

Relativity and the Corruption of Natural Philosophy

Why We Have No Physical Cosmology
How to Start Creating One

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Argument

- Relativity and Quantum Theory restrict physics to modeling the subject's experience—his sensations and measurements.
- Relativity denies the ether because it is not evident to the senses.
- The physicality of space is evident to the *mind* (philosophy).
- Relativity and Quantum Theory must be replaced by Ether Theory.
- This revolution in physics will reinvigorate natural philosophy.

The Prime Elements

- Relativity
 - **Mass-Energy** and **Space-Time**
 - Both are just measurements, made by the observer, in his frame
 - No theory of what exists or causes the observer to measure what he does
- Quantum Theory
 - **12 particles**: various quarks and leptons and their antiparticles, 4 of them “carry” forces
 - Atomism: particles flying through a void
- **Incompatible**, no basis for a working theory

Two Metaphysical Programs: Consciousness or Cosmos

- **idealism**

Consciousness exists. All that we know with certainty is that **we are conscious**. The existence of anything apart from our ideas is unknowable.

- **Cosmism**

The Cosmos exists. We and our consciousness are products of its evolution. Our sensations and measurements **result** from the **physical** interaction of our senses and instruments with the rest of the Cosmos.

Two Epistemologies

- **subjectivism**

Knowledge consists only of our descriptions and models of our conscious **experiences**. (a.k.a. phenomenism, positivism, empiricism)

- **objectivism**

Knowledge consists of our attempts to describe, model, and explain **the Cosmos itself**, as it exists and evolves and causes our experiences.

Subjectivistic Modeling

- Regularities are noted among the observed events and measurements in the subject's coordinate system (CS). The observer then constructs a system of assumptions about what he measures and, using this system, finds the “laws” and equations that **fit his observations and successfully predict future observations**. The result is a model of the entities and events in the observer's experiential “world” or CS.

Subjectivistic models cannot serve as a **basis for causal theories of Cosmic phenomena.**

Objectivistic Modeling

- Regularities are noted among events and measurements as these are related to Cosmic entities and CS(s). The observer finds the “laws” and equations that describe motion in the **Cosmic** CS(s) and that predict future observations. The result is a **model of the Cosmos**.

Only objectivistic models can serve as a basis for causal theories of Cosmic phenomena.

Objectivism, Theory, and Natural Philosophy

- **Theory:** The formation of hypotheses that posit unseen or undetected entities and processes in order to explain Cosmic phenomena.
- **Natural philosophy (Cosmic, scientific):** The creation and criticism of theories to explain all phenomena, the practical applications of these theories, and the mental tools and techniques required for these tasks.

No objectivism, no natural philosophy

Objectivistic Physics

- Copernicus **removed** the Earth observer from physics—modeled motion in the **Sun's frame**, without which no further progress was possible.
- Newton posited “**absolute space**” but declined to theorize further about the nature of this space or the causes of inertia and gravity: “*Hypotheses non fingo*”
- Maxwell modeled an **electromagnetic ether**
- Lorentz modeled the effects of **motion in the ether** on our rods and clocks.

