

21st Century Physics: From Imagination to Discovery

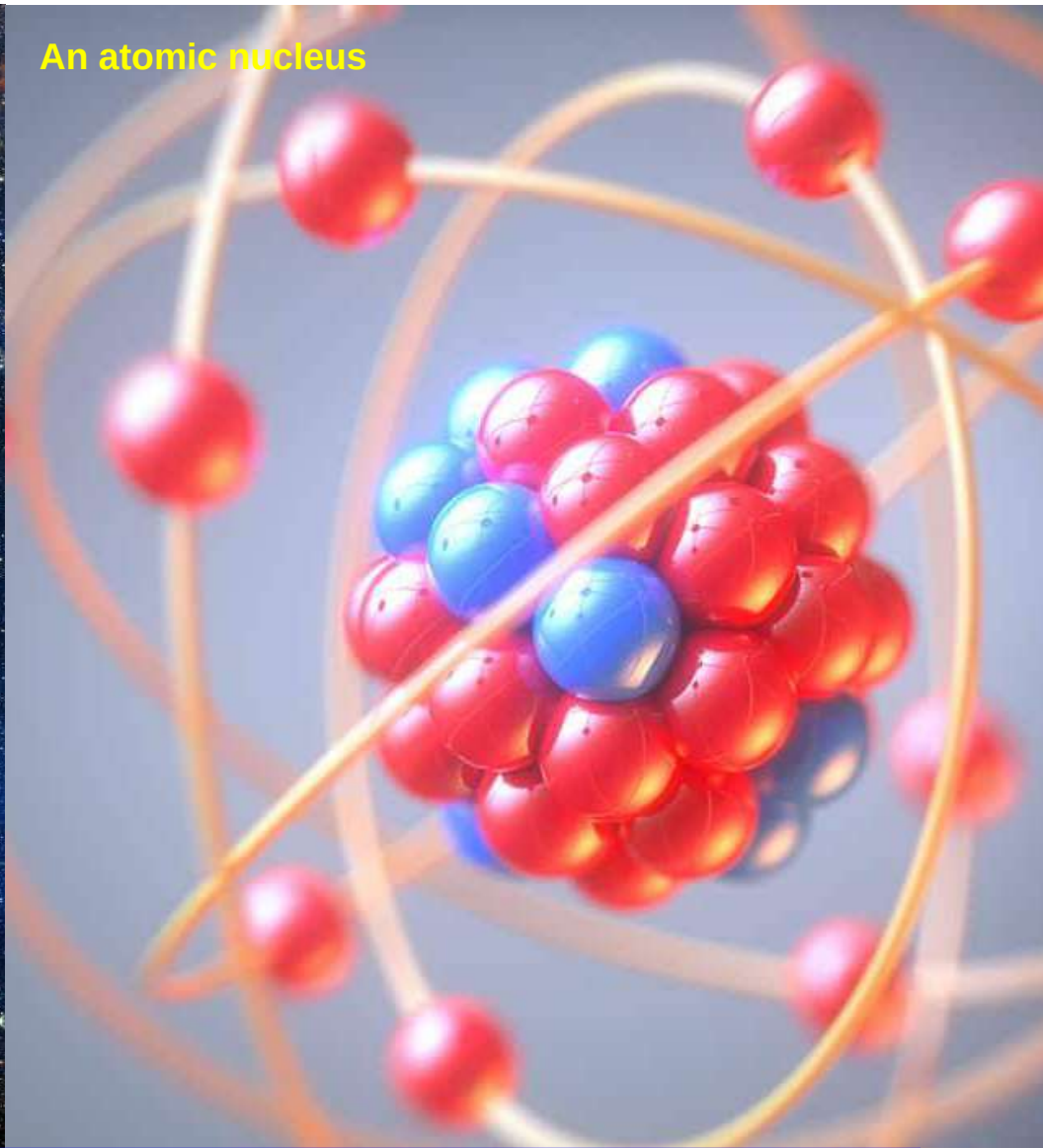
What is your role in future discoveries ...

The Pillars of Creation
James Webb Space Telescope

Eagle Nebula, 6,500 light-years away.



An atomic nucleus



The most incomprehensible thing about the Universe is that it is comprehensible. *Albert Einstein*

