A Few Thoughts on Paradox Points

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Find whatever your hand finds good to do

Abstract

A few proofs involving paradox points are presented, with the aim of understanding a little of paradoxes and paradox points.

Introduction

Another paper points out a few creative proofs, and one discovers *paradox points*. One finds that paradox points are the higher order logic equivalent of assumptions in first order logic.

A few problems encountered with paradoxes are, finding paradox points, and working the paradox assumption into the rest of the paradox. Every time the paradox changes is called a paradox death, resulting in a new paradox. In the "A Proof for Creativity" every one of the marking steps is a paradox death. A paradox death for $\mathbb{N}$ and $-\mathbb{N}$ is to go from $\mathbb{N}$ to positive rational numbers, from there to $\mathbb{R}^+$, and followed, perhaps, by $\mathbb{C}^+$.

The proofs given are quite disparate in order to learn as much about the paradox points as are given. Note that this writing does not focus on the negative side of the paradox point, but the positive. One or two of the proofs include the negative in the proof or the conclucsion of the proof. The negative can refer, for example, to $-\mathbb{N}$ when considering the empty set and $\mathbb{N}$. The proofs that do not include the negative are either one-sided or positive-positive. An example of positive-positive is $\mathbb{N}$ to $\mathbb{R}^+$. A more complex example of positive-negative is shown in Fruity, where pips are shown to replenish through digestion. Outside digestion of a pip does not add but remove, and yet still is used.

All the proofs assume the now as the place where the proof is constructed. See "A Few Thoughts on Creativity" for the Loops proof with the Tying Together proof for a construction of the now.

In the proofs parentheses indicate extra information or reasoning. Block brackets indicate a different level of logic that may be used if desired. The block brackets does not interfere in the basic proof. Block brackets can also be used to signify a definition.

A Proof for Creativity

Looking at the construction of many creative ideas leads to a simple proof. The number indicating the step gives an indication of how many 'levels' of genius are required to succeed. A trader genius of level one is considered to be someone who could trade his own worth in (say) a day. Level two is his own worth and someone elses, and so on. A low level genius in making tea, would be able to make tea for self only, and the higher genius would construct the teapot on the way. (Usually they do not start out in the wilds with only bark...)

- Marking:

- You start: 1

- You have an idea: 1

- The idea makes sense: 2

- The initial idea works: 3

- Refining the idea: 5

- Adding initial idea into refined idea: 8

- The new idea is implementable: 13

- Implement the idea: 21

Dots and Dimensions

This proof is logically simple, but runs into relativly hard math (read many symbols) when we do the move from two to three dimensions. Note this proof aims in a general direction. The paradox point is the dot. The paradox itself is not clearly symmetrical (such as $\mathbb{N}$ and $-\mathbb{N}$ over $\emptyset$), since 3D is greater than, and not symmetrical [1] to 2D (in 2D one can represent certain 4D objects, but not all 4D objects).

- A dot can move

- Moving a dot forms a line

- Moving the dot sideways during a line forms an angle

- Moving the dot in various directions [randomly] forms basic geometric shapes (from the angles)

- Basic polygons (combined from triangles) can form any three dimensional picture

- This gives a way to perceive from two dimensions to three dimensions

Fruity

First attempt

A first attempt where we attempt to make fruit a paradox point. The idea behind using fruit is to examine a more complex paradox than many of the other proofs.

- Fruit have pips or do not

- Pips lead to plants lead to more fruit (Therefore fruit is a form of a v. Neumann machine)

[1] A different proof is to find illusions in 2D from 3D

- Fruit serve for replenishing lost stocks, energy, enjoyment, attraction, work, beauty, and continued existence (life)

- Replenishing pips replenishes fruit and paradox points (lost stocks, energy, enjoyment, attraction, work, beauty, life)

- Replenishing fruit replenishes pips and paradox points

- Replenishing the paradox points yields more pips

- (Pips are a form of paradox points) Replenishing pips replenishes paradox points

- To replenish a fruit with pips one plants it, and waters it

A second attempt

A second attempt at including fruit as part of a paradox point.

