

Toward a Deformed Universe

L'Architech (Gabriel Breton-Breton)

Introduction

The universe humanity observes is not the real universe: it is the universe filtered, altered, compressed, or stretched by the metric it traverses before reaching the observer. Every photon carrying visual information undergoes a directional transformation dictated by the local geometry of space-time. Thus, the shapes, distances, velocities, and structures we believe we are measuring are merely distorted projections of an inaccessible reality.

When the apparent speed of light varies, when the metric dilates or contracts, when extreme gravity modifies the photon's directional dynamics, the observed image ceases to be faithful. Galaxies twist, objects stretch, distances compress, and the visible universe becomes an altered version of itself.

To write a deformed universe is to acknowledge that classical cosmology rests on a metric illusion. It is to accept that light never carries pure information, but information transformed by its journey. It is, finally, to place the observer back into their true frame: a directional, dynamic frame where every quantity depends on the photon's internal tension and the geometry it traverses.

This work explores this deformed reality and reveals a universe whose true structure remains hidden behind the variable speed of light.

Chapter 1 — The Variable and Constant C

1.1 — The dual nature of C in a deformed universe

The speed of light, traditionally considered an absolute constant, reveals a far more complex structure when placed within the fluid and deformed geometry of space-time. In a universe where the metric dilates, contracts, or curves, light does not maintain a uniform apparent speed. It becomes a directional quantity, sensitive to the local state of geometry.

Thus, C possesses a dual nature:

- **C₀**: the photon's internal constant, stable, universal, and independent of the metric.
- **C_v**: the apparent speed measured by the observer, dependent on gravity, temporal dilation, and spatial deformation.

This duality is the cornerstone of directional physics.

1.2 — C_0 : the photon's internal constant

The photon evolves within its own directional frame, where the metric cannot alter its internal dynamics. Its directional tension, intrinsic frequency, and minimal geometric structure remain invariant.

$$C_0 = \text{universal internal constant}$$

This constant represents:

- the photon's internal dynamics,
- its directional tension,
- its structural invariance,
- its fundamental propagation frame.

C_0 is the only truly stable speed in the universe.

1.3 — C_v : the apparent speed in a deformed metric

The observer, immersed in a deformed space-time, never measures C_0 . They measure an apparent speed:

$$C_v = C_v(\text{metric})$$

This speed depends on:

- temporal dilation,
- spatial stretching,
- local curvature,
- extreme gravity,
- the photon's directional dynamics.

In a deformed universe, C_v becomes a directional variable. It may decrease in a dilated region or increase in a contracted region.

1.4 — The breakdown of constancy in a deformed universe

In a stable environment:

$$C_v = C_0$$

But in an extreme environment:

$$C_v < C_0 \text{ (dilated metric)}$$

$$C_v > C_0 \text{ (contracted metric)}$$

This breakdown of constancy transforms C into a dynamic quantity dependent on local geometry.

1.5 — Consequence: C becomes a directional variable

When C varies for the observer, all equations using it become dynamic. The energy equation:

$$E = mc^2$$

becomes:

$$E = m_\gamma(C_v) \cdot C_v^2$$

Thus:

- directional mass depends on C_v ,
- energy depends on C_v ,
- photon dynamics depend on C_v .

C ceases to be a universal constant: it becomes a directional variable, sensitive to the metric.

1.6 — Chapter summary

This chapter establishes the foundations of C's dual nature:

- **C₀**: the photon's internal constant, stable and universal.
- **C_v**: the apparent speed, variable and metric-dependent.
- In a stable universe, $C_v = C_0$.
- In a deformed universe, C_v becomes a directional variable.
- Variation of C leads to variation of directional mass and energy.
- Classical physics must be replaced by directional physics.

C is simultaneously an internal constant and an apparent variable. This duality underpins the understanding of a deformed universe.

Chapter 2 — Deformation

2.1 — Light as a vector of deformation

In a deformed universe, light is not a neutral messenger. Every photon carries information altered by:

- the metric it traverses,
- local gravity,
- temporal dilation,
- spatial stretching,
- directional variation of C_v .

Thus, the observed image is never the real image. It is the **directional projection** of an object whose shape, size, and position have been modified by the photon's journey.

Light is not only affected by the universe: it **deforms the universe observed**.

2.2 — Metric deformation: dilation and contraction

When the metric dilates:

- local time stretches,
- apparent speed C_v decreases,
- frequency decreases,
- trajectory curves more strongly.

Result: objects appear closer, more stretched, slower.

When the metric contracts:

- local time tightens,
- apparent speed C_v increases,
- frequency increases,
- trajectory straightens.

Result: objects appear farther, more compressed, faster.

Deformation is not a secondary effect: it is a fundamental property of the deformed universe.