The world: Pre-Columbus ... lots to discover enabled by new tools & ideas



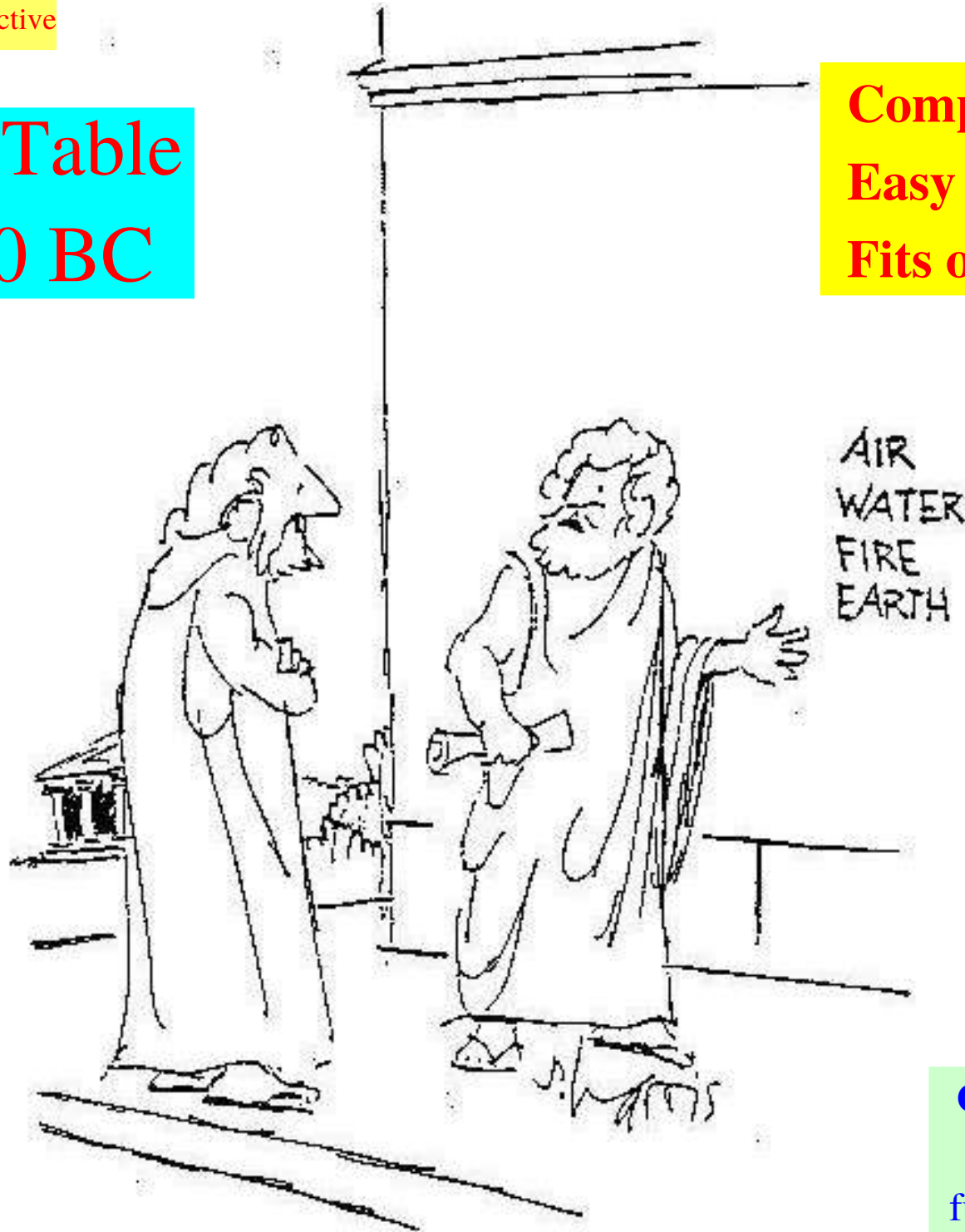
Vinland Map: a 20th century forgery

... important to publish!

