

Clarification of Physics: A Derivation of a Complete, Computable, Predictive Model of “Our” Multiverse.

John D. Crowell
johncrowel@aol.com
4/4/2020

ABSTRACT

The purpose of this essay is to demonstrate: 1. There are no “natural” limitations to the development of a complete mathematical description of the visible universe. 2. The “impossibles” expressed by Gödel, Turing and Heisenberg are human impositions. 3. The impossibles and current limitations link back to false assumptions. 4. Elimination of the assumptions, impossibles and limitations enable the derivation of a complete mathematically-consistent model of a multiverse that contains “our” visible universe.

The new Successful Self-Creation model introduces a new level of “creation”. It is the level that produces the first stable self-replicator (i.e. the C*s to SSCU transformation described in the appendix). This level is the lowest level of reduction (regression). It is the fundamental level that converts: 1. chaos to order 2. unpredictability to predictability 3. uncertainty to certainty 4. the incalculable to calculable 5. the incomprehensible to comprehensible 6. the infinite (indeterminate) to the finite(determinate). This level of creation is the “miracle” or the solution to the “eternal mystery” that Einstein was describing in his “Letters to Solovine”, New York, Philosophical Library, 1987, p 131. It is also the level that gets rid of the “impossibilities” of this essay contest and makes it possible to develop the complete Successful Self-Creation theory introduced in this essay.

INTRODUCTION

For over 100 years, physicists have been trying to unify quantum mechanics and relativity to produce a theory that provides a complete explanation of the origination, current functioning and predictive future of the visible universe. No one has accomplished the goal and there are strong “arguments” proposing natural “limits” that, if they are real, make it impossible.

WHY HAS NO ONE ACCOMPLISHED THE GOAL?

At the fundamental level physical creation theories are based on four related assumptions: 1. the physical world had a beginning and intelligence has always existed. 2. before and after the physical beginning, the existing intelligence is in effect everywhere, all of the time and it never changes. 3. in science, the intelligence is construed to be the

laws and constants of physics. 4. the intelligence affects the processing that becomes the visible universe.

Theories based on assumptions “must” have some degree of uncertainty. If the assumptions are incorrect then the theory “must” be incomplete. The latest theory - the “Big Bang” theory - adheres to the basic assumptions and it is incomplete. This leaves us with an uncertain world that we are still trying to understand and a growing belief that there are natural “limits” that make the complete physical world impossible to measure and understand.

ARE THE BASIC ASSUMPTIONS OF PHYSICS WRONG?

A NEW CREATION THEORY

This essay introduces a new Successful Self-Creation theory based on a self-creating process that produces everything needed to progressively become intelligence, the physical multiverse and its contents. The process is derived from a different source than other physical creation theories. It is complete and it eliminates the humanly imposed impossibles and limits. In addition it refutes the assumptions that intelligence has always existed and intelligence is in effect everywhere all of the time and never changes.

Any successful creation process has to be able to overcome entropy. My model, Successful Self-Creation is the story of that success. Self-creation originates in and emerges from an indefinite, chaotic, random, uncertain state of existence. Before the first Successful Self-Creating “Unit” - 1 SSCU - originated, there were no laws, no intelligence, no physical world and no Successful Self-Creation. The origination of the first SSCU created the fundamentals - laws, intelligence, and physical results - needed to emerge from chaos, survive, self replicate and convert chaos into the ordered processing/results of Successful Self Creation.

The Successful Self-Creation process also produces its own mathematics. In its development of the first self-replicator (i.e. the C*s to SSCU transformation), it produces the cardinal set of numbers that are the basis of (contained in) every integer. The subsequent self-replicating produces the copies/integers. The self-organization of the copies/integers produces the resulting universe/mathematics. The mathematics “map” to the process and can be used to describe the process. Successful Self- Creation in its overall progression solved the continuum hypothesis for the mathematics of the universe and produced the “real” numbers of the universe/mathematics. It also replaced the “singularity” point and infinite expansion. The universe is finite and it’s mathematics are finite. So the process gets rid of the infinities and 0 and its mathematical calculations are a new simpler “calculus”.

I created a mental-mathematical model of this process. In the model there is no Big Bang and there is no eternal expansion. The model has definite limits, boundaries and thresholds. Also, unlike the Big Bang theory, the Successful Self-Creation theory describes the state of existence “before the beginning” of Successful Self-Creation and provides a predicted ending.

The smallest “unit” in this theory differs from the smallest units in other theories. This smallest “unit”, which I call C^* , is different because it is a unit of changing. It is not an unchanging “particle”. Prior to the formation of the first Successful Self-Creating Unit (SSCU), C^* s interact randomly (chaotically) to produce unstable combinations that “pop in and out” of existence. This activity is analogous to what physicists describe as the activities of a “quantum foam”.

