The Unseen Collaborator

Creative Interactions with the Cosmos

WTF is Creativity?

Defining Creativity in Computational Terms

Because no single perspective or definition seems to offer a complete picture of creativity, the AI researchers Newell, Shaw and Simon developed the combination of novelty and usefulness into the cornerstone of a multi-pronged view of creativity, one that uses the following four criteria to categorize a given answer or solution as creative:

1. The answer is novel and useful (either for the individual or for society)

2. The answer demands that we reject ideas we had previously accepted

3. The answer results from intense motivation and persistence

4. The answer comes from clarifying a problem that was originally vague

HTF Can We Be Creative?

4 Steps to Creativity

1. Preparation

This is the first phase, which most people call “work.” A writer, for example, prepares by writing, by reading, or by revising earlier work. A musician plays scales, chords, or songs; a painter messes with paints or visits an art gallery; an entrepreneur researches problems to solve; a programmer plays with code. In each example, the creative is going through relatively mundane processes.

The reason I say most people call this phase “work” is that these processes may or may not be inherently enjoyable. They’re also fairly mundane and tedious, but the creative has learned that this process is necessary to plant the seeds that lead to…

4 Steps to Creativity

2. Incubation

This would be the mystical process, if there were one, because you often don't know that you're incubating an idea, or if you do know you're working on one, you don't know when it's going to come out. It's during this phase that your conscious and subconscious minds are working on the idea, making new connections, separating out unnecessary ideas, and grabbing for other ideas.

This is the phase that most people mess up the most with distractions and the hustle and bustle of daily lives. Modern life, with its many beeps, buzzes, and distractions, has the strong tendency to grab the attention of both our subconscious and our unconscious mind, and as result, the creative process stops and is instead replaced by more immediate concerns.

4 Steps to Creativity

3. Illumination

This is the “Eureka” moment that many of us spend our days questing after. When it hits, the creative urge is so incredibly strong that we lose track of what else is happening. The driving impulse is to get whatever is going on in our heads down into whatever medium it’s intended for.

The most frustrating thing for me is that the “illumination” moments happen at the most inopportune times. They invariably happen when I’m in the shower, when I’m driving by myself, when I’m working out, or when I’m sitting in mind-numbing meetings that I can’t get out of.

4 Steps to Creativity

4. Implementation

This phase is the one in which the idea you've been preparing and incubating sees the light of day. It's when that written piece comes out, when that song flows, when that canvas reveals its painting, and so on. It's also when a good creative starts to evaluate the idea and determine whether it's good or not – but only *after* they have enough to see where it's going.

Most of the creatives I know or work with get really frustrated with others during this phase. Other people only see the creation at the end, and they don't recognize or care much about the process that generated that idea.

The creative process begins with work and ends with work. The take-away point here is that creativity is not just percolating and Eureka: ***it's percolating and Eureka sandwiched between work phases.***

Can’t We Take a Shortcut?

We Can Collaborate with Someone

Collaborating with Chance

Collaborating with Chance

METHODS

Totally Random

Totally Random is Totally Boring

Collaborating with Chance

METHODS

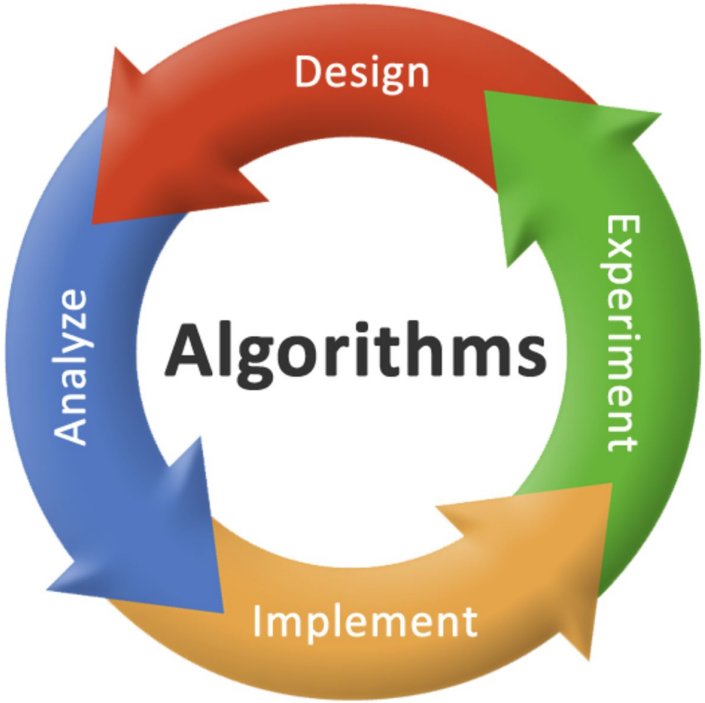
Random-*ish*, but with some Direction

Kickin' It with Algorithms

noun | al·go·rithm | \'al-gə-ˌri-thəm\

A procedure for solving a mathematical problem (as of finding the greatest common divisor) in a finite number of steps that frequently involves repetition of an operation;

