

I have in all the above advocated for the harmonic circle oscillator in a transversal plane perpendicular to the generated radiation *direction*, and the radiation is made up of the created *subtons* each with the quantum energy $\hbar\omega$ and an angular momentum $\pm\hbar\mathbf{1}$ with an associated helicity ± 1 into a past opposite the propulsion *FORWARD direction*.

For simplicity We assume events A of *entities* Ψ_A that create all the *subtons*, then the observer measurement Φ_B of B annihilate all these *subtons*, and none is lost ($A_{\text{loss}}=1$), so $\tilde{q}_B(\omega) = \tilde{q}_A(\omega)$ for $\forall \omega \in \mathbb{R}$. When all *subtons* ${}^{AB}\Psi_{\pm\omega}$ in the spectrum are measured, these can be integrated with the measurement, and the *quantity* $q_B(t) = \int_{\mathbb{R}} \tilde{q}_B(\omega) e^{i\omega t} d\omega$ may be generated as the observer's measurement of the *quantity* $q_A(t) \in \mathbb{C}$ of the physical *entity* Ψ_A . Assuming that the speed c of *subtons* is the same for all angular frequencies $\forall \omega \in \mathbb{R}$, then a past $t_{3,BA}$ from B to A produces an extension $x_{3,AB} = -ct_{3,BA}$ from the *entity* Ψ_A to the observer's measurement Φ_B in B. This is illustrated in Figure 3.14 as a one-dimensional past to the measurement of *quantities* belonging to the *entity* Ψ_A .

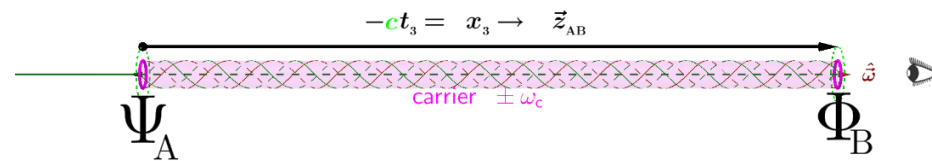


Figure 3.14 The radiating *entity* Ψ_A in A is different from a receiving measurement Φ_B in B. The difference is illustrated with a rectilinear vector \vec{z}_{AB} . The extension in the past is perpendicular to the transversal plane of all the *subtons* received by Φ_B . Only one carrier *subton* is illustrated and its phase ϕ_c is auto-counted since its creative start in the measurement and forms a chronometer time $\{t_c = \phi_c / \omega_c\}$. The Eye to the right symbolises the objective observer looking at the measurement in B and recording the spectrum. The observer cannot 'see' the vector \vec{z}_{AB} through B, and the extension (depth) expressed through $-ct_{3,BA} = x_{3,AB}$ cannot be measured in B of Φ_B 'the observer'. The vector $\vec{z}_{AB} - ct_{3,BA}\mathbf{e}_3 = 0$ is a so-called *null* vector seen by the observer. The reader is just the demon subject (GOD) who sees this figure, and therefore not included in 'the observer' measurement. It is the reader that judges the autonomous quantum mechanical phase ϕ_c . This picture is just the intuition of what makes it possible to look at something, seen from an alternative point of view. First the inner view on Ψ_A (perception as measurement), second the outer view on what's going on when we see something (the measurement process, by *subtons*\photons\light etc.)

The measurement of the *spectrum* with an integrated *quantity* in Φ_B gives no information about past *quantity* $t_{3,BA} = -x_{3,AB}/c$ from B back to A.

It is precisely this paradox that makes it difficult to understand the relativity of space-time. Throughout the previous chapter of this book, we have only dealt with one dimension of development. I have described how to choose a chronometer oscillator (carrier) whose phase angle development can be counted and by which we can form a development parameter t relative to the angular frequency of the carrier. According to my belief, which is consequently my contention; it is the only way to understand a *quantitative* parameterization of the concept of time. I claim, as shown by my analysis that the 'time' flows through a transversal plane to the development dimension, or at least that the past is generated orthogonally from a plane idea. The idea is, that the pulse of time is dependent on a cyclic oscillation in a plane. A *direction* into the future is in this way opposite the orientated to the past. This gives rise to such a *direction* as what we find in the natural space of physics when we are simply pointing out at something or simply looking *directly* at something.

