Story of Creating Life from Quantum Chemistry 1st Principle. 2025/5/27,29,30

❶Electron Cloud the 1st Principle<quantum vacuum prepares future form>.

❷Self Assembling Principle the Origin of Life Dynamics.

❶Electron Cloud the 1st Principle< *AI do not know this !!*>.

In chemical reaction,the result=electron cloud is realized at once,and then nuclei are to move slowly toward final position.←origin of bio motor !!!

In any case, electron cloud change occure zero time interval,while those are frozen in other finite interval.

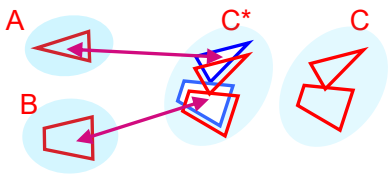
http://www.777true.net/Quantum-Stochastic-Mechanics_QSM_the-Hidden.pdf

Heavy nuclei move(reaction) or vibrate in the static potential caused by the frozen electron cloud density.

⑴In Chemical reaction A＋B→C,**electron cloud of C** is to be realized at 1st in zero time transition due to none self adjoint Hamiltonian singularity,
http://www.777true.net/Quantum-Stochastic-Mechanics_QSM_the-Hidden.pdf

⑵then nuclei of $A^+$and B^+ is to move slowly toward equilibrium position {$C(A^-).C(B^-)$} by virtual **electric dipole** attraction force between{A^+-$C(A^-)$. B^+-$C(B^-)$}.where A^-,B^- are anti matter nuclei of $A^+$and B^+ created from vacuum polarization reaction $0\rightarrow A^+-A^-$, ,$0\rightarrow B^+-B^-$ at time of electron cloud of C generation.Note till accomplishing dipole disappearing by dipole annihilation,the cloud C is stopping still.

⑶**Virtual diploe reaction in instantaneous electron cloud transition<attracter>**



A＋B→C.....

The left side is **the initial state** and the right side is result of the reaction.C is a stable order,and it is **the attractor C** drawing A,B in.

①molecule A,B,..,,Nuclei at the vertices of the figure

②electron cloud instantaneous transition C*
= future form precedent!

③nuclei $A^+\leftrightarrow A^-$ with dipole chain coupling of ± charge cancelling
nuclei $B^+\leftrightarrow B^-$ with dipole chain coupling of ± charge cancelling

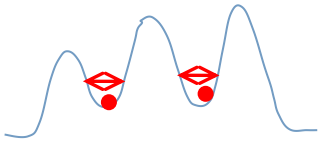
④Heavy nuclei move slowly toward zero dipole distance

⑤**The future form** invite and drive chemical dynamics
The future form≡attracter force.

⑷From C*'s view,negative nuclei{A^- ,B^- }are not seen due to ± charge canceling by the dipole chain which is to be vanished by the completion of nuclei movement..

☞:Who determines shape of C*?.In vacuum field where anything can be as dipole ghosts. Then after all,the highest probability is to be determined by the initial state of {A,B}. That is ,materials and the dynamic state.

⑸The rationality of adiabatic approximation.
In chemical physics,they assume no change of electron cloud, while nuclei are vibrating in the adiabatic potential caused by the stationall electron cloud density<blue line curve>.



❷Self Assembling(Force)Principle.

①Parts recognize each other and join together by a "lock-and-key" recognition mechanism.

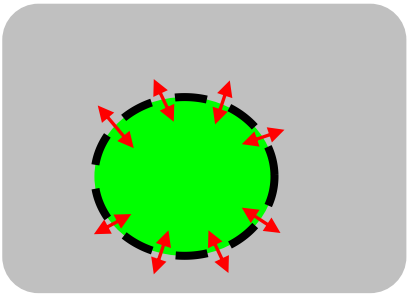
②Thus only self assembling principle,a total system is synthesized.

Self-assembly is a process where disordered systems of components spontaneously organize into ordered structures due to their own interactions, without external guidance. This happens through weak, non-covalent interactions like Van der Waals forces, hydrogen bonds, and π-π stacking. The key principles involve a balance of attractive and repulsive forces, reversibility of interactions, and the environment in which the assembly takes place

https://en.wikipedia.org/wiki/Self-assembly

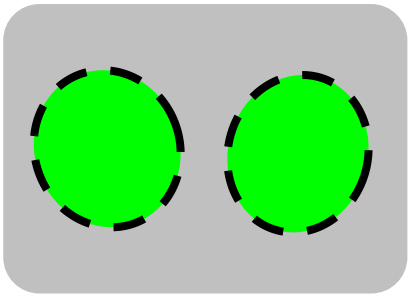
⑷Evolution Story of Self-Assembling(Force)Principle.