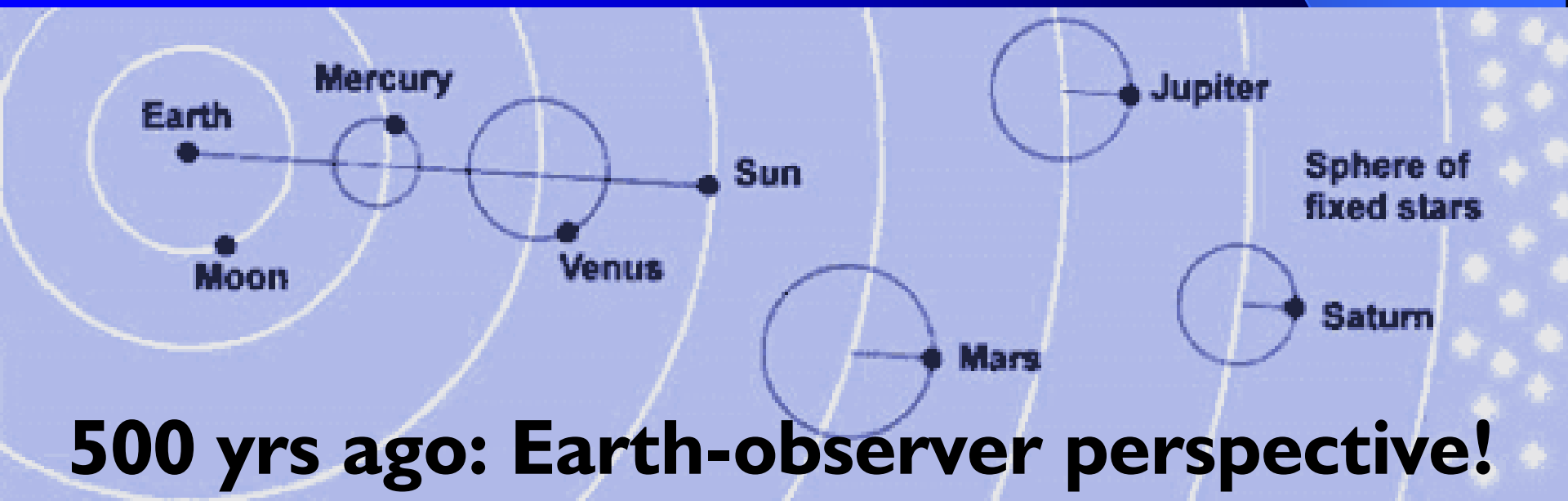
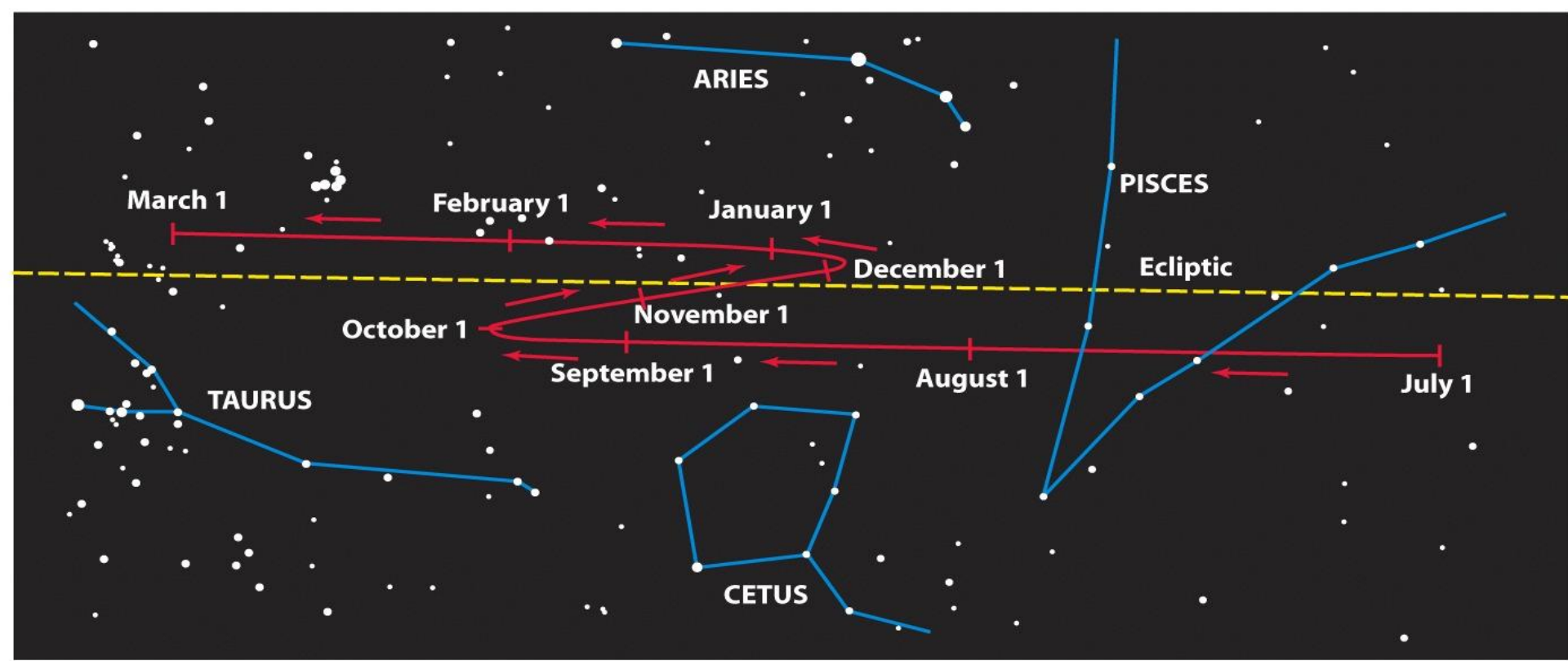
Axioms of Special Relativity

- **Restricted Principle of Relativity:** “All laws of nature are the same in every uniformly moving coordinate system.” (including the CS of *every human observer*) I.e. Everything is **Relative**, not Cosmic or “absolute”
- **Invariant c:** The *velocity* of light, c , is a *law of physics* for *every* CS.
- **Lorentz transformations:** relate measurements made in co-moving frames

No mention of the Cosmos, matter, or causes!