To this, we have the concept we call the finite speed of light c in space. (First discovered by Ole Rømer.) Therefore, I have (like Descartes) used the term extension for the idea of natural space. The *quality* an extension out external from the concept of a plane, I have *quantified* as $x = -ct$.

Before turning to consider the concept of the natural physical space in the next chapter, I will briefly repeat characteristics for the concepts of time, frequency, and energy.

3.6.3. Conclusion in Traditional Terms for the Concept of Time and Energy

3.6.3.1. The Fundamental *Quality* of the Fundamental *Quantum*

Cyclic oscillation is a *primary quality* of physics, expressed with the idea of a geometric object a circle by intuition, as a subject – one circular oscillator in the plane idea.

One turn by rotation in the circle gives *one fundamental quantum of action*.

We can by intuition count 1, for one turn in the circle, and add the counts, 1, 2, 3, ..., to a complementary dimension of timing coming out from the plane of a cyclic rotating oscillation.

3.6.3.2. The Concept of Time as Complementarity to Frequency-Energy.

The *quality* of a circle oscillating plane gives cause to a count of action that we consider as continuous phases of change, this change *quantity* is defined as autonomous to the internal turns in the circle plane. – Seen from an external view:

The frequency f or angular frequency $\omega \equiv 2\pi f$ is the oscillation *quantity*. Here we have Planck's constant $h \equiv 2\pi\hbar$ offers the *quantum* action of one turn in a circle rotation.

Then the circular action is governed by a *quantity* we call the frequency energy $E_f = |hf| = |\hbar\omega| = E_\omega$, which is the given *quantity* of one cyclic rotation through a plane.

In the autonomous intuition for one rotation turn in the circle plane, we have $E_{f=1} = 1$ and the action of one count is 1. Therefore, we introduce a multiplicative inverse number

$$(3.290) \quad T_f = 1/|f| \Rightarrow E_f T_f = h$$

T_f is the well-known *periodic time* in the oscillation of a circular rotation. Hereby we have introduced a *quality* dimension, the concept of time as a *quantity* considered as a continuous real development parameter $t \in \mathbb{R}$. This *quality* dimension can be spanned from the *periodic time* number $T_f \in \{t \in \mathbb{R}\}$ as a norm unit or other similar norm units.

In quantum mechanics and technical electromagnetic signal modulation we often, instead of time parameter, uses the angular phase $\varphi = 2\pi ft = \omega t$ in our calculations.

Anyway, complementary to the frequency energy, the concept of time is the count of cyclic oscillation phases 1, 2, 3, ..., that is, a fundamental *quantity* of the *quality* of development

– One number following the other in sequential causal order: *FORWARD* \mathbb{R} .

3.6.3.3. The Causal Action of Light Gives the Extension

The light always moves *FORWARD*. Light is a process A-B-C, as it always is transmitted (A) extends over (B), and then is received or stopped by a screen (C).

The light produces extension throughout space depending on a causal action A-B-C.

This is expressed as – a screen stops lights propagation and stops the perception of extension. We know immediately that the statement:

"the light is moving backwards" has no meaning in physics.¹⁵⁷

3.6.3.4. Space

I will now go on to consider the concept of natural space.¹⁵⁸

To that we must look at the geometry basic for physics. Therefore, I will briefly mention some of Euclid's Elements; points, lines (straight), surfaces (plane), solids (volume) ... and ...

¹⁵⁷ Contra, the Aristotelian view: You look at something and your eyes rays at the object. In this view, a screen stops the ray and causes you to see (ray) the screen as the object. Then you are cause of an object in physics. This is terrible nonsense.

¹⁵⁸ The concept that due to Descartes, gives things *extension* (Aristotelian Length, Breadth, and Depth) as a form structure of space.