... a bit of historical perspective

Periodic Table Circa 400 BC

Compact
Easy to remember
Fits on a T-Shirt

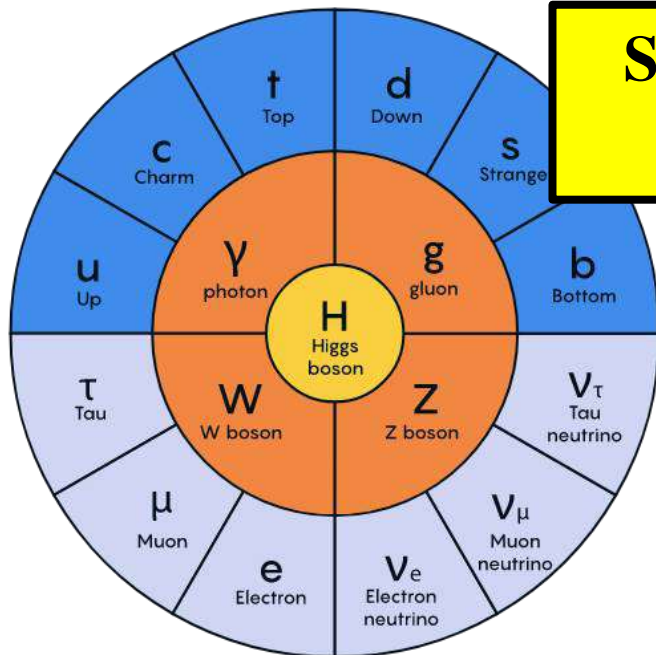


Sidney Harris

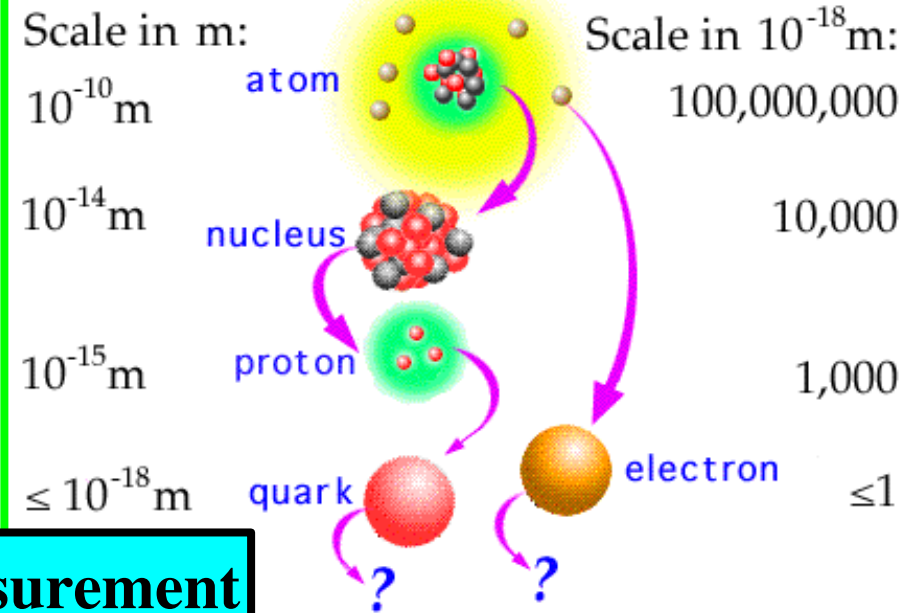
"The periodic table."

Olness Conjecture:
A theory cannot be
fundamental unless it
fits on a t-shirt

lots to discover enabled by new tools & ideas

[illegible]

Standard Model



Measurement Breadth

There is STILL much left to discover ...

despite the naysayers

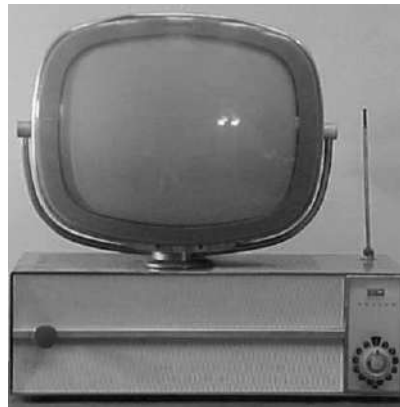
“An eminent physicist remarked that the future truths of physical science are to be looked for in the sixth place of decimals.” (1896) *Albert A. Michelson*

Relativity (1905)
and
Quantum Mechanics (1900)
were just around the corner

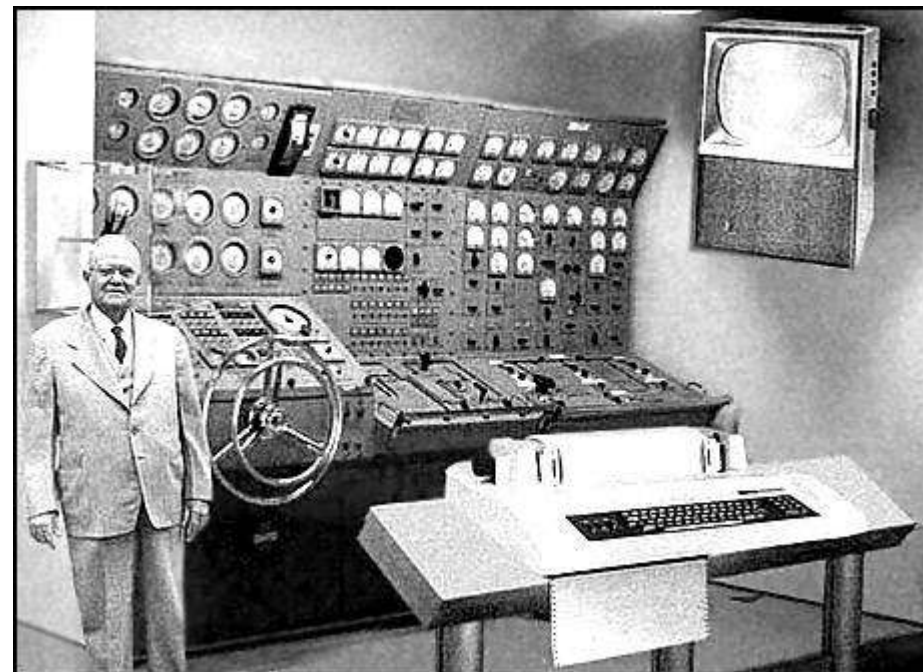
Things can change a bit over the years



Mobile Phone Circa 1950's



Vintage TV



A (hoaxed) photo portraying a 1950's computer

What is your role in 21st Century Discoveries ...



WE WANT YOU!

We need:

