ARTIFICIAL INTELLIGENCE: WARPED, COLORFUL FORMS AND THEIR UNCLEAR GEOMETRIES

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In *The Ceremony Found: Towards the Autopoetic Turn/Overturn, its Autonomy of Human Agency and Extraterritoriality of (Self-)Cognition*, Sylvia Wynter introduces the concept of autopoetically instituted living. For Wynter, autopoetic instituted living is a dynamic site of empirical ordering, set forth by the conditions of colonialism and the extension of the humanist project into the construction of the ideal form of Man. The architecture of this project was dependent upon, as Kara Keeling has argued, the positioning of the racialised body as visible only in as much as they could be brought into being via empirical forms of knowledge. As consequence—returning to Wynter—these spatio-temporal coordinates are not only predicated on the humanist imaginary, but also constitute a "lawlike correlation between our modes of knowledge production and the auto-institution of our social realities."[1]

The auto-institution of social reality is an important notion in Wynter's thesis, as it illuminates the colonial relation as the product of an extensive network of data that are extracted from the site of the colonial co-ordinate—a co-ordinate that comprises what she calls the bioepisteme, an operative function that replicated the ordering of social reality through data and the imaginary of hierarchy. For Wynter, however, this system is recurrent, organic, and self-producing of the relations found within it.

1. Sylvia Wynter. "The Ceremony Found: towards the autopoetic turn/overturn, its autonomy of Human agency and extraterritoriality of (self-)cognition," in Black Knowledges/Black Struggles, ed. by Jason R. Ambroise and Sabine Broeck. Liverpool: Liverpool University Press, 2015, 203.

In this case, the continual reinstatement of whiteness as the centre of species relation. This centering enacts a fictive mode of truth, or what Lewis Gordon defines as a white prototypicality that understands itself as the standard through which the ideal model of species exists.[2] Gordon turns to Wynter's interpretation of Fanon to illustrate the psychic strain this imposes on the racialised figure within an autopoietically instituted living system.

Humberto Maturana, Francisco Varela and Ricardo Uribe developed the concept of autopoiesis to explain the phenomenon of living organisms and their cognitive capacities.[3] An autopoietic system, therefore, is an enclosed and autonomous system that distinguishes living from non-living systems. It describes living organisms as 'self-producing' and the nature of perception and intelligence as subject-dependent. Autopoiesis is also a generative process of recursive re-creation, particularly of the self. According to Maturana, Varela and Uribe, an autopoietic system is realised in a particular structure and is independent of its environment.[4]

A key point of the concept of autopoiesis is the relation Maturana, Varela and Uribe establish between closed recurrent systems and cognition.

2. Lewis R. Gordon., "Is the Human a Teleological Suspension of Man? Phenomenological Exploration of Sylvia Wynter's Fanonian and Biodicean Reflections," in *After Man, Towards the Human: Critical Essays on the soul of Sylvia Wynter*, ed. by Anthony Bogues. Kingston: Ian Randle, 2006.
3. Humberto R. Maturana,. Francisco J. Varela. *Autopoiesis and Cognition: The Realization of the Living*. Boston Studies in the Philosophy of Science, v. 42. Dordrecht, Holland ; Boston: D. Reidel Pub. Co, 1980.
4. For a detailed description of Maturana and Varela's concept of autopoiesis, see John Mingersn. "The Cognitive Theories of Maturana and Varela." Systems Practice 4, no. 4 (August 1991): 319–38.

In general, cognition refers to the assimilation and use of knowledge, and as such is limited to beings with complex nervous systems.[5] Although research on cognition has advanced significantly, Maturana, Varela and Uribe believe that both cognition and perception are linked in the operation of the nervous system, which is realised through the autopoiesis of the organism. Since the survival of autopoietic systems depends on the continuation of recurrent interactions, consequently, the organism retains a knowledge, if only implicitly, that extends to cover the organism's various interactions. In other words, as Maturana et. al. describe, the organisation of cognitive systems themselves define the domains through which they act.[6]

In applying the autopoietic schema to the colonial imaginary, Wynter grasps the layered patterns of global systems of knowledge, such as colonial and imperial expansion, which function as categorical systems that both produce and reinforce cultural and political ideologies through a series of code.[7] Wynter surmises that the enactment of the code of what constitutes colonised life operates at the level of the psyche which is furthermore entangled in a society's system of learning. It is believed that these codes must necessarily correlate or even determine the study of humans, nature and the terms of social praxis.

