

In terms of creating a very detailed explanation of how one country can take the M-System 14. Angel City journey from 2020 to 2080, I would be amiss if I did not acknowledge my teachers.

One book has been a constant companion since 2016; The Grand Design by Professors **Stephen Hawking** and **Leonard Mlodinow**.

We have seen how Hawking and Mlodinow's Good Model added order to the process, and as you will see in chapter 4. Alternate Histories tells the story of, the Feynman Sum Over Histories. Exactly how we got from reading this to three years later having a comparable hypothesis in economics is not clear, like all '**As If**' analogies, we are not talking about Supereconomics being the same as the physics, rather Supereconomics acts **As-If** it was the physics.

"As-If"

If memory serves, I first heard of **As-If** from 2017 Nobel winner Richard H. Thaler, who was not a fan but needed to acknowledge **As-If** arguments were valid.

Many of the S-World Systems were created in **As-If** this or that system is from particle physics, the most obvious is the M-Systems created **as-if** M-Theory could be used to create or improve economic models, and the catchphrase we see on many early graphics "**M-Theory an Economic Science?**" but we need not get into this here.

The most recent **As-If** example relates to the most fundamental property of quantum mechanics, the Quanta. If quantum mechanics and LQG (Loop Quantum Gravity) everything is made in quanta, the smallest possible quanta being Planck's constant which is very small ($6.62607004 \times 10^{-34} \text{ m}^2 \text{ kg/s}$). Whilst there is such a large number of quanta in the universe, the idea of quanta is that all could be measured. There is an exact number of quanta today that will be the same tomorrow or in a billion years.

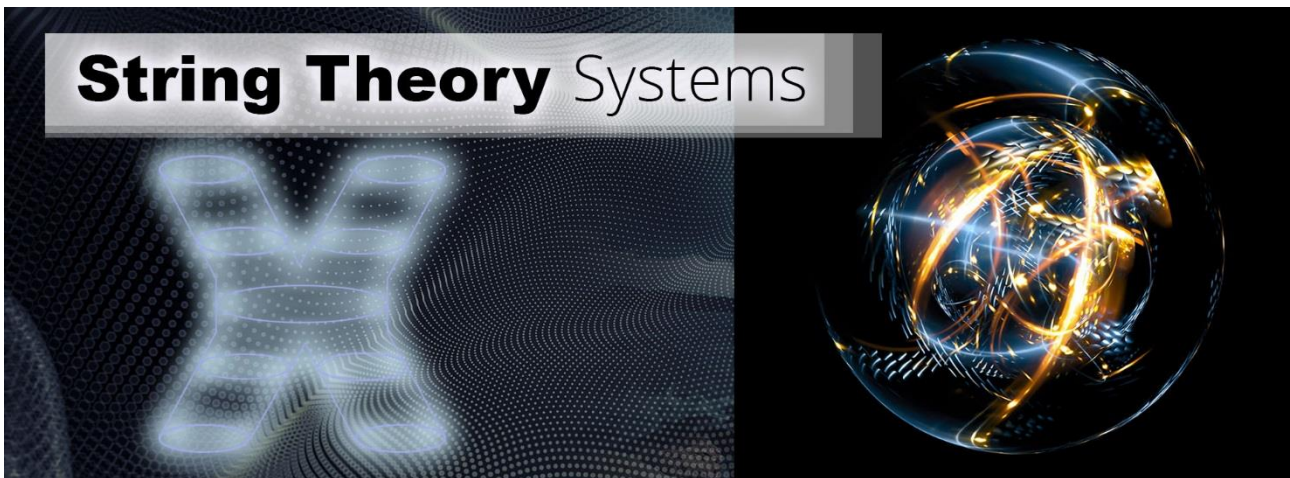
In the following sections from **the Grand Design** by Professors Stephen Hawking and Leonard Mlodinow, we will hear about Alternate Histories (The Feynman Sum Over Path/Histories) and Renormalization. Where renormalization removes the infinities and offers a coherent data set that is used to create accurate predictions.

While I do not understand the mathematics of renormalization at this time, it would be a massive advantage if we could use the renormalization effect to compress the 87 Quintillion Histories. And it may be possible to push the envelope and change the 87 Quintillion histories into 87 quintillion, quintillion or even 87 quintillion, quintillion, quintillion, quintillion.

The advantages are massive if we can renormalization S-Worlds' 87 Quintillion simulations **As-If** the network was quantum mechanics. And whilst I am miles away from performing such a

calculation, I have reinforced by the earlier idea of POP Dimensions, which started at \$0.01 cent and multiplied up through cubic dimensions of 8, so $\$0.001 > \$0.08, > \$0.64 > \$5.12 > \$40.96$ but changed the POP Dimensions to start at \$0.0001 cents, $\$0.0001 > \$0.0008 > \$0.0064 > \$0.0512 > \$0.4096$ **As-If** by doing so I am mimicking the quanta in quantum mechanics so that at a later point someone with greater knowledge could perform renormalization.