broadly : **a step-by-step procedure for solving a problem or accomplishing some end**, especially by a computer



Kickin' It with Algorithms

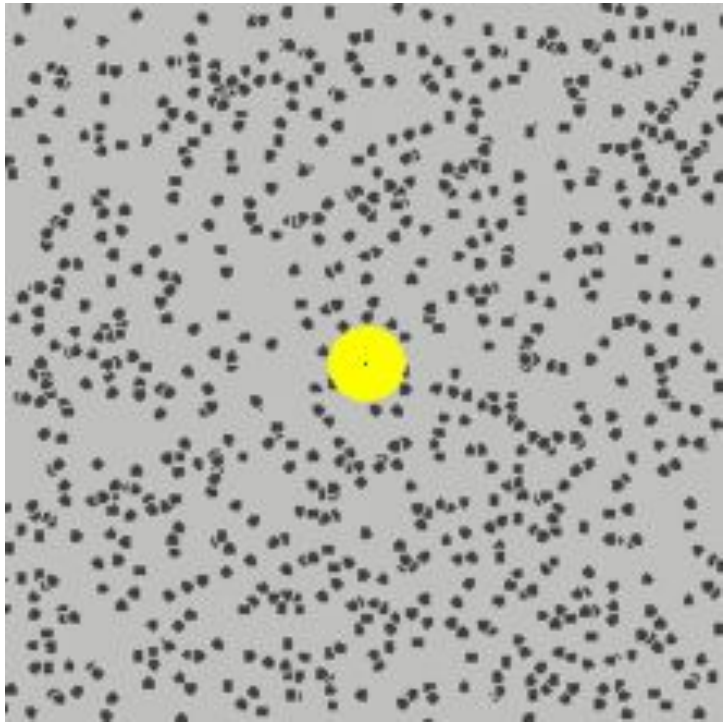
The simplest algorithms deal with some basic human activities such as repeating something at a constant rate, counting at a certain rate, and reading through an ordered list of things. Basic simple human activities like that are the kind of tasks we can easily program computers to do, and they're the sort of behavioral building blocks that we need to be able to program in order to construct more complex activities for the computer to do.

The point of focusing on such simple tasks, aside from the fact that they're useful fundamentals of algorithmic composition programming, is that they illustrate one important approach to algorithmic composition: figuring out the system by which we do things--or a system that adequately emulates the way we do things--so that we can program that ability into a computer. Since a computer can only act systematically, and not by intuition, it's necessary to systematize (i.e., formalize) any ideas or deeds we want the computer to enact.

Brownian Motion

In 1827, Botanist **Robert Brown**, while looking through a microscope at particles trapped in cavities inside pollen grains in water, noted that the particles moved through the water but he couldn't determine the mechanisms that caused this motion.

