Much analysis suggests that it is the distribution of market logics across the social that should concern us most, the subsumption of subjectivity

5 Gilles Châtelet, *Figuring Space: Philosophy, Mathematics, and Physics*, trans. Robert Shore and Muriel Zagha, Dordrecht/Boston/London, Kluwer Academic Publishers, 2000. In proposing a grammatization of gesture we are drawing on the work of Paolo Virno, *A Grammar of the Multitude: For an Analysis of Contemporary Forms of Life*, trans. Isabella Bertoletti, James Cascaito, and Andrea Casson, New York, Semiotext[e], 2004 and Bernard Stiegler, *Automatic Society*. On the relation between technical life and the organization and "*spatialization of the time of a gesture*", cp. Stiegler, p. 62. Italics in original.

in new regimes of valorization. But if distribution is a condition, a dichotomy of state and market alone cannot frame analysis. Instead, the "zones of indifference" and "sovereignty reserves" between state and market neither acknowledged nor fully comprehended by such dichotomies offer if not a wholly new narrative of modernity, at least a complementary view onto how we might reclaim analytical positions that don't simply seek to "reembed" cultural, economic, and social processes but take seriously that distribution is beyond reaggregation.[6]

Neoliberal fictions of the minimalist state notwithstanding, the state never disappeared so much as subjected itself to an ongoing program of transformation framed by the evolution of the cybernetics of governance.[7] As a consequence, the institutional practices of governance have been distributed across digital communication systems far beyond conventional territorializations of statehood. Freed from responsibility rather than usefully framed for reflection by the terminological tarrying of the "digital society", governance is now immanent to and indexed within the composition, work, and logics of operation of the digital object. While contemporary modes of governance cannot be comprehended *only* as operations of the digital, we suggest to inspect such operations if we wish to obtain a comprehension of the current

6 Joseph Vogl, "The Sovereignty Effect: Markets and Power in the Economic Regime", trans. William Callison, *Qui Parle*, Special Dossier: Rethinking Sovereignty and Capitalism, 23(1), 2014, pp. 125–155. This, if anything, is our take on the "Anthropocene" – the material effects we continue to produce far exceed our ability to govern their long-term consequences. And the task of a (Beckian) cosmopolitics would be two-fold – limit these effects and increase our ability to govern. The question raised by distribution is whether we are willing to accept that in many instances there is very little we can do. Whether we are ready to ethically and institutionally reframe our processes of innovation is based on the premise that their implications will be ungovernable. Or (think Andy Weir's *The Martian*) whether we would rather hold on to the cosmopolitical promise of a technological solutionism. Cp. Ulrich Beck, *The Metamorphosis of the World: How Climate Change is Transforming Our Concept of the World*, Cambridge, Polity Press, 2016.

7 The general consensus among critics of neoliberalism is, of course, that the regulatory power of the state has expanded and multiplied rather than diminished over the past thirty years or so. See, for example, Philip Mirowski: "contrary to their libertarian fellows travellers, neoliberals also subscribe to the doctrine of the strong state, one poised and willing to build and maintain the world of markets, in which their view conforms to their vision of an even greater freedom". And: "the neoliberal solution [to problems in the biosphere] is to enlist the strong state to allow the market to find its own way to the ultimate solution". Philip Mirowski, *Never Let a Serious Crisis Go To Waste: How Neoliberalism Survived the Financial Meltdown*, London/New York, Verso, 2013, pp. 334, 336. Our point here, however, is that a discourse and imaginary of a minimalist state prevails as a preferred and even dominant condition no matter if the state has actually multiplied over the last thirty or so years (a position that we would also argue). That both the left and right frequently attribute the neoliberal state as one that has diminished in size if not scope points precisely to the internal contradictions and analytical misrecognition that underlies the relation between the imaginary and actually existing conditions.

conjuncture and future-present.[8]