5. John Mingers. "The Cognitive Theories of Maturana and Varela." Systems Practice 4, no. 4 (August 1991): 319–38.
6. Humberto R. Maturana and Francisco J. Varela. *Autopoiesis and Cognition: The Realization of the Living.*
7. David Marriott. "Inventions of Existence: Sylvia Wynter, Frantz Fanon, Sociogeny, and 'the Damned'." The New Centennial Review 11, no. 3 (2012): 45-89.

Wynter also associates the construction of autopoietic social praxis with the instrumentalisation of science. To do so, she turns to the episteme—a scientific term also adopted by Foucault in *Archaeology of Knowledge* to describe the coexistence of a set of relations that form the conditions of possibility (or knowledge) in a given historical period.[8] Foucault initially restricts the episteme to the distribution of scientific knowledge as a mode of power, but expands the concept in later writings to account for other forms of knowledge produced outside of scientific academy. As Foucault has argued, they remain invisible, concealed or 'epistemologically unconscious'.[9] Foucault has shown that the episteme operates under discrete forms of mundane practices and solutions. Furthermore, the episteme is a means by which the Other is not only brought into being, but made visible as difference in itself. Here, the Other embodies the normalising forces of power—in this sense instrumental reason, which is executed under the democratisation of calculus. By this, Foucault means the integration of dynamic modes of ordering and organisation in society. These forces are strengthened through the enforcement of the right to disseminate rhetorical truths.

An immediate parallel is drawn between Foucault's outline of power and subject composition and Fanon's assessment of colonialism as well as the constitution of the colonial subject—a proposal

8. Michel Foucaultl. *Archaeology of Knowledge.* New York: Routledge, 2002, 211.
9. Keith Alber Sandiford t. *Theorizing a Colonial Caribbean-Atlantic Imaginary: Sugar and Obeah*. Routledge Research in Atlantic Studies 5. New York: Routledge, 2011.

Fanon puts forth in his Tunis lectures, arguably prior to Foucault's notion of biopolitics. While both Fanon and Foucault are concerned with the distribution of power, their schematics depart in their unique treatments of the initial conditions from which the Other is constituted. On the one hand, Foucault presupposes a more general distribution of the means of power that brings the Other into view. Although Fanon does not mention Foucault explicitly, he is critical of discourse that prioritises the means of subjection as universally embodied.

Fanon places particular emphasis on the construction of race as the negation of being, where the subject is brought into being only as much as it can be disregarded as a non-subject or the subject of non being. In *Black Skin, White Masks*, he argues that this epistemic relation—or what he describes as a 'drama' of discovery—precedes the Enlightenment principles of Man and the fantasy of a world built in his image. Fanon, like Foucault, situates surveillance as a mode of visibility, a technology through which colonialism distributes power as a suspicion of the Other. For Fanon, the colonial view is as much a part of the constitution of the colonised as is the embodied effects of biological sorting. This composition extends beyond the corporeal body and into the universal perception of blackness, which is exposed by stereotypes and emboldened by the distributed power of interpellation. It re-articulates the framing of life and death, put forward by Foucault and Mbembe, as that which instead exhausts simultaneously within the composition of the colonised. The colonised body, in this sense, lives as a universal form of history yet is exposed as the negation of life itself in the physiological expression of the present.