Sticking with math that is compatible with quantum mechanics, this example may well end off with two completely different systems. One could imagine a system per Quantum Loop Gravity as presented above and another system and even another Grand Spin Network where the fabric of the system was created **As-If** Money is analogous to the Strings in String Theory.



Three M-Systems were inspired by string theory, M-Systems Zero that simply says in Supereconomics money is the String, M-System 3. The Susskind Boost

M-Systems 3. The Susskind Boost and 4 The Peet Tent work **As-If** the network were made from string theory.

History 3 works **As-If** it could expect to command \$28,147,497,671 in investment and Aid by 2024.

The Law of Conservation of Revenue (now Savings) works **As-If** it was analogous to the Law of Conservation of Energy.

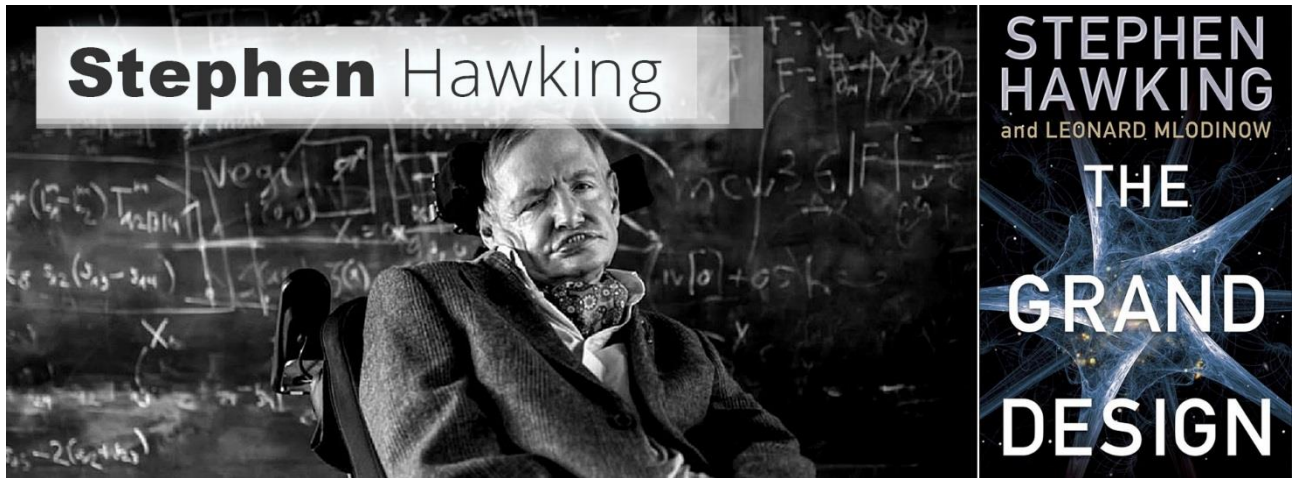
Š-ŘÉS™ High-Octane Financial Engineering increases the money supply **as if** the network was like a country's economy where after a year, most of the money spent will belong to most of the people in the country.

POP works **as if** the economy is like Newtonian Gravity

Angel POP works **as if** the economic Newtonian Gravity cannot expand a continental network to a higher financial dimension until all other continental networks have reached the financial dimension limit.

THE GRAND DESIGN

by Professors **Stephen Hawking** and **Leonard Mlodinow**



In terms of the 87 quintillion histories, immense credit must be paid to Stephen Hawking and Leonard Mlodinow's book *The Grand Design*. Chapter 4; '**Alternate Histories**' which had a big impact, and helped me to see Angel City 3 and 4 as the present, Angel Cities 1 and 2 as the past and Angel City 5 as the future, and then physiologically worked that problem to find the schema that is being developed now.

Now I am doing the same but have changed my 'present' date to 2024 and 2025, and the past is back to 2020, and the future is bright.

I am copying this and other sections of **Hawking** and **Mlodinow's** book for a few reasons; the first is homework, summarising assists my learning. The second is so others can see the inspiration behind the 87 quintillion histories. Third and maybe most important is that it may inspire someone else to a eureka idea, maybe in compression, logic or '**As-If**' renormalization.

I have edited the most relevant sections from the Alternative Histories chapter into just a few pages: So here we go with Professor Hawking and Mlodinow's 2010 book '*The Grand Design*,' which is in many ways is the plot to the S-World Stories since 2016.