If the object is the institution, the state manifests within entirely new institutional forms insofar as the protocological regimes of the digital are able to scale across social settings. Throughout his later writings Michel Foucault went to great lengths to explain the work of governance as those activities and techniques concerned with "the conduct of conduct" not limited to the institution or state.[9] If indeed the state is increasingly constituted through digital objects and their operations, then we can turn to an analysis of the digital to discern the new contours of statehood and the object as institution.[10] Not surprisingly, intimations of future statehood are largely absent from the "ecologies of innovation" created in the image of the Valley of Heart's Delight, an agricultural wonderland once expected to feed and sustain those who put their faith in manifest destiny and envision its pursuit as an eternal exodus from constraint.[11] Such occlusion conveniently obscures the fact that much of what passes as technological innovation is the outcome of publicly funded research. Technological solutionism now claims an imperial vista that supplies consumers, entrepreneurs, and policy makers across the world with an ethos of commitment to an infinite now as an insurance against fragile futures.[12]

Algorithmic regulation is Tim O'Reilly's nostrum for an obstructionist state, where the penetration of parametric politics into the

8 To attend to the epistemic horizon registered by the technical properties and parametric architectures of such objects, analyses across the political spectrum continue to borrow from the immense imaginaries of conspiracy theory, which has never been constrained by statist territorializations and offers examples of a rogue "cosmopolitics" (including the distribution of a "deep state" across a wide array of apparatuses and para-state civil society networks) Beck would never have approved of but probably urged us to explore. Beck's focus on "metamorphoses" resonates with our interest in the dynamics of change comprehensible from the perspective of an entropology. The state beyond the state – not as a "deep" or "shallow" state, but as a distributed state.

9 Luciana Parisi and Steve Goodman extend this analysis of power as a mode of biopolitical control organized through mnemonic technologies of governance whose operative logic is an affective prehension of that which is accorded life. Their interest is in the "speculative operation of preemptive power". Luciana Parisi and Steven Goodman, "Mnemonic Control", in: Patricia Ticento Clough and Craig Willse (eds.), *Beyond Biopolitics: Essays on the Governance of Life and Death*, Durham, Duke University Press, 2011, pp. 164–176.

10 Cp. Keller Easterling, *Extrastatecraft: The Power of Infrastructure Space*, London/New York, Verso, 2014, pp. 71–93.

11 Which is why Milo and non-alt-right Berkeley crowds actually go together quite well. And while we don't need another rant on the valley's libertarian culture, we should simply not expect reflections on the future of statehood from its thinkers.

12 Similarly, this engagement necessarily includes the failures of populist politics. Populist projects have proven unable to address the condition of distribution beyond identitarian reterritorializations (against migration) and mercantilist economics (against free markets). Decisive exceptions to the rule are the "peer-to-peer" populisms that are being developed in cities across Europe and the U.S. in the spirit of commoning, cooperativism, and the meso-politics of a new radical municipalism. These are some of the most exciting political processes of our time.

minutiae of daily life is outsourced to engineers and IT spruikers hitched to the libertarian machine.[13] Evgeny Morozov correlates algorithmic regulation with outcome-driven modes of technocratic governance consisting of "the data-obsessed and data-obese state of behavioural economists".[14] The migration of techniques of governing populations to algorithmic apparatuses financed by venture capital signals the diagrammatic of algorithmic control, intensifying technologies of the self and the financialization of life.

