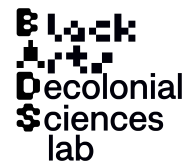Muindi Fanuel Muindi

AI & D:

Ancestral Intelligences & Divination

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Preamble

The "brute matter" and "brute facts" of Colonial Science are not givens: they are made by Colonial Science via processes of "brutalization".

Colonizers submit beings to scientific study because they intend to brutalize them -- to make efficient use of force as they disintegrate us, break us into bits, transform us into perversely pleasurable and profitable datum for collection, correction, consumption, and deletion.

It is only when beings resist brutalization in remarkable ways that Colonial Science calls in the specialists in complexity, chaos, indeterminacy, and noise as reinforcements, for the purposes of risk management and damage control. Colonial Science then endeavors to marginalize those beings that are remarkable for resisting brutalization, writing them off as special cases, as cases for specialized know-how, and rendering them inaccessible to the global majority.

Committed to the unsettling and humbling of Colonial Science, the (de-/re-)creative practices that I term the "Black Arts and Decolonial Sciences" are intent upon (i) deconstructing the colonial practices of brutalization and specialization that have entrenched themselves in the modern techno-scientific imagination, and (ii) (re-)constructing "other-whys" that enable scientists and technologists to approach beings otherwise than brutalizing and specializing.

My aim here today is to bring the Black Arts and Decolonial Sciences to bear upon machine learning systems. To achieve this aim, this text will contrast Machine Learning and the practices of Computation that inform the engineering and use of intelligent machines ("ML & C"), on the one hand, with, on the other hand, Ancestral Intelligences and the practices of Divination ("AI & D") by and through which one communes with the Ancestors and the cosmic forces that the Ancestors connect us to.

The modern techno-scientific imagination, presuming the objectivity of colonial practices of brutalization and specialization, opposes ML & C to AI & D and privileges the former over the latter.

- AI & D is considered the product of a primitive, pre-scientific episteme corrupted by its subjectivity and "magical thinking"; ML & C is considered the product of a civilized, scientific episteme that strives for objectivity and has its basis in "critical thinking".
- Whereas AI & D belongs to the past; ML & C is the future. AI & D is outmoded, like the better part of the lifeways of superstitious colonized peoples; ML & C is one of the crowning achievements of the colonizers' science and engineering.

This paper aims to deconstruct the opposition between ML & C and AI & D outlined above, but, in so doing, this paper must be careful not to hastily sweep this opposition under the rug before overturning it. Indeed, it is important to heed the warning issued by Jacques Derrida in an interview published in the volume *Positions*.

> *In a classical philosophical opposition we are not dealing with the peaceful coexistence of a vis-à-vis, but rather with a violent hierarchy. One of the two terms governs the other (axiologically, logically, etc.), or has the upper hand. To deconstruct the opposition, first of all, is to overturn* [renverser] *the hierarchy at a given moment. To overlook this phase of overturning* [phase de renversement] *is to forget the conflictual and subordinating structure of the opposition. Therefore one might proceed too quickly to a neutralization that in practice would leave the previous field untouched, leaving one no hold on the previous opposition, thereby preventing any means of intervening in the field effectively. We know what always have been the practical (particularly political) effects of immediately jumping beyond oppositions, and of protests in the simple form of neither this nor that.*

Following Derrida, we must vehemently and ceaselessly insist upon and persist in demanding the overturning of the opposition: revaluing the subjugated, subordinated, and dishonored term, in this case AI & D, and devaluing the domineering and self-aggrandizing term, in this case ML & C, cutting the latter back down to size and bringing it back down to earth. Indeed, in this specific case, the phrase "back down to earth" has a profound double meaning. On the one hand, figuratively, ML & C is to be brought low, to be stripped of the privilege and prestige that it has been unduly accorded by the modern techno-scientific imagination, enabling AI & D to reclaim credits and honors that it is owed. On the other hand, to be much more literal

about things, we must engage in what artist, technologist, and educator Nimrod Astarhan calls a "re-earthing of computational media", revealing and revaluing the significance of the material and energetic flows that contribute to the makings of ML & C.

Indeed, championing AI & D over and against ML & C, I find that we must take the engineers and users of machine learning systems to task over Four Great Errors, enumerated below.