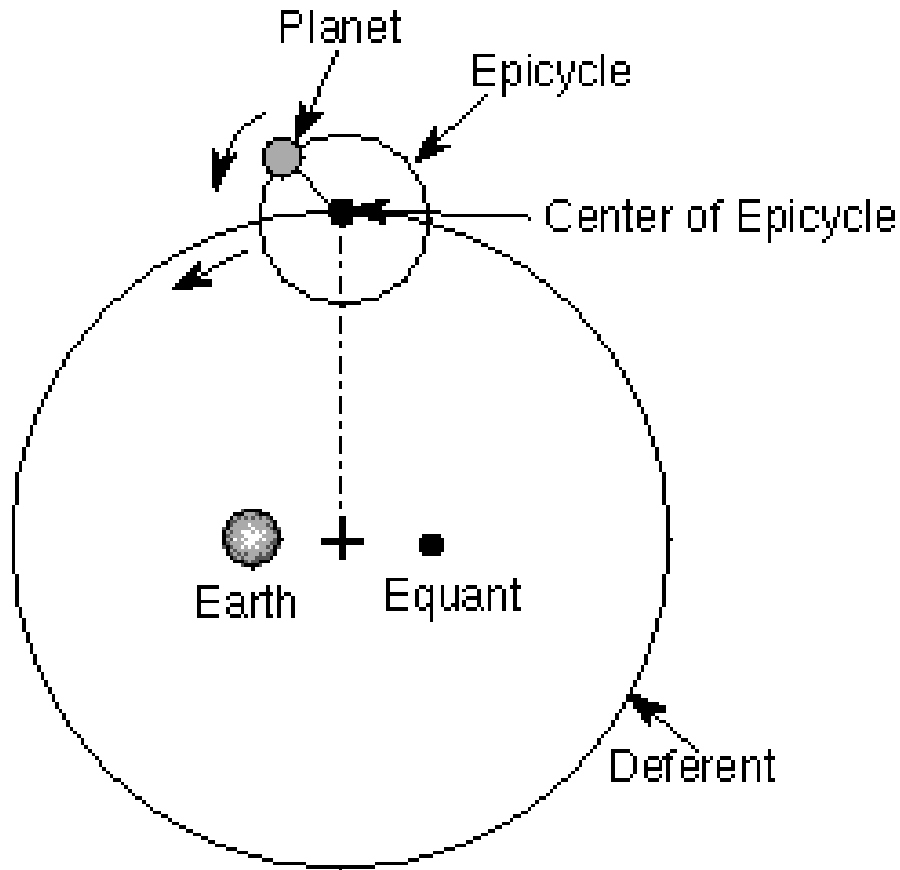
Generalized Relativity

- **General Principle of Relativity:** “All CSs (observers) are **equivalent** for the formulation of the laws of nature whatever may be their state of motion”.
- Einstein “**relativized**” gravity and acceleration—describe them as nothing but transformations between co-moving frames.
 - Mass **causes** gravity, not once choice of frames.
 - What “laws of nature” describe the motion of our solar system in the frame of a spinning observer?

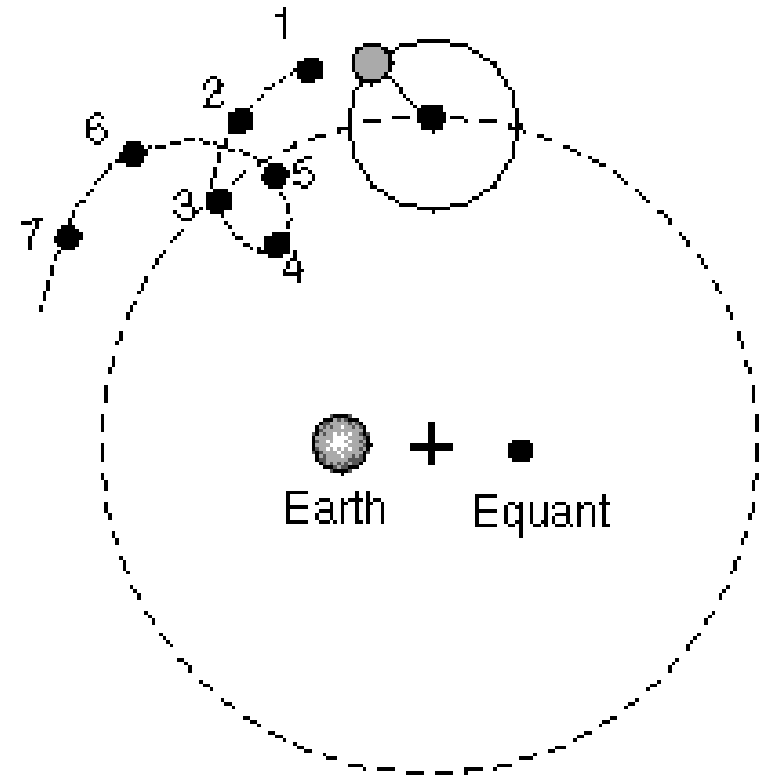


500 yrs ago: Earth-observer perspective!