C^* s are complex. They are the smallest units of self-creational changing and the lowest common denominator in the mathematics of the natural self-creation process. Also:

1. Every C^* has an unchanging value. They can change their form. They can twist, turn, elongate, shorten, expand, compress, etc. and still maintain their value.
2. One C^* is the smallest quantum of Successful Self-Creation and the smallest value in its mathematical description.
3. C^* s are not energy or matter. They are chaotic/random/uncertain “units” of changing that in the process to become SSCUs become sequenced, in formation, compositional changing (i.e. information).
4. When quantities of C^* s combine and self organize to become SSCUs their changing become ordered, sequenced, repeating (i.e. mechanical). The origination of the first SSCU was the birth of Quantum Mechanics.

In order to originate from the chaos Successful Self-Creation had to overcome entropy. The origination of the first SSCU and the history of Successful Self-Creation is the story of that process.

The natural self-creating process progresses by collecting precise quantities of chaotically-changing C^* s and organizing them into changing variables and relationships (i.e. information) that become repeating-circulating intelligence embodied in a sphere of Successful Self-Creation. Every SSCU has the capability to self replicate and its copies have the capabilities to combine, self organize and become larger/more complex self-creators. The emergence of the first SSCU was the birth of a progressive organized combination of Successful Self-Creation, information and intelligence.

The conversion of C*s to SSCUs is a more fundamental creation source than the source currently used by physicists. Changing the fundamental source of physics from a physical “singularity” to a unitary information-intelligent SSCU- derived from C*s- is a monumental change. However, using C*s as the fundamental building blocks and assigning each C* (quantum) a numerical value of 1 enables the creation of a complete mathematically-consistent model of the creation and functioning of the multiverse and “our” visible universe. It is also important to note that information-intelligence becomes energy-matter in the progression that becomes the visible universe.

Note: The appendix provides a verbal description of the conversion of C*s to SSCUs and a “chart” showing the measurements of the SSCUs it produces. The combination provides a “this is how the system works” explanation. The readers that like to know the details as they read the overall story should read the appendix now. Those that want to know the generalized overall story and then get the details should continue reading below.

Once the first SSCU forms it begins to self replicate and the copies begin to self-organize into larger/more complex self-creating units. This is analogous to “living” biological progressions and stem cells in human development. Successful Self-Creation begets Successful Self-Creation. This continues until it reaches its upper limit of $2.40088563 \times 10^{125}$ SSCUs organized into the changing forms and functions of the multiverse.

In the model, the initial Successful Self-Creation process consists of 2.213568×10^{31} C*s becoming one SSCU and, in the process, generating the basic Self Creating-Algorithm (SCA¹) that overcomes entropy. Repeating fractal growth of the SSCU Self Creating-Algorithm until it reaches its upper limit provides the “range of change” of Successful Self-Creation.

The “range of change” in the model of Successful Self-Creation is from 1 C* to $5.31452359 \times 10^{156}$ C*s = $[2.213568 \times 10^{31}]^5$ C*s which become $2.40088563 \times 10^{125}$ SSCUs = $[2.213568 \times 10^{31}]^4$ SSCUs which become 1 multiverse. The multiverse “contains” 3.68928×10^7 universes. Our observable universe is one of these universes and it contains 10^{11} average galaxies which contain 10^{11} average solar systems. One of which contains us.

A mathematical representation of the scale from the smallest SSCU to the largest Successful Self-Creation result - the multiverse- is shown below. It is an excellent tool for understanding and explaining the self-creating processing and its physical results. Everything in the chart is connected, so, if you have the measurements of one compo-

ment, you can use the chart to generate corresponding measurements of other Successful Self-Creating components.