1. The engineers and users of machine learning systems are careless in their disregard for the (re-)sourcing of the energetic and material flows employed in their practices of computation -- i.e., blood minerals being mined by peoples colonized, racialized, and enslaved by global capital; streams and reservoirs of sweet water drained to near exhaustion; etc.

2. The engineers and users of machine learning systems are undiscerning in their (dis)regard for the ghosts in their machines, the ancestral spirits or, to be less poetic, the inherited biases being channeled through the blood minerals in their thirsty devices.

3. The engineers and users of machine learning systems are inobservant in so far as they fail to attend to the fact that exemplary specimens of a given taxonomic genera are idealized constructs that do not exist in reality without reference to an agent that beholds and is beholden to an ideal -- otherwise, every specimen of a taxonomic genera is exceptional, each a one-of-a-kind deformation of the genera to which it belongs.

4. The engineers and users of machine learning systems are mistaken in their privileged regard for causality (i.e., their hypothesis that machines can be trained bit by bit over time) and their disregard for **polyrhythmicity** (i.e., the fact that engineers, users, and machines are caught in the cross-beats of differing processes of entrainment that are in dynamic tension with one another).

Given the time constraints that I am under today, my focus here will be taking the engineers and users of machine learning systems to task for the last of these Four Great Errors.

Polyrhythmicity contra Causality (& Synchronicity)

To mark the difference between the practices of computation involved in machine learning and the practices of divination involved in communing with ancestral intelligences, I find it useful to examine an observation regarding the practice of reading the I Ching made by Carl

Jung in his foreword to Richard Wilhelm's translation of the divination manual. This observation is useful as a point of departure by way of disagreement. I shall quote Jung at length:

> The manner in which the I Ching tends to look upon reality seems to disfavor [Western civilization's] causalistic procedures. The moment under actual observation appears to the ancient Chinese view more of a chance hit than a clearly defined result of concurring causal chain processes. The matter of interest seems to be the configuration formed by chance events in the moment of observation, and not at all the hypothetical reasons that seemingly account for the coincidence. While the Western mind carefully sifts, weighs, selects, classifies, isolates, the Chinese picture of the moment encompasses everything down to the minutest nonsensical detail, because all of the ingredients make up the observed moment.

> Thus it happens that when one throws the three coins, or counts through the forty-nine yarrow stalks, **these chance details enter into the picture of the moment of observation and form a part of it** — a part that is insignificant to [the Western mind], yet most meaningful to the Chinese mind. With [the Western mind] it would be a banal and almost meaningless statement (at least on the face of it) to say that whatever happens in a given moment possesses inevitably the quality peculiar to that moment.

> [...]

> In other words, whoever invented the I Ching was convinced that the hexagram worked out in a certain moment coincided with the latter in quality no less than in time. To him the hexagram was the exponent of the moment in which it was cast — even more so than the hours of the clock or the divisions of the calendar could be — inasmuch as the hexagram was understood to be an indicator of the essential situation prevailing in the moment of its origin.

> This assumption involves a certain curious principle that I have termed synchronicity, a concept that formulates a point of view diametrically opposed to that of causality. Since the latter is a merely statistical truth and not absolute, it is a sort of working hypothesis of how events evolve one out of another, whereas synchronicity takes the coincidence of events in space and time as meaning something more than mere chance, namely, a peculiar interdependence of objective events among themselves as well as with the subjective (psychic) states of the observer or observers.

Jung's attribution of these qualities to the Chinese mind strikes me as an "othering" colonial operation that deviously serves to exoticize the other, the Chinese, while affirming the West's belief in its own strict adherence to rationality and scientificity. What Jung describes above is not specific to the Chinese divinatory mindset but to the divinatory mindset writ large including many "pagan" traditions of cleromancy, cartomancy, astrology, and augury native to Europe, as clearly evinced by analogies Jung draws with the uncanny sensitivities of sommeliers, antiquarians, and astrologers who seemingly divine the vineyard from which a wine hails, the place and make of a piece of furniture, and a person's date of birth from a confusion of trivialities that fails to *signal* any causal linkages to an objective observer but, rather, only appear to contribute to the noise.

