GST 95 — Disassembly, Transfer and Changing Participation

Formal Description

This module explains how disassembly and assembly can be connected through transfer. It distinguishes what is transferred, when participation changes and which organisation may be preserved. These distinctions help explain how assemblies can exchange material and replace components while continuing to exist.

Disassembly occurs when an entity ceases participating as a component of an assembly. It may be partial, leaving the larger assembly in existence, or complete, ending its existence as that organised entity. Complete disassembly does not require destruction of its former components: smaller assemblies may remain intact.

Transfers can involve an entire source entity. This is called whole-entity transfer. Whole-entity transfer incorporates the entire source with a recipient into a more extensive assembly.

Transfers can also involve components and this is known as whole-component transfer. When a component leaves an existing assembly, its release constitutes disassembly relative to that source. If it becomes incorporated elsewhere, assembly occurs relative to the recipient. However, release alone does not guarantee incorporation: the entity may remain in the environment.

Finally, transfers can involve lower-level components or energy.

The description depends upon the organisational level examined. A transfer can be a whole entity in its own right and a component of the source entity containing it.

Where transfers occur, source participation can end before, as, or after recipient participation begins. These relationships are termed prior disassembly, concurrent disassembly and assembly, and subsequent disassembly respectively. They describe the timing of organisational changes.

Two forms of preservation must be distinguished. The transferred entity may retain its own internal organisation. Alternatively, interactions maintained during overlapping participation may constrain the relative positions of source and recipient. Preserving one does not automatically preserve the other.

By the end, the learner should be able to distinguish levels and extents of disassembly, compare the three temporal relationships, and explain the different preservation mechanisms without treating spatial movement or temporal overlap as sufficient explanations.

Plain English Explanation

Types of Assembly, Transfer and Disassembly

Imagine an assembled pump being removed from one installation and fitted into another. It stops participating in the first installation and becomes a component of the second. This is whole component transfer. Two organisational changes connected by its transfer one in the source installation and one in the destination.

The pump can remain a pump throughout. Its internal parts need not be taken apart when its external connections are released. So, disassembly relative to the first installation is compatible with preservation of the transferred entity's own organisation.

Imagine a pump taken from storage and fitted into an installation. This is whole-entity transfer.

Now imagine a seal taken from a pump in one installation and installed in a pump in another. This is the transfer of a sub-component.

The same event can be described at different levels. If we follow the pump, then we are following a whole entity. If we examine the installation, then we are following one of its components. If we

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instead follow a seal removed from within the pump, then we are examining a lower-level component of the installation.

Removal may be partial disassembly of the installation if sufficient organisation remains for it to continue as that entity. Alternatively, an installation may be separated into smaller assemblies so that it ceases to exist as the former whole. Those smaller assemblies need not be destroyed.

Nor must every released entity join another assembly. A removed part can remain in storage or in the environment. There is disassembly at the source, but assembly at a recipient occurs only if new component participation is established.

Spatial movement is not the defining change. Disconnecting an aligned pipe joint can end the sealed connection before the sections move apart. Conversely, joining two sections already in position can establish assembly without relocating them. The interactions establishing or ending their component relationships are what matter.

The Timing of Assembly and Disassembly

Now consider the relative timing of disassembly and assembly. A pump removed on Monday and installed elsewhere on Wednesday illustrates prior disassembly. Its participation in the source ends before participation in the recipient begins.

Alternatively, a retaining mechanism may take over a component just as another releases it. This can approximate concurrent disassembly and assembly. If the new mechanism engages before the old one releases, then there is an overlap: disassembly from the source is subsequent to the beginning of incorporation into the recipient.

Joining and leaving can take time. In a social example, someone may undertake responsibilities in a new institution while continuing to fulfil responsibilities in the previous one. The overlap can last weeks or months, allowing information and responsibilities to pass progressively.

Finally, an entity need not remain intact indefinitely after arrival. The recipient may later transform or disassemble it. Initial preservation and subsequent processing are separate stages to explain.

Two Ways Organisation Can Be Preserved

First, consider the transferred entity itself. Some assemblies depend upon continuing support to retain their internal organisation. Establishing recipient support before source support ends may prevent disruption during the handover. An intact mechanism that needs no such support can instead remain organised through a gap between installations.

Overlapping participation therefore offers one possible means of preservation. It does not guarantee it: the recipient interactions must provide the support actually required. An overlap involving incompatible forces or conditions could instead damage the entity.

Second, consider the source and recipient. Suppose a component C is held by A and then also becomes held by B before A releases it. During the overlap, interactions through C can physically couple A and B. If those interactions restrict their relative movement, then they can help maintain the configuration of A and B themselves.