The result is what Simone Browne calls 'digital epidermalization', or methods by which power is exercised through the disembodiment of the Other under the gaze of surveillance and other technologies.[10] Here, Browne demonstrates the fragility of the technological gaze which is enacted under the alienating logics of truth and categorical reasoning. Nonetheless, in doing so, Browne builds upon the dissonant relationship blacks have had historically with Anglo-centric technologies. As Browne argues, understanding this relation is fundamental to any discourse on surveillance and the ethics of technology. This is particularly important considering the prevalence of discourse today that centres the technical object as the subject of investigation without thorough (if any) insight into how these technologies and the social space are shaped by colonialism and imperial expansion. By connecting data to power and knowledge, researchers can be implored to consider how data might replicate the immediacies of discrimination and determinacy. As Browne has shown, the logics of classification are enduring in their ability to stall the building of self-knowledge in the present while also regulating the existence of

10. Simone Browne. *Dark Matters: On the Surveillance of Blackness*. Durham, North Carolina: Duke University Press, 2015.

certain bodies, even after death. They also speak to the immediate shaping of public space.

In *The Panoptic Sort: Political Economy of Personal Information*, Oscar H. Gandy also considers the roles data and classification play in "the reduction of life chances" under, what he terms "a panoptic sort of data."[11] Gandy conceives of the panoptic sort as a type of data that extends beyond general surveillance and the panoptic paradigms of disciplinary power, as theorised by Foucault. The panoptic sort is an 'all-seeing' discriminatory apparatus that classifies individuals on the basis of their estimated economic or political value, and is continually optimised for the efficient transfer of value into data and information that, as argued above, dislocates and reassembles bodies under the temporal and spatial objectives of the institutions that 'own' and circulate the data.[12]

For Gandy, statistical classifications re-configure the universal position of surveillance, as they typically have a disproportionate effect on black and racialised individuals. As such, they become the classification of blacks which then becomes a key characteristic of capital exchange, as well health, education, and other institutional policies. As Haggerty and Ericson describe, "the moving about between environments and activities that has become a key

11. Oscar H Gandy.. *The Panoptic Sort: A Political Economy of Personal Information*. Critical Studies in Communication and in the Cultural Industries. Boulder: Westview Press, 1993.
12. Kevin D. Haggerty ,and Richard V Ericson.. "The Surveillant Assemblage." *British Journal of Sociology* 51, no. 4 (December 1, 2000): 605–22. See l:so: David Lyon: . *Surveillance after September 11*. Themes for the 21st Century. Malden, Mass: Polity Press in association with Blackwell Pub. Inc, 2003.

characteristic of post-modern life, has also become a source of value to be realised on the market for commodified information."[13]

With the power of statistics, Gandy warns that while data renders individuals visible for governance, it has very real and immediate effects on the life chances of black and racialised people. According to Gandy, the regulatory of effects of data—as marked by race, gender, and socioeconomic bias—disadvantage some populations while privileging others, even though both are often read, discursively, as if they exist under the same universal scope of power.[14] Transactions of the every day, from credit card transactions, online payments and browsing habits, customer reward programmes, barcode scans, digital access points, biometric sampling to job applications and drug testing are just a few examples of the means by which blacks are targeted for exploitation, discrimination, redlining, criminality and suspicion, as described in the Introduction. As Gandy suggests, any discourse on the biopolitical impact of data should extend beyond the general sites of data to consider how the inequitable distribution of power aligns with the inequitable impositions of race and capitalism.

Gandy's critique of statistics is warranted, given the role mathematics has played in the ordering of life. Laplace had already shown that early studies in probability theory by Pascal and Fermat

13. Kevin D. Haggerty and Richard V. Ericson.. "The Surveillant Assemblage.
14. See also: Solon Barocasn. "Data Mining and the Discourse on Discrimination." In Proceedings of the Data Ethics Workshop, 4, 2014.

could be used to demonstrate universal lines of reason.[15] Although Pascal and Fermat were primarily interested in assessing probability through gambling risk, it was Laplace who first introduced the idea of statistical succession, or the notion that an underlying probability could be estimated with few direct observations. Interestingly, Laplace experimented with his proposition using the court of law. By applying the rule of succession to data collected from archived jury decisions, Laplace theorised that one could state, with a given amount of certainty, the likelihood a juror would assign innocence or guilt.

