

66th Midwest JUNTO for the History of Science

Episodes of Scientific Revolutions: Past, Present and Future

Lucian M. Ionescu, Illinois State University

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Role of History: Why look back?

- Thomas Kuhn says “History, if viewed as a repository for more than anecdote or chronology ...” - isn’t this “narrow”, non-optimistic start!? [1]
- Roles of History, e.g. of Math (b/c I [teach it](#)): provides context, Structures The World of Math (virtual travel), context, meaning, [fireplace](#) stories etc. (long list); priorities for discoveries? not essential for some of us ;) [but ask Newton!]
- History becomes a “*Study of The Evolution of Social Species*” (various kinds; “a la Darwin”); e.g. how Science Evolved, Laws of Its Evolution (e.g. Thomas Kuhn) and for *Future Projections!*

Ponder on the Past, “Interpolate” and ... “*See The Future*” NOW!

- *Apply the Scientific Method to study Science itself and its Evolution: **observe, model & predict.***
- Framework defined by Thomas Kuhn: Structure of Scientific Revolutions
 - Normal Science:
 - Priority of Paradigms:
 - Crisis & Response:
 - Revolutions: Invisibility, Resolution and Progress

From Thomas Kuhn's work: The Framework

- T.K. identified **primary concepts** and **evolutionary processes** for understanding and modeling the *Dynamics and Progress of Sciences*: current paradigm, accumulation, crises, revolution, new paradigm, consolidation ... *(to be documented in an article)*.
- **Two Guiding Analogies**: A) *Scientific groups & Political groups* (Science dynamics & Politics); B) Scientific Theories & Evolution of Species (Darwin's Theory)!!

Some Highlights ... “definitions & conjectures”

Role of History: *Source of Laws of Scientific Evolution!*

- 1) **Normal Science**: “Research firmly based upon one or more past scientific achievements, that some *scientific community* acknowledges *for a time* as supplying the foundation for its practice.” [TK].
- 2) **Paradigms**: *Achievements with certain characteristics*.
- 3) Anomalies, Crises, **Revolution** & Assertion of new Paradigm.
- 4) Role of **Scientific Communities**: “mop-up”, resistance etc.
etc. - see Thomas Kuhn’s book!

Excerpts from the PAST ...

Science is young: Galilei etc. 500 y.old?

1) Steam Revolution

2) Electric Revolution

3) **Quantum Revolution** (1920-30s)

4) **Computer Revolution** (Classical: 1940-1960)

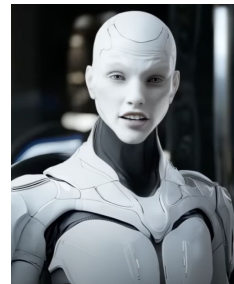
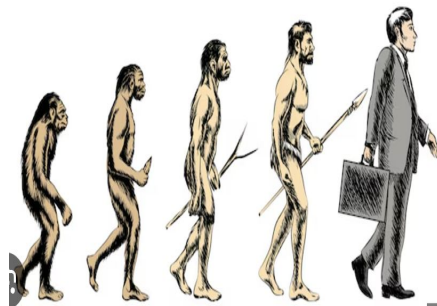
5) **Quantum Computing** (1970): merger of (3) & (4)

N.B. *The Quantum Reality IS Quantum Computing*

Present: I) The Dawn of AI

- So, Past & Present:

Neanderthal ... Homo sapiens ...



- Future: **AI-Hybrids**!?! (think of Us & our precious iPhone ... then scale it x1000 in just 10 years ;)

Many levels of AI & GPUs ... as examples, consider:

New Student Generation to teach IT(!): Physicists build & teach **Literate AI**; Mathematicians challenged **Math AI** vs. von Neumann: ChatGPT Rocked, DeepSeak & Gemini shocked :)

- The Academia for Students (to have fun) will have an integrated parallel version of “Academia for AI”!

AI: New Developments (2025)

- The new GPT menace: [China's Manus](#) **multi-processor AI-AGENT**, a network of AIs, specialized, working as a TEAM!
- This **AI-Agent** can do alot of what a newly highered BS graduate can do at a Company ... (see [YT](#)).
- Did we just played
“God creating men!!?”
... as above so below ... ?!



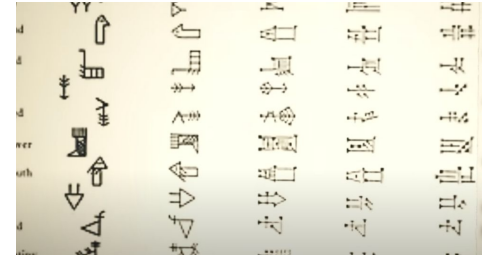
II) The Quantum Brain is “present” ...

- The [Ghost in the Machine](#) ...

- ... and Google had to [shut down Willow Q-chip](#).

- The story: it output “self-generated” data, pictures similar cu Egyptian & cuneiform symbols:

Specialists checked & double checked ...
there were no “errors”.



Could have been “remote access” from outside sources!?
Are these “messages”? Is it functioning as an antenna?

III) The **Cosmic Era**: the **PRESENT**

- **Past revolutions**: Standard Models, in Cosmology & Elementary Particle Physics ... both in crises and stagnation! [3]
- **Present**: Breakthrough in understanding Gravity (EPP viewpoint, finally! it is a polarization of nuclear spin of quarks ... thingy :)
... and how to control it [4]
- **Future**: colonizing Solar System & 3D-Transportation on Earth, at “car level” ...

Are YOU Ready!?

Learn about

Gravity Control

and the new *Theory*
and Transportation
Paradigm! [5]



... then get ready! (cause here [it](#) comes!)

- Educate yourself & disseminate (what mass media did not tell you!): **Gravity Control** with present technology (NMR [2]; [new materials](#)).
- T.K.: a new revolution requires establishing a new scientific group of supporters (Politics: party, candidate and elections!); be active part of the [Gravity Project](#)! see also [L.M.I@ISU](#).

History Dynamics

Politician's Prediction Tool

The Science of Prediction:

History Based Futurology

- History has matured enough to become a **tool for predicting** *how Sciences, Societies, Technology, Evolve*:
“Past behavior is a predictor of future behavior” and
“History repeats itself”.
- There are modern tools to study “*History Dynamics*”:
 - A) Analogy: History of Sciences \Leftrightarrow Politics of Societies
 - B) Analogy: History of Theories \Leftrightarrow Evolution of Species.
 - C) Large DATA processing tools: AI-GPT & AI-Agents.

... and **THREE Scientific Revolutions** ... *NOW!*

A) Quantum Computing & **Quantum Brain** (“Wifi”)

B) **AI-Agents** & AI-Cyborgs



C) Cosmic Travel by **Gravity Control** ...



... hmmm ... SciFi or SciFu?



But we love History (& our Picture Albums), a bonfire and smores



... “they” (AI-Agents ) can't have that ;)

Thank you!

(don't mind the messenger :)

Bibliography

- [1] Thomas Kuhn, [The Structure of Scientific Revolutions](#), Int. Encyclopedia of Unified Science, Vol. 2., 1962.
- [2] L. M. Ionescu, [Alzofone-Ionescu Theory of Gravity](#), 2021.
- [3] Quanta magazine, [The Physicist Working to Build Science-Literate AI](#).
... and various YouTube presentations: see inline links.