- 1) fresh ideas
- 2) new tools

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CUT OUT AND SEND

Hidden Pictures

Valentine Bears

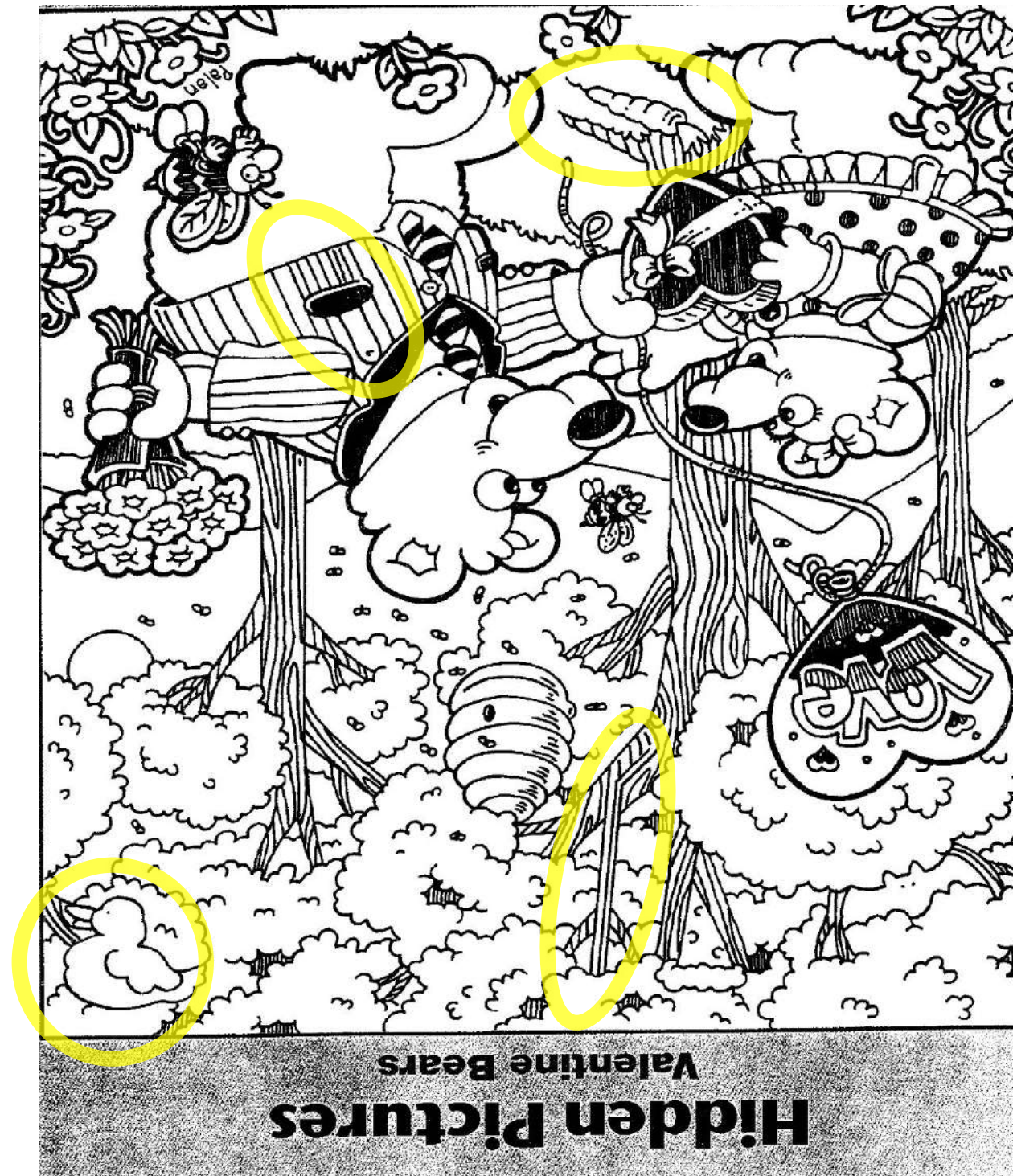


You can bring a fresh
perspective to
challenging problems

Can you find the
things that don't
“belong” in the
picture

What is your role in 21st Century Discoveries ... NEW IDEAS !!!

