

## 6) Properties of Evolutionary Socio-Economic Systems, Cont'd.

N. Clark, 'Some New Approaches to Evolutionary Economics', JEI XXII (1988), p. 518.

<b>Concept</b>	<b>Neoclassical Perspective</b>	<b>Evolutionary- Institutional Perspective</b>
<b>(1) Technology</b>	unit capital/labor ratio	systems/paradigms/ trajectories
<b>(2) Equilibrium</b>	identifiable point of convergence and reference	does not exist; far from equilibrium behavior, complex cycles
<b>(3) Information</b>	perfect knowledge, risk	uncertainty, ignorance

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N. Clark, 'Some New Approaches to Evolutionary Economics', JEI XXII (1988), p. 518,  
cont'd.

<b>(4) Analytical Units</b>	<b>homogeneous</b>	<b>complex</b>
<b>(5) Determinacy</b>	<b>complete, “closed” systems, uncreative</b>	<b>weak, “open” systems, creative</b>
<b>(6) Morphogenesis</b>	<b>none</b>	<b>permitted</b>
<b>(7) Analytical Style</b>	<b>deductive</b>	<b>inductive</b>
<b>(8) Institutions</b>	<b>barriers to market forces</b>	<b>enablers of technical change</b>

## 6) Properties of Evolutionary Socio-Economic Systems, Cont'd.

### Two Worlds – Necessity and Chance

<b>Necessity – A Simple World</b>	<b>Chance – A Complex World</b>
<b>Decreasing Returns</b>	<b>Increasing Returns</b>
<b>Convex Functions</b>	<b>Nonconvex Functions</b>
<b>Unique Outcome</b>	<b>Multiple Outcomes</b>
<b>Stasis</b>	<b>Morphogenesis</b>
<b>Equilibrium</b>	<b>Path Dependence</b>
<b>Mechanistic Analogy</b>	<b>Biological Analogy (Phylogenesis)</b>
<b>Predictability</b>	<b>Unpredictability</b>
<b>Relatively Easy to Model</b>	<b>Relatively Difficult to Model</b>

D.F. Batten, 'Complex landscapes of spatial interaction',  
Adapted from: *The Annals of Regional Science*, 2001 Vol. 35.1, 81-111, p. 85.

## **Core Conceptions I: Economic Evolution**

### **7) Examples: Path-Dependent Knowledge**

- **„The worldwide demand for automobiles will not exceed one million – least because of a lack of chauffeurs.” (Gottlieb Daimler, 1901)**
- **“... unless the objectionable features of the petrol carriage can be removed, it is bound to be driven from the road by its less objectionable rival, the steam-driven vehicle of the day.” (W. Fletcher 1904, cit. after W.B. Arthur 1989)**
- **„I think there is a world market for perhaps five computers.” (Thomas Watson, IBM CEO, 1943)**
- **“Who actually needs that silver disc?” (Jan Timmer, Phillips CEO, 1982)**