

Logic the simplest, but supreme way for recognition(v2): 2013/10/20,23

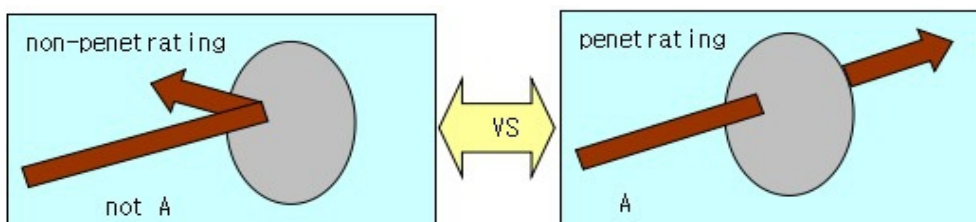
A kernel problem is **contradiction** which deny **uniqueness of realization(true)**. Then a contradiction enables anything **disorder(chaos)**. So it's uniqueness that enable **overwhelm-ing judgment** on reality.. Also "**truth is provable(Completeness in determinism)**" and being of **un-determining phenomena(Incompleteness introducing probability)** are studied. A way of logical comprehension is most indispensable than anything else.

① **A contradiction never be observable in our material world .**

<☞:but it can happen in something invisible such as lie or non-matter world(vacuum one)>.

(1) **a decisive example :**

A weapon merchant say "this spear can break through any shields, and this shield can block any spears". Then a passerby asked the merchant "If you try to break through the shield with the spear, what will happen ?",..... Ancient China Fable



(2) In actual our visible(**observable**) physical material world, it never be possible to realize **simultaneously** {**A**(breaking through the shield) and **not A**(not breaking through the shield)}. As the consequence, our material world phenomena is basically **non-contradictional**. Those happen mainly in **something invisible** as our languages(lie, as software).

☞: **Non-Contradiction** states **possible realization in past and future is unique**, but not plural, which is basic and decisive for **overwhelming judgment for an execution**.

"**Many opinions must be allowed**" in democracy, which might be chaos in an emergency. It's also absolute necessary condition for **securing an order not to destabilize society**.

(3) **Either A or not A is surely true**, so if A was false, then **turning(denying) A become true**.

This is a top tip to get better in skill(invention) and in politics(revolution). Our frequent task is researching **what causes what results**. The tip is useful in these tasks.

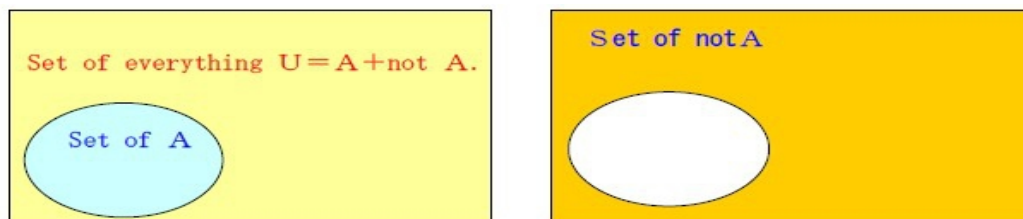
② **If a contradiction had happened, then what would cause ?.**

In the below paragraph is a convenience for comprehension for amateur readers.

The detail could be seen **APPENDIX_1** or appropriate texts on symbolic logic.

(1) **Set A** is defined as collective of (**eventual**) **elements** each of which satisfy definite member's property. **A** is also **propositional logic** concerned with definition of the property. Note **not A** means all possible event elements, but not (A element realizations).

(2) **a simultaneous realization of A and (not A) is possibility of everything.**



In this way, a contradiction enable everything, It becomes almighty !!. See **APPENDIX_1**

③ **The Completeness Theorem(≡CT) : "A True is provable !"**

(1) proof is a procedure to verify truth of proposition "if A, then result B".

A ≡ "debt" c "is with bond" d by same amount such as $d = c$, then $\{d_1 = c_1, d_2 = c_2, \dots, d_N = c_N\}$, then $B = \{\text{sum of debts} = \text{sum of bonds}: c_1 + c_2 + \dots + c_N = d_1 + d_2 + \dots + d_N\}$.