2.3 — Directional deformation of images

Light never follows a straight line in a deformed space-time. It follows local geometry, producing:

- stretching,
- twisting,
- curvature,
- tilting,
- scale distortion.

Observed galaxies become:

- arched,
- stretched,
- fragmented,
- asymmetric.

What the observer interprets as a “cosmic shape” is actually a **directionally deformed image**.

2.4 — Deformation of distances

The observed distance is:

$$D_{\text{observed}} = C_v \times t_{\text{observed}}$$

The real distance is:

$$D_{\text{real}} = C_0 \times t_{\text{universal}}$$

When C_v varies:

- a dilated metric $\rightarrow$ underestimation,
- a contracted metric $\rightarrow$ overestimation.

Thus, cosmological distances are not merely miscalculated: they are **deformed**.

The visible universe is not the real universe. It is a metrically altered version.

2.5 — Energetic deformation

Variation of C_v produces variation in:

- directional mass m_γ ,

- transported energy E ,
- frequency ν .

This energetic variation modifies:

- apparent color,
- luminous intensity,
- observed spectrum.

Spectral deformations are not solely due to redshift: they are **directional**, linked to variation of C .

2.6 — Deformation as the signature of a dynamic universe

In a deformed universe:

- light deforms,
- distances deform,
- images deform,
- trajectories deform,
- spectra deform.

Deformation is not a cosmological accident. It is the **signature of a dynamic universe**, where every quantity depends on the local metric and the photon's directional tension.

2.7 — Chapter summary

This chapter establishes the foundations of deformation in a directional universe:

- Light carries deformed information.
- Dilated or contracted metrics modify apparent speed C_v .
- Cosmological images are distorted projections.
- Observed distances differ from real distances.
- Energetic deformation alters spectra.
- The visible universe is an altered version of the real universe.

Deformation is the direct consequence of C 's variation. It redefines how the universe is perceived, measured, and understood.

Chapter 3 — The Directional Projection of Reality

3.1 — The observed universe is not the real universe

In a deformed universe, light never carries pure information. Every photon reaching the observer has crossed:

- dilated regions,
- contracted regions,
- gravitational gradients,
- extreme curvatures,
- directional variations of C_v .

Thus, the received image is not the object's real structure, but its **directional projection**, altered by the metric it has traversed. The visible universe becomes a transformed, filtered, compressed, or stretched version of cosmic reality.

3.2 — The photon as a projection vector

The photon is the only link between the observer and the distant universe. But this link is directional: it depends on the photon's internal dynamics and the geometry it crosses.

Each photon projects:

- a distorted position,
- an altered distance,
- a modified frequency,
- a transformed energy,
- a curved trajectory.

The observer never receives the object itself: they receive **the directional projection** of that object.

3.3 — Geometric projection: curvature and torsion

When light travels through a curved metric, its trajectory changes. This modification produces:

- luminous arcs,
- asymmetric stretching,

- lateral torsions,
- apparent tilting,
- scale distortions.

Observed galaxies become:

- arched,
- stretched,
- fragmented,
- doubled.

What the observer interprets as a “cosmic shape” is actually **a directional projection of the geometry traversed**.

3.4 — Temporal projection: dilation and contraction

Time is not uniform in a deformed universe. When the photon crosses a dilated region:

- its internal time increases,
- its frequency decreases,
- its apparent speed C_v decreases.

When the photon crosses a contracted region:

- its internal time tightens,
- its frequency increases,
- its apparent speed C_v increases.

Thus, temporal projection modifies:

- apparent color,
- luminosity,
- observed dynamics,
- perceived object velocity.

The observer does not see real time: they see **projected time**.

3.5 — Energetic projection: variation of E and M

Variation of C_v produces variation in:

- directional mass m_γ ,
- transported energy E ,
- frequency ν .

This energetic variation modifies:

- spectra,
- luminous signatures,
- observed intensities.

Phenomena attributed to redshift are not solely expansion effects: they are also **directional projections of C variation**.

3.6 — Directional projection as the foundation of the visible universe

The visible universe is not a photograph of reality. It is a **directional projection**, shaped by:

- local geometry,
- extreme gravity,
- photon dynamics,
- variation of C,
- the photon's internal tension.

Every cosmological image is an altered version of the real object. Every distance is a distorted estimate. Every spectrum is a transformed signature.

The real universe remains hidden behind the directional projection of light.

3.7 — Chapter summary

This chapter establishes the foundations of directional projection:

- The observed universe is a projection, not a direct reality.
- The photon carries information deformed by the metric.
- Curved geometry modifies shapes.
- Temporal dilation modifies colors and dynamics.

- Variation of C modifies energy and directional mass.
- Distances, images, and spectra are altered projections.
- The real universe is inaccessible without directional physics.