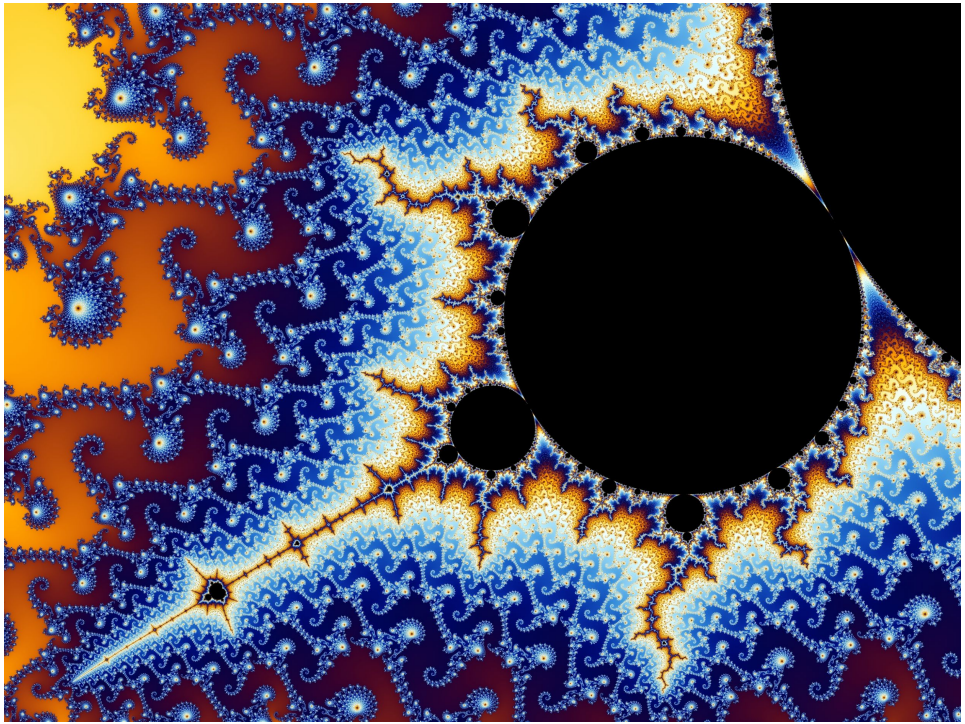
Albert Einstein published a paper in 1905 that explained in precise detail how the motion that Brown had observed was a result of the pollen being moved by individual water molecules.



Examples of Algorithmic/Generative Art

FRACTALS

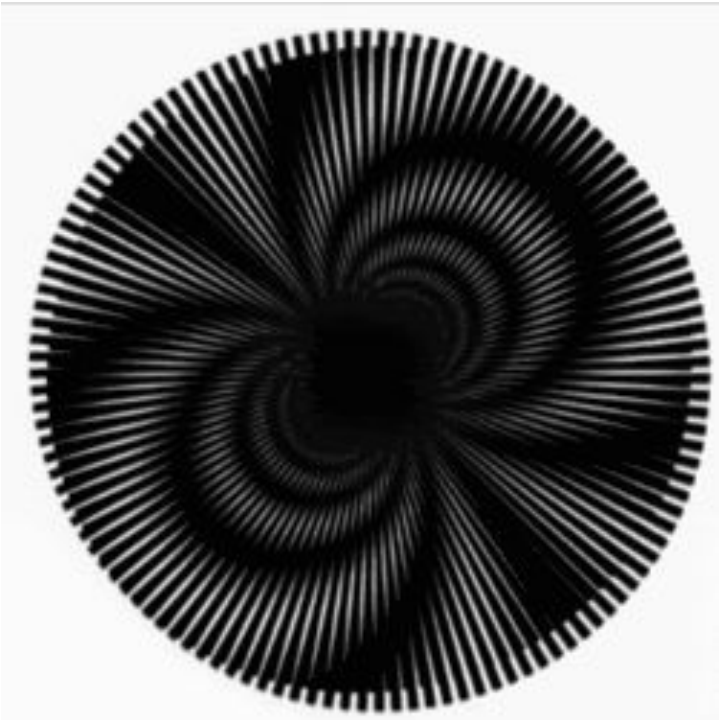
A curve or geometric figure, each part of which has the same statistical character as the whole.



Examples of Algorithmic/Generative Art

MOIRÉ PATTERNS

In mathematics, physics, and art, a moiré pattern or moiré fringes are large scale interference patterns that can be produced when an opaque ruled pattern with transparent gaps is overlaid on another similar pattern. For the moiré interference pattern to appear, the two patterns must not be completely identical in that they must be displaced, rotated, etc., or have different but similar pitch.



Examples of Algorithmic/Generative Art

HAIKU

There are only three lines, totaling 17 syllables.

The first line is 5 syllables.

The second line is 7 syllables.

The third line is 5 syllables like the first.

S+7 / N+7

Replace every noun in a text with the seventh noun after it in a dictionary. For example, "Call me Ishmael. Some years ago..." becomes "Call me islander. Some yeggs ago...". Results will vary depending upon the dictionary used. This technique can also be performed on other lexical classes, such as verbs.

Examples of Algorithmic/Generative Art

SNOWBALL

A poem in which each line is a single word, and each successive word is one letter longer.

LIPOGRAM

Writing that excludes one or more letters. The previous sentence is a lipogram in B, F, J, K, Q, V, Y, and Z (it does not contain any of those letters).

PALINDROMES

Sonnets and other poems constructed using palindromic techniques.