The Math Worked!



Center of epicycle moves counter-clockwise on deferent and epicycle moves counterclockwise. Epicycle speed is uniform with respect to equant. The combined motion is shown at right.



Deferent motion is in direction of point 1 to 7 but planet's epicycle carries it on cycloid path (points 1 through 7) so that from points 3 through 5 the planet moves backward (retrograde).

Einstein Attempted to Reverse the Copernican Revolution!

“(there is) no such thing as an independently existing trajectory, but only a trajectory relative to a particular body of reference.”

Relativity 1916

“Can we formulate the physical laws so that they are valid for all CS..including those moving quite arbitrarily relative to each other?”...The struggle... between the views of Ptolemy and Copernicus would then be quite meaningless”.

The Evolution of Physics 1938

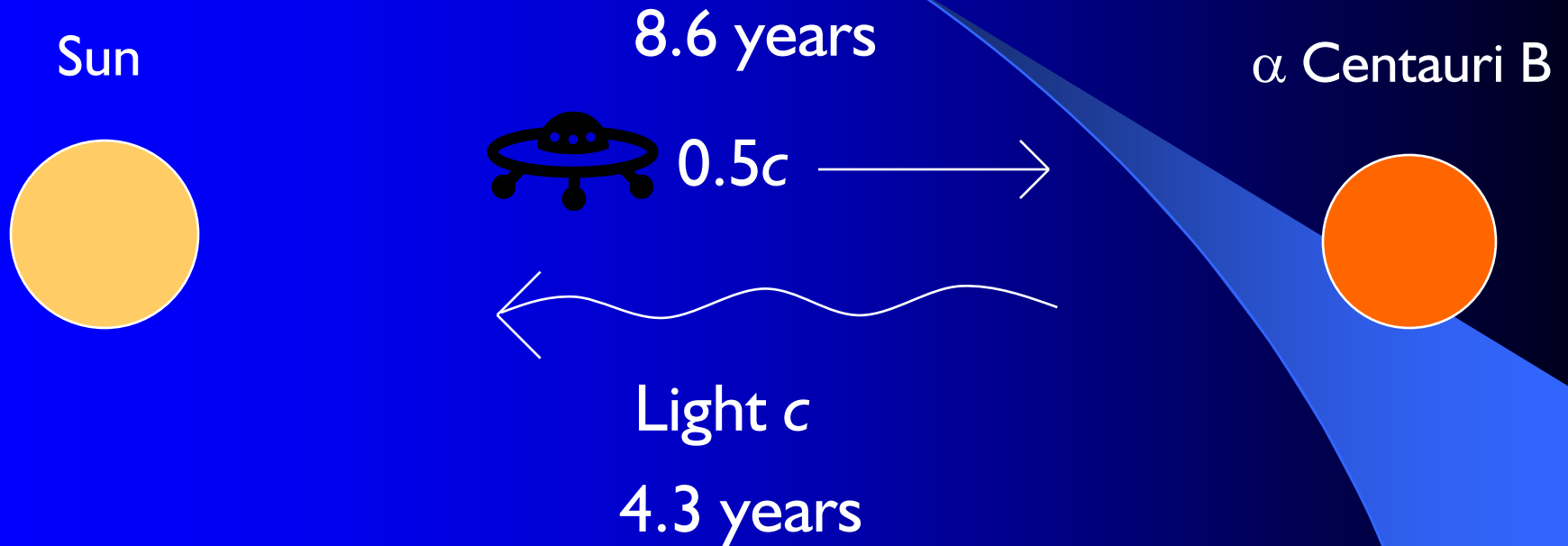
What's Missing in Relativity

- **The Cosmos** in which the observer is moving and which causes his experiences.
- The local/distant Cosmic frame (s) in which light **actually** moves at c .
- **Hypotheses** concerning the **nature** of space, matter and light—no foundation for any theory of matter.
- **Hypotheses** *about the causes* of time dilation, length contraction, gravity, c as limiting velocity, mass increase with velocity, etc.

Relativity consists only of measurements.

In Relativity, everything happens by **Magic!**

Example: Cosmic vs. Relativistic Motion



What's the relative velocity of the spaceship and the light in this Cosmos?

What light velocity does the spaceship measure?

