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Cutting Loose From Ghost Nets: Reestablishing trust and common ground in perilous waters

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Feedback loops are among the core notions in systems thinking - and the various fields of theory and practice that draw on it, including systemic design. We use these notions to develop methodological approaches, conceptualise processes, assess the adequacy of solutions, and anticipate how the design object may interact with its immediate surroundings and beyond. In my presentation, I discuss the recent explosion in the accessibility of AI-driven technologies from the perspective of information loops, impacts on knowledge production systems, and the implications for our methodologies, as well as for the wider landscapes within which we act. These do not only involve the inertia, rigidity and lock-in effects of visible structures and vested interests but also the more insidious entanglements of drifting *ghost nets*.

Design traditions anchored in situated, lived experiences, localised knowledge and materiality are powerful assets in the new global landscapes. Crucially, our international community of systemic design practice allows us to access wide interpersonal networks that help interpret information that would be otherwise de-authored and opaque. Nevertheless, as a community, we need to develop our own criteria for assessing the plausibility of information impacting the current or future behaviour of the wider systems. We also have to ensure that we do not miss weak signals (Ahlqvist & Uotila, 2020) that can drown in the amplification of white noise while we develop new forms of common grounding and values in co-creative design work that do not depend on an assumption of trust and good-will as an obvious point of departure.

KEYWORDS: trust, expert knowledge production systems, information loops, horizons of time-place and scale

RSD TOPIC: Methods & Methodology

Context

> *Nets will often be taken by oceanic currents and travel huge distances. This means that their detrimental effects can be prevalent far from their original point of entry into the water*.
> Ghost nets: silent killers in the oceans | IUCN

From being a relatively technical niche concern, the issues related to risks and flaws of AI—as well as its relevant applications and potentials—have become a matter of heated public debate. There have been strikes due to immediate impacts on employment, while high-profile figures have spoken of existential risks. From my own position as a researcher and in my practice, I have also already begun to notice subtle and more blatant shifts.

Feeling the world and what we are doing to her

The lens of cybernetics and recursive feedback loops allows designers to reflect on the processes through which we perceive the world, notably the role of information used to adjust hypotheses and actions. In engineering applications, cybernetics has mostly been used to stabilise production processes. By contrast, in the field of socio-technical systems, emphasis may lie on identifying leverage points for interventions aiming at deliberately shifting the dynamics, while in organisational studies, interest is often oriented towards how knowledge and communication flows allow continuous learning, development, resilience or adaptation. In systemic design, feedback and information loops enter into every step of practice, theory and reflexivity - regardless of whether we are, for instance, considering initial steps in co-creative processes, prototyping, or reflecting on how to design objects that offer possibilities for future evolution (see e.g. Ostuzzi, Dejonghe, & Detand, 2017; Jones, 2021).

Design has to work in practice, be beneficial and functional for users, enhance well-being, and contribute to justice globally while respecting planetary boundaries. To achieve such ambitions, we involve communities and other stakeholders in co-design processes that are founded on good faith, trust and respect for the knowledgeability, good-will and difference of other participants (Lutterman & Campbell, 2019). We gather both "facts" and perspectives to establish constraints and goals to build a common understanding and shared representation (Sevaldson, 2013; Bowes & Jones, 2016). We draw on expertise from countless disciplines and apply systems thinking that teaches us to be attentive to the emergence, complexity, and dynamics of the larger systems in which our design project is embedded. We constantly push boundaries, and literally or metaphorically visit contexts of which we have little or no personal prior experience. But each step of the way presupposes accurate information and relevant assumptions on which to base initial educated guesses or heuristics, and that subsequently feed various mechanisms to address inaccuracies, verify assumptions, and adjust our course.

Entering an age of hallucinations

The fragility of our knowledge systems is not new. More than half a century ago, Toffler (1970) argued that information was becoming a defining characteristic of modern societies. He also pointed to the impacts of rapid change, both in reducing the ability of people to orient themselves in their surroundings and in leading to shallower human relationships. Technologies facilitating information generation and dissemination have led to the phenomenon of information overload. The sheer mass of information circulating makes it difficult to find what we are looking for or to be heard above the cacophonous din, while the quality of human decisions is negatively affected if the resources and time necessary to process information are insufficient compared to the complexity and contradictions it contains (Roetzel, 2019). Additionally, in the post-truth era, deliberate manipulation is achieved through sophisticated disinformation campaigns amplified through social media. Similar considerations apply to automated systems, and organisations have struggled to protect their digitised systems against various forms of attacks.

The latest generation of AI applications that are made widely available brings these issues to an entirely new level. Besides intentional malevolent use of the technology, we

will increasingly meet mindless drifting *ghost nets* that entangle and capture whatever crosses their way. In the previous paradigm, technology could still be used to trace and identify sources of (mis)information, while the new generation of applications allows rapid, consecutive and distributed steps of de-authoring and scrambling. As human users, we can no longer distinguish features that would allow us to assess credibility or context. We cannot even rely on scientists to distinguish fact from fiction since the scientists themselves are driven to increasingly depend on outcomes produced by black box modelling or automated consensus software.

Among the crucial considerations in the current shift in gears of knowledge degradation is the lack of symmetry in the dynamics. It is far easier to massively spread disinformation and distort, misrepresent or contaminate previously reliable sources than it is to sift through, interpret and critically assess the flood of what is thrown at us. Coupled with this is the fact that both for decision-makers and for those who produce content of any type, it is far easier to rely on automated tools than to painstakingly do the work themselves. But when disinformation becomes so pervasive, who and what do we trust?

Learning different paths towards trust and sharing

Loss of trust is associated with crises, abruptly flipping how people view and interact with their surroundings and neighbours. Such sea changes can be observed, for instance, when a society transitions from peace to conflict or in phenomena such as financial crashes. According to Giddens (1990), knowledge in premodern societies was largely based on immediate lived experience and trust in personal relationships, while modernity is characterised by faceless commitments enabled by belief in expert knowledge systems, mediated through trust in institutions.

With the escalation in the spread of intentionally or inadvertently tainted information, as systemic designers, we are faced with a dual challenge: that of no longer being able to rely on the formal knowledge systems of modernity and that of engaging with communities who face existential threats at a time of distrust and polarization. A joint conversation and collective efforts are therefore required on possible options to meet these challenges. These include principles to independently evaluate plausibility, bias and relevance of projected scenarios, re-centring ethics and value transparency, ways of

continuing to enable linkages between local and global horizons and allocating the necessary resources, time, and contextually sensitive processes to reestablish trust in fractured or polarised contexts.

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