

‘In Search of Anti Holism’ or ‘Is all System Science the study of Complementarity?’

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Of course I have to admit a partiality stemming from the impossibility of attending each and every symposium and workshop while being tied to the excellent instantaneous translation of the Grand Amphitheatre and constrained by an early flight home. I hope I did you all justice in my attendance. It was a very enjoyable and refreshing event academically and socially, my thanks to you all.

Joel de Rosnay spoke on **Complementarity**, Matthias Mujel on **Requisite Holism**, Elie Bernard-Weil and others on **Agonistic and Antagonistic systems, Model and Non Model, Actuality and Potentiality** and much else, Xu, Karsprzak and Donnadiou spoke on **relations between Society and Sustainability, Religion and Society**, Biggiero and Karsky on **Discrete and Continuous System Dynamics** and overall, apologies if any names are absent, there was a concept of Integrated v Differentiated systems resulting in classifications about **Us and Them, I and You**, Hierarchical and Planar Structures: one of my key concerns. But, in essence, it seems to me we were all discussing **mutually exclusive** sets and their **mutually recursive** definitions, or to misuse Joel de Rosnay’s introduction slightly, Complementarity.

According to wikipedia, (**Erreur ! Source du renvoi introuvable.**) the on line encyclopaedia, Complementarity (Systems Thinking) is defined as, “...for any reasonably complex system, the views of any two observers will be complementary – *it will be impossible to derive all the observations of one of the observers from the other...* “. In extremis then, one observer’s view can be mutually exclusive to the other so that no observations of the one can be derived from the other. Then, **for the system to have integrity, each view has to be defined in terms of the other.**

For example, one observer might be observing what the system is in terms of its **spatial resources**, while the other is observing what the system is doing in terms of its **temporal processes**. This may lead to the definition of Complementarity (Physics) also given in wikipedia. In thinking about the rationale of the congress and its content, I think the nicest example of complementarity was the ‘The Ant Hill Scenario – getting at the Jam’. In this scenario most ants take the short route, a few take the long route – insistently! They may starve but they’ll die trying. They will even wander off randomly in their search and enquiry. One ant’s rationale is significantly different from others.

Now, in the Yorkshire dialect of English – itself another **mutually exclusive and recursively defined** pair, an extreme **complementarity** even - to be English is to be not Yorkshire **and vice versa**. In this dialect there is a phrase for such as the Long Routed Ants. They would be called ‘Awkward Buggers’; the word bugger is not rude in Yorkshire, it is plain speech. The word refers to those of us **who insist on doing things differently, regardless of the effort required, the cost to others and regardless of how easy other options may be**.

Yorkshire, of course, is one great home of the very English, in England, very Yorkshire, in Yorkshire, game of Cricket. A famous comedian, I forget who for the moment, described cricket in the following manner. It is the game in which there are **two sides such that at any one time one side is ‘In’ while the other is ‘Out’**. When the ‘In’ side is ‘Out’ the ‘Out’ side is ‘In’. To be ‘In’ is to be ‘not Out’ and to stay ‘In’ to avoid ‘Getting Out’ is an objective of the game. **To get the ‘In’ side ‘Out’ so that the ‘Out’ side can get ‘In’** is another objective. The game of cricket then is an example of the Ant Problem because it would be all too easy for both sides to get Out and stay Out so as **to avoid being put ‘In’ in order to get ‘Out’**. There is also the issue of On side and Off side in cricket, but that is another matter. Suffice it to say, I have made the point about mutually exclusive and recursively defined sets.

Personally, I know I am an ‘award bugger’, my Yorkshire Grandfather told me so, often. Of course, I was born in England, so it follows by a complementarity definition.

In this vein, I would suggest that all, me more than most, at the 6th Congress on System Science are Long Routed Rats, or awkward buggers, but, perhaps, with one last awkwardness. Not only do we tend to take the Long Route to the Pot of Jam in the hope of finding a larger one, if we were to find such a larger Pot, we would immediately start looking for another. So, in my awkwardness, and, as at the congress, what I talked about, and what I want to continue talking about is, what I now realise, Anti Holism. **Anti Holism** is the larger pot I found at the congress and hence the title of these notes ‘In Search of Anti Holism’. But what is Anti Holism?

I would suggest, light-heartedly, that for a system to be Holistic is for it to be boring, of little interest, and therefore not deserving of the attentions of Systems Science. To be holistic is to be well defined, to be structured as a set of hierarchical layers with emergent behaviour well regarded between layers, a system in which communication and control are effective and well founded. In other words, a holistic system is one in which there is a localised, well-formed, self-sustaining, reduction in entropy. In such systems, if they exist, there is an absence of noise, communication is perfect, control is autonomic, emergence is auto organised and hierarchy is merely a set of levels of abstraction. What is there interesting about such systems? They may be an ideal to strive for but the interest is in the striving – to journey is to be happy, to arrive is to want to leave – the ants again.

To be interesting to a system scientist, a system has to be non holistic, to have lost its holism, to have fallen below a level of requisite holism, for there to be a significant difference between observer’s expectations of the system and its achievements, to be noisy, to be in danger of failing, to be non existent, chaotic even, as a system.

No, system scientists are anti – holists. In seeking for the bigger Jam Pot, they are looking for **noise, lack of control, failed communications, misunderstood emergence and planarity of structure and behaviour**.

They are looking for localised or even **non-localised increases in entropy, the gap between system expectations and its achievements**, in the experience of both its shareholders and its stakeholders; if so be there is a real difference.

As with the ants, system scientists may starve in the search or be redirected by other human pressures, but they'll defend their right to search even though they probably won't allow themselves to actually, or even, contemplate dying.

This brings me to my main interest in the congress. As a returnee to the conference scene, I was amazed and delighted to find the issues of religion and culture being seriously addressed **in open, formal, scientific, surroundings**. As one who has lived and worked in the Far East and who has a long standing, though not well developed, interest in Chinese philosophy, I was particularly interested in the references to Yin and Yang, the I Ching (Book of Changes), Daoism, the relationships between Confucianism, **System Thinking and Sustainable Development** and the possible convergence or at least harmonious interaction of Eastern and Western thought. Surely, the cosmic concepts of Yin and Yang are the very epitome of Complementarity and it seems to be this that I have found expressed in the structured form of the N^2 Chart (how mundane that sounds) at the base of my systems thinking and the facilitation of stakeholders concerns regarding their system's anti holistic state.

May you all find the Jam Pots that you seek and may we meet again in equally pleasant circumstances.

Your Anti Holistic Colleague