Laplace's model introduced elements of perceived certainty into an otherwise dynamic and contingent legal system. His model was one of pre-emption. It made use of mathematics to correlate seemingly disparate details of dynamic life. In the case of jury decision, the formula took into account historical data on various types of material evidences and their influences on individual juror perception. The rule of succession did not stand in for the law of the people, as was thought desirable, but for a new overriding law of nature that, as Laplace argued, was more robust than its more contingent human counterparts. Laplace believed that if one could only funnel the patterns of nature into symbolic form, then other behavioural phenomena, from the single jury decision to the regular movement of sun, could be

15. Ian Hacking. *The Taming of Chance. Ideas in Context*. Cambridge; New York: Cambridge University Press, 1990.

calculated and predicted with verifiable certainty. Laplace describes the extraordinary justification of this embrace as such:

> *Given for one instant an intelligence which could comprehend all the forces by which nature is animated and the respective situation of the beings who compose it—an intelligence sufficiently vast to submit these data to analysis—it would embrace in the same formula the movements of the greatest bodies of the universe and those of the lightest atom; for it, nothing would be uncertain and the future, as the past, would be present to its eyes.*[16]

Laplace's attempt at regulating the dynamism of human decision-making might have been a failed scientific project, but he had succeeded in reinforcing a mode of thought; that the phenomenon of individual life, despite its seemingly erratic unfolding, was merely a derivative of a single, simple substance of nature. As result, the individual state of being was thought to materialise at the limits of scientific observation. It was furthermore subordinated to an existence, a law, above and beyond the specificities of each individual's life. Laplace's magic theory had great influence on later statistical theory in the management and organisation of variability. For instance, in Bayesian probability (which is a simple mathematical formula that reduces complex variables into symbolic representations of probable truths), variable

16. Marquis De Laplace, as quoted in Hacking, 12.

estimates can be adjusted on the basis of dynamic observational assumptions. This result is the further simplification of data into more manageable variables that are easier to calculate. Bayesian reasoning is an essential tool in machine learning and artificial intelligence research today, which operates in highly complex and contingent environments. It is an attractive tool for machine learning and AI researchers, since the techniques enhance computational speed while optimising algorithmic power.

Given Laplace's prior attempts to substantiate a new theory of probability theory from within the criminal justice system, it is no surprise that statistics has found its way into the contemporary racialised episteme of machine learning, the cousin of statistics. In machine learning and artificial intelligence, probabilities raise additional concerns about scale. Large scale applications can consist of hundreds or thousands of variable inputs, each holding their own margins of error. Stacking these errors risks the extension of probabilistic determinations beyond what is justifiable. Nonetheless, Abu-Mostafa, et. al. argue that a probabilistic view can produce satisfactory results without assumptions outside of those produced independent of the hypothesis.[17] Advocates assert that, in many cases, experts are trained to intuit the forms of uncertainty present. They insist that as long as engineers use the same distributions consistently for each problem set in

17. Yaser S. Abu-Mostafa, , Malik Magdon-Ismail, and Hsuan-Tien Lin. *Learning from Data: A Short Course*. S.l.: AMLbook.com, 2012.

each stage of learning, prior knowledges are unnecessary in the production of insight. They assert that debates on the subjective are mis-aligned with the aims of probabilistic learning, as probabilities are not expected to replicate target functions perfectly from their origin. Instead, they contend that probabilities are meant to approximate correlation in controlled environments, with an awareness that performance outside of the laboratory may vary.

To the contrary, critics assert that the fragility of these types of Humean hypotheses originate in the priority they place on scientific judgement. Humean inductive reasoning prioritises the number of observable instances in establishing a relationship with the production of knowledge. For Hume, scientific judgement is based on the probability of observable outcome: the more instances, the more probable the predicted conclusion.

