The State of Cybernetics
The digitalisation of cities, bodies and communities

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Safeguarding long-term equal stakeholdership in the Smart City

&

the Center for Urban Studies of the University of Amsterdam as part of a collaboration with the Sheffield Urban Automation Institute

The purpose of the seminar is to revisit the legacy of cybernetics to shed light on contemporary digital politics. Many of the fundamental questions asked by cyberneticians regain salience today. What remains of liberal individualism when the boundaries between humans, machines and nature are blurred? What are the systemic properties and operating routines of democracy in a world in which machines and humans are increasingly entangled?

What do cities, robots, corporations, political organizations, human bodies and the ecological environment have in common? For the scientists involved in the development of cybernetics in the 1940s, this was all but an awkward question. In seminars organized by different networks of scientists across the world, the cyberneticians came to think of humans, machines and the social and natural world as identical in their informational essence. In their intellectual and hands-on experimentations, cyberneticians called forth a world in which machines, bodies and nature are entangled as complex, permanently evolving systems. As they theorized information to flow ever more effortlessly within and between these systems, they conceived new modes of social organization and political subjectivity. Humans no longer appeared as sovereign and bounded individuals but as circuits of polymorphous informational systems.

Although cybernetics never matured into a respectable academic science, it has left its marks in fields as diverse as engineering and mathematics, architecture and planning, management and innovation theory, Artificial Intelligence and roboticization, as well as art, literate and film, activism and spirituality. Cybernetics has informed the governance of national economies, experiments in psychiatric hospitals, the tinkering with cellular automatons and robots, the design of architectural environments, self-experimentations with biofeedback and the design of cities. Cybernetics can therefore be seen as applied philosophy.

The central premise of this seminar is that a critical reflection on the cybernetic heritage can enrich contemporary debates around the repercussions of ascendent digital ubiquity. As people are increasingly surrounded by responsive robots, sensors and data-producing vehicles and apps, the cybernetic perspective regains salience. We will use social science research, practitioners' experiences, and artistic performances to revisit cybernetics and address fundamental questions: What forms of political subjectivity and social organization emerge when people and things are increasingly connected through digital infrastructures? What sorts of promises and threats are inherent in cybernetic fantasies of socio-technical systems? How does cybernetics relate to liberal or socialist understandings of political and social life?

Bringing together scholars and practitioners from a wide variety of fields, amongst which urbanism, planning, robotics, social science, philosophy, and art, we will ask these questions in relation to three domains.

Cybernetic Cities
As digital infrastructures increasingly permeate today's cities, corporations and governments consider cities as the quintessence of complexity and digital ubiquity. In the context of urban imaginaries such as the smart city, cities are imagined as self-learning entities, feeding off streams of data produced by sensors, gadgets and social media. Like self-learning robots, these cities are expected to register and respond to local, context-specific data-cues and make decisions in a decentralized ad-hoc way. In this way of imagining cities, we can recognize the heritage of cybernetics, and we might also find grounds to critically assess its political ramifications: What does the cybernetic notion of the city do to our understanding of politics and social organization? How are these self-learning infrastructures of ad-hoc, decentralized decision-making implemented and experienced in practice? What does it mean for cities to be governed and designed by means of logics that intersect with industrial and experimental Artificial Intelligence, and what does it mean for Artificial Intelligence to be expanding its domain into the urban?

Cybernetic Bodies
Cybernetic insights have inspired generations of artists, neurologists, psychologists and others to conceive of sensorial perception in new ways. For these thinkers and experimenters, the belief that humans, machines and nature are able to interact and communicate by means of the universal language of information, inspired understandings of perception and persipience as distributed by default. Today, this merging between the physically embodied and the informational is intensified as Quantified Selvers, citizen scientists or gamers position themselves cognitively and affectively in response to data captured by a combination of embodied senses, environmental cues and artificial sensors. How can we think of the politics of these sensorial practices through which the artificial becomes part of the human sensorium? Does this, as some claim, lead to more holistic forms of knowing, or does it, as others say, reduce us all to non-reflective automata?

Cybernetic Communities
By theorizing humans, machines and the larger environment as united in their informational essence, the early cyberneticians inspired the anti-authoritarian hippies, artists and intellectuals who constituted the so-called countercultures of the 1950s-70s. In these contexts, a particular political thesis emerged which accounted for the entire system in which political messages operate: a truly non-hierarchical polity could only be achieved by encoding decentralization into the very foundations of social and technological organization. For many, the early internet – imagined to be radically decentralized and governed in distributed ways - represented this perfect alignment of content and context. Today, this cybernetic approach to bottom-up transformation informs the theories and tactics of a wide variety of organizations, from self-organizing social movements via corporate innovators who embrace iterative and lean design methods, to propagators of digital cities. How can we understand, evaluate, theorize and study this cybernetic approach as embraced within these diverse areas and domains? What are the different ways in which cybernetic principles are used to plan communities and organize movements?

Program

Invite-only conference:
Thursday March 22 1.30 PM - 5.30 PM
Friday March 23 9.30 AM – 4 PM

Conference Room
Netherlands' Institute for Advanced Studies (NIAS)
Korte Spinhuissteeg 3
1012 CG Amsterdam

Public Lecture and Theatrical performance:
Friday March 23 4 PM – 7 PM

CREA "muziekzaal"
Nieuwe Achtergracht 170
1018 WV Amsterdam

Conference at NIAS

Thursday March 22

1.30 PM–3.15 PM

Opening **Justus Uitermark & Dorien Zandbergen**

Keynote **Andrew Pickering**
"Cybernetics as non-modern ontology"

Presentation **Marc Tutters**
"The legacy of countercultural cybernetics in architecture, design and multimedia"

3.15 PM–3.45 PM Break

3.15 PM–5.15 PM

Keynote **Noortje Marres**
"Autonomy and complexity in self-driving cars"

Presentation **Simon Marvin & Aidan While**
"Urban turbulence and ecological control"

Presentation **Justus Uitermark** & **Dorien Zandbergen**
"Cybernetic citizenship"

5.15 PM–6 PM Drinks & snacks

Friday March 23
Location: NIAS

9.30 AM–10 AM: coffee & tea
10 AM–10.15 AM: opening

10.15 AM–12.15 AM

Keynote **Willem Schinkel**
"Cybernetics and the loss of memory"

Presentation **Diana Kurkovsky**
"Cybernetics for Socialism: Three Modes of Soviet Technoscience"

Presentation **Petter Törnberg**
"Technological control in the era of digital postmodernity"

12.15 PM–1.00 PM Lunch

1.00 PM–2.30 PM

Presentation **Tsjalling Swierstra**:
"Responsible Innovation and cybernetics"

Presentation **Linnet Taylor**
"Cybernetics and responsible data"

2.20 PM–3.00 PM - Final discussion round and remarks

3.00 PM–3.30 PM joint walk to Muziekzaal Crea.

3.30 PM–4.00 PM reception with drinks in Muziekzaal Crea

Public program

4.00 PM–7.00 PM

Theatrical performance directed by Ricarda Franzen

Lectures by **Katherine Hayles** and **Luc Steels**

Discussions with speakers, audience and **Andrew Pickering**