A Rule Determines Order

A rule is a force, from: randomness to: consistent order

Results of Construction

History is full of examples of the results from construction projects.

Elementary

The ability to build things is an ability that shows up early in life. Matters involved in construction should be elementary enough for our purposes.

For example, if a father sets a rule that his child should be home in time for dinner, then the child complies with the rule if he or she is consistently home in time for dinner. The pet turtle that lives next door also complies with this rule because it is not something affected by the rule. It is not in the domain of the rule.

Cause...effect:

Def» *Cause* refers to that which activates or determines that some force effects.

Def» *Effect* refers to the result created, produced or determined by stuff and/or forces in a given setting.

Def» A *feature* refers to an effect determined by the presence of stuff in a given setting, and its own presence is referred to using an adjective.

Def» A *quality* refers to an effect determined by the potency of a force in action from what it affects or uses to what it effects within a given setting, and its own presence is referred to by an adverb.

Note that a cause is not associated with the identity of a force, i.e. a force's "from" is not that which activates it. A force could be activated by multiple different agents. Once a force is activated, it uses or affects something (its "from") and then it effects something (its "to"). Different observers can disagree about what causes the activation of a force.

Additional Terms:

Def» Somethings are *multiple* if and only if they are separate and match the same standard.

Def» *Single* refers to not multiple.

Def» Something is *dependent* on something else iff something requires: a) the something else or b) a result which requires the something else.

Def» *Independent* from refers to not dependent on.

Def» Something |→something else refers to the direction from something to something else.

Def» Something ‖ something else refers to the boundary between something and something else.

Def» A defining-limit [d-limit] refers to the unique, authoritative separation between something and not-something.

Summary Regarding Definition

In summary, the activity of defining is about setting forth rules.

Each definition rule provides a standard that enables people to distinguish between what matches the standard and what does not match the standard. If the rule fails to do this, then the thing being defined is intellectually equivalent to everything or nothing.

Our goal for consistency and clarity requires that the system of meanings we employ have the property that each meaning is separate from its negation—either meaning A is present or it is not—no ambiguity.

A force is identified by a standard that enables people to determine a direction: from what it acts on, to the result it effects. Some stuff is identified and separated from everything else by a standard that enables people to distinguish between its presence and its absence.

CONSTRUCTION • • • • • • • • • • • • • •

As considered in the section above on preliminaries, a construction process includes:

- a construction site
- the presence of raw materials and capabilities
- the ability to carry out successive steps

- an executive power which wills, controls, or governs the execution of capabilities at the site

Below are carefully chosen assumptions and vocabulary to govern the construction work we do together.

 Principles for Working Together on Knowledge

Vocabulary and Assumptions

Def»Capability refers to the means to effect a result.

Note that a capability is a force, since it is a means to effect. A capability is often associated with a tool such as a hammer or a knife. The capability, however, is the force that is active when the tool is used; it is not the stuff that the tool is made of.

Def»C-site [construction site] signifies a setting or environment in which a force is present and each force present consistently effects in its standard direction.

Def»Raw material of a given c-site signifies some stuff which is:
- present in the c-site, and
- not built in the c-site.

*Def»*The capability of a given c-site is *simple* if and only if:
- it can be executed in the c-site, and
- it is not defined using other capabilities present in the c-site.

Raw materials are the basic units of stuff that get used to create more complex structures. Similarly, simple capabilities are basic forces that get executed in a particular sequence to create more complex capabilities.

NOT-CHAOS ASSUMPTION

> *A result or restriction is present in any construction site, C, if and only if it has been effected by a force in construction site C.*

This assumption claims that if boards that were separate are now joined by glue, then this boards-joined-by-glue result has been effected by a force. A force that produces a result is called a capability. Similarly, if unsupported items always fall to the ground, then this restricted (not random) behavior is effected by a force (gravity). A force that restricts is called a rule. Thus, this assumption claims that a result or restriction is present because forces have accomplished it—not because a random act of magic or chance has transpired.

The Not-Chaos Assumption is itself a rule that ensures this: in a c-site, units of stuff do not spontaneously change into some unknown versions of themselves, or revert to a former state, or disappear without the action of a force. Things stay the way they are unless a force effects change.

A rule changes the dynamics of a construction site *from:* randomness and arbitrariness, *to:* a prescribed order or determination. A capability provides the means to accomplish change *from:* input(s), *to:* output in a construction site.

READY SET ASSUMPTION

> *When raw materials and simple capabilities initially become present in a c-site, they are separate and independent of each other.*

In a construction process, stuff gets joined with stuff to construct different stuff. Also, new and different capabilities can be "built" by executing simple capabilities in sequential steps. This assumption claims that before raw materials and simple capabilities get used to construct other stuff and other capabilities, they are present, individuated, separate and independent from each other. In making this claim, the initial conditions of a construction process are established.

*Def»*Something *executes* a capability iff something activates the capability so that it effects the result it is capable of.


CONSTRUCTION SITE

A construction process is carried out in a setting that comes with capabilities and raw materials. Initial conditions followed by the execution of explicit steps produce the observed results.