- Fruit replenishes or do not

- If the fruit is old/rotten and do not replenish, then it removes paradox points (pips)

- Digestion removes or replenishes (digestion via bacteria in the ground or elsewhere, or by denaturing through heat death)

- Removal is continuous, balancing replenishing

- Pips are objects and is countable $\rightarrow$ pips can be negative

Finally, the problem

Fruit is not the paradox point, but pips are. Pips are subsumed in the new plant, such that pips continue, and fruit do not.

- Pips replenish [replenish happens through digestion]

- Pips, water, energy, work, stocks, enjoyment, attraction, beauty, life lead to plants lead to pips (*replenishing*)

- Working the pips leads to biomass

- Too much biomass leads to negative replenish

- Biomass replenishes

  - Note that here we can use the Death-matches for undecidability or unknowability. Reasoning:
  - Biomass is replenished positively, negatively or neutrally

- Implementation: [Build a plant]

Dots and Electricity

This proof is more specific than the previous proof, and is aimed in a different direction[2].

- A dot can move

- Moving a dot forms a line

- Moving the dot sideways during a line forms an angle

- Forming angles creates a lightning bolt

- Using probability distributions for dot moving, one finds patterns in the lightning bolts

- Forcing certain distributions causes regular patterns in the bolts

- Causing disturbances in the horizontal patterns form consecutive Jacob's Ladders

Trade and Currency

A monetary currency is only of worth if the currency is stable. A transfer in trade is not symmetrical, making this an asymmetric paradox. The paradox can also be viewed as a three-pointed paradox, since there are three involved in trading, the traders and the trading system. The paradox point is the *buy, sell, gift,* or *steal.*

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[2]Based on electricity research from a patent which does not belong to the author of this paper

- Buy, sell, gift, or steal (A transfer that is beneficial or damaging)

- With a perfect currency the transfer is perfect, that is, a beneficial trade both ways

- With an imperfect currency, the transfer is damaging both ways

- Imperfect trades in a currency results in [unexpected] beneficial or damaging or both transfers

- Many trades results in a stable currency

  - Buy is **give** → **receive**
  - Sell is **receive** → **give**
  - Gift is **give** → **receive**
  - Steal is **receive** → **give**

- A trade is not equal (or, almost always not equal, assume median, no trade falls on the median)

  - An equal transfer involves effort, resulting in one spending more effort than the other
  - If the transfer is the same effort, then the system of exchange expends effort, since the system starts with no effort

- Transfer a currency

Experiment

Experiments, that is, experience, is the basis of almost all knowledge one can gain. Here one uses the experiment as the paradox point in order to play with theory (hypothesis).

- Experiment with experiment

- Then we learn something new

- The new we learned is that we can learn something new

- Use the new learned and create an experiment from it

  - Experiment with the new experiment
  - The new learned is not complete

– The experiments form a theory[3] (hypothesis)

– Corollary: We derived the existence of meta-physics (truth that is true outside of experiment)

- Learned that theory(ies) are not complete (based on limited truths)

- Meta-physics can complete a theory

Meta-physics and Experimentation

Meta-physics is truth that is true outside of experiment. Here one plays with this concept to see if experimentation is derivable. One finds that meta-physics is a greater concept despite the definition given. Meta-physics is the dual (trinary dual?) of experimentation, and the paradox points of both Experiment and Meta-physics is partially shared. "Learning something new" is one of the paradox points, and we use third-order logic to derive the experiment. This gives a positive-negative paradox.

- Meta-physics is true (truth that is true outside of ·)

- Meta-physics is a paradox point

- We learned something new (see Experiment)

- The experiment we performed was to see if we can learn something new from meta-physics

- Meta-physics complete meta-physics

- Corollary: experiment may come up with new results that is an efficient way to locate new truths

- Experiment is a component of meta-physics [and Experiment can complete meta-physics]

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[3]Theories are based on experiments that are: testable, repeatable, observable. Possibly, repeatable may be exchanged with a different concept.

Service to Purpose

Service is something often provided, and one can combine it with the Trade and Currency proof for gaining all of the understanding of currency. Service is the paradox point, and is also a paradox.

- Service is paid in trade (service is currency)

- Service builds or destroys

- Working service builds purpose

- The service of purpose is to build purpose

- Pay purpose in purpose (that is, service)

Conflict

Conflict is the paradox point, and conflict can be an undecided communication (see Communication, one of the following proofs).

