Mass-societies and robots at nano and human scales: T-patterns, T-strings, and self-similarity

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Abstract

Modern robotics is a product of human collective intelligence in mass societies and a good outcome requires studies of the physiology and psychology of individuals and their societies and much inspiration still comes from studying our ancestral primates living in social groups and insects living in complex mass societies. But none of the species studied by biologists were components of any others with, until recently no talk of self similarity, but this may be changing with the entry on stage of nanoscale actors, proteins, with their mass societies, providing a possibly revolutionizing view of life in human modern mass societies. This long-lasting study of human interactions beginning in the early 70's, just as Nico Tinbergen, Konrad Lorenz and Karl von Frisch received their 1973 Nobel Prize for biological research on behavior, has led to the development of a real-time pattern type, called T-pattern, but called T-string when in physical strings such as molecules or text, with adequate detection algorithms and software (THEMETM, PatternVision.com). T-patterns are hierarchical mathematical self-similar patterns that recur with significant translation symmetry and have been detected in numerous studies of interaction in humans and animals, and also robot-human interactions. Illustrative examples will be presented.

This led attention to similar patterning in DNA and proteins and to similarity between mass-societies of proteins and those of literate humans but differing on one essential point from all animal mass societies by having giant extra-individual T-strings (DNA or text) with different segments defining different specialised citizens. See (Magnusson, 2019) https://doi.org/10.1016/j.physbeh.2021.113146

Biography

Magnus S Magnusson, PhD, Emeritus Research Professor, founder, and director of the Human Behavior Laboratory (hbl.hi.is), School of Health Sciences, University of Iceland. Author of the T-system, detection algorithms and software THEMETM (PatternVision.com), initially focusing on real-time organization of behavior. Co-directed of two-year project "DNA analysis with Theme". Keynotes in biology, neuroscience, mathematics, science of religion, proteomics, A.I., robotics and nanoscience. Associate Professor and Deputy Director 1983-1988 in the Museum of Mankind of the French National Museum of Natural History, Paris. Repeatedly, invited Professor at the University of Paris V, VIII & XIII. Now works in formal collaboration between 32 European and American universities initiated 1995 at the University Rene Descartes of Paris V, Sorbonne, based on "Magnusson's analytical model".