In a construction site, units of stuff do not spontaneously, without cause change into some unknown versions of themselves, or revert to a former state, or disappear. Things stay the way they are unless a force effects

From   To
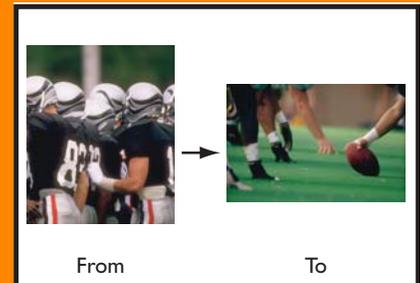
A RULE DETERMINES ORDER

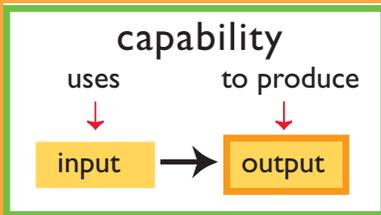A rule is a force that effects change — from: arbitrariness to: order

From   To
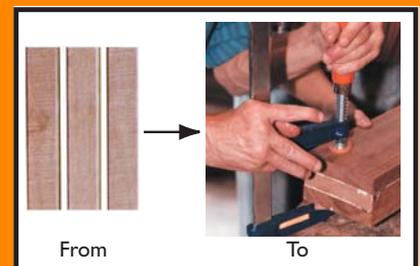
A CAPABILITY EFFECTS A RESULT

A capability is a force that effects change — from: ingredients to: produced result

COMPOUND CAPABILITIES

New capabilities can be "built" by executing simple (or compound) capabilities sequentially: in series and in parallel. Each capability that is employed in making a compound capability must be present in the same construction site.
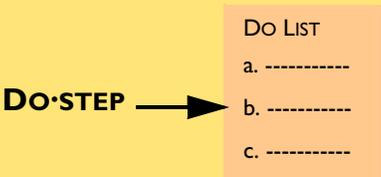
capability

uses → to produce

input → output

INPUT AND OUTPUT

A capability uses an input, it's "from", and effects an output, it's "to".

c-site

available capabilities:
  to cut
  to lift
  to move

workspace
available capability:
  to join

WORKSPACE

A workspace is a construction site wholly contained within another construction site

DO·STEP

DO LIST

a. -----------
b. -----------
c. -----------

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*Def»*Some stuff or a capability is *available* in a c-site iff it is a) present in the c-site and b) is not restricted by rules or previous construction results.

Would it be possible for raw materials to be present but unavailable in a c-site? Consider the following example. In building a brick wall, the bricks that have already been used are present in the construction site, but they are not available for the remaining construction steps. Thus, this example shows that it is possible for a raw material to be present but unavailable in a c-site.

*Def»*Something such as some stuff, a capability or a group of such things is *appropriate* for a capability iff it satisfies what a capability requires to effect a result.

GO ASSUMPTION

A rule effects by being present, and a capability effects by being activated to use that which is available and appropriate.

This assumption claims that capabilities are active only if they have been caused to be active whereas rules are always active...as long as they are present.

Consider that a force is either a rule or a capability. A force is a means to effect; it effects by being activated or not being activated.

Successive Construction Steps

Def»Sequence refers to a group of somethings such that each something either succeeds or precedes every other something of the group.

Def»Beginning of a sequence refers to something in the sequence group which precedes all other somethings of the sequence.

Def»End of a sequence refers to something in the sequence group which succeeds all other somethings of the sequence.

*Def»*A sequence is *finite* iff the sequence has a beginning and an end.

*Def»*A sequence is *infinite* iff the sequence is not finite.

Def»Input refers to an appropriate something which is used by a capability.

Def»Output refers to a something that is effected by a capability.

Additional Terms

Def»Workspace refers to a construction site wholly contained within another construction site.

*Def»*A capability *is applied* to something iff: a) the something is available in the same c-site as the capability, b) the something is appropriate for the capability, and c) the capability is executed so that it uses the something.

Def»Do·step refers to: a step in a construction processs: a capability applied to appropriate input(s).

Observe that a rule, i.e. a means to restrict, is itself restricted from joining with what it is not since it is different from everything and nothing. If a rule's direction is restricted by a different rule, then this different rule is also restricted for the same reason. Some rules are not restricted or governed by a higher, more authoritative rule.

Def»Chief Definition Authority [CDA] refers to that which: a) restricts (or defines) rules of a c-site and b) is not itself restricted by stuff or forces present in the c-site.

Observe that an ability to execute may need to be executed itself, since it does what it is capable of. As observed previously, construction processes include a chief executive power. The chief executive power acts as a first cause and does not need to be activated or triggered by the stuff and forces involved in the construction processes of the c-site.

Def»Chief Executive Power [CEP] refers to that which: is a first cause for executing construction processes in a c-site.

Summary Regarding Construction

In summary, the activity of construcion is about executing capabilities.

A place called a construction site is set up such that raw materials can be delivered, capabilities and rules are present. They work the way they are supposed to. Do·steps are carried out.

Order reigns at a construction site, no magic. Everything stays the way it is unless or until it is acted on by a force.