(a) From latest view, **a true is a realization** in repeatable observable phenomena. n times repeatable observability in N times trial is realization with finite probability $(1 \geq p = n/N \geq 0)$. $1 > p > 0$ are called **statistical**, while $p=1$ is called **deterministic**.

See **APPENDIX_1:A3**

example-1) probabilistical dice throwing, machine trouble event in a certain time.

example-2) prediction of star position in heaven is deterministic in classical dynamics.

(b) **proof** is definite procedure of deductive inference such as "presupposing A(true) concludes result B(true) in evident way for which none can object. Such **inference** $A \subset B$ must be tautology. $A = \{a=b, b=c\}$, then $B = \{a=c\}$ is tautological inference.

Tautology is defined as **self evident of "repeating same meaning in the other words"**

The more precise details could be in the later in (2)(d).

(2) **The simple proof of CT = "A true is provable"**. <for vigorous students>.

(a) **proposition** is defined as judgmental statement with determinability of the true=1 or false=0. Such proposition is called **complete**. Certainly there are also statement without determinability. Such proposition is defined as **incomplete (indeterministic)** one. $A = \text{"Stock price in tomorrow will increase"}$ is incomplete.

* **predicative logic** : subject(noun=n) + predicative(P), cow(c)eat(E)glass(g) ≡ Ecg.

See (g). Predicative logic is judgmental statement in ordinal language.

* **propositional logic**: $A \equiv \text{Ecg}, B \equiv \text{Edm}(\text{dog eat meat}); A \vee B \equiv A \text{ or } B, A \wedge B \equiv A \text{ and } B,$

It's also called **two values** (1=true, 0=false) **logic**. Those are main in this report.

Also see **APPENDIX_1:A1:More details on Logic**.

(b) $A \subset B$ is called **conditional(inference)** and is kernel in propositional logic.

A	B	$A \subset B$
1	1	1
1	0	0
0	1	1
0	0	1

The meaning is "If presupposition A, then conclusion is B".

The left table is the truth value one. Then note that conditional is "**deductive inference**" and always true when presupposition is **false**. $(0,1,1)$ means that inference is true when result B is true, then false presupposition is don't care.

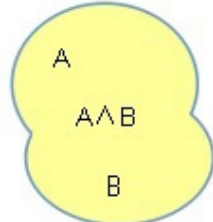
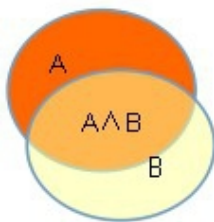
$(0,0,1)$ means both *cause* and *result* are false, the inference is true. **If inference is not true**, then conclusion must **be turned** to 1, this is to contradict with presupposition of $B=0$.

Consequently, by false presupposition(=contradiction), any **inference** becomes true !!!.

(c) $(A \subset B) = \neg(A \wedge \neg B) = \neg A \vee B$, <confirm the meaning of the tables>

where, logical product $A \wedge B$ is A **and** B, logical sum $A \vee B$ is A **or** B. \neg is **negation(not)**,

A	B	$A \wedge B$	$A \vee B$	$\neg A$	$\neg A \vee B$	$A \subset B$	$\neg A \vee A$
1	1	1	1	0	1	1	1
1	0	0	1	0	0	0	1
0	1	0	1	1	1	1	1
0	0	0	0	1	1	1	1



(d) **Proof is a definite symbol sequence as $\{A=1, (A \subset B) \equiv 1, \Rightarrow B=1\}$.**

Then inference $(A \subset B) \equiv 1$ must be "**Tautology**".

Definition: $A \subset B \equiv 1$ is always true **without concern on logical values of A and B**.

Thereby, **tautology is the strongest universal logic(true)!!!.**

example $(A \subset B) \equiv \neg A \vee B$, $A \vee (B \vee C) \equiv (A \vee B) \vee C$, $\neg A \vee A \equiv 1$, there are many.

(e) **A truth (in determinism) is provable(inference becomes tautology).**

For being **tautological inference** $(A \subset B) \equiv 1$ when presupposition $A=1$, then **what is result B**?, B must be $B \equiv A \vee R$, where R is certain proposition.