At the same time, the infrastructural dynamics created to autonomize and accelerate distribution machines offer a lot to any thought struggling with the organizational challenge presented by operations of the digital.[15] It is not an accident that the technical terms of the extractive industries are being generalized into the organizational metaphors that seek to totalize economies of capture. And, if nothing else, the ongoing series of catastrophic instantiations of such a logic of chance-based constitution – from stock-market crashes to infrastructural failures – reminds us of the actuality of distribution as a condition that is neither ruled nor governed by a single logic of control. Second-order big data projects like the U.S. Securities and Exchange Commission's Market Information Data Analytics System (MIDAS) notwithstanding, alternative models of politics are not yet more than a touching effort to approach black-box trading through a magnifying glass.[16]

Affecting our very ability to engage with the catastrophic conditions that define the current conjuncture and planetary future, a commitment to immanence implies that the analytical idiom of structures and systems is approached in terms of a profound processuality rather than the stasis or relational equilibrium that these terms seem to suggest. There is nothing radical about processuality.[17] Search algorithms are adjusted

13 Cp. Tim O'Reilly, "Open Data and Algorithmic Regulation", in: Brett Goldstein with Lauren Dyson (eds.), *Beyond Transparency: Open Data and the Future of Civic Innovation*, San Francisco, Code for America Press, 2013. Available at: http://beyondtransparency.org/ [accessed June 29, 2017].

14 Evgeny Morozov, "The Rise and Death of Data Politics", *The Guardian*, July 20, 2014. Available at: https://www.theguardian.com/technology/2014/jul/20/rise-of-data-death-of-politics-evgeny-morozov-algorithmic-regulation [accessed July 29, 2017].

15 They also tell us how difficult it is to really leave technological determinism behind, as even the effort to "reappropriate" leaves the primacy of technological innovation unchallenged. The current interest in blockchain applications across the fields of collective cultural, economic, and social organization is a case in point.

16 Cp. U.S. Securities and Exchange Commission, "MIDAS. Market Information Data Analytics System", 2013. Available at: https://www.sec.gov/marketstructure/midas.html [accessed June 28, 2017].

17 While we consider the work of Félix Guattari radical for his commitment to modes of social experimentation that generate new conceptual propositions, much of the work in nascent field of "new materialism" is considerably less adventurous and generally risk averse, preferring instead to join the refrain of statements and claims around processuality, affect, radical empiricism, individuation, assemblages, and the like.

several times a day, commodity prices fluctuate depending on the operating system of the device used to initiate a purchase, credit ratings are recalibrated once we move to a different neighbourhood, employment opportunities are modulated according to our social networks. Processuality does not grant us epistemic privilege. But it is indispensable to any analysis of experience.

IV. Experience Infrastructures

The idea of the digital object describes a conceptual space as much as the infrastructural actuality of distribution.[18] To analyse the transformation of sovereign power through the optic of infrastructure requires more than attention to infrastructural relationalities. Or rather, the relational will not suffice as the end point in thinking infrastructural arrangements within and through which economy and society, labour and life are governed. Instead, this requires attention to various registers of material constitution – from the design of infrastructures to the legal frameworks governing their operation. In our exploration of the operational logic of the digital object, the processual comprehension of computation joins forces with a neo-Kittlerian focus on hardware without which both a semiotics of software and any analysis of the autonomy of algorithmic systems would remain ontologically incomprehensible.[19]

Sociologists Nick Fox and Pam Alldred embody well the extent to which such ideas have become part of the repertoire of a certain kind of template theory that is rife across the more theoretically inclined humanities: "the processual character of assemblages undermines any conception of a determining social structure that shapes bodies or subjectivities. Both the exercise of power or control and the capacity to resist such power and control must be explored as socially and spatiotemporally specific occurrences within continual and continuous flows of affect in assemblages." (402) It is safe to say that such approaches have little chance of addressing the empirical conditions peculiar to the operation of power, and are even more unlikely to devise original conceptual formulations to describe and analyse the logic of power. Cp. Nick J. Fox and Pam Alldred, "New Materialist Social Inquiry: Designs, Methods and the Research-Assemblage", *International Journal of Social Research Methodology*, 18(4), 2014, pp. 399–414.