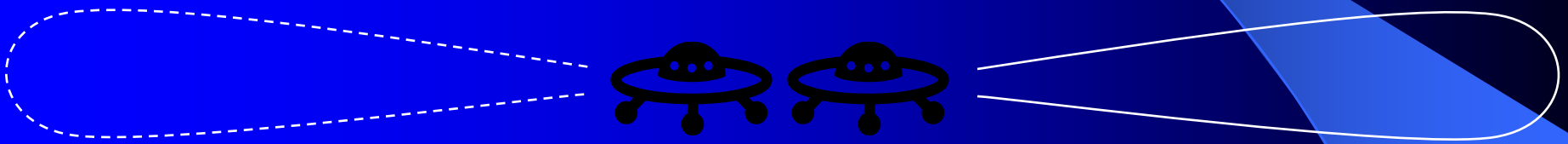
Paradox = Contradiction with Reality

- Relativity claims that all motion is merely relative, BUT this claim is contradicted by:
 - **Light Paradox: Absolute c**: Same light moves at c in every frame (Apparently? Really?).
 - **Twin Paradox**: Mutually-observed clock slowing never observed.
 - **Rotation Paradox**: Rotation is **not relative**, it is always “absolute”, accelerationally and luminally (Sagnac Effect).
 - **Aberration Paradox**: Aberration is **not caused by relative motion**, but only by the observer’s motion.

Stark experiment, Binary star data.

Twin Symmetry

Twin Paradox arises because Relativity claims that all motion is merely relative to *any arbitrary* frame of reference.

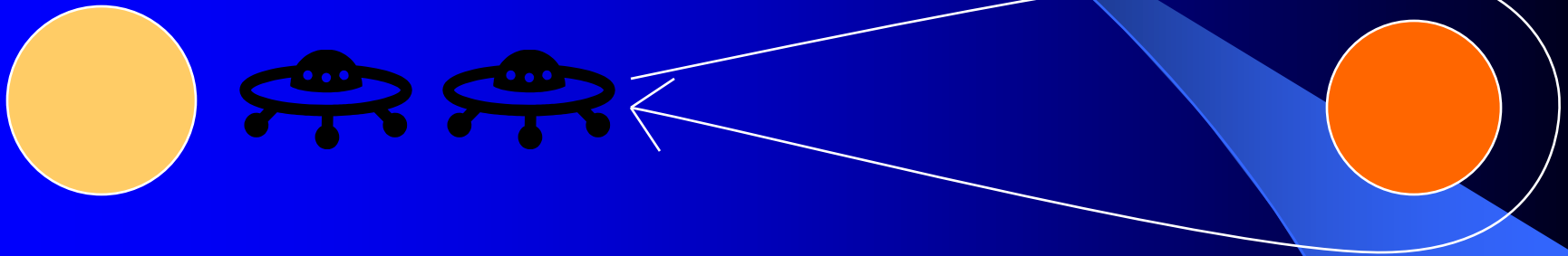


Any two frames in relative motion have identical trajectories in each other's CSs—in Relativity each twin can consider himself stationary and the other moving!

A third frame is always required to break the symmetry!

(The Cosmos, gravitational field—some ethereal frame)

Resolution of Twin Paradox



In Reality, it is *always* the twin who moves **relative to the nearby celestial bodies** (Cosmic distribution of matter) that is the younger one!

Motion is **NEVER** merely relative—it is always Cosmic.
Motion in Cosmic space has physical effects, therefore
space is physical!

General Relativity is not Relativity

- The distribution of matter, NOT choice of frames, CAUSES gravity, bending of light, etc.
- GR describes the motion of matter and of light in the frame of nearby stars and planets.

“the fact that “empty space” in its physical relation is neither homogeneous nor isotropic, compelling us to describe its state by ten functions (the gravitational potentials, g_{uv}), has, I think, finally disposed of the view that space is physically empty...Recapitulating, we may say that according to the general theory of relativity, space is endowed with physical qualities; in this sense, therefore, there exists an ether.”

Ether and The Theory of Relativity 1920

Why did Relativity Arise?

- Copernicus removed the Earth observer from center of Cosmos, contradicted scripture.
- Newton assumed a single ethereal frame, explained motion without God.
- Natural philosophy threatened to replace God with Cosmic cause-effect (this before Darwin!)
- Spirit/Matter Dualism unstable: Which is primary? Which controls which? How do they interact?
- Descartes: “I think therefore I am.”
- Locke: We can only know the contents of consciousness, not the hidden causes of things.

Berkeley's Idealism Rescues Religion/Spiritualism

- Since we know only our own conscious experiences and have no *direct* knowledge of any material Cosmos, we must not assume that it exists.

Berkeley, *Principles of Human Knowledge* (1710) body, para. 18.

- Our experiences are a **virtual reality simulation** fed to our spirits from God's Spirit.
- The laws of optics and of motion are rules that govern the **Matrix**.
- Berkeley attacked Newton's *Mechanics* as 'atheistic materialism' because it posited something eternal and unchanging apart from God.

Bishop Berkeley: Father of Relativity

- *We must treat motion not as absolute, Cosmic, or real but as merely relative to ourselves and to any other objects in our sensoria, and treat time as the mere succession of events in our consciousness.*

Principles of Human Knowledge (1710) para. 112., para. 98.