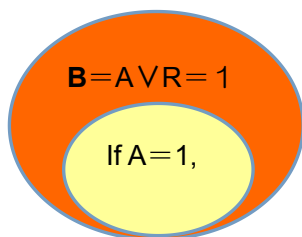
Then the inference become $(A \subset B) = \neg A \vee B = \neg A \vee (A \vee R) \equiv 1$. $\langle \neg A \vee A \equiv 1 \rangle$

Thus the inference is found to be **tautology**(valid true). <proof end>.

(f) **The meaning of the Completeness Theorem:**

Because of the definition ,truth must be valid for everyone at anytime anywhere.If everyone could consent by observing in software(logical proof) or hardware(experimental proof),it is truth.Truth is provable(**tautology**),which means that **the definition of presupposition true-itself had already including possibility of proving.**

If cause $A=1$ is true,then result $B=A \vee R=1$,and $(A \subset B) = \neg A \vee B = \neg A \vee (A \vee R) \equiv 1$. is also evident.



"If A is true,B is surely to be also true".

See **APPENDIX_1:A1:More details on Logic(d).**

(g) **predicative logic can become propositional logic in general.**

(Note **CT is theorem in predicative logic**,but not propositional one by the original).

Predicative logic is judgmental statement in ordinal language(**subject=x + predicative=P**) denoted by $Px = "x \text{ is } P"$. There are two kind of noun such as individual and collective one.

individual:sun,Europe,Adam,Eva,a,1,...

collective:animal,natural number,Egyptian,.....

As for predicative logic statement on collective noun $x \equiv \{x_1, x_2, x_3, \dots\} \equiv \text{set}$,so called **quantifier** $\{\forall, \exists\}$ is necessary, which are not in propositional logic.

* \forall (universal quantifier) \equiv all of x,arbitrary x.

* \exists (existential quantifier) \equiv certain of x,

Then following equation can be established in general.

$\forall x Px = (x_1 Px_1) \wedge (x_2 Px_2) \wedge \dots = A_1 \wedge A_2 \wedge \dots$; "as for arbitrary x, x is P"

$\exists x Px = (x_1 Px_1) \vee (x_2 Px_2) \vee \dots = A_1 \vee A_2 \wedge \dots$ "as for certain x, x is P".

In the above way,so called **predicated logic becomes simple propositional one without quantifier** by condition of each terms **definiteness** of the truth value.

④**The simple proof of IT**="There must be incomplete proposition of which true or false never be determined in non cotradictional Theory with **Natural Number Theory**".

Proof::you never can determine the largest natural number in Natural Number Theory.

☞:Note real number $0^* = \lim_{N \rightarrow \infty} 1/N = 1/\infty$.is also indefinite, because $\infty = 1/0$.

☞:"0" is nothing and non-nothing simultaneously<in **real example_1**>.

<http://www.777true.net/Overwhelming-Judgment-of-SCIENCE.pdf>

Indefinite is no complete information,so information loss introduce **probability** in general.

The most important matter is IT belongs to **statistical phenomena** in general.

<http://www.777true.net/Goedel-Chaos.pdf>

☞ **Discrete countability of Real Number Set Concentration with the indefiniteness.**

Established mathematicians insist **non countability of real number set concentration (alef-1).While that of natural number set is alef-0 <alef-1.** However real number never be definite due to indefiniteness of real number zero 0^* . **alef-0 <alef-1 can not be provable.**To tell form **the very beginning**,they never can make **definite sequential array of real number** and employ so called **diagonal logic** in the poof. This is tragedy of the great mathematician **G.Kantor**.However without him,**the modern mathematics** could not be. Now **Set Theory** is indispensable and most basic concept in modern mathematics.

0.	0	0	0		
R1	r11	r12	r13		
R2	r21	r22	r23		
R3	r31	r32	r33		
R4	r41	r42	r43		
..						
....						

The proof is as follows.If real number were countable(alef-0),it could be arrayed sequentially as table,then we can make a real number **X which is not in the array.** It's contradiction !!!,
 $X=0.x1-x2-x3-x3-x4-.....$
 $x1 \neq r11,x2 \neq r22,,x3 \neq r33,.....$

The reason is evident from **the concept observability in quantum physics concept.** **Infinitive is non observable** whether it may be natural number set concentration,or that of real number set. Mathematics must be **"finite"** to be observable.