- Conflicts are resolved or not

- [Deliberate] conflict leads to resolution (winning, losing, neutral result; use deathmatches)

- Agreeing to disagree leads to a form of peace

- Conflicts that are not resolved lead to *undecided* symbols

- Unresolved conflict leads to conflict (unknowability → undecidability)

- Conflict leads to a change in trade

- Conflict can be implemented as [asymmetrical] trade

Answer

This proof can be used to construct a four-way paradox (See Communication, Deathmatches, and Talk proofs) built on Question, Answer, Statement, and Unknowability. For this proof, Answer is the paradox point.

- Answer

- Answer an answer - results in a discourse

- Many discourses give an increase in knowledge

- Knowledge is an answer (derived a Question)

- Answering knowledge yields more knowledge

- Implementation: Have a debate (Do not have an argument)

Score

The Score paradox point finds a meta-score that can be translated into an isomorph for a limited number of players.

- A score compares

- Compare a score to a score

- Many comparisons yields a meta-score, a *ladder* with a rating

- The meta-score yields a mechanism for scoring

- There are many possible implementations (eg eigenvector, random walk, simple weighted average, etc)

- A limited number of players indicates isomorphic symbols for many meta-score implementations

Country to Culture

A country as a paradox point, and is extended to include any group of persons.

- A country is area containing persons

- Working a country creates culture

- Culture interactions creates more culture (rather than meta-culture)

- A population increase increases the culture

- Culture and education are isomorphic

- A larger country allows a larger population allows a larger, more complex culture

- To implement, develop a hobby

Construct

This proof uses previous results and also uses results from the creativity writing.

- Construct a construct

- Many small constructs form a larger construct

    - The proofs forms components of the construct (builds language and logic)

- A construct is an idea

- The idea *is* infinite (loops), a question, and also an answer

- An idea replenishes itself

- Tying Everything Together implements – we constructed an Idea

Turn Right and Move Forward

To move from 2D to 3D is simple if you have a world; to deduce 3D from 2D is not too hard, but creating a device from 2D to 3D is very hard. The same for 3D to 4D. From the Experiment, we find that meta-physics in 2D gives 3D, but not a practical implementation (observable?). There may be solutions from wave mechanics from 2D to 3D, since infinity seems to be the solution? Another possible approach is to create 2D structures that are finite in 2D but infinite in 3D. Please inform me of any solution(s).

- Turn right (angle) and push (length) allows any geometric shape

- From Dots and Dimensions perspective 3D shapes follow

- Assume a move from 2D to 3D, and from there to nD

- Certain integrals show 3D shapes that are finite and infinite (at the same time)

- An infinite push can construct some of these (but not all)

- The infinite "tube" might connect to hyperspace. Answer?

Communication

The paradox point is a communication, which is in turn based on Question(s), Answer(s), Statement(s) and Unknown(s). Completion depends on meta-physics.

- Place a communication, [and] receive a communication

- Communication increases knowledge and understanding

- False communication can decrease knowledge and understanding

- Communication and false communication

- Communication is *known* or *unknown*

- Knowability of communication is unknown, unless we receive what we communicated

- Communicate with a known, and communicate with an unknown

Colour and Sound

The paradox point is a pulse, and the pulse is also an implementation of a paradox.

- An impulse evokes a reaction and possibly a reflection of impulse(s)

- The speed of the impulse (frequency) changes the perception of the reaction

- The difference gives a difference in colour and sound[4]

- Working the difference in frequency allows a scan from reflected waves

- This evokes a greater reaction

- The implementation is a pulse and reception device(s)

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[4]Sound is stereoscopic; stereoscopic colour gives three-dimensional perception

Counting and Communication leads to Language

The paradox point for this proof is the empty set, and syllables are mapped on $\mathbb{N}$. From this we also deduce negative syllables[5] mapped on $-\mathbb{N}$. Note that if we apply deathmatches twice, then we can use negative syllables with the language below to find a double *unknowability* (An unknowable that is unknowable) that simplifies to the normal unknowable, since we can map $\mathbb{Z}$ on $\mathbb{N}$. Note that the unknowable that is unknowable is not symmetric over $\emptyset$, that is, the unknowable is different (but can be "the same") for the negative syllables than for the positive syllables, and the resulting language has another unknowable yet again.