Area is divided into two by **Self-Assembling Force**: areas of assembly and non-assembly



①Grey space is the collection of all chemical materials.
thermal and fluid *shaking* is assumed.

②Dashed line ◌ the inside represents a high concentration of **self-assembled** molecular material -bonded body, ◌ the outside represents a high concentration of **non-self-assembled** molecular material



③Growing with in-out flow

Self-assembling molecular materials literally **assemble in** and occupy a local space to increase its concentration, while **non-self-assembling** molecular materials are **expelled out**.

④Rupture and Proliferation, ← This is the most kernel and difficult problem.

When the size or concentration? of the self-assembling reaches a limit and becomes unstable,the time for rupture comes → cell division → ③

⑤The above model has the basic elements of life<single cell>.

I: A cell membrane where an internal/external boundary break occurs.

II: An open thermodynamic system with internal/external material flow.

III: Proliferation through cell division.

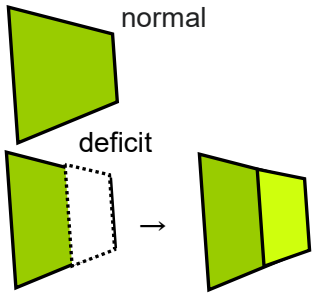
☞ : There is no proof of ***self-replication*** in above.

If it is not self-replicating, the above cyclic process will not be stable and sustained

⇒Only **self-replication** by **self-assembling** will ultimately be realized,

❸phantom leaf phenomenon

By Kirlian photography,self assembling image can be actually observed,



①Part of a normal leaf is cut off

②According to the high voltage applied electric field photograph, a vacuum polarized virtual leaf (supermolecule) is formed to correct the defective part.

③It is said that future shape can be seen in the buds of growing plants.

→ **Principle of "self-assembly"**

← **Template electrostatic binding**

❹Self-Replication by Self-Assembling.

①Parts recognize each other and join together by a "lock-and-key" recognition mechanism.

②Thus only self assembling principle,a total system is synthesized.

③Symmetric Duplicator *the simplest structure ?!.*

In order to accomplish simplest way of Self-Replication,ownself total should be both key=template(+)and lock= template(-) by **Central Symmetric Configuration.**.

Following 1dimensional model might be a simplest configuration?!!.

Original Material. ☞:{ A-A},.....are key and lock relations.

ZYX.....CBA ABC.....XYZ

thus complete **key and lock bonding** is to be accomplished between up and down sides.

ZYX.....CBA ABC.....XYZ

180°turning Material

④DNA(double helix structure).

If you fold the above structure in the center line, it becomes the same as DNA structure.

ZYX.....CBA

ZYX.....CBA

❺An Actual Field where self assembling parts are making on.

Seafloor hydrothermal deposits

= Ultra-long-term, high-volume, high-speed manufacturing factory for biological materials!

Reference: Yasuo Oshima, *Life began in hydrothermal fluids*, Tokyo Kagaku Dojin, 1995.