(paraphrased)

Hume's Non-Religious Skepticism

- Denied that we could know any Cosmic causes, saying that our belief that an effect will follow from a cause is merely a “custom” we have acquired through repetitive experience. He denied that we could ever know the cause of such a “custom” as gravity.

An Enquiry Concerning Human Understanding (1748)

Ernst Mach's Positivism

- Admitted the influence of Berkeley and Hume
- “***The world consists only of our sensations***”
Ernst Mach, *Analysis of Sensations* p. 12.
- Mach refused to believe in **atoms** (*circa* 1900) because they were not evident to our senses.
- Believed that Newton's theory of absolute space and motion was “devoid of content”, since we have knowledge only of ***relative*** spaces and motions.”
He called those who shared his view “**relativists**”.

Ernst Mach, *The Science of Mechanics* pp. 283, 293.

Einstein's Subjectivism

- Read Berkeley, influenced by Hume, Mach
- *“The only justification for our concepts and system of concepts is that they serve to represent the complex of experiences; beyond this they have no legitimacy.”*

Albert Einstein, *The Meaning of Relativity*, 1922, p. 2.

- The *“real external world”* is the sum total of all experienced events about which subjects agree.

Albert Einstein, *Ideas and Opinions*, 1954, p. 363

Quantum Mechanics

- Also created by Einstein using subjectivistic epistemology—1905 paper on photoelectric effect
- “Quantum mechanics, however, regards the **interactions of object and observer as the ultimate reality**...It rejects as meaningless and useless the notion that behind the **universe of our perception** there lies a hidden objective world ruled by causality; instead, it confines itself to the description of the relations among perceptions.”

Robert Eisberg and Robert Resnik, *Quantum Physics* (John Wiley & Sons, Inc., New York, 1974) p. 88.

Space-Time is Subjectivistic

- The interval $ds^2 = c^2 dt^2 - (dx^2 + dy^2 + dz^2)$ adds a “timelike” imaginary 4th axis to Descartes’ 3 spatial axes
- $c^2 dt^2$ —the square of the distance light travels at c in the observer’s time
- It is composed of the one thing that observers agree upon when c is absolute for each—the intervals that they measure between observed “events”.

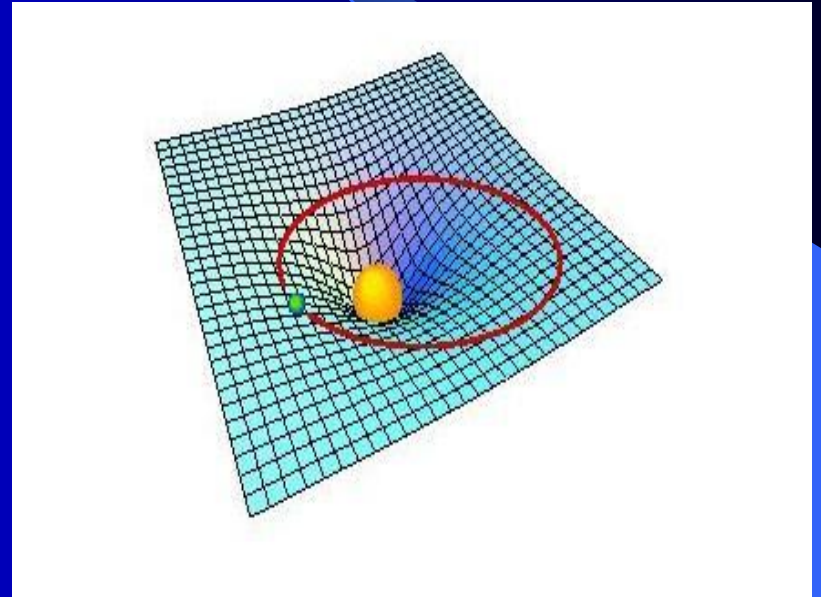
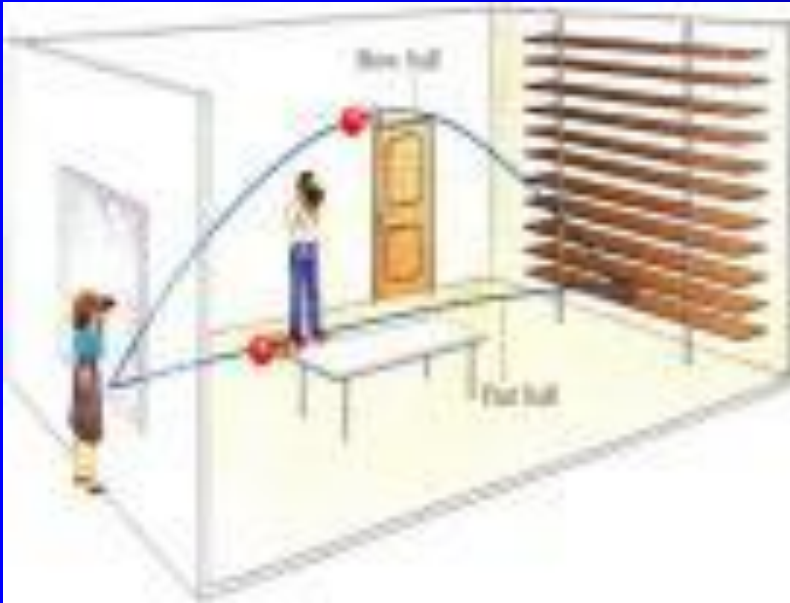
The Space-Time Matrix