Indeed, if you will allow me a creative leap, here we have it: the distinction between the practices of computation at work in machine learning systems, on the one hand, and, on the other hand, the practices of divination through which people(s) commune with ancestral intelligences: the machine learning algorithm is a finite sequence of mathematical instructions for extracting signals from the noise of the surround; while a divination ritual is a improvisational practice and practiced improvisation that contributes an additional rhythm to the noise of the surround and establishes *timbral* coherence thereby.

Allow me to backtrack a little and work my way to the above point otherwise. The term synchronicity deployed by Jung to describe the improvisational practice and practiced improvisation at work in the I Ching is misleading, because it deconstructs spatial separability but leaves temporal sequentiality intact. Synchronicity indicates the involvement of synchrony, or "the quality of recurring at the same successive instants of time". Rather than synchronicity, I would proffer the term *polyrhythmicity*, indicating the involvement of polyrhythmy. To understand what this means, allow me a digression. Consider some passages from John Miller Chernoff's *African Rhythm and African Sensibility: Aesthetics and Social Action in African Musical Idioms*. This book is of particular interest given that music and dance are integral to many African practices of divination and, vice versa, practices of divination are integral to African music(s) and dance(s). Chernoff observes the following regarding the polyrhythmy at work in African music(s).

> The fundamental characteristic of African music is the way the music works with time in the
> dynamic clash and interplay of cross-rhythms. … [T]here is always more than one "time" in the

music. [European art music] has tended to think of "time" as a single, objective phenomenon, moving quite steadily (as their philosophical heritage tells them) towards some distant moment (as their religious heritage tells them). European music is above all a way of ordering sound through time, and it imposes a rather strict order on time. From one note to the next in the most beautifully changing melodies and harmonies, [connoisseurs of European art music] ***follow*** *the rhythm of the music. If they find themselves thinking about something besides what they were hearing, they would assume that they didn't care for the music. In contrast, in the African context, both the musician and the spectator maintain an additional rhythm (an additional time) in order to give coherence to the ensemble; otherwise they would become confused by the multiplicity of conflicting rhythms and accents. The essential point is the notion of an ability and need to* ***mediate the rhythms actively****. In the Western context, when several tones are heard together they are taken as a unity and the term "harmony" (or "chord" if there are three or more tones) expresses the oneness [or synchrony] of the sound. Most significantly, [European art music has] no names for specific rhythms, and its words for describing the relationship of beats separated in time -- accelerando, ritardando, rubato, syncopation -- refer to the spread of a rhythm, its tempo, or to the irregular accentuation of its steady progression, its meter. In Africa different "beats" have specific names and specific rhythmic variations which can "fit inside the beat"; in an African musical event one participates by integrating the various rhythms to perceive the beat, and the beat [or, rather, the "polyrhythmic timbre"] of the music comes from the whole relationship of the rhythms rather than from any particular part.*

The most evident dynamic feature of African music is that the way rhythms are established in relationship creates a ***tension in time****. [...] African music depends on the resistance of the rhythms to fuse. The music is engaging because the tension must be comprehended without undermining the power and vitality that comes from conflict between different rhythms.*

The issue with Jung's choice of the term synchronicity is that it implies a unision rather than tension in time: it implies that every moment in time is a more or less consonant or dissonant unity whose different aspects are like the notes making up a chord, with one of these aspects being the casting of a hexagram. By contrast, my choice of the term polyrhythmicity posits that the diviner endeavors to cast a hexagram at "the right place and time" in order to give coherence to an ensemble of differential and deferential processes, each having their own rhythm. But one should be careful not to confuse casting a hexagram at "the right place and time" with casting it "on the beat" at regular and fixed intervals. Let us return to Chernoff to clarify this matter.

> *Some say that African musicians play "around" the beat, or play on the "off-beat" but actually it is the ability to identify the beat that enables the listener to enjoy the music, and the musicians play in such a way that finding the beat [i.e., making a contribution to the "polyrhythmic timbre"] is a simultaneously sensual and intellectual exercise or challenge for the listener. To enjoy African music, one must be able to maintain in one's mind an additional beat to the ones that one hears. Or in other words, it is a sensual and intellectual "dance". "African music, with few exceptions, is to be regarded as a music for the dance, although the "dance" involved may be an entirely intellectual one.*

Divination is, similarly, a sensual and intellectual "dance" that makes sense of the cross-rhythms of the cosmos by contributing an additional rhythm that gives coherence to its polyrhythmic timbre, and often by adding a rhythm which is "irregular" and "off beat".

