

Reference Materials for Pills Cluster: **CHARTS**

ABDUCTION/INDUCTION/DEDUCTION: *Think from a hypothesis. Think from the particular. Think from the general.*

Abduction = making a probable conclusion from what you know. The process of inventing explanatory hypotheses, abduction is fine-tuned to the unknown, the potential, the not-actualized yet, therefore it is highly speculative and imaginative.

Induction = making an inference based on an observation, e.g. by using a sample and then moving to a generalized conclusion from that sample. It relies on empirical facts and evidence to draw predictive hypotheses and is built on probabilities already given from past occurrences.

Deduction = making an inference based on widely accepted facts. It explains things through the causal relation between A and B. It moves from the general rule to the specific application: In deductive reasoning, if the original assertions are true, then the conclusion must also be true (e.g. math).

Abduction is a way of actively progressing, when dealing with ongoing contingency and ambiguity. It is a way of thinking in between induction and deduction. "Ideas about how to 'move forward' are generated by tacking back and forth between nitty-gritty specificities of available empirical information and more abstract ways of thinking about them." (Adams et al. 2009). Abduction is the process of inventing explanatory hypotheses formulated in an interrogative fashion. This is what makes abduction different from both deduction and induction. Deduction "can only explain thought as that which relies on a necessary inference according to the causal relation between A and B" (Parisi, 2012, p.233). It is, therefore, steeped in known causalities. Induction, on the other hand, "implies testing the hypothesis through a prediction, which has already been verified" (Parisi, 2012, p.234). Thus, induction relies on empirical facts and evidence in order to draw predictive hypotheses and is constructed on probabilities already given from past occurrences.

As Parisi points out, both Bateson and Peirce were searching for a method to support new kinds of knowledge-production that could reconfigure the process of thinking and overcome the above limitations of deduction and induction. They found it in abduction: a method of investigation unconstrained neither by a priori theory or by a posteriori verification, but rather "primarily attuned to the unpredictable nature of fact, thought and experience" defining "an immanent relation between the thing and its unknown potentials" (Parisi, 2012, p. 236). Precisely because of the fine-tuning of abduction to the unknown, the potential, the not-actualized yet, abduction is eminently speculative. Therefore, not only does it require imagination, but it takes imagination as an intrinsic component of thinking. A speculative device steeped in abduction, then, gives priority to imagination over direct observation, it ventures "towards the limits of the observable where thought becomes experimental and experiential of the future. In sum, a speculative device is truly a probe-head" (Parisi, 2012, p. 237) leaning toward the production of the not-yet. As Parisi eloquently puts it, speculation "demands of thought to become felt, fact to become potential, imagination to supersede observation, object to affect method, method to become transformative of the object" (Parisi, 2012, p. 241). In embracing the indeterminate, it crucially allows for the emergence of counter-intuitive types of knowledge.

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ANTICIPATION: *Imagine introducing the non-existent future into the present.*

Anticipation is the palpable feeling of the future. It can be described as the capability that enables you to decide why and how to use your imagination to introduce the non-existent future into the present. To anticipate is to forecast a potential changing outcome, opening up multiple tracks into the future. It means to be (or trying to be) prepared: speculating on the opportunities, challenges and threats that may arise in a fast-changing environment. Anticipatory activities play a crucial role in what we do. They pervade the ways we think about, feel and address our contemporary problems.

Anticipation is a regime of how temporality intersects with subject-formation processes. As such, it has politics. As a process it can be used to colonize specific versions of the future. For instance, anticipatory governance geared towards the management of risk and uncertainty, and blanket future-proofing, is driven by a logic of pre-emption, prediction and foreclosure. Here the causal logic is 'when, then' rather than 'what if'. Anticipation combines 'knowing' and 'acting', it fills the gap between knowledge and action. It fosters the capacity to attune to possibilities. As an affective state that is not just a reaction, but a way of actively orienting oneself temporally, anticipation is related to the notion of 'protention' (Husserl), that is, the future-orientation of an action. The implicit awareness we feel of being engaged in a sequence of events means that we constantly tend to orient ourselves toward what (we imagine) will come next. For instance, a tennis player runs and positions their racket in the right place for the ball to hit it, milliseconds before the ball has actually arrived (Bourdieu's example). Protention is a constitutive aspect of action itself. Anticipation has long been a component of collective political practice: decolonization, Marxism and feminism all rely on conjuring the possibility of new futures. The era of the Anthropocene has introduced radical new forms of collective anticipation, where anticipation pivots from prediction to creation and becomes the capacity to choose how to unleash

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imagination to introduce the non-yet into the now, against the narratives that colonize it.

