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FutureCrafting: Speculation, Design and the Nonhuman, or how to live with digital uncertainty

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FutureCrafting: Speculation, Design and the Nonhuman, or how to live with digital uncertainty.

The title of my talk is FutureCrafting: Speculation, Design and the Nonhuman, or how to live with digital uncertainty. I want to look at how design can investigate, speculate and have an impact on the landscape of planetary computation we are living in, and do so via FutureCrafting. I ll bring together ideas from design and from philosophy as my work is located at their intersection.

By planetary computation I mean algorithmic environments evolving in real time and increasingly autonomous, colonization of daily life by social networks, data tsunami, googlification of knowledge, pervasive computing, somatic dependence on digital devices.

This scenario is creating new ecologies of cohabitation and coevolution of humans and technical machines. Human-machine interaction needs to be rethought in terms of hybrid ecologies of the human and the nonhuman, moving away from the notion of man vs. machine.

Instead, we must envision ecosystems of contiguity, porosity and exchange, populated by entities on a continuum between the human and the nonhuman, a mix of the organic, the artificial, the engineered, and the synthetic; entanglements of silicon and carbon.

This shift from human-machine to hybrid ecologies of the human and the nonhuman calls for design to engage with speculation so to create new narratives, invent new fictions and ultimately craft new potential futures.

This means that we must upgrade our arsenal of concepts, ideas and images if we want to make sense of the ontological reorganization induced by planetary computation, and our changing role of designers and educators.

Design must make sense of these ecologies, but not simply respond to them.

Rather it must do what it can do best: capture material stories from the future, give them tangible manifestation in the present, and in this way create the new, the alternative possibles that are so urgently needed right now.

To start with I am going to look at this notion of planetary computation and dig a bit into its origins.

In the 1980s, Félix Guattari was one of the first thinkers to talk about the coming "age of planetary computation"[1] shaped by the emergence of new practices of subjectivity based on the increasing miniaturization and personalisation of apparatuses, a new age of digital ensembles and *open machines* characterized by instability, uncertainty, indeterminacy, and coevolution human and machine.

With remarkable prescience, in a 1987 article in the journal *Chimeres* (so 30 years ago!) he introduced ideas that he would then develop in *The Three Ecologies* (1989).

In particular, the idea that "the phenomenal growth of a computer-aided subjectivity" could be the premise to "a fundamental repositioning of human beings in relation to both their machinic and natural environments" (Guattari 1996 118).

No longer just tools or accessory instruments, open machines give rise to new forms of sense-making that are contextual, relational and not fully predictable, as they emerge from various cohabitations of us humans with the nonhumanity of machines, dataflows, codes, algorithms.

Guattari furnishes us with ways of thinking about the new ecologies in ways that stay clear of technodeterminism, technodystopia, and the naïve notion of machines as neutral tools.

Instead, what is stressed is how planetary computation undermines the structural distinction between machine and cognition, and forces us to rethink the boundary between the human and the nonhuman. For Guattari's ecological paradigm in our current eco-technological reality lives are no longer simply *mediated* by information and computation, but they are fully constituted by them.

This is a shift from mediation to *immediation*, where *information is increasingly sensed,* where the virtual and the real are enmeshed, with the digital-online world spilling over and merging with the analogue-offline world – what Luciano Floridi Professor of Philosophy and Ethics of Information at the University of Oxford, in his book the 4th revolution, calls the *onlife experience*.

The outcome is that human understanding of the fabric of reality is changing. The informatization of bodies, objects and environments is affecting the whole of human cognition, affectivity and perceptual faculties.

We can call this planetary computation, 4th revolution after the others that have changed humanity (steam, electricity, IT, AI), or the technological unconscious, which underlines the autonomous capacities of the machine independent from human awareness.

What matters is the potential this scenario has, to signal a new role for design.

But only on a condition. That we grasp what the increasingly autonomy of the machine is generating – something that we are beginning to witness only now.