☞ **Then probability 0^* is to mean not nothing,but non observability in quantum physics!!.**

The deep reason is that by abstract concept "**observability**" established so called **quantum logic** which could reconstruct **experiential quantum mechanics** in general(Virkov,G.& Neumann,1936).So also author noticed **true** in logic must be observable(**realization** in physical material world).**Especially note observability and non-contradiction is co-body.**

APPENDIX_1:

The strict proof on contradiction enables anything turn to true in propositional logic.

A1:More details on Logic.

symbol notation:

- * \equiv this means equal by **definition** or **tautology**(self evident).
- * $P \boxtimes (A \boxtimes B)$: operation \boxtimes in the **bracket** must be done precedingly than anything else.
- * $\forall e \in A$: arbitrary(all) element "e" belonging to set $A\{e_1, e_2, e_3, \dots, e_N\}$,

(a) **predicative logic** and **propositional logic**.

Logic is ordinal judgmental statement with **true** or **false** in general language, which is called **predicative logic**. It has form of **{subject(noun) + predicate(noun, adjective, verb) +}**..

\neg P: **all of everything, but not P**

☂ ▼ ● ◆ ○ ◎ ☆ ☀ ☠ ☪ ☺ ☻

☺ ☺ ☺ ☺ ☺

P \equiv Set of presidents

☞ ✎ ☰ ☱ ☲ ☳ ☴ ☵ ☶ ☷ ☸ ☹ ☺ ☻

example1) $b \equiv$ Barack Obama (**individual noun**)

$P \equiv$ is president (**collective noun**) : $Pb \equiv A$.

Pb is predicative logic with truth value, while whole of "Pb" is defined as A which is **propositional logic** with the truth value.

(b) **truth value (true = 1, false = 0).**

(c) **set is equivalent to predicative (propositional) logic "Px"**.

* **set** \equiv ensemble of elements $\{e_1, e_2, e_3, \dots, e_N\}$ which satisfy member's definition $\equiv A$ (true).

Definition $\equiv A$ is **predicative logic** P as follows. where P is something definite predicative.

$A \equiv Pe_1$, and Pe_2 , and $Pe_3, \dots, \dots, \dots$, and $Pe_N \equiv P_1 \wedge P_2 \wedge P_3 \wedge, \dots, \wedge P_N \equiv \forall e \in A Pe$.

$\forall e \in A \equiv$ arbitrary(all) element e belonging to $A\{e_1, e_2, e_3, \dots, e_N\}$, $Pe \equiv$ " e is P " ($\equiv A$).

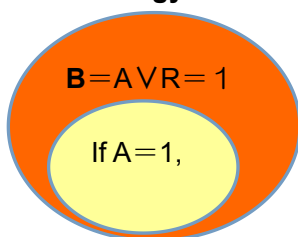
Thus you could see that **whole of a predicative logic P** can be considered a symbol of

A (**propositional logic**), which also can be considered as a set. Also note A is

$Pe_N \equiv P_N$. ($N=1, 2, 3, \dots, N$). $\Rightarrow A \equiv P_1 \wedge P_2 \wedge P_3 \wedge, \dots, \wedge P_N$.

Each P_N . ($N=1, 2, 3, \dots, N$) is propositional logic with truth value. Thus propositional logics with conjunction $\{\wedge \equiv$ and; $\vee \equiv$ or; $\neg \equiv$ negation $\}$ could be a propositional logic in the whole..

(d) **tautology $A \subset B$** : Completeness theorem from view of sets relation. between A and B .



"Cause set" A is equivalent to a predicative logic $A = Px$, where x is elements of set A . If "result set" B includes A 's elements as left fig, then predicative logic $Qy = B$ (true), and all elements x is included as some elements y of B . Thereby $Qx = B$ (true). That is if A is true, then it could be also true in B .

A2: strict proof on contradiction enables anything turn to true in propositional logic.

(1) proof in logic:

“The kernel in proof is inference $(A \supset B)$, if supposing A(cause), results B(conclusion).