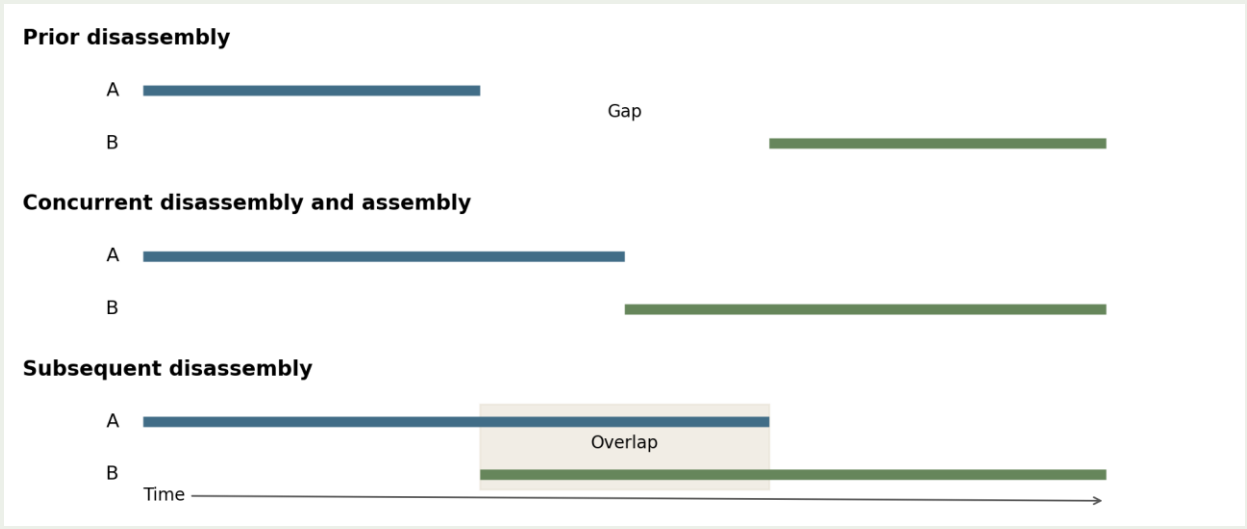
This second mechanism concerns the arrangement of the connected assemblies, rather than simply the internal organisation of C. The two effects can occur together, but they answer different questions about what is being preserved.

If such transfers happen repeatedly, with sufficient continuity between their temporary connections, then those connections may help sustain a system's configurational structure. A connection that remains permanently overlapped represents an extreme case. This possibility depends upon the particular physical interactions and constraints involved.

Transfer can also allow an assembly to replace components while maintaining a process. However, continuing exchange alone does not establish organisational continuity. We need to identify what remains effective through the changes.

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Finally, preservation is not necessarily beneficial in every respect. Removing or adding components can change active capabilities and capabilities that are currently unused. Later modules examine these consequences for persistence and flexibility.



A and B label the source and recipient. Each bar shows the period during which the transferred entity participates in that assembly. The diagrams simplify joining and leaving so that the three relationships can be compared; they do not show spatial movement.

Examples

Prior disassembly. A mechanism is released from one machine, remains separate for a period and is later installed in another. Its internal organisation may persist during the gap if it does not depend upon support from either machine.

Concurrent change. One retainer takes over as another releases. At the level of description concerned, there is neither a gap nor an overlap. In practice, a detailed examination may reveal a short overlap or gap within what appears to be an immediate handover.

Subsequent disassembly. A second retainer establishes its grip before the first lets go. The transferred component participates in both arrangements during the overlap. Compatible relationships allow support to pass without interruption.

These categories identify when the component roles change. To explain preservation, we must also identify the interactions that remain effective during the change.

Provenance and Links

This module draws upon *Causal Assembly Theory: Assembly and Disassembly as Causal Processes* and the physical-transfer account developed in *Foundational Causality* (Challoner, 2026a, 2026b). It applies the distinction between an entity's internal organisation and its external component roles to connected assembly and disassembly.

The timing categories describe changes in participation. The preservation account then identifies two distinct subjects: the transferred entity and the configuration of the assemblies coupled through it.

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The broader hypothesis that successive temporary couplings can sustain configurational structure requires investigation of their strength, continuity and effects in particular cases.
The mechanical and institutional examples illustrate the distinctions. They help identify what to investigate without implying that physical gripping and social responsibilities operate through identical mechanisms.
Challoner, J. A. (2026a). Causal assembly theory: Assembly and disassembly as causal processes. Rational Understanding. https://rational-understanding.com/efgst/
Challoner, J. A. (2026b). Foundational causality. Rational Understanding. https://rational-understanding.com/efgst/

Practical Exercise
Draw a component C leaving assembly A and joining assembly B. Show three participation timelines: release before incorporation, release as incorporation begins, and release after incorporation has begun. Explain the gap or overlap in each case.
Choose one timeline and identify what is transferred at two organisational levels. Then describe a separate case in which release occurs but no incorporation follows.
For an assembled mechanism moved between installations, distinguish its internal organisation from its external component role. What would allow it to remain intact during a gap? What additional support might make overlap necessary?
Now examine A and B coupled through C during overlap. Which interactions could restrain the movement of A relative to B? Explain why this differs from preserving the internal organisation of C.
Finally, propose what you would need to observe before concluding that repeated temporary connections help maintain a larger configuration. Identify the configuration, the relevant restraints and whether interruptions allow it to change.

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