- The “Cosmos” represented, reconstructed, as a set of space-time measurements made by observers—from inside-out!
- All past, present, and future is a 4-dimensional solid composed of the observers’ rod-and-clock measurements of “events”!
- *“The chronotropic interval has no physical meaning or significance.”*

Einstein quoted by T. Levi-Civita, *Nuovo Cimento*, **13**, 45 (1936).

Space-Time Misunderstood

“The space-time curvature around the Earth acts on fast or slow balls in exactly the same way. **It tells these balls how to move.**”



No. Space-time is the observer’s 4-dimensional **description** of the motion of objects in a gravitational field. Space-time does not **cause** anything!

The Confusion

- Physicists and academic “philosophers” do not grasp the subjectivistic nature of Relativity or Quantum Theory.
- Relativists are not actually Relativists! Quantum Theorists are not subjectivists!
- They **falsely** believe that they can use Relativity and QM to describe and understand the nature of Cosmic reality and causes of Cosmic phenomena!
- ***These models were not designed for that purpose! The foundation is WRONG.***
- Result: **ENDLESS CONFUSION**

The Source of the Confusion

- Einstein admitted that in the field of epistemology he had been an “unscrupulous opportunist”, resorting to realism, idealism, positivism, and Platonism as the situation seemed to require.

Albert Einstein: Philosopher-Scientist, p. 684.

- The Relativity program attempts to abolish ether and physical theory
- After GR, Einstein admitted that ***the facts require the existence of ether***
- Einstein forbade theorizing about the ether.
- He failed to resolve the contradiction between his subjectivistic program and the ether.

Einstein forbids Ether theory

“But this ether may not be thought of as endowed with the quality characteristic of ponderable media, as consisting of parts which may be tracked through time. The idea of motion may not be applied to it.”

Ether and The Theory of Relativity

How does he know?

Note to self: “Let’s **Try** to apply the idea of motion to it.”

The Ether Taboo

- Is religious in origin, sustained by academic rigidity
- Etherism vigorously suppressed in academia
- Etherists unable to obtain advanced degrees, or retain employment in theoretical physics.
- The truth usually lies where one is forbidden to look!
- Senior physicists speak about ether and physical theory only after they become famous or retire—and usually don't use the word “ether”!

The Origin of the Taboo

Ether vs. Judeo-Christian God

<u>Quality</u>	<u>Ether</u>	<u>God</u>
● Omnipresent	✓	✓
● Origin of all things	✓	✓
● Sustains all things	✓	✓
● Cares about individual humans	X	✓
● Authoritarian/Controlling	X	✓
● Infinite duration	✓	✓
● Infinite extension	?	?
● Human-like Personality	X	✓
● Personal Immortality	X	✓

Ether Disproved?

- “Relativists” defend an ideology that they do not understand.
- Relativity’s apologists use “straw man” fallacy.
- They choose a weak ether model/theory and show that it’s inconsistent with some experiment.
- They conclude that there is NO ether.

Non-sequitur

A Non-Ethereal Space is a Void

A **void** has **no physical qualities**. In a **void** there could be:

1. **No** resistance to acceleration of matter
2. **No** unique light velocity indepen. of source vel.
3. **No** limiting velocity for matter
4. **No** redshift of moving atomic spectra
5. **No** resolution of the twin/clock paradox—need third frame to break the symmetry
6. **No** physical cause of anything!
7. **Atomism**—particles flying through a void does not work!

In a **void**, everything must occur by **MAGIC!**

The Crux: Ether

- Nothing can be explained without positing ethereal frames and mechanisms.
- Ethereal space removes the observer from the center of physics, **again**.
- Ethereal space provides a **physical basis** for a theory of particles, light, inertia, gravity, etc.
- Acknowledging ether requires the abandoning the Berkeley-Einstein program.

Physicists Use Ether Surrogates

- Cosmic frames (inertial, Earth, Sun-Star, etc.)
- Space-time, “space” without “-time”, curved space, “foamy” space-time, quantum “foam”
- Additional “curled up” dimensions
- Higgs Field—to give particles inertia in QM
- Strings, Membranes
- Dark Matter
- Parallel universes

Physicists posit unseen entities and processes, unaware that their models were designed to eliminate all unseen causal entities from Science!!

