



GST 40 – Comparing Perspectives

Formal Description

Comparison is the stage of productive co-ordination in which systems structures identified within different perspectives are examined for relationships. At the present stage of development, comparison focuses primarily upon identified entities, processes, transfers, constraints, feedbacks, and other systems concepts rather than formally equivalent systems propositions.

Plain English Explanation

Once two perspectives have been decompressed and analysed using a common systems idiom, their underlying systems structures can be compared.

The comparison focuses on the entities, processes, transfers, constraints, feedbacks, and other systems concepts identified in each perspective. It asks whether the perspectives are describing similar causal structures, different aspects of the same system, different levels of organisation, incompatible causal explanations, or substantially separate phenomena.

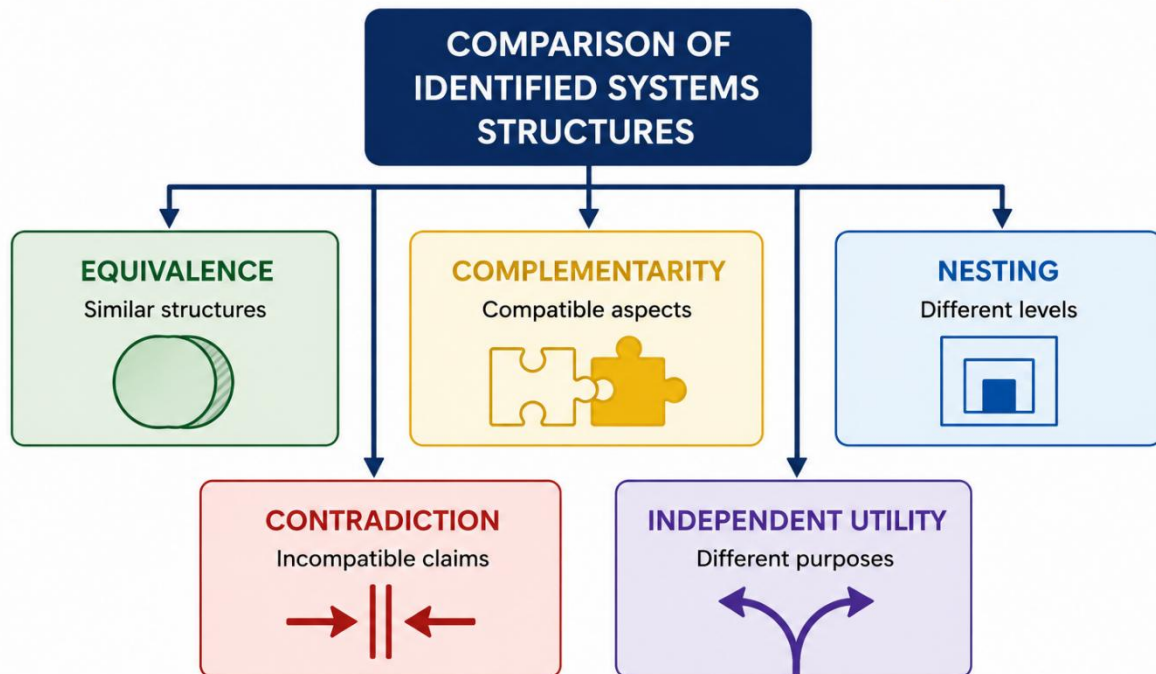
Several outcomes are possible.

- **Equivalence** occurs when two perspectives describe substantially the same systems structures and causal relationships using different terminology or representations.
- **Complementarity** occurs when perspectives describe different but compatible aspects of the same or closely related systems. Combining them may provide a broader understanding.
- **Nesting** occurs when one perspective describes processes or structures operating within a larger system or at a different level of organisation described by another perspective.
- **Contradiction** occurs when perspectives make incompatible claims about the same phenomenon at the same scale and for the same explanatory purpose. Productive co-ordination can identify the location of the disagreement, but cannot itself determine which claim is correct.
- **Independent utility** occurs when perspectives address sufficiently different phenomena, purposes, or questions that direct integration provides little additional value. Both perspectives may remain useful within their own domains.

The objective is therefore not to make different perspectives agree. Productive co-ordination seeks to identify their relationship more accurately.



Possible Outcomes of Structural Comparison



Example 1 – Systems Dynamics and Cybernetics

Systems Dynamics emphasises stocks, flows, accumulations, and changes in system states over time. Cybernetics emphasises communication, feedback, regulation, and control.

Both perspectives examine system behaviour and feedback, but they focus upon different causal aspects. Their relationship is therefore best described as **complementary** rather than equivalent. Together, they can provide a broader understanding of dynamic change and behavioural regulation.

Example 2 – Lamarckian and Darwinian Evolution

Lamarckian evolution proposed that characteristics acquired during an organism's lifetime could be inherited by its offspring. Darwinian evolution proposed that natural selection acts upon heritable variation within populations.

Both perspectives sought to explain biological evolution, but they proposed incompatible causal mechanisms for heritable change. Their relationship therefore involved **contradiction**.

Productive co-ordination does not resolve such a contradiction. It helps identify precisely where the disagreement lies so that theoretical argument and empirical investigation can address it.

Provenance and Links

The comparison of perspectives draws upon long-standing work in General Systems Theory, interdisciplinary inquiry, philosophy of science, and scientific explanation.

Relevant contributors include:

- **Ludwig von Bertalanffy** – the search for common principles and structures across disciplinary boundaries.



- **Kenneth E. Boulding** – communication between specialised disciplines and the development of shared systems concepts.
- **Thomas Kuhn** – differences between scientific paradigms and the conceptual frameworks through which phenomena are interpreted.
- **Imre Lakatos** – comparison and development of competing scientific research programmes.
- **Karl Popper** – the role of criticism and empirical testing in evaluating competing explanations.

The detailed comparison methodology and outcome classifications are developed in *Productive Co-ordination* (Challoner, 2026).

Practical Exercise

Choose two perspectives, theories, or explanations concerning the same or a related phenomenon. Briefly identify the main systems structures described by each perspective.

Then consider their relationship:

1. Do they describe substantially similar structures?
2. Do they describe different but compatible aspects?
3. Do they operate at different levels or scales?
4. Do they make incompatible claims about the same phenomenon?
5. Are their purposes sufficiently different that direct comparison adds little value?

Classify the relationship as **equivalence, complementarity, nesting, contradiction, or independent utility**.

Explain briefly why you selected that outcome.