18 For Yuk Hui, digital objects include software applications and platforms, hardware, bugs, viruses, and code. More than anything, however, the digital object for Hui consists of computational schemas or structures that organize metadata as ontologies. Hui is interested in the existence of digital objects – their "thinghood" and existential qualities and capacities, their conditions of emergence, and their relation to humans and the world. Sharing some of the philosophical interests of Hui, we focus on the situation of digital objects within a complex of material and political forces that bear upon the production of subjectivity, aesthetics, and modes of organization. Cp. Yuk Hui, *On the Existence of Digital Objects*, Minneapolis, University of Minnesota Press, 2016.

19 Part and parcel of the mythologies affirming the governability of innovation (and in true Kittlerian spirit, war and other states of exception always feature prominently in such accounts), the fellowships gathered to defeat the dark forces remind us of the central role of instituent practices – not necessarily in the radical sense of social movement theory, but of the enthusiastic extrapolation of loosely coordinated agency into (temporary) institutional forms. See, for example, George Dyson's *Turing's Cathedral: The Origins of the Digital Universe*, New York, Vintage, 2012.

The apparent joy of researchers embracing the possibilities of visualizing archives and advancing data analytics to generate a neo-positivist hermeneutics of the world reminds us that disciplines generally prefer to shelve the problematic of a politics of subjectivation within machinic systems. If it is true that both the school and factory were once ruled by the same logics of disciplinarity, we now witness the voyeuristic enjoyment of data-driven knowledges across the social field. Given the harsh realities of work in underfunded universities, there is little to argue with the enthusiastic ludification of academic labour. But if we use big data not only in the sense of big oil or big pharma (as suggested by Morozov) but in the sense of the "big society" as a logic cutting across institutional terrains (a bungled version of which has already been tested in UK politics), the neo-positivist retreat from immanent critique severely hampers our ability to comprehend the systemic dynamics of multi-scalar transformation.

Unlike empiricism, positivist analysis cannot be a form of immanent critique. It posits as its own condition of possibility a position of exteriority in both spatial and temporal terms. With the surging recognition of digital humanities, the uptake of digital analytics across disciplines, governmental and industry practice, and the extinction of post-structuralist critical inquiry, much academic research has unwittingly defaulted to positivism as the explanatory idiom by which the world is revealed. Most depressingly, neo-positivism has been welcomed with a collective sigh of relief that educational modes of relation no longer have to be organized around the demanding (and largely unpaid) labour of critique, historical contextualization, and the reflexive gestures inherited from second-order cybernetics.[20]

Yet if distribution is our condition, nothing exists simply in one location. Somewhat ironically, while the philosophical turn of the "post-structural" has been most harshly attacked for failing to articulate a political vision, its attentiveness to the agency of language has done more

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20 This is usually where affirmations are staged of the key role of (un)civil society and research actors that are neither state nor market. Yet while support for social innovation methods and the collaborative economy is welcome and overdue, the renaissance of civil society in public policy should give us pause in relation to new agendas of self-regulation in which "civil society" is once again expected to repair the collateral damage of technological solutionisms. On the critique of neo-positivism in the digital humanities see, for example, Alexander R. Galloway, "The Cybernetic Hypothesis", *differences: A Journal of Feminist Cultural Studies*, 25(1), 2014, pp. 107–131. Noting how the deployment of positivistic methods of calculation, measurement, and extraction by researchers and data processors in the IT industries aligns capitalist enterprises with intellectual work in universities, Galloway acerbically remarks of the digital humanities that "[s]uch methods are at best underfunded and impotent cousins to the new algorithmic industries and at worst unknowing shills for that same system of canalization and debasement". (110)

than most "turns" to focus attention to the materiality of the distributed object. Additionally armed with Marx's "Fragment on Machines" to comprehend algorithmic governmentalities, we need to understand the object through the optic of immanence and immersion. If, as Althusser submits, there is a "subterranean materialism of the encounter", it exists not only in the terms of alternative genealogies of materialist thought, but in the attention to the distributed character of the object and the aleatory dynamics of constitution unfolding below the thresholds of human cognition and perception.[21] This is a post-production perspective from which the object is always-already distributed. Engaging with the question of machinic modes of relation as matter of aesthetic experience, artists like Hito Steyerl have been making the case that the condition of distribution requires a technical reframing of the question of experience itself that takes into account the historical feminization of labour in production processes.[22]

