JASON GINSBERG / FEBRUARY 2016

What is the code that generates life?

In recent decades computational systems have been extensively integrated into daily life –maybe too extensively some would gripe. The assumption is that technology is in direct conflict with the natural order of things. Today, we see many efforts to resolve this conflict whether it be natural interfaces, virtual realities, or tangible media. But they all work from a flawed premise; in truth, the natural order of things is computational. Life itself is generated, formed, and expressed from code. And the set of rules which govern existence are not defined by a strict order but rather a mutable one.

In my project I will create a digital analog of biological instructions, by constructing a language from an alphabet of four letters. This language will in turn be the basis for a non-deterministic finite automaton that encodes complex visual images of simple subcomponents.

RULES

The language, L, will copy itself every 32nd generation.
L will mutate randomly each generation.
All mutations in L will be inherited by the next generation.
L will be matched to a complementary language, L*.
L* will be an imperfect transcription of that language.
L* will be what defines graphical objects

CODE to EXPRESSION to MANIFESTATION

L and L* will be composed of 3 character substrings, called codons. The codons will be abstracted from characters to numerical values. These numerical values will define the shape, location, and color of a graphic. Codons will be aware of their neighbors, and will connect their graphical represntation to neighbors. Additonally, numerical relationships between adjacent codons, will affect the scale, color, and shape of graphical represenations. In other words, the same codon never expresses the same shape.

While in reality ribosomal subunits, RNA, and DNA are chain structures, I will not represent the generative graphics as such. Instead viewers will be presented with a kinetic video, almost like glitch art.

Finally the digital image will be simplified and physically expressed trhoguh a pen plot. The output will be an intention distortion to reflect the imperfect quality of biological data, which affects daily life greatly and sometimes gravely. At the bottom of the plot a unique title will be written based on the underlying lanague. Additonally the digital image will be printed and placed in juxtaposition with the the pen plot.