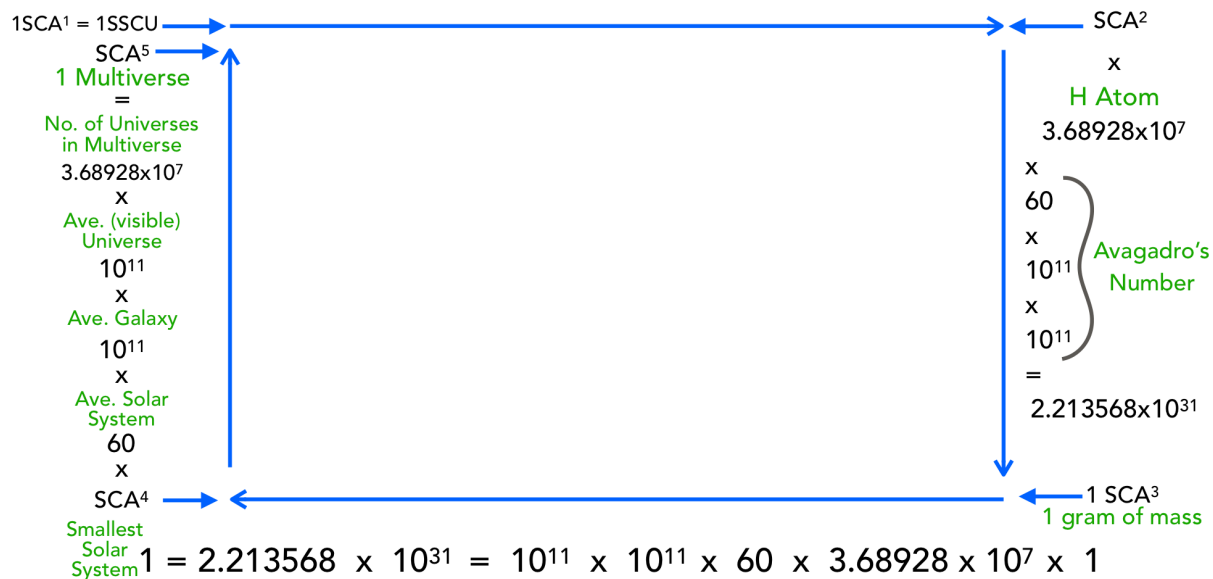
SELF CREATION OF THE MULTIVERSE

$$2.213568 \times 10^{31} C^*s = 1 \text{ SSCU} = 1 \text{ SCA}^1$$

$$1 \text{ Multiverse} = 2.40088563 \times 10^{125} \text{ SSCUs} = [2.213568 \times 10^{31}]^5 = \text{SCA}^5$$

$$1 \times 3.68928 \times 10^7 \times 60 \times 10^{11} \times 10^{11} = 2.213568 \times 10^{31} = 1$$

Planck Action



This “everything is connected” mathematical representation allows one to quantitatively follow the changing of the variables and relationships of time, space, mass, speed, and direction as they “flow” through the processing to become observable physical results. To provide examples, I “mapped” some of the important physical components of the visible universe (shown in green on the chart) to their numerical representations. Since the multiverse is 3.68928x10⁷ times larger than the observable universe, one can, by using the chart and the theoretical measurements of the multiverse (shown below) calculate the theoretical measurements for the visible universe and its physical components.

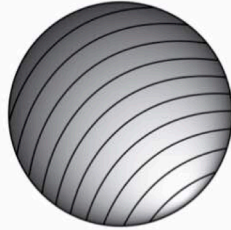
These match science’s “generally accepted” measurements.

The Successful Self-Creation process goes beyond the creation of the multiverse and “our” visible universe. It is also the creator of the universe’s contents. In the creation of “our” visible universe, Successful Self-Creation grows more complex. As the growth becomes more complex, the intelligence grows, the physical embodiments change and the results diversify.

Measurements of the Multiverse

PHYSICAL - UNCHANGING

INTELLIGENT - CHANGING



$$\text{Volume} = 5.23598776 \times 10^{92} \text{ cc}$$

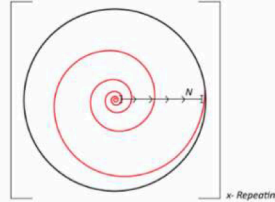
$$\text{Radius} = 5 \times 10^{30} \text{ cm}$$

$$\text{Surface Area} = \pi \times 10^{62} \text{ sq cm}$$

$$\text{Mass} = 4.89988329 \times 10^{62} \text{ g}$$

$$\text{Density} = 9.35808775 \times 10^{-31} \text{ g/cc}$$

$$\text{Speed of Self Creation} = 3 \times 10^{10} \text{ cm/second}$$



$$N = 10^{22} \text{ pulses per cycle}$$

$$T_1 = 1 \text{ second to fill the central sphere}$$

$$T_2 = 1.666 \times 10^{-2} \text{ seconds to empty the central sphere}$$

$$T_3 = 10^{22} \text{ seconds to cycle everything through the processing}$$

$$\text{Radiation} = 5 \times 10^8 \text{ cm per pulse}$$

$$\text{Total} = 5 \times 10^{30} \text{ cm}$$

$$\text{Mass} = 4.89988329 \times 10^{40} \text{ g per pulse}$$

$$\text{Size of the central sphere} = 1 \text{ cc}$$

- Can calculate its other characteristics

C*s are primordial ancestors of the first hydrogen atoms. The progression of C*s to become SSCUs (described in the appendix) is analogous to the processing of hydrogen atoms to become vortexes which become scalar black holes which become scalar Planck actions which become solar systems. The solar systems then repeat the processing to become galaxies which repeat the process to become universes. In all of these progressions the fundamental relationships stay the same while the basic components multiply. For example: In the “scale-up” of SSCUs to solar systems, solar systems to galaxies, galaxies to universes the times, masses and volumes multiply while their densities remain constant.