The documentary aesthetics informing our faith in the coupling of visibility and governability are failing us in the comprehension of the futurity of cognition. Visualizations of network topologies, database analytics that reveal hidden narratives of the archive, cluster maps of the Twittersphere, infographics that seek to explain complex systems – these are just some of the prevailing techniques invested in modes of revelation that, like big data analytics, often have more to say about their method than the semiotics of material conditions. And while we do not suggest that fringe formations that have never been central to academic economies of recognition such as speculative design or that science fiction constitutes paradigmatic proposals, they offer us an intimation of parables of the future that listen to the language of things.[23]

V. Research Aesthetics

In spirit of an engaged entropology, we ask how the "realism of relations" (Simondon) – a materialist realism that organizes relations of constitution – is first and foremost programmed into the operational logic of objects. If we begin with the object as that which delineates processes of subjective constitution, the analytical horizon of a speculative entropology allows us to trace the distributedness of things, indexing the labour of their production. As a figuration of coproduction and

21 Louis Althusser, *Philosophy of the Encounter: Later Writings, 1978–87*, trans. G. M. Goshgarian, London, Verso, 2006.

22 Cp. Hito Steyerl, "Too Much World: Is the Internet Dead?", *e-flux journal*, 49, 2013. Available at: http://www.e-flux.com/journal/49/60004/too-much-world-is-the-internet-dead/ [accessed June 28, 2017].

23 Cp. Hito Steyerl, "The Language of Things", *Transversal*, June, 2006. Available at: http://eipcp.net/transversal/0606/steyerl/en [accessed June 28, 2017].

collaborative constitution, the speculative entropologist fielding these dispatches is itself an experience machine, retrieving logics of operation to confront the power of digital objects that have set out to structure labour and life. But if experience is a key terrain upon which algorithmic modes of extraction are played out, research itself must become an aesthetic practice.[24]

Called upon to witness our own condition, we find it impossible to single out the topological layers of everyday experience. Disturbed by epistemic latencies whose variability again escapes human cognition and perception even while they structure social and economic life through computational systems, dynamic signal-message ratios give us a sense of the limits of certainty. Our condition of distribution and communication is also a condition of asynchrony. We share Lévi-Strauss's lament of the passing of worlds – the entropologist captures a sadness that is also an analytical comportment. But rather than accepting the passage from melancholy into nostalgia (for the analogue, for the public sphere, for the autonomy of aesthetic experience) or descending into depression, we must turn it into method – into the attention to things (Benjamin) and their charm in the world. And what better way to live with this melancholy than to produce that which has been lost as an object of inquiry.

What comes into view as we explore distribution as a condition is the "distributedness" of our own agency, a comprehension of agency in terms of the material continuity of effects across vast spatial and temporal scales.[25] In the context of experience economies, what happens to concrete cases of work is what happens to work as such. What is at stake is the epistemological and in fact ontological privilege we accord labour in relation to the singularity of human experience and production of subjectivity. By extension, this demands an interrogation of the aesthetic, economic, and political models we have built on this privilege. But first, it is a matter of charting the cosmopolitical composition of one's own activity:

> "The constitution of anyone's work is a mixture of human and nonhuman which can be analyzed ecologically. But the nature

24 In our experience, a multidisciplinary essayism is a conceptually and aesthetically adequate form of engagement with questions of aesthetic experience. Style has returned as a matter of concern economically, so critique must register this re-emergence of the aesthetic and not pretend that language simply names that which is already given. This is especially the case when the language of critique is mobilized from within a horizon of mediation and practice. McLuhan, Flusser, and Steyerl are among the many people who have done much to develop this genre.

