

Summary: Mathematical Atomism (Unified Revolution: New Fundamental Physics) compared to Mainframe Physics. By Espen Gaarder Haug

Most of the book is about the first table, logic, mathematical derivations, and comparison with experiments.

INDIVISIBLE RELATIVITY (IR) COMPARED TO SPECIAL RELATIVITY	Indivisible Relativity Measurements without synchronization error	Indivisible Relativity Measurements with Einstein synchronization (or slow clock transportation)	Einstein's Special relativity
Round-trip speed of light	Isotropic Very well tested	Only one clock is needed, so same as to left.	Isotropic
One-way speed of light	Anisotropic. Has been confirmed in several experiments, but ignored.	Isotropic Confirmed, but is an apparent speed that contains sync error.	Isotropic Confirmed, but is an apparent speed that contains sync error.
One-way speed of light independent on speed of source if measured relative to observer frame	Yes Given by IR velocity addition formula	Yes Same as SR velocity addition formula	Yes Follow well known SR velocity addition formula
One-way speed any object	True speed	Apparent speed and aware of it Contains sync error	Apparent speed and not aware of it Contains sync error
Round-trip time dilation	Isotropic, not reciprocal. Round-trip time dilation (the twin paradox) is a simple 3-frame problem consistent with SR, different interpretation IR.	No synchronization over distance is needed for round-trip so same as to left.	Isotropic, not reciprocal Defenders of SR use GR to explain twin paradox, result correct, unnecessarily complex solutions. (Logic?)
One-way time dilation	Anisotropic, not reciprocal (Possibly been indirectly detected according to some papers)	Isotropic and reciprocal Contains sync error	Isotropic and reciprocal Contains sync error
Synchronization error in clocks	No	Yes and aware of it.	Yes, but SR not aware of it
Length contraction	Not reciprocal	Reciprocal Contains sync error	Reciprocal Contains sync error
Maximum length contraction	Yes		No (length goes towards zero)

Simultaneity	Absolute	Relativity of Simultaneity	Relativity of Simultaneity
		Contains sync error	Contains sync error
Hierarchy of frames	Yes	No	No
Consistent with Sagnac and generalized Sagnac	Yes, simple logical explanation both from lab frame and rotating frame.	Yes, simple logical explanation both from lab frame and rotating frame.	Claims Yes. Logical explanation seems diffuse, in particular from rotating frame itself Sagnac himself claimed not consistent SR.
Hafele and Keating experiment: (See chapter 16 my book)	Yes and simple logical explanation why westward clocks was speeding up and eastwards clocked slowdown	No synchronization over distance is needed, same as in column to left.	Claims Yes, but unnecessarily complex solution to why westward clocks speed up and eastward slows down.
Relativistic Doppler shift	Same as SR, but consistent with anisotropic one ways speed of light, fits experiments		Same as mathematical atomism, but assume isotropic one-way speed of light, fits experiments.
Finding light speed from observed frequency and "wave" length.	Yes gives speed c, but this is only an apparent light speed		Yes gives speed c. This is only an apparent light speed. SR not aware of this.
Relativistic mass	Same formula as SR, but mass turns into energy before reaching speed c (typically at speeds very close to c)		Mass becomes infinite as one approaches speed of light, needs infinite energy to accelerate to c
Conservation of energy	Yes and very good logical theoretical explanation.		Yes, diffuse theoretical explanation, not very deep.
Explanation of what energy and mass truly is	Simple and logical explanation		Diffuse at best: "It is important to realize that physics today we have no knowledge of what energy is" Feynman
Mass energy relationship	$E=Mc^2$	$E=Mc^2$	$E=Mc^2$
Mathematical framework	Yes extensive mathematical framework given.	Yes extensive mathematical framework given.	Yes extensive mathematical framework given.