It interesting to note that the Successful Self-Creation processing that becomes the first SSCU and its growth to become the multiverse contains a general description of what happens in Black Holes of all sizes. The tip of the vortex that fills the central sphere is a black hole. The continuous filling of the central sphere and its sequential pulsing Planck actions are what happens in black holes. The repeating scalar Planck actions “blow up the balloons” to become the solar systems, galaxies and universes. The model de-

scribes the creation of black holes, what happens in black holes and how they fit into the creation of solar systems, galaxies and universes.

The first SSCU is the primordial ancestor of the first biological cell, the first neuron, and the first human stem cell. Their self-replicating/self-organizing progressions to become more complex results are “analogous”. My studies show that the fundamentals of the C*s to SSCU transformations bridge the gap from the smallest to the largest physical entities. The studies also show the fundamentals of SSCUs self replicating and the copies combining and self-organizing. Thus they bridge the gap from the simplest to the most complex “living” entities.

Human bodies and human minds (yours and mine) are results of, participants in and agents of Successful Self-Creation. Human development is analogous to Successful Self-Creation processing and humans have an analogous self-creating capability. The relationship of Successful Self-Creation to humans, human minding and human creativity will be the subject of a future essay.

CONCLUSION

Introduction of the Successful Self-Creation theory presents a new level of creation that is the lowest level of reduction/regression. This new level eliminates the “impossibles” of this essay contest. It converts chaos into order and meets the criteria to be Einstein’s “miracle” and the solution to his “eternal mystery”. The theory introduces the C* quantum of information, SSCU quantum of intelligence, and a Successful Self-Creation process in which C* quanta become Planck actions. Planck actions become the variables and relationships of time, space, mass, speed, and direction that become the forms and functioning of the multiverse, the visible universe and its physical contents.

A “scalar” mathematical chart of Successful Self-Creation from 1 SSCU to $2.40088563 \times 10^{125}$ SSCUs enables us to “map” and track the scalar increase of Planck actions and the changing of the 5 major variables - time, space, mass, speed, and direction- as they become different physical components of the multiverse and visible universe.

Using the mathematical model, we are able to generate and compare theoretical measurements of Successful Self-Creation to available empirical measurements. They match. We are also able to provide predictive measurements of what we are able to rationalize mathematically.

This essay is the first presentation of a physical/mathematical model based on Successful Self Creation. It is complete. It is mathematically consistent. It’s “measurements”

match empirical measurements of the visible universe and its components. It also goes beyond the “physical” world.

The fundamentals of all of science, philosophy, mathematics and religion result from the 3 levels of SSC: 1. The new C*s to SSCUs level of creation 2. the SSCUs self replication to create copies 3. the self organization of/in the copies to become larger/more complex results. Together they provide a new beginning, ending and a goal (overcoming entropy) for philosophers and a new calculus for mathematics. For theologians it provides a lowest level of regression, an internal processing (a spirit) in every SSC unit and a new creating progression.

SSC creates and uses the rules, laws, constants, intelligence, etc. as needed to progress. They are not in effect all of the time, everywhere and may change. This allows the unification of science, philosophy and religion. This allows the different disciplines to use what works for them and incorporate the new more fundamental SSC paradigm in problem areas and when they need to connect/unify/work with other disciplines. This is like physics adding Einstein’s relativity theories while keeping and using classical physics when it works (and is easier to calculate).

In physics the SSC model can be useful to scientists as they carry out their work. They can relate their ideas to the ideas of the SSC model, “map” and convert their individual pieces of data to its mathematical model, work with their data in terms of the model, find new correlations and convert the results back into their models. It can act as the Rosetta Stone of physics.

APPENDIX

Explanation of the Conversion of C*s to SSCUs

How Successful Self-Creation Originated

In each SSCU there is an overall unchanging-intelligence and an “every component is changing”-information. Both are combined in the processing to overcome entropy and form a stable information-intelligent SSCU that can self-replicate. To generate that result, the Successful Self-Creation process packs 2.213568×10^{31} C*s into the circulating variables of each SSCU.

The chart below shows the measurements of the unchanging-intelligence and the measurements of the changing-information of 1 SSCU. The verbal description describes how those measurements were generated.