Then proof demands **tautology** $(A \supset B) \equiv 1$, which means true with don't care on A,B.

example) $a = b, b = c$, then $a = c$ is inference of tautology.

A,B are proposition being true(1) or false(0). Then Following conjunction are also

proposition. $(A \wedge B) \equiv A$ and B; $(A \vee B) \equiv A$ or B; $\neg A \equiv$ not A; $A \equiv 1$ (**tautology**, self-evident)

$(A \supset B) \equiv$ if supposing A(cause), results B(conclusion).

$A = 1$ (assumption), $(A \supset B) \equiv 1$ (proof by tautology), $\Rightarrow B = 1$ (theorem),

example) A = prophet is one who is revealed by God the almighty being (**supposition**).

$(A \supset B) =$ almighty being can predict future (**tautology**, self-evident),

B = prophet can predict future. $\Rightarrow B =$ true (**proof**).

	A=0	A=1
B=0	A \supset B=1	A \supset B=0
B=1	A \supset B=1	A \supset B=1

☞ : logic table(axiom) on **inference (=conditional)**.

* **Inference with conclusion true is always true.**

* **0 \supset 0 = 1 (inference from lie become always true).**

This could be understand. If not true, conclusion lie become fail, so it could be true. This is not reasonable.

* $(A \supset B) = \neg A \vee B = \neg (A \wedge \neg B)$.

(2) The strict proof on contradiction enables anything turn to be true !!! — .

Theorem)

supposing $\neg A = 1$ and $\neg A = 1. \Rightarrow$ any arbitrary lowless proposition could **B=1**.

Proof)

Note $\neg A \vee A \equiv 1$. $\neg A = 1$ and, $\neg A \supset (A \supset B) = \neg A \supset (\neg A \vee B) = \neg \neg A \vee (\neg A \vee B) =$

$(\neg A \vee A) \vee B \equiv 1$.

$\Rightarrow (A \supset B) = 1;$

A = 1 and $(A \supset B) = 1 \Rightarrow B = 1$. <proof end>

(a): In mathematics, contradiction can cause **anything theorem (decay of theory)**.

Thereby mathematicians hate contradiction above all. But physics is different <see (c)>.

(b): Typical **contradictions** in this secular world are **lie, error, trouble** which would cause **something disorder at last**. Thereby, we can not do with contradiction. Note a religion (politics) with contradiction never be religion (politics), so genuine religion (politics) is teach of righteousness as for which massive people consent. So **atheism** tend to be contradictory to be decadence.

(c): **Contradiction in Physical Vacuum (the proof of almighty being):**

So called **vacuum polarization** in elementary particle physics is a **realization of contradiction**. Coarsely to tell, it is simultaneous **creating elementary particle + α** , and anti-particle **- α from nothing** in such way as $0 = +1 - 1$. Then note **creating anti-particle = annihilating particle = denying creating particle**. That is, **contradiction !!!**. **vacuum polarization = creating particle and denying creating particle** (but non-observable !!!). Contradiction in this material world is inconvenient, while that in vacuum **the non material world (= the other world)** is entirely upside down. Because contradiction enables **the almighty** due that **anything become realizable !**, **Paranormal phenomena** is due to connection (communication) between this world and the other world.

<http://www.777true.net/Scientifical-Mechanism-of-Prophecy-by-Paranormalities.pdf>

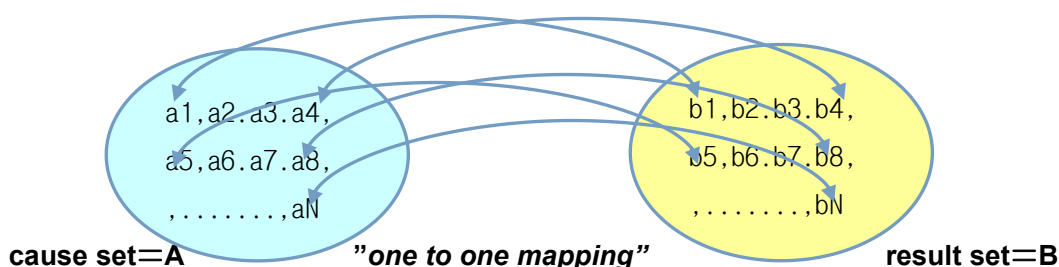
<http://www.777true.net/Proof-on-God.pdf>

A3: Sample observation and Ensemble describing on statistical phenomena (theory).