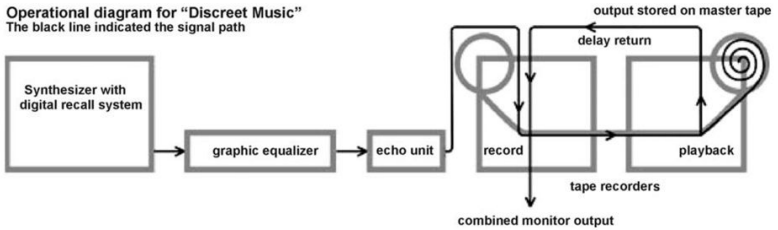
PRISONER'S (MACAO) CONSTRAINT

A type of lipogram that omits letters with ascenders and descenders (b, d, f, g, h, j, k, l, p, q, t, and y).

Examples of Algorithmic/Generative Art

FRIPPERTRONICS

Frippertronics is a specific tape looping technique used by **Robert Fripp**. It evolved from a system of tape looping originally developed in the electronic music studios of the early 1960s that was first used by composers **Terry Riley** and **Pauline Oliveros** and made popular through its use in ambient music by composer **Brian Eno**.



Examples of Algorithmic/Generative Art

MOZART'S DICE GAME

A *Musikalisches Würfelspiel* (German for "musical dice game") was a system for using dice to randomly 'generate' music from precomposed options. These 'games' were quite popular throughout Western Europe in the 18th century. Several different games were devised, some that did not require dice, but merely 'choosing a random number.'

Collaborating with Chance

SPECIFIC EXAMPLES

The Cut-up / Fold-in Technique

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The cut-up technique (or *découpé* in French) is an aleatory literary technique in which a text is cut up and rearranged to create a new text. The concept can be traced to at least the Dadaists of the 1920s, but was popularized in the late 1950s and early 1960s by writer **William S. Burroughs**, and has since been used in a wide variety of contexts.

In the 1950s, painter and writer **Brion Gysin** more fully developed the cut-up method after accidentally re-discovering it. He had placed layers of newspapers as a mat to protect a tabletop from being scratched while he cut papers with a razor blade. Upon cutting through the newspapers, Gysin noticed that the sliced layers offered interesting juxtapositions of text and image. He began deliberately cutting newspaper articles into sections, which he randomly rearranged.


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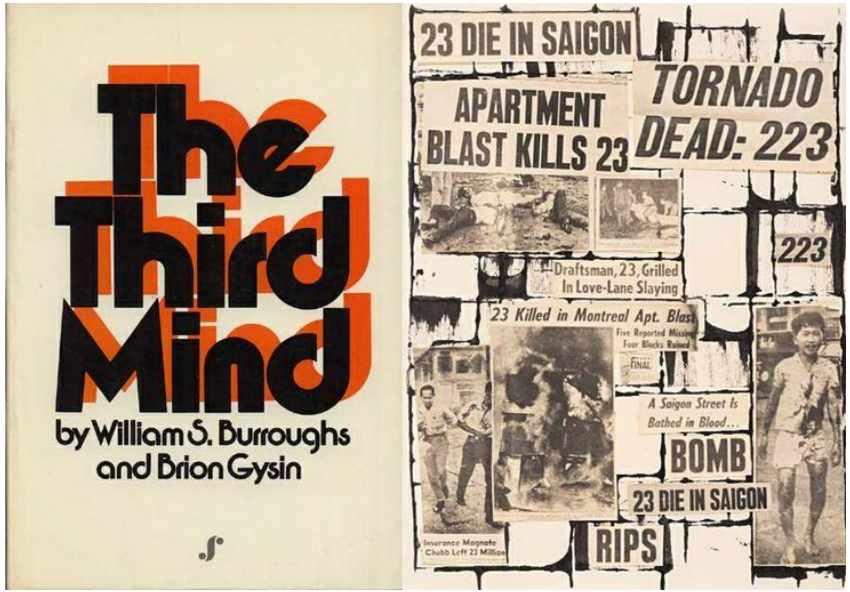
“When you cut into the present, the future leaks out.”

-William S. Burroughs

The Cut-up / Fold-in Technique

Unseen Collaborator refers to the concept Gysin developed with Burroughs, Third Mind. In an intense collaboration, a third entity appears, the ‘mind’ of the collaboration itself- almost like progeny.