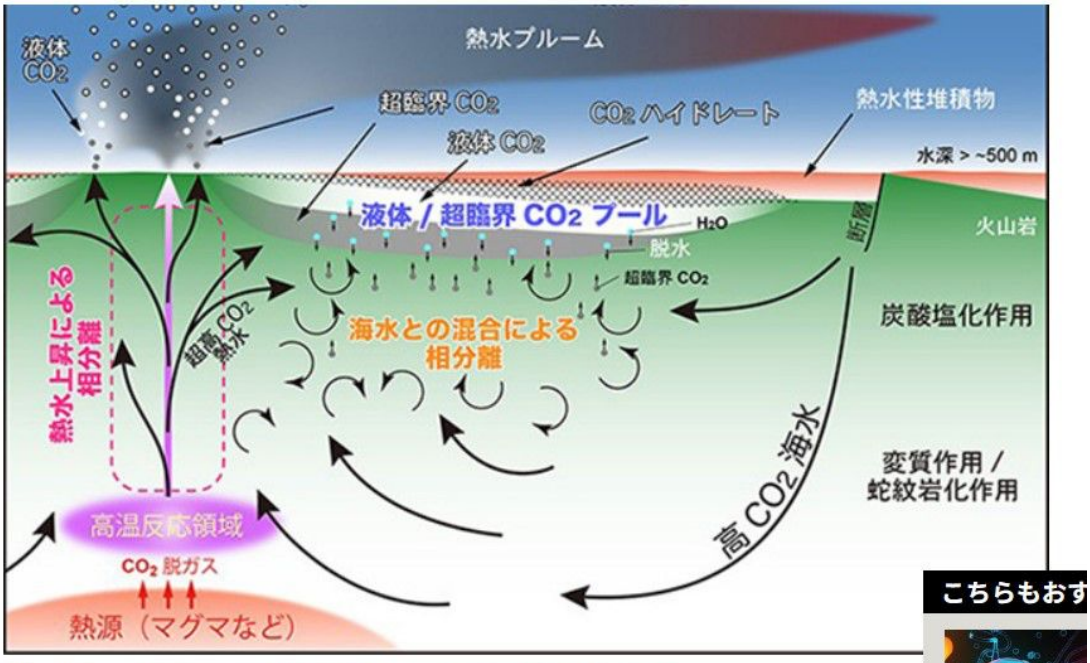


図6：液体/超臨界CO_2仮説（出典：Shibuya and Takai, 2022, PEPSを改変）

https://www.jamstec.go.jp/j/pr/topics/explore-20230626/

https://www.jamstec.go.jp/j/pr/topics/explore-20230626-2/

- Having a membrane
- Carrying out energy metabolism
- Leaving clones and offspring

Genetic materials such as DNA are unstable in water and break down rapidly, but they are stable in supercritical CO2. These properties are also very convenient for a place where life could have emerged.

*The Earth is 4.6 billion years old, and the ocean was born 4.4 billion years ago. It seems that life finally emerged in the ocean around 3.8 billion years ago.

❻*Inside the Cabbage White Butterfly's Pupa.*
https://www2.nhk.or.jp/school/watch/clip/?das_id=D0005301640_00000
Cabbage white butterfly larvae have a completely different appearance and shape from the adult. How do they turn into adults? When the larva grows big, it attaches itself to a cabbage leaf, sheds its skin and becomes a pupa. After this, let's use special equipment to observe what happens inside the pupa and the changes it goes through before it becomes an adult. Day 1. The pupa is constantly moving its body. The inside of the pupa is mush and it is apparently difficult to distinguish between the head, thorax and abdomen.Five days after becoming a pupa. The head, thorax, and abdomen are still not distinguishable. On the 12th day, it finally looks like it has been separated into a head, thorax, and abdomen. On the 13th day, the shape of the wings becomes visible even from the outside. Then, the adult insect breaks out of the pupa shell.

☞:The Serious Question.

①Any animal(plant)has a conscious to manage own action for surviving.When the hardware of caterpillar had turned to mush without organs(brain for conscious)??,then what(where) is their conscious doing ?

Consciousness can exist without a brain, ...

https://indeep.jp/is-your-brain-really-necessary/

A thorough examination of his head revealed an almost complete loss of brain tissue.,,,,The man led a normal life and had no problems seeing, feeling or perceiving things. .....UK Neurologist Professor John Lorber found that of the approximately 60 children with the most severe forms of hydrocephalus and brain atrophy, the half had IQs above 100 and led normal lives.

http://www.777true.net/Scientific-Mechanism-of-Prophecy-by-Dipole-Chain.pdf

②When we look at life forms in many variety of different environments, they seem to adapt amazingly well that it is as if they are the result of their strong desire conscious to become like that in the future. For an example,a caterpillar crawling on leaves fears for being eaten by birds,so they desire to fly as birds. How can an uneducated spider make such an intricate spider web?.

③This is authors opinion without trustable evidence.Lives,but not mankind,they seem those who could communicate with the other world of almighty in order to well survive in various environment.While only mankind general had lost the great ability(the 3rd eye for communicating with the other world).Animals do not need religion to live together,while mankind needs it,because they general lost the 3rd eye to adapt well with their colleague and environment.However it could not be told that religion now works well.

APPENDIX1:Evolution by Cooperation in collective SR elements.

Both Self-help and Collective cooperation seem to work Miracles.