As you know, probability of dice throwing is almost $1/6$, which is observed in many trial ($N \rightarrow \infty$) in **same condition**. Each event in dice throwing is called **sample observation**, which is nothing, but single reality determining our fate. While virtual massive trial observation is **describing on statistical ensemble (theory)**. Statistical prediction is on the statistical ensemble description, but not statistical sample (realized observation, or possible events).

A4: Non-contradiction = Causality Law <one to one mapping between set A and B>
<modern mathematics the introduction>

Non-contradiction is an essence and mathematics system can be created only from uniqueness the presupposition of non-contradiction. Because, if cause A, then result B is unique, it becomes **one to one mapping** between collective set A and B, where



It is something functional $B = f(A)$. By assigning numbers set A (x,y,z) yields unique value B(u) is called **function** $u = f(x,y,z)$. This is the fundamental cause why material science is described by mathematics. Note our frequent tasks are researching **what causes what results**.

APPENDIX_2:

(1):Who created this world ?!(without expert knowledge).

Before birth of egg,there was chicken,before chicken,there was egg ,.....

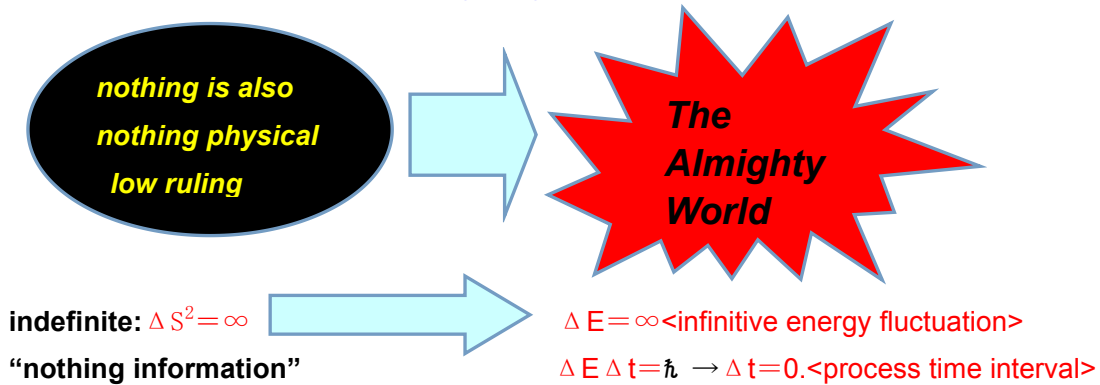
If something had been,it not creation of universe,*If nothing,nothing would be nothing forever.*

If you would have been adhere so called **causality law** chain as above,you never can recognize true cause of creation of universe.Then a possible decent answer is **indefinite**.

That is,noting information.Then note on “nothing would be nothing forever.Is it really all right ??”.Nothing is **non-observable**,as for which none can tell definite something.Yes it also **indefinite**.Then unique possible answer is nothing,but **nothing physical low-itself !!!**.

So anything is possible in non-observable something.This is due to nothing,but just almighty being(≡God).Thus original nothing can become none nothing instantly(BigBang) “0” is nothing and non-nothing simultaneously<in **real example_1**>.Once non-nothing had realized,then physical law was to rule universe creation process.

<http://www.777true.net/Overwhelming-Judgment-of-SCIENCE.pdf>



* <knowledge in engineers,physicists>

From **information theory**(in communication engineering),**nothing indefinite** means

infinite information measure,,, $S = \infty$, where $S = k_B \sum_n \omega_n \ln(1/\omega_n)$. $\langle 1 = \sum_n \omega_n \rangle$

n is designation for probabilistical events(states in Quantum-Physics), k_B is constant.

However S is also **entropy**,so the infinity is to mean nothing evolution(the end).It is

inconvenient.But,there could be **another information measure** = ΔS which means

statistical deviation of S -itself..... $\Delta S^2 = \sum_n \omega_n \langle \ln(k_B/\omega_n) - S \rangle^2$.

