

non-linear networks



This image is from M. Van Dyke's book *An Album of Fluid Motion* (The Parabolic Press, 1982). It is a great collection of black and white images taken from a variety of labs. I stumbled on it while browsing in Stanford's bookstore.

For the last few months I have been reading books and articles on complexity theory and related topics. Is there a relationship between physical systems/emergent properties and the dynamics of groups and cultures. I am interested in how groups and organizations solve problems. How do they deliver the ingenuity they need? How do we find solutions to our social and organizational challenges?

Thomas Homer-Dixon (*The Ingenuity Gap*) catalyzed this idea for me but it remains an understudied question the becomes more critical for us to answer as the complexity of our interactions increases. This is the sort of challenge that readers of Serres are likely to resonate with.

Serres is particularly adept at connecting things/ideas/concepts /images in unique ways. He does not accept traditionally drawn lines or discipline induced ghettos. He compresses and folds linear historical timelines to show that we are in proximity to our contemporaries and also to our ancestors. We are intimately connected to our material world - weather, soil, built structures - in very dynamic and non-linear ways.

The density of these nodes of connection means we cannot rely solely on reductive linear analysis; we cannot be exhaustively methodical. Success depends on being able to comprehend patterns, large-scale trends and novel combinations. This requires a style of thought capable of both reductive analysis - we

need to understand the parts - and creative synthesis. Movement between these modes constitutes the art of thinking well and living with care. For some, synthesis implies a lack of rigor, a cavalier attitude to the hard-won fruits that reductive analysis has produced. Serres exemplifies the possibilities of an agile mind that can move freely between these modes as the situation and season dictates.

Can we cultivate this non-linear way of thinking, this way of living? Can it increase our creative capacity, our ability to deliver the ingenuity needed to create new social organizations and relationships? Is the age we find ourselves in any different than what has preceded us and do we have the spirit and insight to come to terms with what those differences are? Does being global and technological constitute a new environment in which our thought patterns and social habits must change in order to thrive? What is the relationship between non-linear networks and human social relationships?

I look forward to gaining a greater understanding of how the inventive spirit, fed but not shackled by our respective disciplines and traditions, might help us to begin to answer these questions. Serres gives us hope in new possibilities, in emerging ideas and habits of mind.

I welcome your response.

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