

COMPLEXITY ONTOLOGY AND GLOBALIZATION: SOME PROPOSITIONS

Robin Matthews
Kingston Business School
Academy of National Economy
Under the Government of the Russian Federation
r.matthews@kingston.ac.uk

1. ABSTRACT

The paper takes a complexity approach to globalization. The focus of global capitalism is upon symbols and images. Ironically one feature of global capitalism is that multiple levels of being (issues of soul and spirit), become part of the agenda. The content of the paper is best presented as a series of contending propositions. These propositions are validated and corroborated by the selected references.

2. INTRODUCTION

For the first time in history a single system of economic organization dominates the globe: global capitalism.

Capitalism or the market system has evolved into the global market system.

The focus has shifted from use and exchange values, to information symbols and images.

Globalization is the result of an interaction between finance, the ICT revolution and economics - the global search for bigger markets and lower costs (decentralized Keynesianism).

Decentralized Keynesianism refers to the recognition by capitalist firms of the importance of effective demand.

The interaction in the global economy takes the form of positive feedbacks.

Positive feedbacks can result in exponential growth or decline.

Recent growth has been accompanied by the marginalization of sections of communities and entire geographical areas.

Globalization encompasses multiple realities.

One is that to survive, international firms must increase productivity, and shed labour in high wage areas, or shift activities to low wage economies.

It goes on to assert that globalization is an efficient engine of growth provided that certain control mechanisms are lifted. In particular, currencies must be deregulated, domestic inflation restricted by limiting government debt, and free movement of capital allowed, equalizing wages across nations. Problems of marginalization of the unskilled or unfortunate will still remain, but these are insignificant as compared to the benefits of globalization.

Another reality of globalization is the growing gap between rich and poor, both within nations and between nations. In the USA the gains from an unprecedented period of growth since 1982, most of the gains have gone to just one percent of the population. GDP in the 20 richest countries is 30 times that of the poorest 20: up from a multiple of 15 in 1960.

Marginalization has fed the growth of perhaps the most global business of all - global criminality.

Another reality focuses on discourse. The notion of global competition is determined by figures of speech. The language of global strategy conditions

thought: *downsizing, reengineering, lean manufacturing and core businesses* - ironically denigrating alternatives.

Corporate behaviour is attributed to impersonal global forces. Imagery reflecting the darker side of capitalism (*cartel, restrictive practice, collusion, and entry barrier*), has been rewritten (*alliance, supplier agreements, networking, leveraging*).

Yet another reality of globalization is Americanization: reinforced by *Hollywood*;

like K's acceptance in Kafka's *Trial* the astonishing thing is the submission to Americanization.

So globalization is a complex process encompassing multiple realities.

Treating the global economy as a complex adaptive system, provides a way of coming to terms with its ambiguities and contradictions; stability and instability, order and disorder, wealth and poverty and many other pairs of opposites, neither of which can exist without both.

3. SELF ORGANIZATION

Capitalism is a complex adaptive system.

In some versions of this narrative, survival of the system as a whole is more important to the system than the survival of individual entities; firms, organizations, institutions or individuals.

Related characteristics of complex adaptive systems stand out; non-linearity, emergence, networks and contradiction/ambiguity.

Arguments about whether globalization is new are really about non-linearity and the speed of change. Non linearity produces qualitative change and the emergence of entirely new phenomena.

Non linearity is produced by interaction and interdependence; that is by network effects.

Emergent behaviour does not always arise. Two fundamental processes appear; evolution and entropy. Darwinian selection, and self-organization are evolutionary dynamics. They have the implication of the emergence of new order; a less probable state.

Entropy refers to decay of systems closed off from the environment, their increase in disorder, and randomness; movement to a more probable state.

Networks consist of nodes and connections between nodes.

In a network of N activities (products, resources, markets, customers, business functions, and so on), there are 2^N (groups of) connections (coalitions). So imagine a (relatively) small network of 1000 activities. There are 2^{1000} or 10^{300} (groups of) connections (coalitions).

More possibilities exist than can be realized. Which set of technologies is realized is a matter of accident.

The fact that many possibilities can be imagined provides a clue to the existence of multiple levels of being.

Imagine a computer solving such a system looking for optima and carrying out a calculation every billionth of a second. This would take longer than the history of the universe.

The mystery is that there is any order at all.

Global capitalism, the global market system has the status of an ordering system or archetype in the Gnostic or Jungian sense. Like a complex system, an archetype contains its opposites.

4. CONTROLS

The global economy results from a network of connections between finance, technology and decentralized Keynesianism.

Controls over interactions are provided by mechanisms of capitalism (competition and co-operation) and the internal controls existing within firms and institutions.

Such controls limit the number of interactions.

The global economy has many levels of interaction and organization.

Activities at any given level serve as building blocks for constructing units at higher levels; teams within business units, businesses within divisions, divisions within organizations, organizations within global industries and global industries within the global economy; politics, economics and expectations.

Building blocks are recombined and revised continually as the system accumulates experience and adapts.

There are many technologies and niches that can be exploited by adaptations.

There is no universal super-competitor that can fill all niches: any more than there would be in a complex ecological system like a tropical forest.

Niches are continually being created by new technologies and the very act of filling a niche provides new niches. Perpetual novelty results.