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PERSPECTIVISM: Turn your human-centred perspective upside down, put it aside, shrink it to accommodate the nonhuman.

Perspectivism is a concept originally coined by the Brazilian anthropologist Eduardo Viveiros de Castro to encapsulate indigenous conceptions from South America. It can be described as a shared notion that the world is inhabited by different sorts of persons, both human and non-human, who apprehend reality from distinct points of view. Perspectivism refers to recurrent characteristics found in Amerindian mythology and cosmology, but it also relates to war, hunting, kinship, and other social phenomena. These reveal a particular configuration of how humans and non-humans are related, which are irreducible to Western distinctions between nature and culture. Viveiros de Castro was responsible for providing the concept through the transformation of philosophical terms taken from authors such as Leibniz, Nietzsche, and Deleuze and Guattari. Perspectivism is essentially different from Western relativism. For instance, rather than an opposition between internal human essence and external nonhuman appearance, these cosmologies postulate a radical relationalism. This ontological shift is condensed in the contrast between multinaturalism (different corporeal states that presupposes a similar human and cultural condition) and multiculturalism (the same and common nature or reality, regarded by different cultural points of view).

Multinaturalism entails a relationalism (which is perspectivism), while multiculturalism entails a relativism (that must not be mistaken for perspectivism).

READINGS

- Viveiros de Castro, E. 1998. Cosmological deixis and Amerindian perspectivism. *Journal of the Royal Anthropological Institute* 4.3: 469-488 - republished in *A Reader in the Anthropology of Religion*, edited by M. Lambek (Oxford: Blackwell, 2001), pp. 306-326, and *Anthropology in Theory: Issues in Epistemology*, edited by H. Moore and T. Sanders (Oxford: Blackwell, 2005), pp. 552-565.
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- Ramos, A. (2012). [The Politics of Perspectivism](#). *Annual Review of Anthropology*, 41, 481-494.
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SPECULATION: Work in the space between the "is" and the "maybe".

Speculation is both a philosophy and an empirical practice. Speculation offers a productive, inventive and open-ended way of engaging with futures and taking futures seriously as possibilities that demand new habits and practices of attention, invention, and experimentation. There are many and varied disciplinary fields that operate in a speculative way, and depend on the possibility of imagining different and multiple futures. Experimental science, some artistic practice, financial speculation, and some design interventions all share an engagement with the 'speculative' in this sense of reaching for the unknown, sometimes with unpredictable effects and unintended consequences. What these practices have in common is that they operate in the space between the "ought" or "maybe" and the "is" and in their own different way they use imagination to conjure an otherwise. This space, by definition, is a space of the unknown, of uncertainty and contingency. Speculation—as derived from the work of philosophers such as Alfred North Whitehead (1861-1947) and taken up by contemporary thinkers such as Isabelle Stengers as well as by designers and practitioners – is a set of responses to dynamic and complex phenomena in the world that cannot be held, observed and acted upon without these actions having an effect. To speculate means not just to engage descriptively and abstractly with research, but also to make propositions that invent new possibilities for research and practice. In this sense to speculate is to deploy a practical-theoretical approach to reconceptualise problems in order to seek more imaginative propositions rather than solutions. Speculation can be described as the practice of questioning the known whilst inquiring into the unknown "by dragging and dropping the indeterminate and the inchoate unknown onto the ground on which we stand" (Rao, Krishnamurthy and Kuoni 2015:18).

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Speculation is especially suited to engage with the dynamic, processual and, hence, transformative nature of 'things' (phenomena, events, problems...) and to explore their situated and contingent characteristics as well as their capacities to affect and be affected. Not just signalling a 'passive' engagement with supposition and anticipation, often coloured by an idea of exploitation of expectations, speculation denotes an investment in the real possibility of grasping - i.e. imagining, capturing, building - alternate futures. To speculate is to extract from the present certain potentialities that may be capable of opening up a transition into otherwise unlikely futures. In short, speculation is a way to ask more inventive questions that engage who is posing the question in relation to their present, real and imagined contexts.

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