

IMAGINING THE INTERNET: PARADOXICAL SYSTEMS AND WHAT TO DO ABOUT THEM

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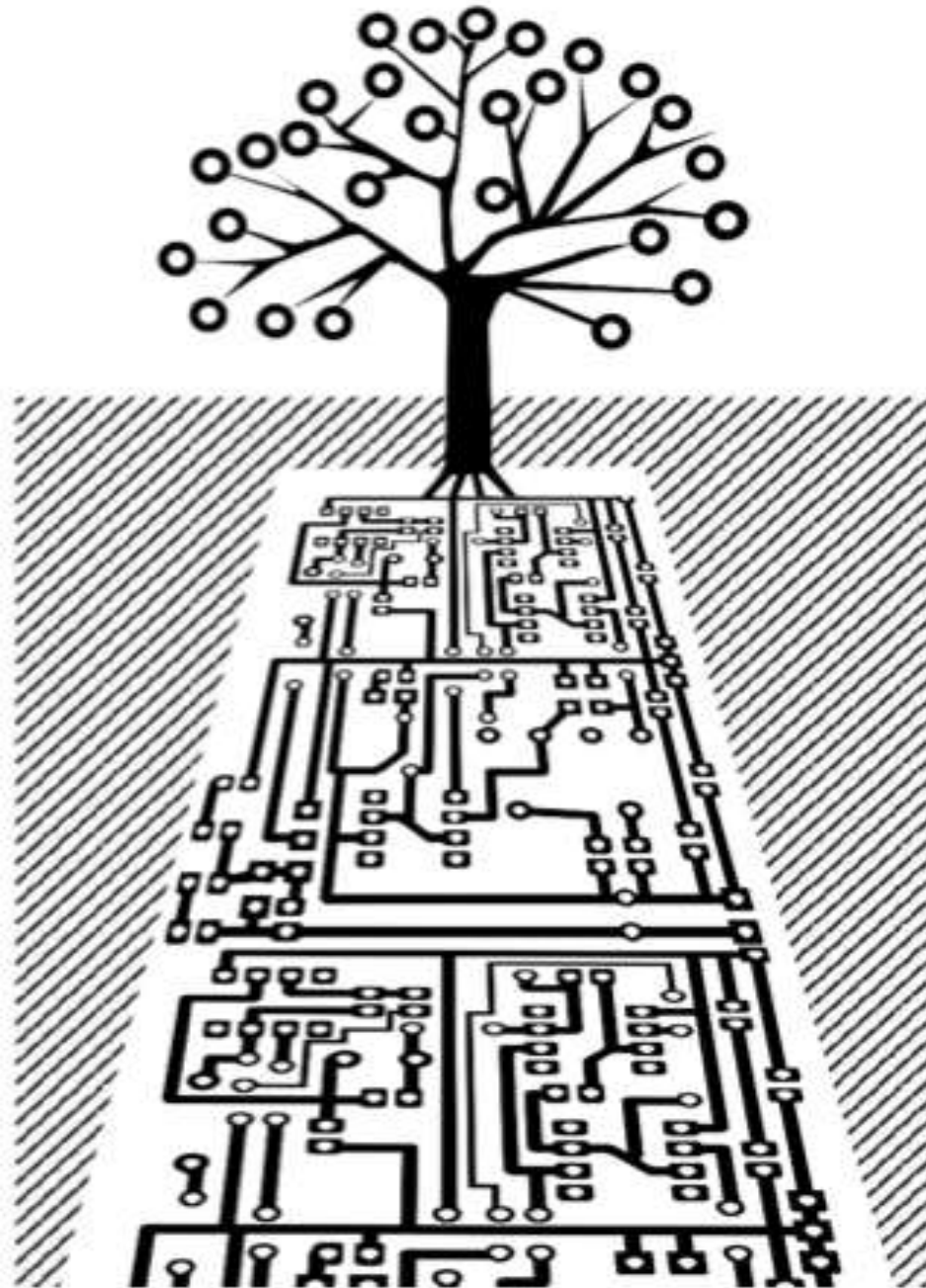
London School of Economics and Political Science

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Cybernetic Ecology

I like to think
(it has to be!)
of a cybernetic ecology
where we are free of our labors
and joined back to nature,
returned to our mammal
brothers and sisters,
and all watched over
by machines of loving grace.

