ANTICIPATION AND INFORMATION FEEDBACK: Mimicry and latency between Living Systems.

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Abstract

"There are thoughts we can anticipate, glimpsed in the distance along existing thought pathways." 1

The presentation ties together fundamental concepts that affect the process of two ongoing software-art research-creation projects that visualize data from social insects's activity. Understanding the hive or the nest, and the machine and its computation as being living systems that feed, learn and evolve from feedback evaluation, each method is carefully scrutinized, compared and contrasted. In some aspects, traits of mimicry surface in evidence but in other aspects multitude of questions remain. Current studies in Environmental Humanities, Post-humanism, Animal-Computer Interaction and Media Archaeology enrich the inquiry.

The Shannon-Weaver model of systemic transmission or communication rendered around electronic engineering in 1948, fundamentally generic, quickly expanded to impact studies in animal and human communication. Data could be anything. The research pursues the objective of translating flight data into drawings and 3D computer renderings, recognizing casts and individuals, revealing complex motion dynamics, spatial and temporal relationships and individual and collective decisions. Key concepts are studied:

DATA: a-Data as Information: Precision. Scale. Direction. Choice. Range. b-Coding: Analogue to Digital. Procedures. Memory. Storage. Loss.

TIME: Media Temporality. Statistical Approximation. Control. Averaging. Hierarchysizing. Scaling. Sampling. Errors. *The Time of Non-reality* 2.

"*N*ow that the concept of learning machines is applicable to those machines which we have made ourselves, it is also relevant to those living machines which we call animals, so that we have the possibility of throwing a new light on biological cybernetics." 3

Norbert Wiener first accrued the term feedback, a system mechanism in which a certain

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amount of information is re-entered into the system with the objective of readjusting its aim towards its goal. Feedback is a capacity of complex systems and results in all intelligent behavior. Calculating anticipation methjods in space-time were proposed towards controlling antiaircraft guns in the second world war.

Wolfgang Ernst 4 elaborates on media temporalities and introduces an interesting term: *Represensing*. A term, that couples a representation with something *sensed*. This term stands in-between knowing and anticipating, and involves the senses in accordance with what is acknowledged and known, and with what is expected or projected.

The term '*Represensing*', is particularly interesting for these studies as it appears evident, that it is an acting condition present in living systems dynamics. An action of representation disposed of assurance of the immediate future, lacking the information of a 'read future'. An action taken as a gamble, as a leap of faith. For computation, this is handled through statistical approximation, averaging, hierarchy-sizing, scaling up.

1 Beginning After the End. In Dark Ecology. For a Logic of future Coexistence. Morton, T. Columbia University Press 2016.

2 Wiener, N.

3 Cybernetics: or Control and Communication in the Animal and the Machine. Wiener, N. The MIT Press, Cambridge, Massachusetts. Second edition. 1948

4 "...Else Loop Forever." The Untimeliness of Media. Ernst, W. Università degli Studi di Urbino, Centro Internazionale di Semiotica e Linguistica, 10-12 September, 2009

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