What I call *digital uncertainty*: the potential for computational outcomes that are not entirely predicted or programmed.

Think about high frequency stock trading – introduced in financial markets 10 years ago - where algorithms make decisions in the order of the millisecond, faster than any human. Not only does the speed at which algorithmic trading operates and the massive quantity of algorithm-to-algorithm interaction exceed human comprehension, but it cannot be fully controlled nor its outcomes fully anticipated.

Digital uncertainty is expressed by the growing autonomy of algorithmic thinking. What digital theorist Luciana Parisi calls the incomputable: increasing unknown quantities of data in every computational process, where the output is always greater than the input, and which has become the "absolute condition" of computation.

[1] Guattari, F. (1992) "Regimes, Pathways, Subjects" in Jonathan Crary and Sanford Kwinter (eds.) *Zone 6. Incorporations*. New York, Zone Books (originally published as "De la Production de Subjectivité" in *Chimères* 4, 1987).

If this is what we contend with, how do we design for it?
How do we design digital uncertainty, or with digital uncertainty?

In particular, how do we envision the encounter with what Benjamin Bratton calls Artificial General Intelligence? After all, this encounter has no previous road-mapping and should be embraced as an entirely new experience, moving away from the anthropocentrism that permeates most of the current attitude towards AI.

Rather than expecting Artificial Intelligence to be like human intelligence this opportunity should be used to experiment with notions of intelligence inclusive of what is other-than-human: a distributed, extended, relational, emergent and, crucially, not necessarily carbon-based mode of thinking.

Reframing the interaction man-machine as an encounter with what is nonhuman is the only way out of the anthropocentrism of the Turing test, so that we can recognize the intelligences already circulating near us, resist the need to give them a name and making them look like us – which is morphological mimicry.

If this is the challenge we face, then we have to do it by design. Design needs to develop ways of thinking from within human-nonhuman ecosystems with enough pliability of speculation to be unhinged from teleology and top-down directives, and must be able to navigate and negotiate flexible boundaries.

Then what is needed are new figures of thought: FutureCrafting

By FutureCrafting I mean the activity of giving shape to the future here and now.
Future is about speculating, but avoiding the trap of escaping into a fantasy of what the future could /should be and instead capturing the future, grabbing it and bringing it back to inform the present. Which is the Crafting part: crafting pertains exquisitely to the now.

So FutureCrafting is speculation by design, a performative rather than descriptive strategy, whose interventions are designed to prompt, probe, and problematize, to inject ambiguity and even the non-rational and the non-sensical.

To borrow Isabelle Stengers' expression when she writes about "speculative methodologies", FutureCrafting is a practice that "affirms the possible, that actively resists the plausible and the probable targeted by approaches that claim to be neutral" (Stengers, I. 2010 *Cosmopolitics* p 57).

The aim of FutureCrafting is to produce new figures of thought:

That make visible the invisible.
expose the unsaid.
trigger unexpected reactions.
illuminate the existent, bringing into stark relief what is already happening.
dramatize relationships.
provoke thought in venturing into unknown fields.
bring forth potential.

FutureCrafting is not only a diagnostic tool, it is also a type of *dowsing tools*, attracting images around which new thoughts and new concepts and new stories can coalesce (coaless)

An example of futurecrafting is this project by one of my final year product design students -Virginia Toffetti.

The project is set in 2030 - an unbreathable future when urban air pollution forces humans to wear inhalers in order to breath. Virginia designed a survival kit to address urban air pollution and carbon dioxide emissions, exploiting the properties of algae to perform carbon biofixation, and imagining a scenario where humans will have to craft new types of symbiotic relationships with the nonhuman in order to survive.

But there is one aspect of FutureCrafting I want to stress in particular.

FutureCrafting is about reconceptualizing contingency and rethinking uncertainty. It is about treating them both as a material to work with, rather than as risk, insecurity, and threat to be avoided, which is symptomatic of a need to impose patterns of control, and predictability.