Because there are so many niches serving many purposes and needs the system operates far from equilibrium or optimum or global attractor.

5. IDEOLOGIES

The global economy represents an interaction between ideologies.

A distinction is often drawn between three ideological pairs, coexisting under global capitalism; enlightenment rationalism, postmodernism and fundamentalism.

The three ideologies represent different hermeneutics that coexist in a complex adaptive system.

They interact in global capitalism.

Essentially fundamentalism rests on faith.

Enlightenment rationalism rests upon the possibility of objectivity and some formal procedural principles of knowledge and perhaps of moral valuation.

Part of enlightenment rationalism is a scientific project of discovering natural laws and exploiting them as software under-pinning technological progress.

In enlightenment rationalism, mechanical images are giving way to evolutionary images. Organizations exist in a far from equilibrium state, that makes emergence possible.

In global business, rationality is a matter of procedure rather than optimisation.

Enlightenment rationalism has never been vindicated by crude (Popperian) positivism. Acceptance of enlightenment ideas has always ultimately depended upon on two things: the ability to exploit them as software in technology, and on hermeneutics.

In postmodernism everything is a text, the basic content of texts is meaning, meanings are there to be decoded or deconstructed, the notion of an objective reality is suspect.

Postmodernism recognizes the equal status of alternative narratives and the role of language as a control mechanism, determining the notion of reality adopted.

Sociologists have long entertained a theory of secularization according to which religion declines as science advances. This has not happened under modern global capitalism; it has led to a strengthening of fundamentalism rather than a weakening.

Contemporary fundamentalism is strongest in Islam, reinforced by urbanization, inequality and reaction against Americanization in economics and international relations.

The three ideologies interact as part of a complex system.

Power lies in the nodes: non-linearity and emergence result from interconnections.

6. ONTOLOGY

Contradictions and ambiguities are not reducible. They often exist at different levels of being.

Recognition that there are more possibilities than can possibly be realized, is a step in acknowledging different level of being.

Information has always been the ultimate (infinitely plastic) resource in capitalism: the focus was on its value as software (hydraulics, electro-magnetism, and so on) in technology.

Now in global capitalism, focus is on the industrialized production of symbols, and images - the ability to manufacture alternative realities (resulting from emergent processes, and decentralized Keynesianism).

Call these two aspects of information, as a resource and a source of images - informationalism.

Value as software could always be dis-intermediated by competitors.

Consumers can now disintermediate symbols and images, changing the face of global marketing; integrating products, firms, consumption, leisure, politics and entertainment.

As well as integrating and to some extent de-humanizing globalization, especially informationalism, raises issues personal creativity and soul (issues of being) to the forefront.

7. SELECTED REFERENCES

- Anderson, P., Arrow, K, Pines, D. ((1988) *The Economy as A Complex System*, Santa Fe Institute Studies in the Sciences of Complexity, Vol. 5. Addison Wesley, Redwood City, CA.
- Arthur,, W. Brian, (1988), Self Reinforcing Mechanisms in Economics. In Anderson, Arrow and Pines, *op.cit.*.
- Capozzi, R. (ed.) (1997) *Reading Eco: An Anthology*, Bloomington Indiana University Press.
- Eagleton Terry, (1983) *Literary Theory: An Introduction*, Oxford, Basil Blackwell.
- Empson, William, (1947) *Seven Types of Ambiguity*, New York, New Directions.
- Fox Piven, Francis, (1995) Beyond Globalisation, *New Left Review*, 213, April
- Holland, J.H. (1988) The Global Economy as a Complex System, In Anderson, Arrow and Pines, *op.cit*
- Hamel, Gary, and C.K. Prahalad, (1994), *Competing For The Future*, Harvard Business School Press, Boston Mass.
- Hammer, Michael, and James Champy, (1993), *Reengineering the Corporation*, Harper Collins, New York.
- Head, S (1996), The New Ruthless Economy, *New York Review of Books*, Vol. XLIII, No. 4, February 29th
- Jung C.G. (1968) *The Archetypes and The Collective Unconscious* London Routledge
- Krugman, P. (1995), Does Third World Growth Hurt First World Prosperity? In Ohmae (Ed.) *op.cit.*
- Krugman, P, (1996), Pop Internationalism, The MIT Press, Cambridge MA.
- Michie, J and Grieve Smith, J. (1995), *Managing the Global Economy*, Oxford University Press, Oxford
- Ohmae, Kenichi, (1990) *The Borderless World*, London, New York, Collins.
- Oman, Charles, (1994) *Globalisation and Regionalisation: The Challenge for Developing Countries*, OECD Development Centre, January.
- Porter, Michael E. (1980), *Competitive Strategy; Techniques for Analysing Industries and Competitors*, Free Press, New York.
- Schumpeter J.A. (1948) *Capitalism, Socialism and Democracy*, London, Harrap.
- Shannon R. and W. Weaver (1949) *The Mathematical Theory of Communication*, University of Illinois Press, Urbana.
- Womack, J., D. Jones and D. Roos, (1990), *The Machine that Changed the World*, New York, Maxwell Macmillan.
- Wood , A. (1994), *North South Trade, Employment and Inequality*, Oxford, Oxford University Press.