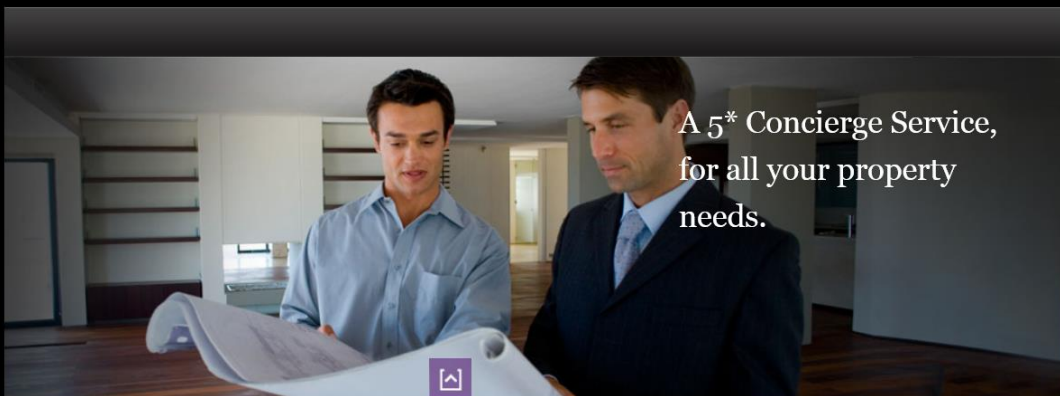


# Winsper

## Property Specialists

Sales | Lettings | Design | Build

## Project Management Systems Thinking



A 5\* Concierge Service,  
for all your property  
needs.

As At  
19 October 2013

Author  
D Winsper

Consider the differences between 'Systems Thinking' and 'Analytical Thinking'.

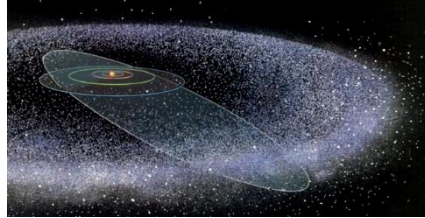
Reflect and give an example of a 'System', 'Programme' and a 'Project' and highlight the differences between them.

Contrast a 'Typical' Management view and that of 'Total Systems' Management.

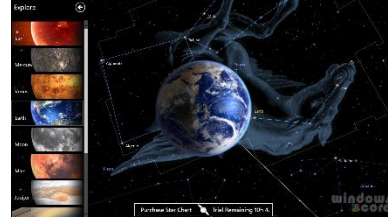
## Systems Thinking – Big Or Small



The Universe



The Solar System



The Earth (Sub-System)

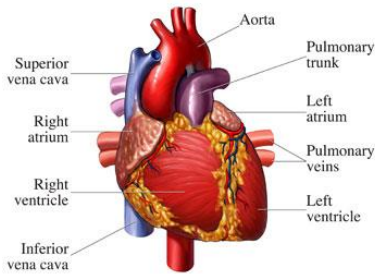
Alternatively;



The Human System



The Human Sub-Systems



A Programme / Project?

1. 'Systems Thinking' is a holistic approach to interpreting individual components, focusing on their interrelationships, thus 'Cause & Effect' and outcomes against the whole. This is commonly referred to as 'The Big Picture'. Systems, whilst ever evolving, contain 'Sub-Systems', which overarch bespoke 'Programmes' and 'Projects'. Theoretically, systems can be 'Open'; those that interact with their surrounding environment or 'Closed'; systems with no interaction. However, this paper proposes that there is no truly 'Closed' system, unless it can be contained within a vacuum and thus will have no advantage to the real world solution.