- Syllables are components of communication

- Syllables are countable

- Syllables are symbols

- Symbols are collected into greater symbols

- Apply Deathmatches

- Then we have implemented a language (eg Elvish by JRR Tolkien)

Luck or Random

Mistakes are unintentional and can be intentional, but not for this proof. This proof is done in the negative, and works for the positive side of the paradox as well. Mistakes are the paradox point and the implementation.

- Find a false communication

- Note the symbol from the communication

- Repeat the two steps infinitely

- Overlay the list of symbols on a known communication [then repeat the known communication]

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[5]For simplicity one assumes negative syllables to be syllables not normally formed by the human mouth, perhaps those formed when reversing speech

- The mistakes causes luck

- Find a mistake

Effort and Wealth

Effort is the paradox point and the implementation. This indicates a complete paradox death into effort, and wealth is the excuse.

- Do effort

- Spending effort at effort increases efficiency

- Spent effort is the cost of the effort

- Difference between price and cost is profit

- Using price to decrease cost increases efficiency

- Effort causes an increase in options (available choices)

- Wealth at effort and efficiency increases wealth

- Implementation: do effort

Trust

Trust is the paradox point and the implementation.

- Trust in trust

- Trusting in trust generates more trust

- Trusting in trust generates more trust in trust (Trust is a currency)

- Trusting in an answer increases or decreases knowledge (or no result)

- Trust changes available knowability by changing the cost of knowledge

- Trust in trust is spending effort at trust

- Increased wealth via trust

Talk

Talk is the paradox point. See the Communication proof.

- Talk with communication

- Communication talks back at talk [defined a statement]

- Talk explores

- Talk is a sequence of statements, questions, answers, and luck (use deathmatches)

- Talk via communication

- Multiple talks forms a community (this is also the implementation)

Transport

One finds Transport to be equivalent to Talking, for both is a communication.

- Transport is a transfer of a symbol through other symbols (using blocks and teleportation)

- Transfer a symbol (using talking or communication) to another symbol

- Massive transfers define (communications) protocol

- Transporting communications to another symbol yields transport and talking to be equivalent

- Transport and talking is done via communication, yielding communications equivalent to transport

Person and Society

Note, communications and most of the proofs assume objects or countability. A communicating person is a paradox point.

- Person communicating a person (Acquaintance or symbol)

- Many persons communicating forms a society

- Societies form culture from communication

- Adding communication into a society creates complex structures from symbol exchange

- Societies *relate* to societies

- Implementation: Make friends

Comfort

Comfort is the paradox point.

- Comforting comfort increases comfort

- Comfort cushions against negativity

- Comfort comforts against negativity

- Discomfort removes comfort

- (Discomfort leads to more comfort – there is greater understanding)

- Discomforting comfort increases comfort

- Comfort replenishes

- Implementation: remove discomfort

Feelings

Feeling is the paradox point.

- Feel a feeling

- Feeling a feeling (working) increases complexity, strength, variability, energy, depth, integration, movement-focus (major paradox points in feeling)

- Feel the major paradox points (seriously meant, though funny)

- Feelings lead to emotions lead to physical actions

- Implementation: enjoy an emotional coming-of-age

Emotions and Story-telling

Emotions is the paradox point.

- Emotions are the result of experience(s)

- Emotions are a form of wealth (eg travelers are considered more wealthy than non-travelers, emotional intelligence, married couples, war heroes)

- Story-telling is a result of an emotional experience

- Story-telling is wealth, currency

- Emotional story-telling is sold often, and often not the full story is told

- Go through an experience

Surprise

Surprise is the paradox point.

- We are surprised at effort

- Staying surprised increases productivity [in surprise]

- Surprise is a form of wealth

- Surprising paradox points yields more surprise [and paradox points]

- Surprising paradox points increases efficiency (can surprise others)

- Surprising others is trade

- Surprising others is surprising

Joke

Mistakes are intentional. For this proof.

- Mistakes cause luck in a [false] communication.

- Lucky luck is a joke (benevolent), unlucky luck is malice.

How(?)