THE GRAND DESIGN CHAPTER 4. **Alternative** HISTORIES

by Professors **Stephen Hawking** and **Leonard Mlodinow**

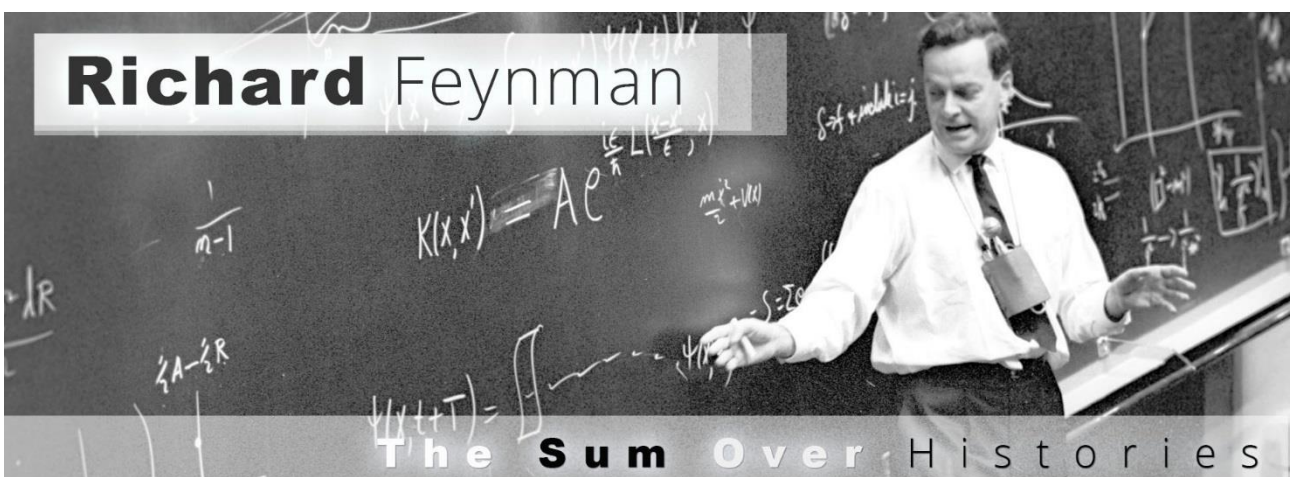
"The principles of quantum mechanics were developed in the first few decades of the 20th century; after Isaac Newton's macro theories (*which were accurate enough to land a man on the moon*) were found to be inadequate for the description of nature at the atomic or subatomic level.

As we improved our technology and expanded the range of phenomena that we could observe, we began seeing nature behaving in ways that were less and less in line with our everyday experience and hence with our intuition. Classical theories such as Newton's reflect everyday experience, in which objects have an individual existence, can be located at definite locations, follow definite paths and so on. **Quantum mechanics dictates a completely different schema** (*model, plan, theory*), **in which an object's position, path, and even its past and future are not precisely determined.**



According to quantum mechanics, a particle is said to have no definite position during the time it is between a starting point and the endpoint. Professor Richard Feynman realised one does not have to interpret that particles take no path as they travel, rather particles take every path, and they take them all simultaneously.

The chance of observing a particle to land at any given point then depends upon all the paths/histories that could have got it there. Feynman showed that for a general system, the probability of any observation is constructed from all the possible histories that could have led to that observation. Because of that, his method is called **the Sum Over Histories** or '**Alternative Histories**' formulation of quantum physics.



Because of this, instead of looking at just a single particle, **Feynman's theory allows one to predict the probable outcomes of a system**, which could be a particle, a set of particles, or even the entire universe. Between the initial state of a system and our later measurement of its properties, those properties evolve in some way which physicists call the **system's 'history'**.

In Newtonian theory, the past is assumed to exist as a definite series of events, given complete data about the present Newton's Laws allow us to calculate a complete picture of the past. But a quantum particle or system cannot be said to have taken a definite path from A to B. We might pin down its location by observing it. But in between our observation, **it takes all paths and has all histories**.

Quantum physics tells us no matter how thorough our observations of the present, the (unobserved past), like the future, is indefinite and exists only as a spectrum of possibilities.



The universe, according to quantum physics, has no single past or history. The fact that the past takes no definite form, means that observations you make on a system in the present affect its past. We will see that, like a particle, **'the universe does not have just a single history, but every possible history,'** each with its own probability; and our observations of its current state affect its past and determine the different histories of the universe.

The quantum model of nature and our universe encompasses principles that contradict not only our everyday experience but our intuitive concept of reality.

Those who find those principles weird or difficult to believe are in good company, the company of great physicists such as Einstein and even Feynman, who once wrote 'I think I can safely say that nobody understands quantum mechanics.'

But quantum physics agrees with observation. **It has never failed a test, and it has been tested more than any other theory in Science.**

End of Exert from; The Grand Design – Chapter 4. Alternate Histories
by Professors **Stephen Hawking** and **Leonard Mlodinow**

Nick Ray Ball:

Whilst in exact mathematical terms, I cannot point to any Supereconomic behaviours derived from physics – Looking at areas of theoretical physics has certainly been a way I have progressed in the past, and has lead to many '**As-If**' Supereconomic behaviours.