In the formative processing of the original SSCU, C*s combine and change shapes to become a growing vortex. When the tip of the spinning vortex reaches the maximum

1 SSCU

INTELLIGENT - UNCHANGING

INFORMATION - CHANGING



SPHERE

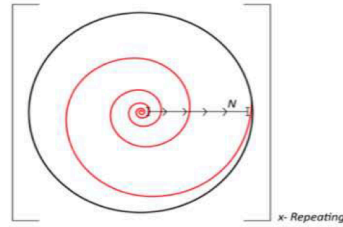
Volume = $2.18085688 \times 10^{-33}$ cc

Radius = $8.04475556 \times 10^{-12}$ cm

Surface Area = $8.1327153 \times 10^{-22}$ sq cm

Mass = $2.04086493 \times 10^{-63}$ g

Density = $9.35808775 \times 10^{-31}$ g/cc



$T_1 = 1.60895711 \times 10^{-42}$ seconds to fill the central sphere

$T_2 = 2.6815851 \times 10^{-44}$ seconds to empty the central sphere

$T_3 = 1.60895111 \times 10^{-20}$ seconds to cycle everything through the radiating processing

Radiation = $8.0447556 \times 10^{-34}$ cm per pulse

Total Radius = $8.0447556 \times 10^{-12}$ cm

Mass = $2.04086493 \times 10^{-85}$ g per pulse

$N = 10^{22}$ pulses per cycle

The pulses "radiate" at the speed of creation = 3×10^{10} cm per second when they are pulsing

speed of self creation = 3×10^{10} cm per second (equivalent to the speed of light), the tip of the vortex becomes a black hole. The black hole fills a central sphere to its packing limit of 2.213568×10^9 C*s which corresponds to a "universal" packing limit of $4.89988329 \times 10^{40}$ g/cc. The filling of the central sphere from the black hole tip of the vortex takes T_1 seconds to fill the central sphere.

Note: By knowing the quantity of C*s in each pulse, you can calculate how the 2.213568×10^{31} C* quantities become the other variables as they become the SSCU.

Note: One can check the chart to find the precise measurement values mentioned in the general description below. For example T_1 is $1.60895711 \times 10^{-42}$ seconds.

In the final one sixtieth ($1/60$ th) T_2 of the filling time T_1 , the central sphere empties its contents as a pulse. The emptying/pulsing is a Planck action. The pulse radiates outward in all directions at the speed of self-creation for the duration of the pulse. The vortex continuously feeds into the central sphere and a sequenced digital pulsing repeatedly empties the central sphere and radiates outward. Each digital pulsing is a Planck action with a Planck length and time. The outward radiating is analogous to the blowing up of a balloon. The vortex emptying of space and the pulsating filling of space are asymmetric processes. After 10^{22} pulses (i.e. Planck actions), when the asymmetric processes become precisely balanced equivalent and opposite processing, the processing encapsulates itself. The encapsulation puts a limit on the expansion. It becomes a sphere. It forms an outer surface area. From the encapsulation time forward: 1. each subse-

quent pulse empties the central sphere into the encapsulated space AND fills the outer surface area from the encapsulated space 2. Each filling of the central sphere fills from the encapsulated space AND the outer surface area empties into the encapsulated space - into the back spaces of the vortex. The processing has created two equivalent and opposite coordinated processes that “act at a distance”. The combined processing forms a repeating, circulating, self-creating, encapsulating, self-dissipating result - 1 SSCU. The encapsulation “captures” 2.213568×10^{31} C*s (i.e. bits of information) organized into the compositional changing (information) that become the repeating forms and functioning in/of 1 SSCU.

The “birth” of the first SSCU “fixed” the quantized C*s relationships that become the Planck actions that become the 5 variables - space, time, mass, speed and direction that becomes the forms and functioning of the SSCU. In the encapsulation step that created the SSCU, Successful Self-Creation unified Quantum’s Mechanics, Planck Actions and General Relativity. The fundamentals - processes, forms, functions, limits, variables, relationships and mathematics - of the C*s to SSCU transformation scale up in the creation of our visible universe and its contents.

John Crowell is an independent scholar investigating creativity, Self Creation and how they relate to A Theory of Everything: was a New Business and New Product Development Director for the 3M Company, CEO of 3M Chile and Technical Director of the 3M Chemicals Division. Ph.D in Synthetic Organic Chemistry (Florida State University); B.S. in Chemistry and Mathematics (University of Kansas).

Contact Information

John D. Crowell, Ph.D.
Independent Scholar
1241 Sea Plume Way
Sarasota Fl. 34242 USA
johncrowel@aol.com