This is where the power of speculation by design, FutureCrafting encounters planetary computation and its urgent demands, and give us tools to live with digital uncertainty and turn it into potential.

Yes, because digital uncertainty signals a tension between machines that are increasingly autonomous and unpredictable, and assemblages human–machine managed through a systemic control and pre-empting of expectations.

Much has been written about this: from Google's ambitious project of telling its users what they 'should be typing', to the filter bubble argument according to which personalized search reinforces users' views and perspectives, to the uber-connected dystopian scenario envisioned by American writer Dave Eggers in *The Circle*.

In other words, planetary computation largely operates through dispositives of affective capture that, by narrowing down open-ended choices, effectively tame potential.

Basically what happens is that potential – which is always potential to actualize unknown relations, and express the unexpected – is turned into prediction:

Media theorist Anna Munster writes eloquently about this process whereby

what *might* happen next, becomes what *will* happen next

This is why uncertainty becomes a precious resource. Because it alters established perceptions, disrupts linear predictability and shows the potential of operating in a state of indeterminacy, where the construction of what is possible depends on random, contingent and not fully known components.

This, it can be argued, is the essence of creativity.

Philosopher Elizabeth Grosz, who has written extensively on how the production of art is tied up with the unpredictable chaotic emergence of the future, describes creativity as 'the capacity to elaborate an innovative and unpredictable response to stimuli, to react or, rather, simply to act, to enfold matter into itself, to transform matter and life in unpredictable ways' (Grosz 2008, 6)

A similar argument is found in the science of nonlinear systems where indeterminacy is essential to the emergence and evolution of life. Physicist David Bohm sums this up neatly when he writes: 'if we were to remove all ambiguity and uncertainty, creativity would no longer be possible' (1986, 198).

So, if contingency and uncertainty are a resource to capitalize upon, then futurecrafting strategies that embrace uncertainty rather than shun it or trying to flatten it, should be taken into account by design to experiment with scenarios of cohabitation and entanglements of the human and the nonhuman, and to test the spectrum of the creative responses emerging in the space between them.

What is fostered in this space is potential, the very same potential constantly eroded by the systemic capture of planetary computation.

And it is on this potential that, I believe, design must focus in its work of crafting possible futures and imagine alternative realities.

We need new myths, new stories, new fictions, and even new dreams, to counteract the capture of the imaginary. This is where FutureCrafting steps in as a way to produce design interventions that can **trouble** us, to produce a fiction that creates **friction.**

To live with digital uncertainty, we must develop affinity for nonhuman intelligence, beyond anthropocentrism. What is needed is astute intelligence, craftiness, cunning science, the capacity to act quickly and effectively within ever-changing contexts, an intelligence that can produce localised, contingent, adaptable, opportunistic knowledges.

We have it already and it's called metis

In the ancient Greek mythology Metis was the goddess of cunning intelligence, she was also Zeus's first wife–Zeus swallows her as soon as she conceives Athena and in doing so he eliminated any element of unpredictability and disorder.

If the classical embodiment of metis is Odysseus, the Trickster, the wily and cunning agent of craftiness, multiskills, and technical intelligence, I would like to leave you with the tentacular nonhuman intelligence of the octopus and its polymorphic powers as a possible image to think with…

here I am following in the steps of Vilém Flusser and his wonderful work of philosophical fiction *Vampyroteuthis infernalis* - that looks at the human from the inhuman perspective of the giant deep-sea squid

In the words of the Greek lyrical poet Theognis of Megara
Theognidea mid-sixth century BCE [lines 213-218]

Adopt the disposition of the **octopus**, crafty in its convolutions, which takes on
The appearance of whatever rock it has dealings with.
At one moment follow along this way, but at the next change the colour of your skin:
You can be sure that cleverness proves better than inflexibility.

Thank you