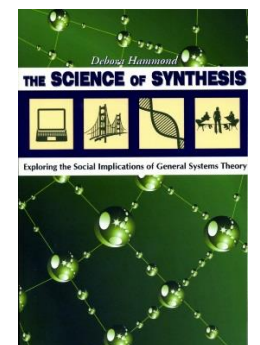
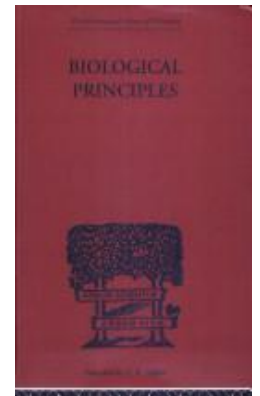
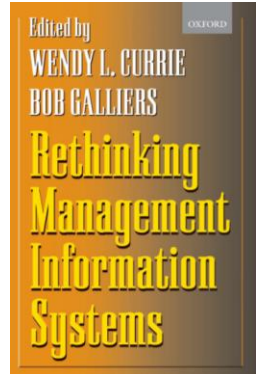
## Origins Of Systems Thinking

2. 'Systems Thinking' falls from its origins<sup>1</sup>, that of biology, in the first half of the Twentieth Century, based on such works as 'Woodgers – Biological Principles', 1929.<sup>2</sup> which lead to 'The Systems Movement', founded by Ludwig Von Bertalanffy<sup>3</sup>, in the late 1940's, in that ideas about organisms could be extended to complex wholes, of any kind and established that;

*'System is; Truly, the abstract concept of the whole, which may or may not turn out to be useful as a descriptive device, for making sense of real world wholes.'*

3. As such, 'Systems Thinking' is the 'process of thinking, using system ideas', across the spectrum of the whole and now 'Systems Thinking' can be truly viewed as a 'Meta-Language' across ALL disciplines, such as; ecology, engineering, economics etc.

4. In this modern century, 'Systems Thinking' is being challenged by Complexity / Chaos Theory, with the ever evolving 'Super Computer' and technology, as highlighted by Dr D Hammond, International Society for Systems Sciences (ISSS)<sup>4</sup>, which has given birth to 'Systems Science'.



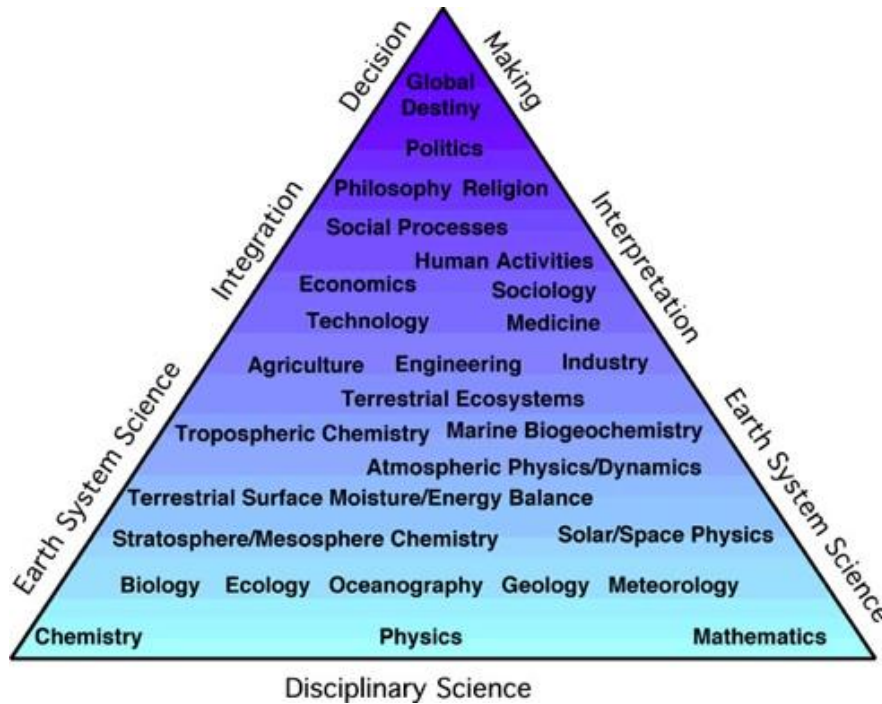
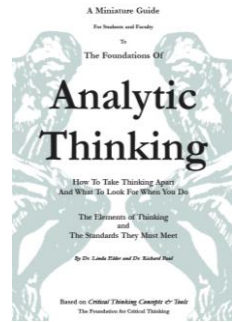
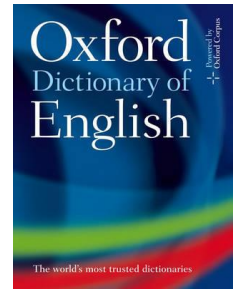