	All math has simple logical explanation.	All math has simple logical explanation.	Leads to several paradoxes with diffuse explanation.
Academic political correctness	No	No	Yes

COSMOLOGY	Atomism	Main frame theory
Age of universe	Infinite	Big Bang: 13 to 14 billion years old
Size of universe	Infinite	Empty space infinite, but all the mass and energy moves out from the Big Bang
Cosmological red-shift	Explained by tired light theory. Tired light theories should be re-considered, in particular based on new insight in relativity theory based on atomism.	Explained by Big Bang theory, and such things as space is expanding.
Dark matter	Very unlikely.	Yes necessary to make a flawed model fit observations.
Faster than speed of light galaxies	Not possible and not needed, high Z cosmological red-shift explained by "tired light"	Yes must assume many galaxies moves faster than speed of light, explained by introducing expanding space.
Expanding space	Space cannot expand.	Expanding space is needed to explain cosmological red-shift where one to early abandoned tired light explanation.
Observations of large numbers of quasars show no (additional) time dilation for high Z as one should expect based on Big Bang theory	Consistent with tired light and atomism.	Needs strange explanation like high Z quasars are expanding black holes, or even that time ticks at different rates due to space expansion.
High Z supernova observation time dilation seems to be based on very few observations compared to quasar studies.	Not inconsistent with atomism.	Used (abused) as ultimate evidence for Big Bang and accelerating space expansion despite quasar studies contradicting this.
Singularity where math and logic breaks down	No	Yes
Wormholes	Cannot exist	Can possibly exist
Black holes	Extremely high gravity can exist, but such "black-holes" will always radiate energy and are therefore not really black holes.	Extremely high gravity can exist, but such "black-holes" will likely radiate energy

Gravity	Gravity is explained by push gravity theory (push force and shielding), this leads indirectly to changes in space-time. The math is far from fully developed around atomist push gravity. Newton gravitation has already been derived from atomism as good first approximation.	Gravity is explained by bending of space-time. Has “fully” developed mathematical theory (GR) (Some magical gravitational waves are bending space-time?)
Quantization of gravity	Yes and consistent with push gravity	Unclear
One-way speed of gravity	Anisotropic if measured with clocks without Einstein synchronization error, isotropic and c if measured with Einstein synchronized clocks.	Isotropic and c Contains sync error
Mega large planets can over time become suns	Likely	No (unlikely)
Growing planets	Likely	No (unlikely)
Exploding suns	Yes, but different explanation than main frame	Yes
Other intelligent life-forms in universe	For sure	High probability, but not for sure
Origin of life and intelligence	Memory: indivisible particles fulfill the requirement of memory blocks: they can receive, store and transfer information. In general consistent with Darwinism at chemical atom level and upwards.	Very good surface science (series of theories), but not directly linked to sub-atomic world. Darwinism Chemical origin of life

OTHER TOPICS	Atomism	Main frame physics
Fundamental sub-atomic particle	Is indivisible and has spatial dimension	Point-like without spatial dimension
Indivisible particle with spatial dimension	One of corner stones in the two postulates.	Would need infinite strong force to have indivisible particle with spatial dimension, so “cannot” exist.

Light (pure energy) is	Indivisible particles with spatial dimension traveling in same direction. Particle-void “duality” with logical explanation.	Mystical particle-wave duality.
Quantization of energy	Yes and simple theoretical explanation of why.	Yes
Mass is	Indivisible particles with spatial dimension moving back and forth counter-striking. Particle-void “duality” with logical explanation.	Mystical particle-wave duality, several fundamental particles with “mystical” forces.
Quantization of mass	Yes and simple theoretical explanation of why.	Yes (?)
de Broglie wavelength for matter	Yes get same equation but different interpretation, it is not really a wavelength	Yes
Maximum frequency of light	Yes	Yes and No (diffuse)
Kinetic energy	Same formula as mainframe physics.	Same formula as atomism.
Number of forces	One force (counter-striking ability), can explain gravity, conservation of energy, relationship between energy and matter etc. Must the force be with you! ☺	Series of different forces needed. Can explain most experiments, or is this adding of assumptions and mystical effects to explain things we truly do not understand from a simple perspective?

Bear in mind this is just a very short summary of the major differences (implications) given in my book: **Unified Revolution: New Fundamental Physics**. Comments/suggestions are welcome!

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