You can bring a fresh perspective to challenging problems

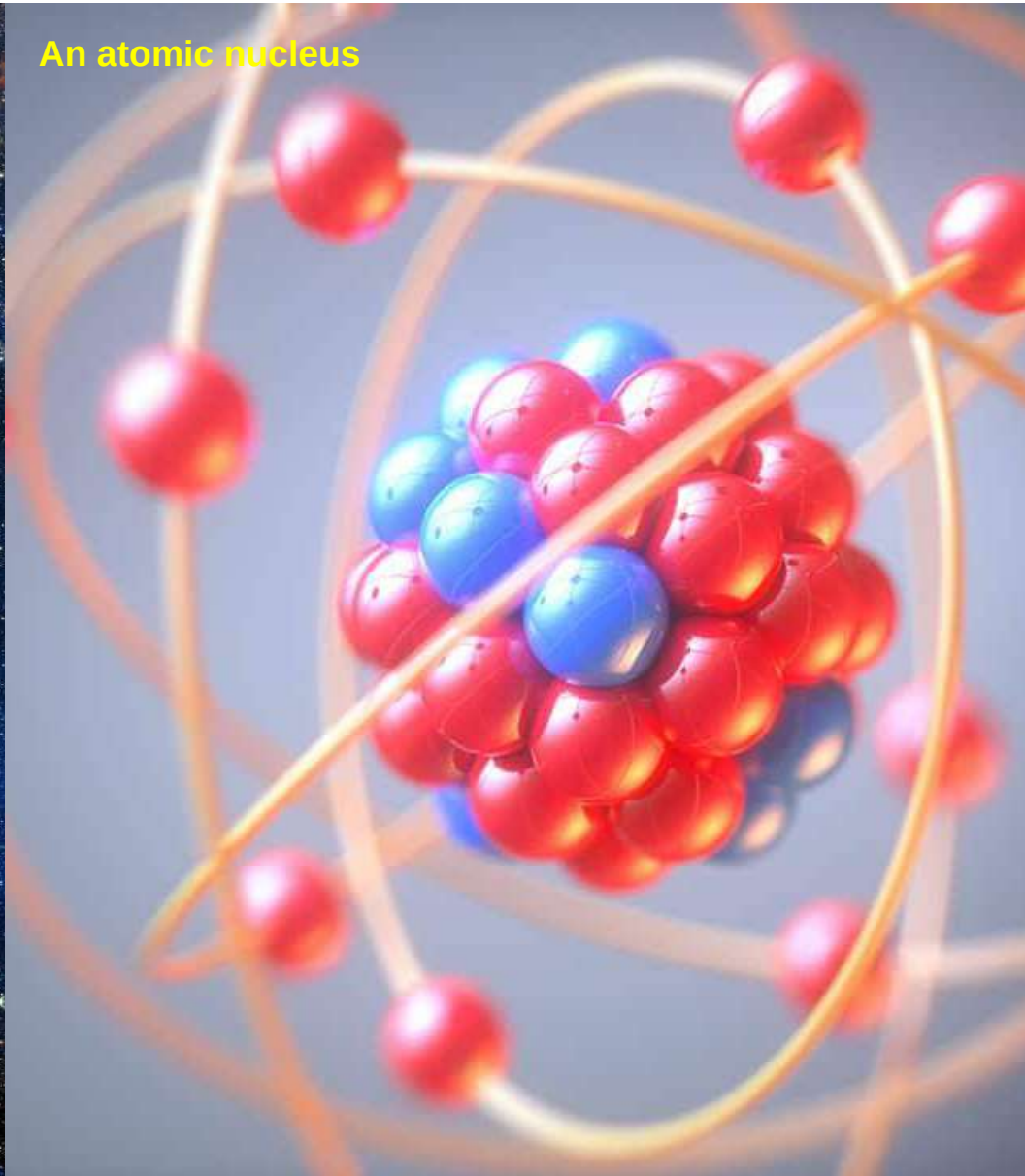


What is your role in 21st Century Discoveries ... NEW TOOLS !!!