Fig 1 – System Science & Philosophy, Universities Space Research Association

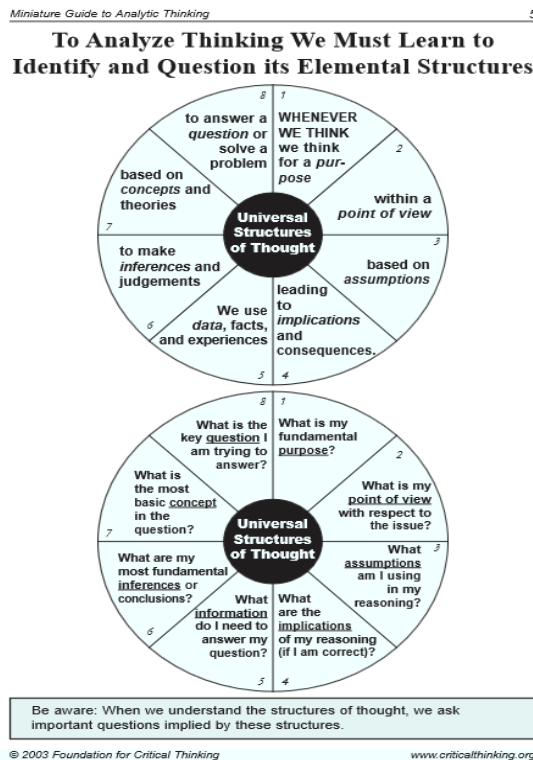


## Analytical Thinking

5. As defined, 'Analytical Thinking'<sup>5</sup> is;

*'The abstract separation of a whole into its constituent parts in order to study the parts and their relations.'*

6. As per Dr. L Elder and Dr. R Paul's – 'The Foundations Of Analytic Thinking', from the 'Foundation Of Critical Thinking'<sup>6</sup>, it identifies 8 introspective questions that are;





7. Thus 'Analytical Thinking' is at odds with 'Systems Thinking' and its inwards approach to the part, rather than a 'Holistic' view, to the benefit of the whole. Further, as can be seen by the eight questions, it is only solving the problem from a one point perspective, which is to the detriment of all interested parties, in the outcome of the whole.

## System, Programme and Project

8. Modern business defines a '**System**', as per Kerzner 1989<sup>7</sup>, in that;

*'A group of elements, either human or nonhuman, that is organised and arranged in such a way that the elements can act as a whole toward achieving some common goal, objective, or end'*<sup>7</sup>

Thus it can be said that all fundamentals are connected and interrelated, either directly or indirectly and as such have single, through to multiple, inputs and outputs, process dependant and are ever evolving. Systems outputs can be further defined as desirable, neutral or wasteful, however, it can be argued that in a universe where;

*'Matter (Or Energy) cannot be created or destroyed'*  
*Law of Conservation of Mass by Antoine Lavoisier*<sup>8</sup>

And given the drive for 'Sustainability', in the guises of 'Recycling' and 'Upcycling', that a **wasteful outcome is now non-existent and mute**. As demonstrated effectively by the process of 'Landfill Mining'<sup>9</sup>. Taking this point to the N<sup>th</sup> Degree, this may also give substance to '*Chaos Theory*' over '*Systems Thinking*', which can be substantiated by many discoveries, which were accidental; Kelloggs Cornflakes, Microwave Ovens, Silly Putty, 3M Adhesive giving us the 'PostIt Note' and Saccharin. Thus, can it be said;

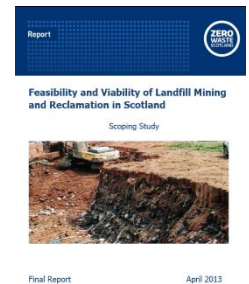
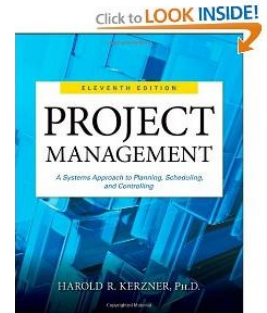
*'The System will deliver a product, irrespective of variables and inputs. How the whole perceives and utilises that product is open to conjecture'*  
*David Winsper 2013.*

9. Whilst '*Systems*' have no time frame, conversely '**Programmes**' are time phased efforts that culminate in their broad objectives, or goals, being achieved. Further, programmes can be stopped or replaced at any juncture and are '**First Level**' elements to a '**System**'.