25 Helen Veran, "Afterword: On the Distributedness of Leigh", in: Geoffrey C. Bowker, Stefan Timmermann, Adele E. Clarke, and Ellen Balka (eds.), *Boundary Objects and Beyond: Working with Leigh Star*, Cambridge, MA, MIT Press, pp. 499-500, here: p. 500.

> and quality of that composition will reflect back on the organization of work in important ways… To change the ecological mix with respect to my work organization means changing the organization in which I work. It is not merely an exercise of imagination, but a real political risk."[26]

Working with this risk will be a key task of future research. As the operations of capital (production, distribution, exchange, labour power) organized through computational architectures and logistical models move into the focus of political analyses and studies of contemporary labour, we are still struggling to generate the diagrams on which such analysis could be built.

While such strategies for the interregnum might buy the time needed to come up with alternatives, there is no future here to push back the horizon of a now that appears to close in on us. High-frequency trading, machine learning systems, the rise of the sensor city, the financialization of life through the subsumption of self-optimization by insurance industries: where does politics situate itself in a world of distributed objects, many of which operate beneath the threshold of human perception? The calls for open data, transparency, and accountability are all undermined by computational architectures of inspection and control (Snowden, NSA, WikiLeaks, etc.): how do we think the political if it can no longer be organized as a space of appearance?[27] In a world in which the scene of politics assumes spectral qualities, inventing figures of thought is less a matter of finding definitive frameworks of analysis than of engaging in the art of casting spells over a world of ghosts – a necessarily provisional, hence minor gesture.

Above all else, aesthetic practices issue probes into multiple worlds whose simultaneity irritates our experience of the contemporary. Our interest here is less to untangle epistemological disputes and more to acknowledge the general uncertainty surrounding how to deal with experience-objects, using the term "research aesthetics" in the diagrammatic sense of a metamodel. In such a context, design, or a reclaimed and repoliticized vision of arts-and-technology research is above all a form of analysis that takes "making" beyond its nostalgic embrace of manual labour into a form of machinic comprehension that acknowledges and takes advantage of the actuality of subjective constitution. Machinic is invoked here in the sense of the "fragment on machines" – a distributed assemblage whose operational logic both enables and limits the autonomy of its constituent elements as well as the

26 Susan Leigh Star, "Revisiting *Ecologies of Knowledge: Work and Politics in Science and Technology*", in: Bowker et al. (eds.), *Boundary Objects and Beyond*, pp. 1-36, here: p. 34.

27 Cp. Judith Butler, *Notes Toward a Performative Theory of Assembly*, Cambridge, MA, Harvard University Press, 2015.

extent of its involvement in the production of subjectivity.[28] To operationalise the machine, we need a collective language – a way of naming, an idiom of expression, which entails the singularity of practice – that helps organize the production of subjectivity and living labour in ways that are not constrained by the formatting of action in algorithmic architectures.

The digital object calls for analytical attention not least because it has set out to determine how we approach it; one implication of autonomous systems is that they frame our encounter with them, and in doing so establish protocols of relation and exchange. For us, the digital object is a processual dynamic that makes distribution possible. We will need to experiment with what this distribution implies, exploring its consequences for theories of state, market, and our own agency. The emergent algorithmic assemblages from finance capital to political insurrection are not without social articulations, but our theories of individual and collective agency may not be capable of comprehending them. Adding a speculative turn to the "realism of relations" (Simondon), these notes sketch an entropological research practice that traces processes of constitution that cut across multiple worlds. The return of positivism is not a conspiracy but the exhaustion of a particular variety of immanent critique. We refuse to be exhausted.

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28 Cp. Maurizio Lazzarato, *Signs and Machines: Capitalism and the Production of Subjectivity*, trans. Joshua David Jordan, Los Angeles, Semiotext[e], 2014.