Returning finally to ML & C, the practices of computation involved in machine learning are strikingly different from practices of divination. Machine learning algorithms are bent on *extracting* signals from the noise of the surround, as opposed to *contributing* to the noise of the surround. This is not to say that machine learning algorithms do not add to the noise but, rather, to say that what is added to the noise by a machine learning algorithm is an unintended byproduct of the processes by which it extracts signals from the noise. Changes to the polyrhythmic timbre of the noise effected by the deployment of machine learning algorithms are treated as externalities by their engineers and users, these changes are side effects or consequences of the engineering and use of machine learning systems that affect "others" but are not "reflected" in the outputs of machine learning systems..

Divination knows no externalities. To interpolate the passage from Jung above, "While the [machine learning algorithm] carefully sifts, weighs, selects, classifies, isolates, the [practice of divination] encompasses everything down to the minutest nonsensical detail, because all of the ingredients make up the observed moment." Again, however, we are mistaken if we follow Jung in imagining that it is only a *synchronic moment* that is at play in a practice of divination when, in fact, *polyrhythmic movements* are at play, relating a multiplicity of moments (past and present) across a multiplicity of times/meters that both differ from and defer to one another.

Ramon Amaro, in a magnificent book titled *The Black Technical Object: On Machine Learning and the Aspiration of Black Being*, demonstrates that machine learning algorithms are, above all else, taxonomic patterning tools that sift, weigh, select, classify, and isolate data according to a system of taxonomic categorizations that "might be specified by engineers or, in the case of advance machine learning models like artificial neural networks, might function as part of their own computational understanding of environmental phenomena." Regardless of whether their assumptions are specified by engineers or not, the *modus operandi* of all machine learning systems is taxonomic categorization. The applications of these systems are either administrative or generative: administrative when the output data is a taxonomic categorization of the input data, and generative when the output is not simply a categorization but new data that fits a taxonomic category that the input data elicits.

Practices of divination often involve taxonomic categorizations, but one is mistaken if one believes taxonomic categorizations are the intended output of such practices. Only a fool or a deceiver claims that a diviner must accurately categorize a past, present, or future moment to be an effective practitioner. This is not to say that the diviner won't make such categorizations and make them "accurately" on some or many occasions but, rather, it is to say that the act of categorization is not framed as an extraction of a signal from the noise but, rather, as a contribution to the noise that serves to alter its polyrhythmic timbre. Whether or not the categorizations made by a diviner effectively extract signals from the noise is less important than the manner in which the making of a (mis-)categorization adds to and alters the polyrhythmic timbre of the noise. When Colonial Science comments upon the mis-categorization of a moment by a practitioner of divination, such comments are entirely besides the point for these practitioners, who are chiefly concerned with altering the polyrhythmic timbre of the noise and "shifting the vibe" by and through making (mis-)categorizations.

Indeed, from the perspective of those who practice divination, it is extremely troubling that the engineers and users of machine learning systems are so obsessed with extracting signals from the noise that they think so little of the manner in which their deployments of these systems effectively add to and alter the polyrhythmic timbre of the noise. For the diviner, the latter is what really matters, and the former is incidental to the latter. In other words, from the diviners perspective, there is a profound pathology at work when the extraction of signal from noise becomes the central preoccupation of individuals, institutions, and entire societies such that they lose their feel for the polyrhythmic timbre of the noise and are no longer attuned to

the vibes of the cosmos. The Black Arts and Decolonial Sciences have given this profound pathology many names -- *whiteness* being perhaps the most incisive of these and *coloniality* the most expansive and encompassing. If they are to liberate machine learning from the profound pathology of whiteness/coloniality, the Black Arts and Decolonial Sciences will center the ways in which engineers and users make noise with their thinking machines, and they will treat the manner in which thinking machines extract, process, and produce signals as a peripheral matter.

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