10. Thus, the '**First Level**' element to a '**Programme**' is the '**Project**', again time phased and goal orientated, it mirrors the fundamentals of a programme, but is more defined.

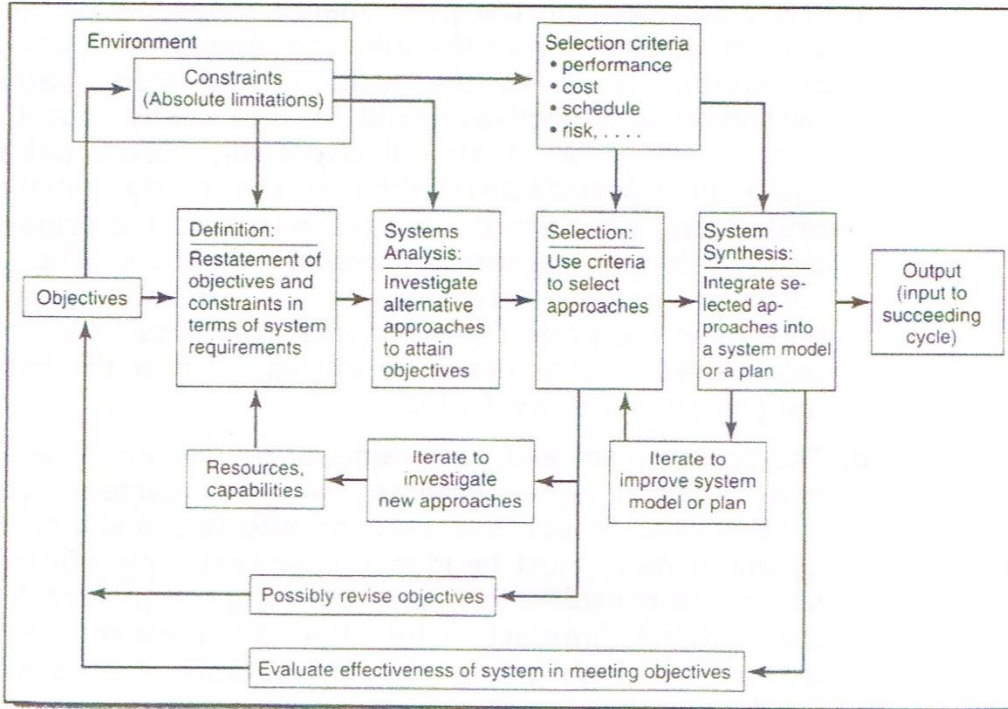
11. Both Sub-Systems, that of '*Programmes*' and '*Projects*' are '**Socio – Technical environments**' and as such, are 'Open' systems.

12. An example of which can be found within '*The Winsper Group*' organisation, in that; The company in its entirety can be viewed as the 'System', with aims and directions to achieve its short, medium and long term aspirations and goals, within the property sphere. In simplistic terms, the group is broken down into five sub-systems, which can be viewed as 'Programmes', they are the Sales, Lettings, Design, Build and Concierge services. These 'Programmes' have bespoke aims and objectives related to the relevant discipline. If you review and drill down into the 'Build' vignette, then each 'Property Development', as per Harvard 2008, can be viewed as a 'Project' and is a short term venture, to the benefit of the organisation.