Michael Wood has written that without a more complete understanding of the role of the subjective within the determination of probabilities, they remain assessments of ignorance and judgement. Wood states: "if, for practical reasons, samples are not selected randomly, the question then arises of whether they can reasonably be regarded as if they were selected randomly. This is a matter of judgement."[18] The matter of judgement is what Gandy sees as the fundamental determinant of subject position. "How we evaluate people, places and

18. Michael Wood. *Making Sense of Statistics: A Non-Mathematical Approach*. Nachdr. Palgrave Study Guides. Basingstoke: Palgrave, 2004.

things in terms of their departure from what we have defined as the norm," Gandy states, "is often a fundamental determinant of the position they will come to occupy in still other distributions that we have yet to consider."[19]

It is worth it at this juncture to return to the wider logic of enumeration that have informed these processes, what Wynter describes as the *eugenic descent*, or the operational decline imposed by the colonial episteme. Wynter's adoption of this point of reference extends the artificiality of regulated attributes into the substances of class, sexual orientation and race. Her claim is sustained by the creation of what she describes as eugenic/dysgenic selection.[20] The coherence of racialised attributes, in this sense, what I call the fictive substance of race, links the dynamic instrumentalisation of coherence found in the bioepistemic to the "discursive negation of co-humaness." In this way, I draw closer to validating Fanon's claim that colonial perception is a discursive practice that is self maintaining in its capacity to empirically self-justify.

He also stipulates that the apparatuses of empiricism, such as the assembly line and the discretisation of time, are appropriated to enact the management and organisation of space. These apparatuses speak to the materialisation of certain components and process. They are not, however, a suffi-

19. Oscar H. Gandy. *Coming to Terms with Chance: Engaging Rational Discrimination and Cumulative Disadvantage*. London: Routledge, 2016, 4.
20. Sylvia Wynter. "The ceremony Found: towards the autopoetic turn/overturn, its autonomy of Human agency and extraterritoriality of (self-)cognition."

cient account of the logics that enable the operation of empirical apparatuses. I argue that the empirical objects and processes that Wynter and Fanon describe are underwritten by the accumulation, management and classification of data derived from the system of observation. This is an important claim since Wynter and Fanon are less explicit about the origin of empirically-enabled data.

I posit that these violences are crucial components, even unwittingly, in the operation of artificial intelligence and machine learning. My goal—given the roles of bioepistemic epidermalization (Wynter/Fanon/Browne) and white prototypicality (Gordon) in organising space and time—is to understand what capacities machine learning and AI then have to reinforce or reinstate the colonial imaginary. This is important since, as Adrian Mackenzie argues, "Machine learners today circulate into domains that lie afield of the eugenic and psychology laboratories, industrial research institutes, or specialised engineering settings in which they first took shape."[21] In this way, our contemporary encounters with data extend well beyond notions of design, ease of use, personal suggestion, surveillance or privacy. They take on new meaning if we consider the underlying principles of mathematics as the engine that drives data towards languages of normality and truth prior to any operational discomforts or violences.

21. Adrian Mackenzie. *Machine Learners: Archaeology of a Data Practice*. Cambridge, MA: The MIT Press, 2017, 6.

So what are we to do in our current empirical reality, or I could say data-informed lives? How are we to disrupt the distributions of power that are amplified by data and advanced learning systems? It is here that I think through the object—the black object as the technical object—as a site of affirmative potential or a kinetic dissonance and dynamic incoherence at the very basis of being. If we are to consider the photogenic object in contemporary spaces of algorithmic culture, it is apparent that the black technical object is always-already pre-conditioned by an affective prelogic of race that functions on the level of the psyche.[22] The possibility of an affirmative engagement between the black technical object and the algorithm, as a technical object, is then limited by the necessity to reconcile the psychic potential of the racialised individual with that of a pre-determined technical structure. Although the immediacy of computation's lack of diversity—in terms of institutional value and algorithmic function—cannot be understated, a call to make black technical objects compatible to machine learning and artificial intelligence algorithms risks the further reduction of the lived potentiality of black life. As I have argued, the consequences for the black technical object are immense.

