

**Part XVII**

**Compressible Flow Theory as a Unifier for  
Cosmology**

**and**



**New James Webb Space Telescope Data**

**(New Page Posted November, 2022)**

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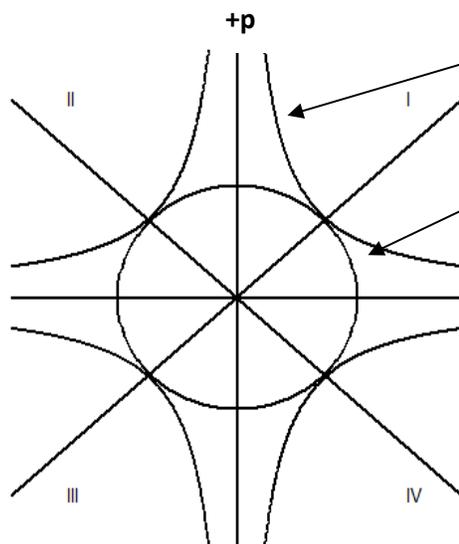
**Introduction**

This document was almost complete when the new data from the Webb space telescope JWST became available. This will now require brief comment. First we review our compressible flow approach to cosmology.

## Compressible Flow and Cosmology: A Review

In 1982 we first applied **compressible shockwave theory** to explain the physical nature of **the Big Bang** and the formation of the elementary particles of matter. The new approach, using the hyperbolic thermodynamic equation of state [ $pv = \text{constant} = RT$ ], successfully predicted the mass ratios of the elementary particles of the Standard Model to within 2%. [1,2,3,]

Subsequently, over some years, other thermodynamic equations of state were seen as providing deeper explanations for the major mysteries of the natures of dark matter and dark energy, quantum radiation, quantum wave particles, and the graviton. These respective state equations were: the hyperbolic ideal gas law ( $pv = \text{constant} = RT$ ) to fit visible compressed matter, the elliptical equation for the dark rarefied matter, the centered linear equation for the dark rarefied energy, the transverse, uncentered linear state for E/M radiation, and the circular equation for the gravitation. Thus, the major mysteries of the predominant entities of the cosmos (visible matter as compressed entity 4.9%), (dark matter as rarefied entity 27%) and (dark energy as rarefied entity 69%) were seen and depicted as a unified physical cosmological cosmos. [9,10, 11,12,13].



### Assigned Cosmological Elements

1. **Hyperbolic**  $pv = RT$ ;  $pv^k = \text{const.}$  ( Ideal Gas Law)

**Ordinary visible matter.** ( 4.9 %) Compressions

Major/minor axes

2. **Elliptical**  $p^2/b^2 + v^2/a^2 = a^2 b^2$

**Dark Matter** (29%) Rarefaction

Not on diagram. Requires selection of major/minor axes

3. **Linear**  $p = \pm Av$

**Quantum Electrodynamics; E/M radiation**  
Transverse waves/Radiation

5. **Circular**  $p^2 + v^2 = r^2$

**Gravitational Field** Rarefaction waves

6. **Centered Linear**  $p = \neq \pm v$  Low amplitude waves

**Dark energy** ( 69 %)

Also, in the case of quantum physics, a single **compressible wave pulse** **'interaction' energy term (2cv)** [derived as pulse energy  $(c + v)^2 = c^2 + v^2 + 2cv$  ) **harmonises the derivation of a list of key quantum physics entities, namely:** Planck's constant h, De Broglie wave equation, LaGrange function L, Quantum wave function operators, Heisenberg Uncertainty Principle. . [Ref 1,2,3, ; 9,10,11,12,13] . In our scheme, the quantum wave function itself is seen as basically a wave pulse of velocity  $[c + v]$  ,and thus energy  $[c + v]^2$  ,which makes otherwise difficult quantum problems quite tractable. It also relates fundamentally to relativity, as do all compressible flows [Ref. 3 ] .

Remarkably also, several cases were found at frontiers of cosmological physics, where it was necessary, in order to salvage essential physics , that some non-numerical force, such as Spirit, must apparently be accepted. We plan to discuss this remarkable situation at length in Part XVIII: *Evidence, including potential scientific evidence, for the existence of Spirit at certain cosmological frontiers.*

We have mentioned the choice of the elliptical equation of state as forming the mysterious dark matter of the cosmos. Since this equation supports only rarefaction waves, **we have concluded that the dark matter's nature is a rarefied form, just as visible matter is a compressed form.**

## **The Recent Anomalous Observations from the James Webb Space Telescope ( JWST)**

The first JWST data are showing that its very early galaxies are larger, less complex and brighter than expected from the Big Bang predictions.

While some have reacted to the remarkable new data by using it to attack the Big Bang hypothesis, which has been so successful, that is not our approach or reaction. Instead. we see the Big Bang as being a super-strong **shockwave event** i.e. as a compressibility event in which visible matter formed but occurring after the formation of the Webb radiation galaxies

Tentatively then, our cosmological system is:

Its **first or Primal entity or Primal Event is the emergence of the dark energy** (69% of the cosmos). This dark energy is described by a simple, centered, linear equation of state [  $p = \pm v$  ].