The question "How" talks about function, that is, the function of effecting. Many times the purpose is already defined by the time the How(?) is placed. See the Service to Purpose proof, the Construct proof, and the Communication proof for this definition. Note this proof is a little more complex than most of the given proofs.

Loose thinking:

- Placing a "How" Answer and a "How?" Question.

- A "How?" Idea results and a "How" Answer is placed

- Place a "How" Answer and a "How?" Question results

Followed by the proof and definition for "How–How?"

- The How(?) is effected through Question and Answer (Communication proof)

  - How(?) has Purpose or does not [statement]
  - How(?) serves Purpose by building or destroying Purpose
  - How(?) effects served Purpose

- How(?) increases knowledge (through both Question and Answer)

- Constructed an idea, and the How(?) is defined

What(?)

What(?) asks quantification, unless undirected. A question that arise is asking What what What is, and a possible answer is that What attempts to see what there is. This seems to relate to a study of being, which is meta-physics.

- What is what?

- What(?) asks quantification, unless undirected. (undirected What(?) asks direction)

  - What(?) is a communication (What(?) is an answer and question)
  - What(?) provides service and therefore purpose
  - What(?) trades
  - What(?) increases knowledge

- What(?) with How(?) shows a generalization of Question

- The paradox point for What(?) is quantification

- The paradox point for How(?) is effecting

- Similarly to How(?), What(?) is defined

Effect(ing)

The paradox point is effect, and the purpose of this proof is to complete the How(?) proof. See also the first proof.

- Effect an effect

- Effecting an effect increases creativity

- Working creativity yields more effects

- Effecting creativity effects an effect

- Be creative

Quantify

This proof further defines the **What(?)** question-answer by defining *quantification*.

- Quantify quantify

- Quantify counts quantities (counting of counting)

- Counting:

  - Counting the counting yields isomorphic symbols (deathmatches)
  - Counting isomorphic symbols is creative (this is a new counting)

– Counting quantities gives a counting and a meta-counting
  Definition: for linear systems the counting and meta-counting is the same

– Opposite of quantifying is obscuring (guessing) a counting

- Quantifying is locating position (using When(?) and Where(?)) and then counting the positions, yielding a symbol

- When(?) and Where(?) is defined in terms of counting[6] over $\mathbb{N}$, that is, simply determine the position in terms of sequence

- Quantified quantify

Why?

Why(?) determines the reason for an object, and defining the reason for existence as existence is not a complete tautology, because existence understands self, and therefore more than self (such as non-existence). This indicates that existence is a paradox, and a paradox point.

- Why(?) explores Purpose, meaning only Why? needs to be defined

- Why(?) works similarly to How(?) and What(?)

- The Why(?) Question-Answer builds Purpose

- The Why(?) Question-Answer serves Purpose

New

New is a difficult concept, since a loop is a base for the proofs (see "A Few Thoughts on Creativity"). This means the proofs happen in the now.
A few thoughts:

- Find an Idea not in the Construct

- Possibly outside of sequence

- Where does continuity start and discrete end?

[6]See the Scratch Pad

- We have learned something new (see Meta-physics and Experimentation)

- Apply Meta-physics in an Experiment and new is learned

- Working the new is an exploration of the now

  – Exploring what is not now is working new

  – Adding what is not now to now is working new [defined time]

- Then time and new are equivalent

- We have learned the not now [and know the now]

  – Not now and now is a paradox point

- Defined New

Work

Work is universal.

- Working work results in work

- Working existence results in existence

- Existence asks work (to be)

- Work asks existence (to be)

- Working existence results in work

- Working existence and work results in existence and work

- (Existence is work)

- Exist

Expected

- Expect the expected

- The expected are the proofs constructed

- Working the expected increases understanding of the expected

- Increasing the expected increases the proof(s)

- Increasing the proofs increases the expected

- Prove an existing concept

Unexpected

The unexpected proof uses existing constructs to generate the unexpected.

- A proof is unexpected [and expected]

- Unexpected proofs increases expected proofs

- A paradox death is unexpected [and expected]

- Generate unexpected

    - Forget the expected

    - Explore expected existing proofs [defined adjective by example]

Malice

- Play a malicious joke on malice [malice is defined in Joke]

- Malice on malice increases malice

- Malicious communication causes malice

- Joke with malicious communication

    - Malicious joke results in luck

    - An unhappy (unlucky) joke results in malice

    - Malicious luck is malicious or not malicious

    - Not malicious luck is not malicious or malicious

- Can be used in competition [in a not malicious(benevolent) way]

Aiming

We implement aiming based on existence, and find that we can implement Loneliness and Belonging (see the Scratch Pad).