It must be asked if the black technical object can be conceptualised as outside of the dialectic between human and machine? Is there such a thing,

22. Ramon Amaro.. 'As If,' e-flux architecture, 97, accessed April 26, 2019, www.e-flux.com/architecture/becoming-digital/248073/as-if/.

borrowing from Fred Moten, as an aspirational black life that can gain a right of refusal to representation? As such, would a universal computational gaze limit the self-determination of those that have little or no desire for inclusion in machine perception? Without a wider scope, debates on these matters remain incomplete in their characterization of algorithmic prejudices and social discriminations. Attempts at reconciling this arguably unsettled debate rely on a commitment to sufficiently characterise the constitution of a more affirmative process of machinic existence that can gain a totality in relation to artificial modes of perception. The proposal asks us to consider what is overlooked in machine learning and AI research, and instead consider it as already an act of colonial thought. In doing so, my hope is to dislodge both the ontological and functional processes of machine learning and AI from their roots in substantialist metaphysics and Aristotelian modes of truth. Machine learning and AI here necessitate a new reflexive position that can generate alternative levels of operation.

A revision of this field demands a return to the system of relation from the perspective of a multivalent—non white centred—mode of reality. I draw on Gilbert Simondon's concept of *psychic and collective individuation* to argue that the reconciliation of black being—the black technical object, as such, does not deny historical negation, but can ,through this duress generate new forms of being and becom-

ing. Simondon argues that "psychic and collective individuation incessantly and persistently creates being as it advances, maintaining in each created or individuated scope of being."[23] I locate my argument here to suggest that although *difference* brings forth a consistency of relations between objects (be they human, technological, or structural), these relations are not pre-determinate. To the contrary, *difference* presupposes the material presence of contradiction and incompatibility. Here, we can imagine a technical object—a black technical object—that develops an indifference to description or any other form of artificial representation. It would maintain—as has been illustrated in the black abstract painting of Jack Whitten, a radical diversion from the prototypical figure to confront and dismantle the hard structures of Truth.

Here, if symbolism is enacted, it is not in the service of mathematics, but in the abstraction of black life. As Whitten states in his 1970s painting 'Homage to Malcolm X', it would have to be something that would enact "that feeling of going deep down into something and in doing that I was able to capture the essence of what" —these are my words now, blackness is all about. Black being, as such, actualises as an experience that is lived from both within and in excess of artificial modes of perception and the fictive imaginaries of race. The act of transformation here challenges the state of homo-

23. David Scott. Gilbert *Simondon's Psychic and Collective Individuation: A Critical Introduction and Guide*. Edinburgh: Edinburgh University Press, 2014, 77.

geneity and the perceived stability of categories to instead engage in a transformative politics of affirmative self belonging—what bell hooks might call a 'communion',where the entropic individual exceeds the barriers of social relations to enter an alternative space of becoming—made possible by a reimagining of the self. In other words, the unusable, uncommon, and thus incomputable individual potentialises the social space toward new ways of relating and relation. As journalist Alex Greenberger writes of Whitten's work:

> *Whitten utilized an unconventional process for which he would lay the canvas on the floor, drag a squeegee across to mix his color, and then let the paint dry. Paint was piled on as much as a quarter-inch thick in many of them, and all of the tones Whitten chose were left visible. With their warped, colorful forms and their unclear geometries, they resemble long-exposure photographs of things in motion… Whitten relinquished some control over his canvases, leaving the final results to chance in some respects. To test the ways that time and tools affected the painting process became Whitten's mandate.*

What if we were to take Whitten's mandate at face value as we confront the duress of the machine—in much of the same way that Whitten addressed the suffocating atmosphere of race and racism in the 1960s? What if machine learning were less 'gestural'

forms of abstraction, using Whitten's words, but closer to what he has called 'conceptual painting'—where there is no destination towards the reinstatement of a pre-existent human category, but a journey towards the conditions by which something new can emerge.

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