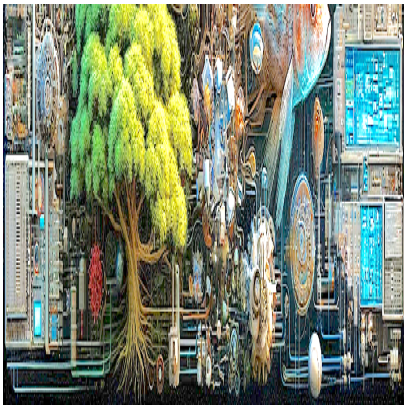

Cybersemiotics

Description

When it comes to the practical applications of AI, in particular **urban** AI, scholars look to historical legacies. As I reviewed in the last post, urban researchers such as Federico Cugurullo see the introduction of AI as mainly under the influence of cybernetics. That stems from the work of Norbert Weiner and his book *Cybernetics, or Control and Communication in the Animal and the Machine*. With its claims to universality, cybernetics provides a ready set of vocabularies, concepts and methods for thinking of cities in computational terms.

In a recent book chapter, semiotician Winfried NÃ¶th outlines some of the key terms on which Wiener drew, and that have since developed: system, wholeness, order, invariance, open and closed, equilibrium, stability, homeostasis, equifinality, negative entropy, self-organisation, morphogenesis.

The history of cybernetic and that of semiotics have co-evolved and intersected in interesting ways during the past century or so.

But now we have the term *cybersemiotics* advanced by Brier in 2008. That work identifies a divide between the natural sciences and the humanities, with cybernetics on the side of the sciences, and semiotics on the side of the humanities. â??Cybersemioticiansâ?• look for a unified theory that includes both.

Cybernetics draws on the systems theory of of Ludwig von Bertalanffy (1901-1972). According to Brier, the concept of â??systemâ?• provides the unifying thread joining semiotics to cybernetics. Founder of modern semiotics, C.S. Peirce (1839-1914) does not refer to signs as forming a â??system,â?• but Brier argues that it is present in Peirceâ??s concept of â?? â??a concept.â?•

Brier argues that both cybernetics and semiotics incorporate a sense of purpose (i.e. â??purposive behaviourâ?•). As understood in cybernetics, living systems are driven by purpose (direction, aims, instincts, survival, self-replication). Peirceâ??s understanding of signs involves *purposive interpretation*. Signs are not independent entities as if waiting to be interpreted by human or other beings. Interpretation is built into Peirceâ??s concept of the sign. This is the â??interpretantâ?• element in a sign situation. So both cybernetics and semiotics assume agency in the ensemble (i.e their

â??systemsâ?•).

The second alignment between cybernetics and semiotics is *self-control*, which manifests in both symbols and living systems. In cybernetic terms this leads to the possibility of stability, homeostasis, as exhibited in the evolution of semiotic systems. I assume this suggests that meanings (interpretations) settle and stabilise over time. For Brier this comparison underlines the cybernetic principles of final causality and self-regulation inherent in Peirceâ??s semiotic theory, thus illustrating its consonance with systems theory and cybernetics. [This paragraph was derived from chatGPTâ??s summary of Brierâ??s chapter about Peirce.]

If I understand Brier correctly, cybersemiotics is an attempt to subsume semiotics within the terminologies and concepts of cybernetics. Seen through the lens of the humanities, semiotics is a patchwork of ideas, concepts and terminologies (an assemblage) that cannot so easily be pinned down. See posts on semiotics and structuralism.

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Note

- Featured image was prompted with: â??Please produce a photoreal image that shows organisms as cybernetic systems.â?• ChatGPT captioned this with â??The image has been generated to explore the concept of organisms as cybernetic systems, blending organic and mechanical elements to depict the interconnectedness and synergy between natural life and technology.â?•

Category

1. Artificial Intelligence

Tags

1. cybernetics
2. semiotics

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