How to Think Ethereally

- A new, mostly unknown substance
- Not matter as we know it
- Space IS ether
- We must ascribe to ether-space whatever physical qualities are needed to fit and explain the facts.
- Beware of analogies with known substances and processes
- Strange qualities OK. Contradictions are out.

Where to Start

- Replace Special Relativity with Lorentz Ether Theory
- Replace General Relativity with Flowing Space
- Replace Quantum Theory's probability waves with ether waves.

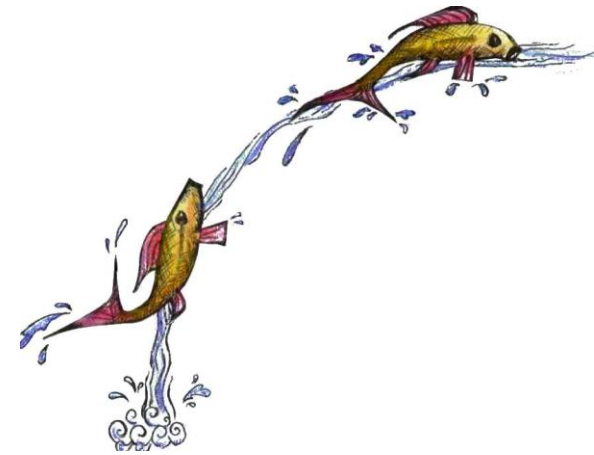
Flowing Space

- Inertial and electromagnetic ether-space flows into or out of all matter with
- $a = GM / r^2$ (Newtonian acceleration) and
- $v = \sqrt{2GM / r}$ (Newtonian escape velocity)
- Yields both the Newtonian and the “relativistic” effects of gravity
- Unified theory of “time dilation”
- Unifies Newtonian, Lorentzian, and Einsteinian physics

Flowing Space Reproduces GR's Successes—More Simply

- Herbert Ives, *J. Opt. Soc. Am.*, **29**, 183 (1939).
- Herbert Ives, *J. Opt. Soc. Am.*, **38**, 413 (1947).
- Robert Kirkwood, *Phys. Rev.*, **92**, 1557 (1953).
- Robert Kirkwood, *Phys. Rev.*, **95**, 1051 (1954).
- Tom Martin, *General Relativity and Spatial Flows: I. Absolute Relativistic Dynamics*, <http://xxx.lanl.gov/abs/gr-qc/0006029>.
- Tom Martin, *On the Motion of Free Material Test Particles in Arbitrary Spatial Flows*, <http://xxx.lanl.gov/abs/gr-qc/9807006>.

arXiv:gr-qc/0411060 v1 12 Nov 2004



The river model of black holes

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This paper presents a new way to conceptualize stationary black holes, which we call the river model. The river model is mathematically sound, yet simple enough that the basic picture can be understood by non-experts. In the river model, space itself flows like a river through a flat background, while objects move through the river according to the rules of special relativity. In a spherical black hole, the river of space falls into the black hole at the Newtonian escape velocity, hitting the speed of light at the horizon. Inside the horizon, the river flows inward faster than light, carrying everything with it. We show that the river model works also for rotating (Kerr-Newman)

Mainstream physicists have not applied the model to weak gravity situations where it works equally well.

Reconstruction of Theoretical Physics

- **Metaphysics:** Cosmism over Idealism
- **Epistemology:** Objectivism and Causal Theory over Subjectivistic modeling
- **Method:** Physical hypotheses before measurement assumptions and math treatments
- **Macrocosm:** Ether Theory over Relativity
- **Microcosm:** Etherism over Atomism

Relativistic “Science” has Corrupted Natural Philosophy

- All sciences try to mimic Einstein’s subjectivistic physics—stick to mathematical modeling, avoid causal hypotheses, avoid theories.
- “Science” fails to challenge reigning ideologies and authorities
- Church, governments, oligarchy favor Relativistic Science, united against philosophy
- Reform in theoretical physics → Rebirth of natural philosophy

Philosophy over Science

- The creation, criticism, and testing of theories about what exists and causes our experiences.
- The disciplined use of all the tools of human cognition: logic, mathematics, and theory
- Identifies contradictions among our ideas, eliminates them by creating better concepts and theories
- Reaches beyond our conscious experiences and theorizes about what exists and what causes all phenomena.

We need a Second Copernican Revolution

- We must remove the observer from the center of physics—again!
- We must relate motion and laws of physics to the matter and space of the Cosmos—not to any observer or arbitrary CS
- We must formulate a physical theory of space, matter and motion
- The restoration of physics will bring a restoration of natural philosophy—the only hope for a peaceful, prosperous future on this planet.