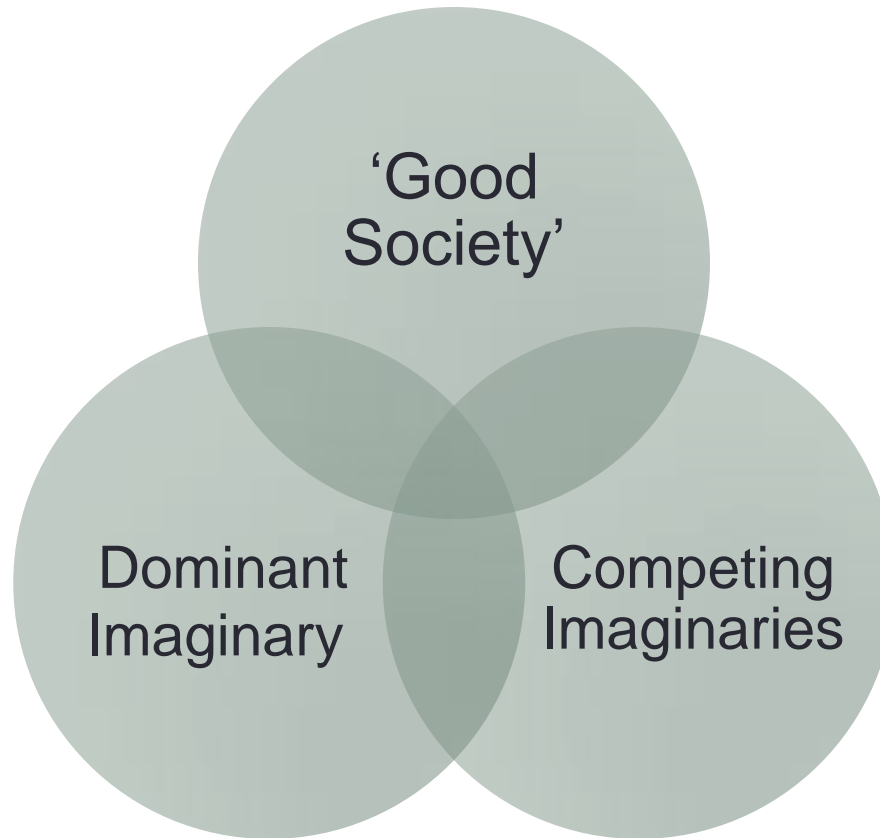
All Watched Over by Machines of Loving Grace, Richard Brautigan (1968)



Imaginaries of Digital Ecosystems

	Dominant Imaginary	Competing Imaginaries
Corporate	<ul style="list-style-type: none"> • Market exchange • Individual preference • Technological progress • Information processing • Information scarcity • Market-led 	<ul style="list-style-type: none"> • Commons • Collective norms • Technology assessment • Mediation • Information abundance • Community-led
Science and Engineering	<ul style="list-style-type: none"> • Complex system • Technological mastery • Emergence • Information processing • Individual agency 	<ul style="list-style-type: none"> • Complex system • Generative commons • Emergence • Information processing • Collective action
Political	<ul style="list-style-type: none"> • Governance from above • Multi-stakeholder governance • Intellectual Property Rights • Security and surveillance • Privacy 	<ul style="list-style-type: none"> • Governance from below • Networked coalitions • Sharing Communities • Creativity and experimentation • Anonymity
Civil Society/Citizens	<ul style="list-style-type: none"> • Empowerment (in front of the screen) • Individual Risk minimization 	<ul style="list-style-type: none"> • Empowerment (behind the screen and in front of the screen) • Collective control

Imaginaries of Digital Ecosystems



Progress towards realisation of one is assumed to be damaging to realisation of the others.

Digital Ecosystem Paradoxes



Paradox of Information

Information is **initially costly** to produce and intellectual property rights create the optimal incentives for creativity, diversity and growth.

and

Information is **virtually costless** to reproduce and the optimal incentives for creativity, diversity, and growth happen when it is freely distributed.

Paradox of Complexity

Intrinsic benefits of emergent complexity in the technological system are leading to **decreasing control**

and

Intrinsic benefits of emergent complexity in the technological system are leading to **enhanced control** through programming within a decentralized system

Network Neutrality Example

Conventional view of digital ecosystems distinguishes between ‘good’ and ‘bad’ ISPs.

“A **good ISP** will often manage traffic so that when bandwidth is short, less crucial traffic is dropped in a transparent way, so users are aware of it. ... the goal of the web is to serve humanity. We build it now so that those who come to it later will be able to create things that we cannot ourselves imagine”

(Tim Berners-Lee and many legal experts in the US, European Commission and elsewhere consistent with both dominant and alternative imaginaries).

Empirical Reality

Ecosystem technologies for automation and management of large scale data provide the means for online filtering – this enables ISPs to:

1. ration 'bursty' demand on the network
 2. choose priorities among types of traffic based on 'level' criteria
 3. introduce software agent filtering to produce internationally agreed goals, e.g., anti-spam, and blocking specific content, (anti-pornography, suppression of political expression)
-
1. discriminate among data traffic leading to non-transparent business arrangements enabling some to avoid costs and achieve better quality of service
 2. establish full-blown auctions for priority given to data traffic generated by suppliers and customers without regard to social values

Digital Ecosystem Policy, Complexity & Augmentation of the Human Mind

Ecosystem automation is cumulative and increasingly predominant; what is possible today may become (even more) excessive in the future.

- Without temporary reconciliations among actors, ecosystem outcomes will be understood only by a few **unaccountable** members of the knowledge elite.
- Avoid excesses of neoliberal markets and naive trust in dispersed technical experts from below.