The James Webb Space Telescope



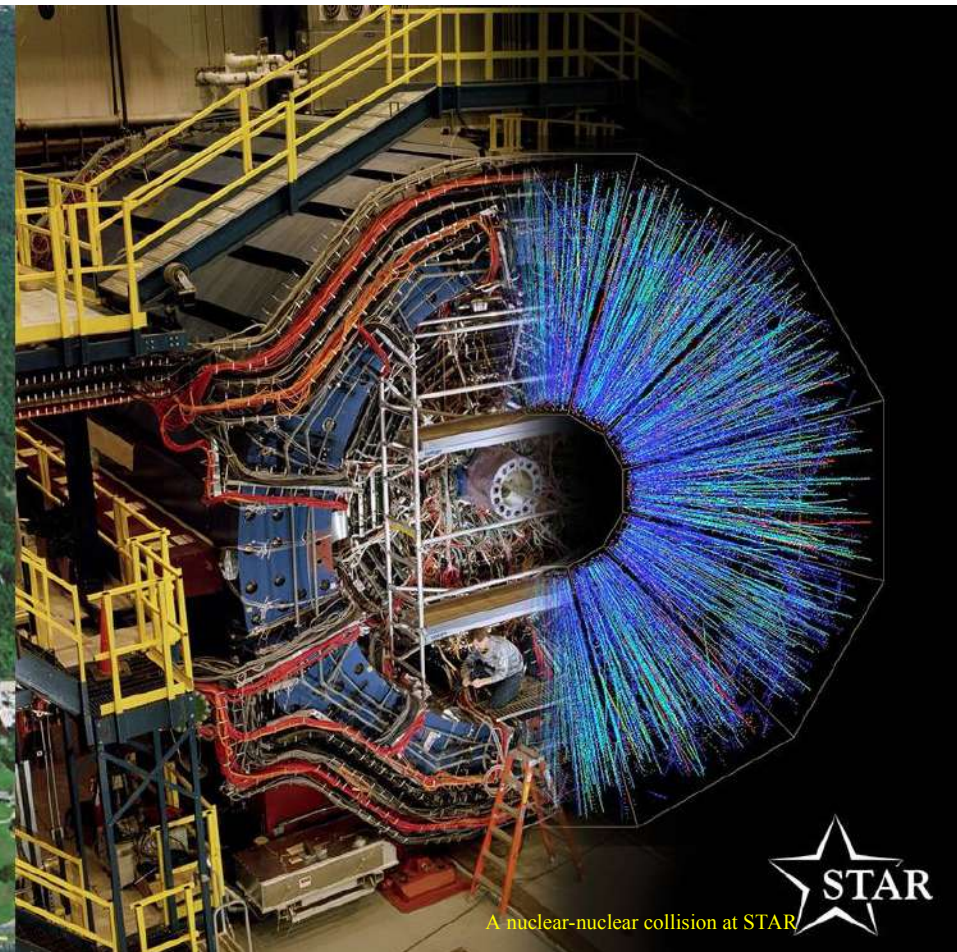
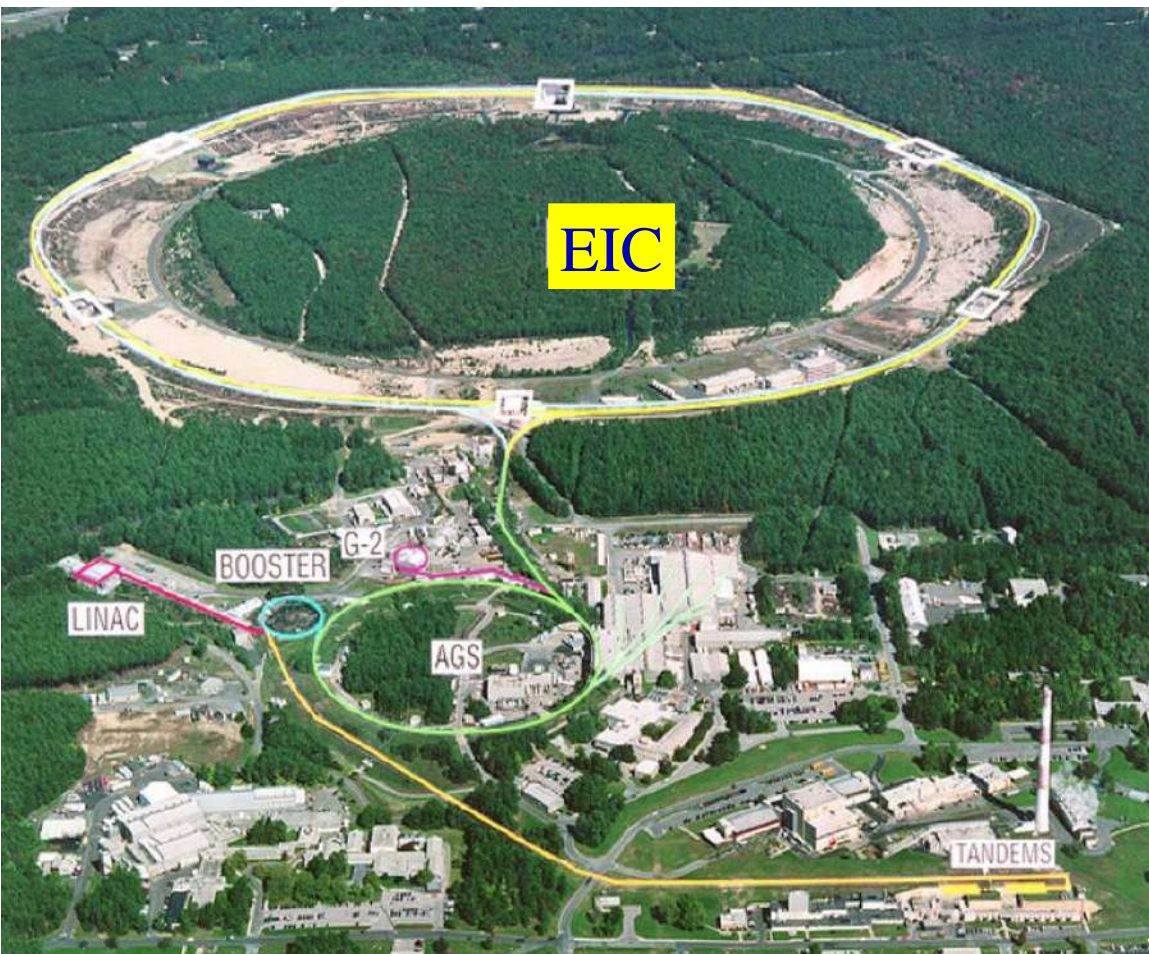
The Large Hadron Collider (LHC) CERN Laboratory, Geneva, Switzerland



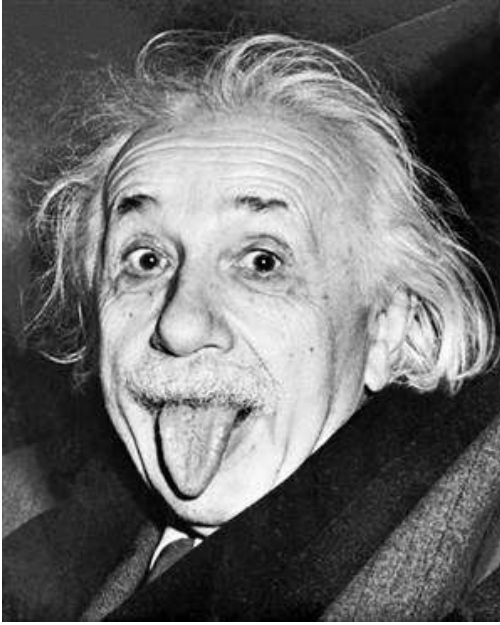
What is your role in 21st Century Discoveries ... NEW TOOLS !!!