Author could prove being of singular point of $\Delta S^2 = \infty$ in general , while S is finite

something.Then thermodynamics equation **implies**, $\Delta S = \Delta E/T = \infty$, T =temperature.

$\Delta E = \infty$ implies **infinite energy fluctuation** at **Big Bang** origin.Then quantum

uncertainty product $\Delta E \Delta t = \hbar$ of energy and time yield the process time $\Delta t = 0$.

Hence Big-Bang implies singular time and space **spot** of $\Delta t = \Delta x = 0$.

Thus **nothing-information** could imply **mathematical singularity** of the origin.

(2): **Creation of this Universe**(God created this universe from nothing....Al'Qur'an).

Before Creation of this Universe, it's an entirely nothing world without even **physical low restriction**. You never prove the being in stage of nothing. So anything could be possible (the almighty world !!!). Once matter had been created from the original spot (size=0*), physical low (quantum gravitational dynamics=**QGD**) began to manage matter world.

-Energy conservation low in creating universe from nothing-

$0 \text{ (from nothing)} = + E \text{ (matter energy)} - E \text{ (gravity field energy)}$.

It's BigBang initiated by huge amount of energy fluctuation ΔE in time Δt .

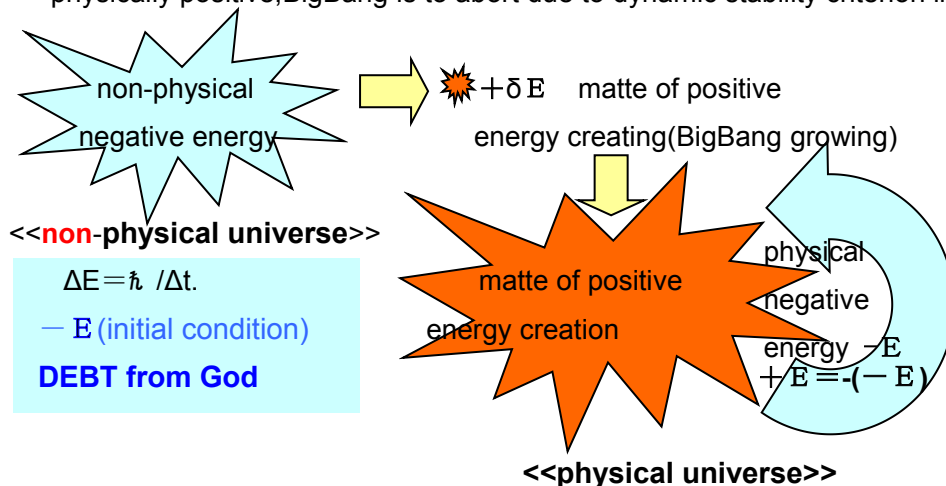
The 1st step is called force of $SO(11,1) \rightarrow SO(11)$ phase transition in QGD.

The initial condition was huge amount of **negative energy** created by God.

$\Delta E \cdot \Delta t = \hbar$ (* the uncertainty principle for energy and time quantum physics)

It was loaded on **non-physical** (non-hermitian) gauge field (imaginary number component in virtual state), which were to vanish to create physical matters (**+ E**) with physical gravity field of negative energy (**- E**).

☞: the uncertainty principle (*) allows energy conservation low breaking ΔE within time interval Δt , which enable creating initial negative energy. If initial energy was physically positive, BigBang is to abort due to dynamic stability criterion in QGD.



As BigBang grew, temperature were to down in phase transition going as $SO(11,1) \rightarrow SO(11=\#) \rightarrow SO(10) \rightarrow SU(5) \rightarrow SU(3) \times SU(2) \times U(1)$.

It's bankrupt process of big family cooperates into small one in recessions.

(#) is number of family component. Now strong force(3), weak force(2) and electro-magnetic family U(1) are managing. Then note SU(3) is higher than (3+1) dimension.

Those forces enabled creating "life on planet earth with stable sun heat flow".

☞: *At first he tell **nothing physical low**, but he also tell physical lows of such uncertainty principle. It is fake !!?, yes it's **contradictional** in the singular point, but not in **regular** one.*