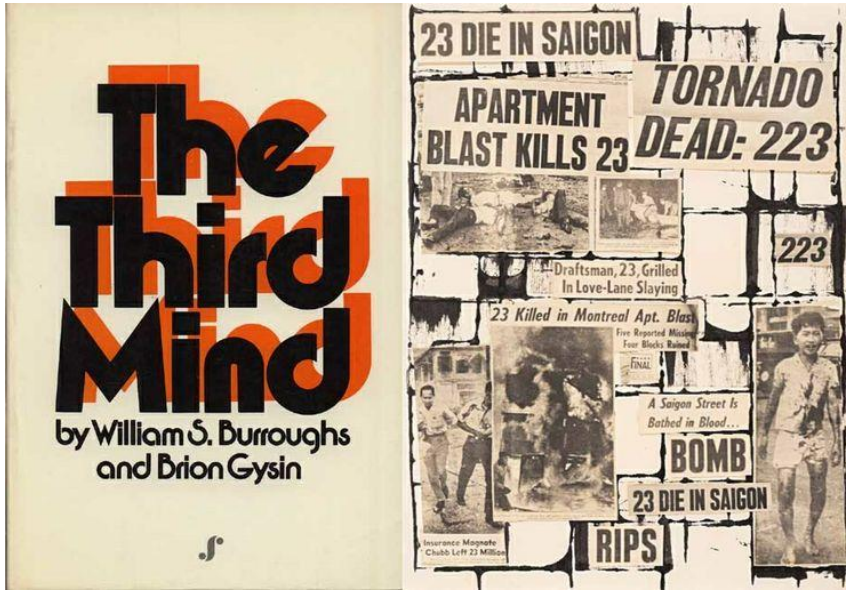
Gysin worked with collaborators to deconstruct assumptions of perception. **Alfred Korzybski**, the inventor of general semantics, called humanity the ‘time-binding’ animal. Gysin and Burroughs worked to make visible the unseen arrow of time that biology presents to us, which, post-Einstein, they considered to be illusion



The Cut-up / Fold-in Technique

Cut-up is performed by taking a finished and fully linear text and cutting it in pieces with a few or single words on each piece. The resulting pieces are then rearranged into a new text, such as in poems by Tristan Tzara as described in his short text, TO MAKE A DADAIST POEM.

Fold-in is the technique of taking two sheets of linear text (with the same linespacing), folding each sheet in half vertically and combining with the other, then reading across the resulting page, such as in *The Third Mind*. It is Burroughs and Gysin's joint development.



Excerpt from *The Third Mind*

“Writing is fifty years behind painting. I propose to apply the painters' techniques to writing; things as simple and immediate as collage or montage. Cut right through the pages of any book or newsprint... lengthwise, for example, and shuffle the columns of text. Put them together at hazard and read the newly constituted message. Do it for yourself. Use any system which suggests itself to you. Take your own words or the words said to be "the very own words" of anyone else living or dead. You'll soon see that words don't belong to anyone. Words have a vitality of their own and you or anybody can make them gush into action.”

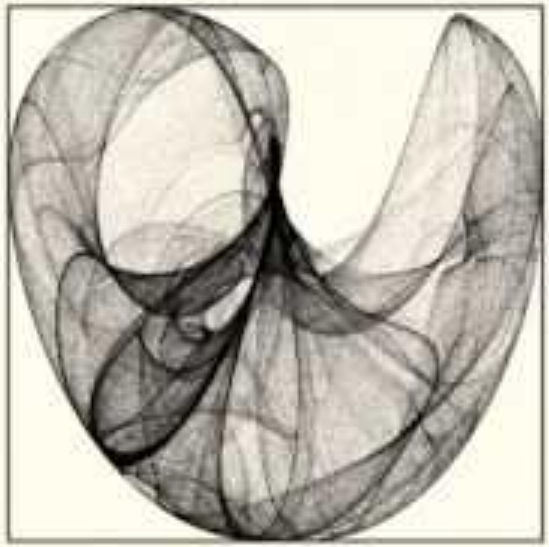
“The permutated poems set the words spinning off on their own; echoing out as the words of a potent phrase are permutat- ed into an expanding ripple of meanings which they did not seem to be capable of when they were struck and then stuck into that phrase.”

“The poets are supposed to liberate the words - not to chain them in phrases. Who told poets they were supposed to think? Poets are meant to sing and to make words sing. Poets have no words "of their very own." Writers don't own their words. Since when do words belong to anybody. ‘Your very own words,’ indeed ! And who are you?”

Discreet Music
(2004 Digital Remaster)

Brian Eno

Discreet Music



$a = 1.4,\ b = -2.3,\ c = 2.4,\ d = -2.1$