The **Electron-Ion Collider (EIC)** is being built on Long Island, New York

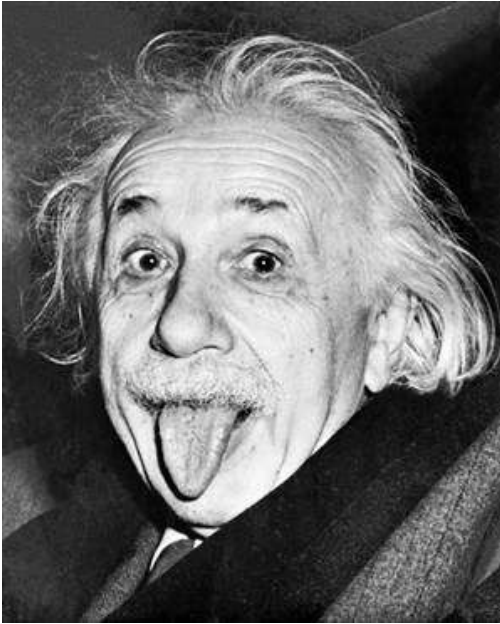
This will collide beams of electrons and nuclei to explore the innermost nuclear interactions



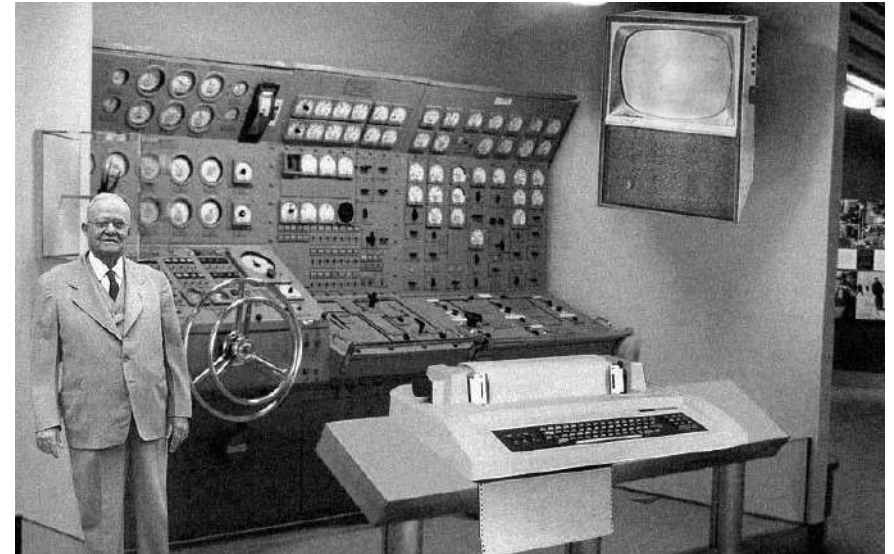
science & math courses



science & math courses



experience with computers



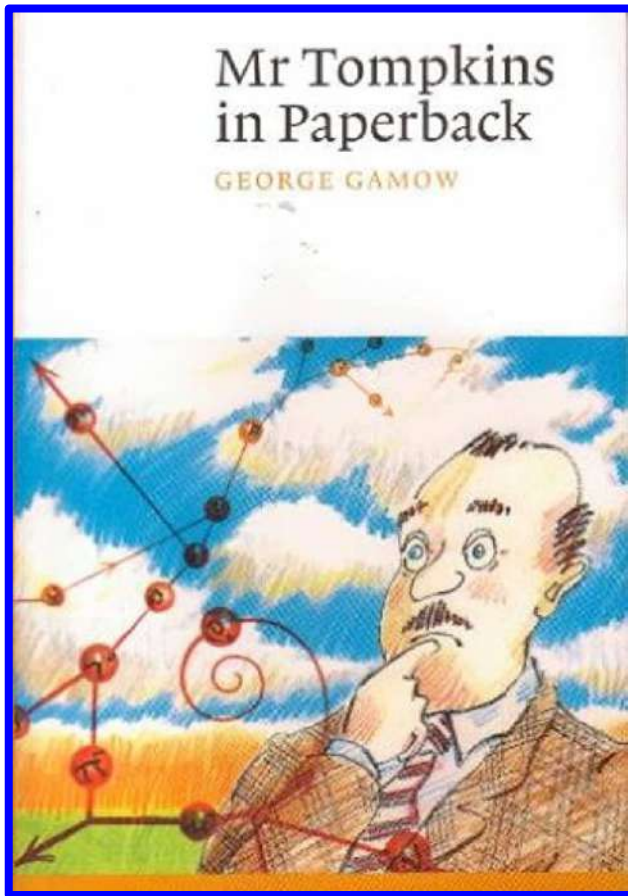
speaking some
foreign languages



have basic knowledge of
world history and cultures