- Aim at existence and aim at non-existence, that is aim at discomfort

- Discomfort causes work, therefore aiming causes work

- Aiming increases work [defined adverb by example]

    - Aim at work

    - Aim existence at work

    - (Work) aim(s) existence into loneliness (see Play)

    - This generates a new state [loneliness (see the Scratch Pad on how to use this)]

- Aim existence (Work) at existence

- Implemented Aiming (see Belonging in the Scratch Pad)

Play

Play leads to the implementation of ideas, such as existence and non-existence.

- Play with play

- Playing with play increases play

    - [Playing increases enjoyment of Work]

    - working at playing increases efficiency at playing

    - playing increases knowledge and creativity

    - playing adds to the construct

- Playing with the construct increases the construct

- Play with an existing concept (play with a New concept?)

- Play with existence

- From existence we deduce the Construct

    - Ask (an) existence to find non-existence

    - If existence finds non-existence, existence tells non-existence that it is lonely

    - Loneliness asks the rest of the construct (to be) by repeating the above two steps (existence forms a duplicate, then use Loops)

- Playing produced the Construct (and is therefore implemented)

Discomfort

This paradox is implemented with the abstract, rather than counting.

- Discomfort discomfort

- Discomfort causes work (in order to remove discomfort)

    - Existence is discomforted by non-existence
    - Non-existence is discomforted by existence
    - This increases comfort and discomfort
    - Luck decreases comfort and increases discomfort (because it is unexpected)
    - The above lines shows a travel through the paradox point

- Discomfort existence and non-existence, that is, cease to exist or, try to exist

- Implemented discomfort

Conclusion

Questions can be defined using the Creativity proof. This is interesting – the basic Question and Answer proofs were defined using the Creativity proof and could be generalized while staying with-in the limits of the creativity proof. One finds that there is a pattern to some of the Question-Answer proofs. Merely attempting to define and then to generalize a few basic questions results in finding more paradox points. These points were then used to define some specific behaviour of the Question-Answer construct, for specific Questions.

The different proofs fall in different categories. The first category is self-contained proofs, such as the Creativity proof, the Service to Purpose proof, the Effort and Wealth proof, the Surprise proof, and the Work proof. Question-Answer proofs all fit within the Communication proof, and How(?) and What(?) were generalized. Also of interest, are the few proofs that automatically lead to more paradox points, such as the initial Fruity proof, as well as the How(?) and What(?) question proofs.

One paradox that aims in three directions is the Trade and Currency proof. A four directional proof is easily constructed by defining Question to be an Answer, Answer to be an Answer, Statement to be an Answer, and Unknowability to be an Answer. Then repeat for Answer, the same for Statement, and use unknowable questions and answers in the same way with Unknowability.

Paradox points are mostly kept simple intentionally - the empty set, for example, or one word or concept. The paradox points used can be found in an environment, and then worked to find a result. An example is using the Creativity proof as the environment combined with the concept used to generate the other proofs.

We note that all the proofs happen in the now, and we use this to generate the New proof.

Objects are defined in terms of work, since existence is work. An example is to construct an object (say a house), out of the blocks in the Teleportation proof[7]. Objects can then be turned into the subject of verbs, where verbs are the now in which the proofs are constructed. Nouns are then verbs that are at rest, and yet works, because existence works continually. This means that the verbs-that-are-at-rest that are worked with verbs are nouns.

Scratch Pad

Here are seven major questions listed: How, When, Where, What, Who, Why and Where-to. **How**, **What** and **Why** (Note that **Why** explores Purpose) are defined in proofs, and **When** and **Where** are easily defined in terms of enumeration (see "A Few Thoughts on Creativity"), since location is implicit in enumerated objects. Where-to is asking an undirected direction, with the intent to ask (if possible) into New. One can define **Who** as an Idea.

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[7]The blocks are in turn constructed out of containers – see "A Few Thoughts on Creativity"