It is accompanied by two other Primal states **(a) by a transverse, non-centered linear radiatiton state [  $p = \pm Av + b$  ] and (b) by a centered, circular state for gravitation [  $p^2 + v^2 = r^2$  ]**.

The waves and perturbations of these two other Primal states then react transversely with waves and perturbations of the Primal dark energy to produce **an E/M radiation- filled Primal Cosmos** . This primal E/M radiation era, we propose, is the source of the contentious Webb galaxies, not the Big Bang. Their different origins in time thus account for their physical differences from Big Bang galaxies, which emerged next.

2. **Our second cosmic Event** is the triggering of a **hyperbolic state** [  $p v = \text{const} = RT$  ] in which quasi- infinite, strong compression shocks can occur. A super strong compression shockwave therefore grew in this hyperbolic state to near infinite strength. **This shock is the super- strong Big Bang event** , leading to compression and then the formation of the elementary particles and the compressed visible matter of our own visible world (4.9% ) and generally as described by the hyperbolic state equation. Details which are described by the Big Bang according to the hyperbolic Ideal Gas Law will thus agree with our model. Others will not.

Immediately following the Big Bang type compression, there occurred **an inflationary re-expansion period** in which two events occurred: (1) the hyperbolic compressible cosmos expanded in the inflation forming the visible cosmos (4.9 %) and ( 2) the same post- Big Bang expansion was accompanied by the formation in the elliptical world [  $p^2/b^2 + v^2/a^2 = a^2/b^2$  ] of a weaker rarefaction shock. In this elliptical, rarefaction shock **the dark rarefied matter of the cosmos was formed ( 27%)** .

In conclusion, our compressible, cosmological scenario can apparently explain most or all of the JWST observations, namely its ‘early’, “clean” and ‘bright’ galaxies , and the early abundance of galaxies. The anomalously abundant observed items would have their origin and explanation in in our Primal radiation cosmos,. When, in the course of time, they observationally became mixed in with the later-formed Big Bang galaxies ,they would cause the present JWST confusion.

Thus , rather than being seen as evidence of a flaw in the Big Bang theory, the JWST data can, on the compressible theory, be verification of a proposed Primal Radiation era, with its own Primal galaxies and other radiation.

Returning to the elliptical, rarefaction shock **in which the mysterious dark matter cosmos (27%) was formed,** more details are soon to be posted here as Part XVIII.

## **Compressible Shockwave Cosmology and Traditional Wisdom**

Cosmology has always caused widespread interest in society in general, and in philosophy and natural theology in particular. It seems useful therefore to include a few remarks on these aspects.

First of all, let us say that there is a rather astonishing general concordance between Genesis and the new cosmic account. Genesis has three initial cosmic events: First, creation of a dark cosmos and of light, both in the “The First day”. Thus, Light is created before our usual sources of light, namely [sun and moon].

The Genesis‘ Second Event is something called a Vault, which ”divides the waters ( or dark ‘fluid’? ) under the vault from those above the “ vault.”

The third Genesis Event is the Creation of the visible universe, the celestial bodies, sun, moon, earth etc.

Our new cosmology , oddly enough, agrees with Genesis with having its First Day/ Event being the emergence of a general centered dark energy, and then its immediate interaction with a linear dark energy to illuminate the cosmos with the light of a Primal radiation, now being seen by the Webb telescope.

The Second Day/Event is the Big Bang expanding shock wave in the sea of Primal radiation. Its expansion can be viewed as dividing the radiation cosmos. It thereby produces a rather astounding degree of concordance between the mysterious dividing ‘vault’ in Genesis and our (flow dividing), moving, super-strong, quasi-spherical Big Bang.

The Third Event/Day in both accounts is then the emergence of our current visible cosmos, in the inflation that followed the Vault or Big Bang.

To sum up, compressible cosmos science appears to agree with Genesis in (1) having **light** appear as a First Event/Day before sun, moon, etc. and (2) in the matter of Genesis recounting the formation of a heavenly dividing “Vault Event”, we have in our cosmology the super-strong shockwave of the Big Bang likewise dividing the Cosmos, and also as a Second Day/Event.

Finally, in conclusion, one may wonder whether or not dark energy in Science has anything to do with what Philosophy terms Prime Matter or Prime Potency?

*In the beginning God created the heavens and the earth.*

*Now the earth was a formless void, there was darkness over the deep*

*And God’s spirit hovered over the water.*

*God said, ‘ Let there be light. And there was light.....The First Day.*

*God said, ‘Let there be a Vault in the waters to divide the waters in two’.*

*And so it was.....The Second Day.*

**The Jerusalem Bible, Doubleday & Co. 1966**

**Genesis Ch. 1.**



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11. -----*Part XII: Visible to Dark Matter Transformations.* Page posted June 2021.
12. -----*Part XIII: Gravitons and a Centered Linear Equation of State. Posted August 2021*
13. -----*Part XIV Dark Energy and a Centered Linear Equation of State. Page posted October 2021*