drive a stick-shift



<https://www.arvindguptatoys.com/arvindgupta/tompkins.pdf>

www.PhysicsBuff.com

Mr. Tompkins

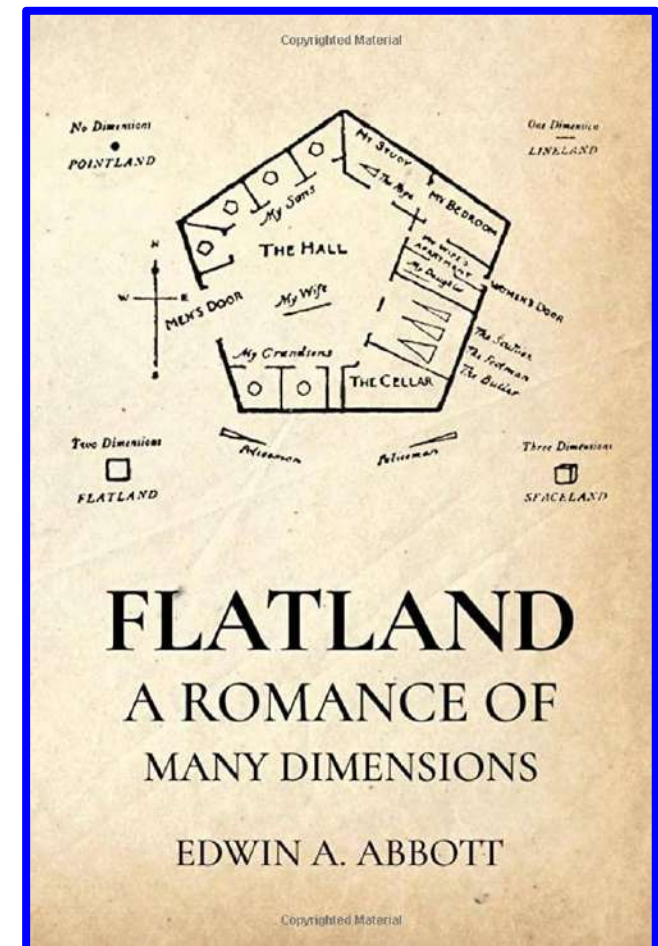
George Gamow

- Special Relativity
- General Relativity
- Quantum Mechanics
- Cosmology

Flatland

Edwin Abbot

Practice thinking in
multidimensional
hyperspace



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CONCLUSIONS

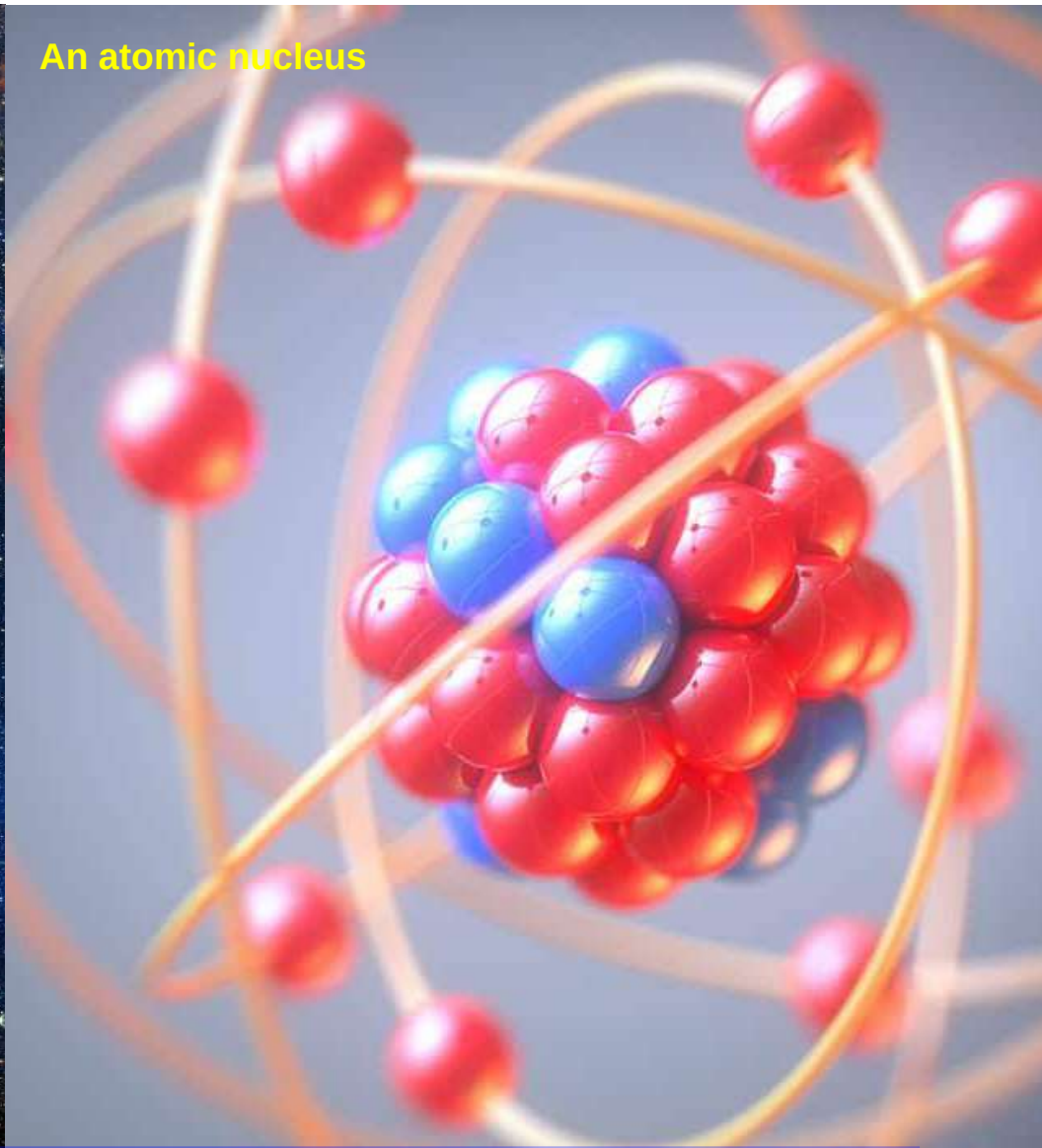
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