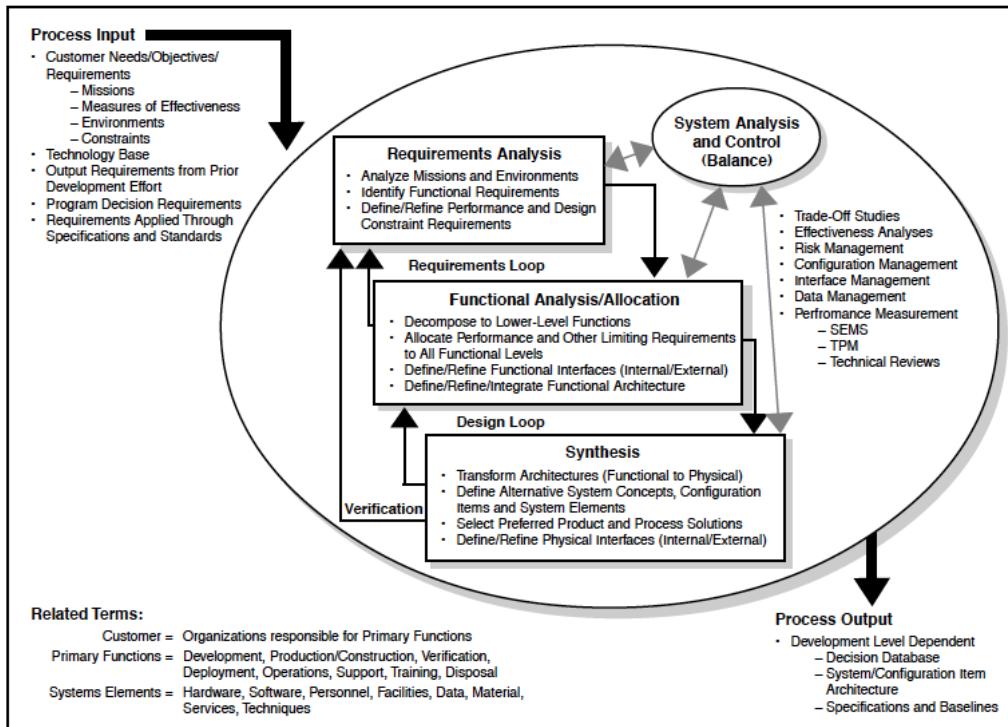


## Systems Management

13. 'Systems Management' orchestrates the basic management function of **planning, organisation and control**. It works in parallel with 'Systems Engineering' and 'Systems Analysis', as defined by Nicholas 2003;



Alternatively Dr Hammond, ISSS purports;



## Analysis

14. The following analysis can be drawn;

- It is true today, as it was at the birth of the 'Systems Movement', in that 'Systems' and 'Sub-Systems' are scalable and depends on the user's perspective, from the Universe down to the individual human, for want of reference.
- A 'Holistic' approach, encompassing all variables and elements, must be in place to fully benefit from the 'Systems Approach', rather than 'Analytical Thinking'.
- All systems are 'Open' systems, as they are influenced by all 'Socio – Technical' factors, which are external to the element. The history of the 'Systems Movement' alludes to this, single cells and lower.
- 'Closed' systems can only exist theoretically, as reality dictates interaction.
- 'Systems Thinking' is the 'process of thinking, using system ideas'.
- 'Systems Thinking' is being challenged by Complexity / Chaos Theory, with the ever evolving 'Super Computer' and technology, as demonstrated by incorrectly titled 'Waste Outputs'.
- 'Waste Outputs' do not exist, as all matter is useful.
- 'Analytical Thinking' should not be utilised, as it is at odds with 'Systems Thinking' as it addresses elements from a single perspective and is an inwards approach to problem solving.
- All 'System' evolve as there are no time constraints and broad brush aims and objectives, but their sub-systems (Programme / Project) are tied by time and specific goals that can be stopped at any stage.

## Summary

15. 'Systems Thinking' is a holistic approach to interpreting individual components, focusing on their interrelationships, from ALL perspectives, which is in direct contrast to 'Analytical Thinking'. 'Systems Management' tailors and overarches the systems subsets of 'Systems Approach', 'Systems Analysis' and 'Systems Engineering' and manages an all-inclusive perspective of 'Cause and Effect' and 'Input and Output' variables. This style of thinking is scalable and unrestricted at the highest level by time and specific goals.

## [E Signed]

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