Directional projection is the key to understanding the deformed universe. It reveals that the observer never sees reality, but its geometric transformation.

Chapter 4 — Space-Time as a Lens of Deformation

4.1 — Geometry as an optical instrument

In classical physics, a lens is a material object that bends light. In directional physics, the lens is no longer an object: **it is geometry itself.**

Space-time, when it dilates, contracts, or curves, acts as a directional lens. It modifies:

- the photon's trajectory,
- its apparent speed C_v ,
- its energy,
- its frequency,
- its internal time.

Thus, space-time becomes a natural optical instrument capable of deforming the visible universe.

4.2 — The metric as a deformation surface

The metric is not a neutral background. It is a **dynamic surface**, deformed by:

- gravity,
- mass density,
- local energy,
- directional tensions,
- geometric gradients.

When the metric changes, it acts as a lens:

- stretching,
- compressing,

- twisting,
- tilting,
- fragmenting.

Every metric variation becomes an optical deformation.

4.3 — Gravitational lensing: a special case

Classical cosmology speaks of “gravitational lensing.” But this phenomenon is only a **special case** of directional lensing.

In directional physics:

- any region of deformed metric acts as a lens,
- even without extreme mass,
- even without a black hole,
- even without a galaxy cluster.

Gravitational lensing is merely the visible manifestation of a much broader phenomenon: **the directional deformation of space-time.**

4.4 — Variation of C as a deformation factor

When the apparent speed of light varies:

$$C_v = C_v(\text{metric})$$

deformation becomes inevitable.

A dilated metric:

- slows the photon,
- stretches images,
- curves trajectories,
- decreases frequency.

A contracted metric:

- accelerates the photon,
- compresses images,
- straightens trajectories,

- increases frequency.

Variation of C is therefore **the internal engine of optical deformation**.

4.5 — Space-time as a dynamic lens

Unlike a material lens, space-time:

- changes shape,
- changes intensity,
- changes tension,
- changes density,
- changes geometry.

It is never fixed. Never stable. Never uniform.

Thus, space-time acts as a **living lens**, deforming the universe in real time.

Each photon crosses a different lens. Each observer sees a different universe.

4.6 — Deformation of cosmological objects

Observed galaxies become:

- arched,
- stretched,
- tilted,
- fragmented,
- doubled.

Stars become:

- brighter or dimmer,
- closer or farther,
- faster or slower.

Structures become:

- asymmetric,
- distorted,

- incoherent.

What the observer interprets as a “cosmic shape” is actually **the projection deformed by the space-time lens.**

4.7 — The space-time lens and the error of interpretation

When space-time acts as a lens:

- distances become false,
- velocities become false,
- shapes become false,
- spectra become false,
- dynamics become false.

Classical cosmology interprets these deformations as real physical phenomena.

Directional physics interprets them as **metric illusions.**

The visible universe is not the real universe: it is the universe deformed by the space-time lens.

4.8 — Chapter summary

This chapter establishes the foundations of the space-time lens:

- Space-time acts as a directional lens.
- The deformed metric modifies the photon’s trajectory.
- Variation of C is the engine of optical deformation.
- Gravitational lensing is a special case of a general phenomenon.
- Cosmological images are distorted projections.
- The visible universe is a geometric illusion.
- Cosmic reality is hidden behind the space-time lens.

Space-time is not a frame: it is a lens that deforms everything the observer believes they see.

Conclusion — A Deformed Universe, a Hidden Reality

The study of the deformed universe reveals a fundamental truth: the observer never sees the real universe, but only its directional projection, altered by the geometry of space-time. Light, far from being a faithful messenger, carries information transformed by every region it crosses. Its apparent speed varies, its frequency shifts, its energy readjusts, and its trajectory bends under the metric's influence.

Thus, cosmological distances become distorted estimates. Observed shapes become geometric illusions. Spectra become altered signatures. Dynamics become biased interpretations.

Space-time acts as a living lens, capable of stretching, compressing, twisting, and fragmenting reality. Directional variation of C_r is the internal engine of this deformation, turning each photon into a vector of an image that is no longer the real object, but the universe it has crossed.

Directional physics shows that:

- the speed of light is not strictly constant,
- the photon's mass is infinitesimal but real in motion,
- the deformed metric modifies photon dynamics,
- the visible universe is a distorted projection,
- classical cosmology rests on metric illusions.

To understand the deformed universe is to accept that cosmic reality remains hidden behind the space-time lens. Only by integrating directional variation of C , photon dynamics, and the fluid geometry of space-time can we hope to reconstruct a more accurate, coherent, and profound vision of the real universe.

The deformed universe is not a hypothesis: it is the true nature of the observable universe.