[１] : The Primitive Principle for Creating Single Cell.

①Electron Cloud the 1st Principle<*bio motor*~quantum vacuum prepares future form>.

⑴**local level :**Initial state determines realizing local future forms at once.

⑵**middle levels:**Initial state determines realizing semi local future forms at once.

⑶**global level:**Initial state determines realizing final future form at once.

②The Hierarchy Structure of{Ⅰ→Ⅱ→Ⅲ}by SA and SR.

Ⅰ：molecular general
Ⅱ：bio super molecular=proteins, carbohydrates, lipids, nucleic acids.
SR parts by SA. Ⅲ：**Organellel**→Cell **{Cell Membran=***bio motor***.;;Nucleus**<DNA>;;Cytoplasm: gel-like substance.**Organellel}.** **Organellel=**Specialized structures within the cytoplasm, each with specific functions, **mitochondria** (energy production), **ribosomes** (protein synthesis), **endoplasmic reticulum** (protein and lipid synthesis), **Golgi apparatus** (processing and packaging) proteins), and **lysosomes** (waste disposal).

***Can we create cells?*<proof on the central dogma>**

https://www.toho-u.ac.jp/sci/bio/column/0826.html

Experiments are being carried out by placing gene sequences and materials necessary for **protein synthesis** into the artificial cell with a "bag-like structure." When materials such as RNA polymerase required for transcription, enzymes required for translation, ribosomes, amino acids and tRNA were placed in, it was confirmed that proteins could be produced in the artificial cells, just as in real cells. A "bag-like structure" was created in which a membrane protein was incorporated into the membrane, which allows small molecules to be moved in and out of the membrane without destroying the membrane structure. By continuing to supply an energy source from outside the cell, protein synthesis continued for four days.

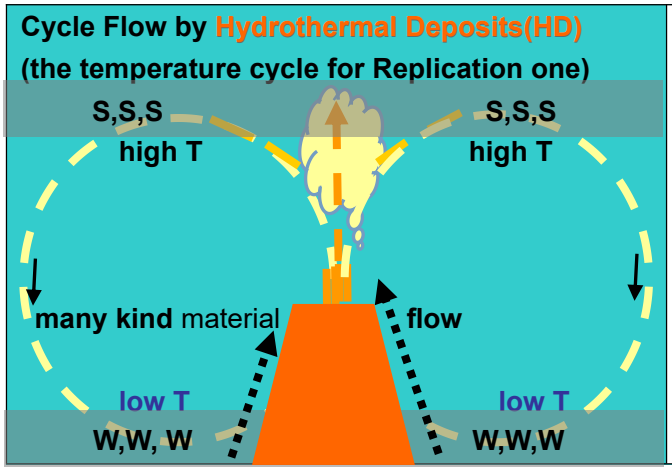
The central dogma is the universal process in living organisms in which proteins are produced from mRNA based on information in DNA.

[２] :Accomplishing SR Stability by Cooperation of Collective SR elements.

Both Self-help and Collective cooperation seem to work Miracles.

A cell is cooperative actions of SR elements the organelles with each task in the cell cycle.
A cell is collective of winner SR elements the organelles in the evolution history.

⑴In the beginning were collective of many various short life SR elements synthesized by SA in extremely lucky environments with rich material and with good thermal and fluidal condition<<**Hydrothermal Deposits(HD)**>>.
⑵Let consider their relation degree of affinity to accomplishing their SR as co-living.
If it was lower,they tend to be defeated
If it was higher,they tend to survive.
⑶As the long time consequence,stabilized complete,and very complicated single cell was created.



⑴ higher temperature acts dissociation,lower one acts bonding.
⑵S is single self replicating material. at higher temperature zone
⑶W is double self replicating material. at lower temperature zone by bonding S+S.
⑷Hydrothermal deposits makes circling flow with SRs as left fig.
⑸HDs had generated many kind of SRs in sea floor ware house.

☞ **❺An Actual Field where self assembling parts are making on**.
https://www.jamstec.go.jp/j/pr/topics/explore-20230626/
https://www.jamstec.go.jp/j/pr/topics/explore-20230626-2/

⑹**Beginning of Cooperation toward Final Winning.**
In the rich sea floor SRs ware house,primitive W DNA happened to encounter **SR enzymes** of dissociation at 1st, and then bonding one,which had made **HD of no use**.