Vortices of air

in the design of *Principia Philosophiae* Cartesian

Ether and relativity '

(Giuseppe Cannata)

There is no doubt that at the end of the nineteenth century and early twentieth century, numerous assumptions, contrasting the behavior and overall essential light, led scholars to seek *a* remedy, which sopprimesse contradictions scientifically unacceptable.

In memory of 1905 Einstein followed the method (!) Of Alexander the Great, who faced the question of *knot Gordo,* cutting with the sword rather than dissolve. Macedonia gained as the domain of Asia Minor, promised by the legend, but with a very short duration. Einstein *recise* the need for the ether exist, glossed over the fact that the electromagnetic phenomena have *local effects,* not attributable to the transfer of particles from source to receiver, let alone attributable to an empty space, in itself *non-interactive, that is physically irrelevant* ... At least until the latest generations of physicists, with questionable internal consistency, they filled with many meanings.

Both are rejected simply because all the considerations made in his memory of 1905, sprinkled with inaccuracies and naivety, perhaps venial, if it refers to the scientific maturity of a century ago. The reason given that the electrodynamic interactions between magnet and conductor no asymmetries incurred in that time, but depend on the relative motion between the two bodies, is somewhat 'simplistic, as emphasizes or not the influence of the guidelines is the magnet and the conductor, or that in general the electromagnetic induction is observable without relative movement of inducer and induced, but only for local variations of electric and magnetic fields.

Data 's **absolute insopprimibilità medium,** it is not reasonable to extend the principle of Galilean relativity electrodynamic phenomena, without taking account of the overall light in different inertial reference systems. Let's make a simple example. According to the current setting, a post point (not elementary) creates an electrostatic field only if firm is seen by an observer, and would create an electromagnetic field if it is in motion to another observer. The reality is quite different when the charge is against the global firm in which he is immersed, whether or firm is seen by observers in inertial motion, always gives an electrostatic field or better elettrostazionario. Conversely, a post appropriately oriented under the influence of an electric field, even in slow motion compared to age, gives an electromagnetic field for all inertial observers. Recall that the energy transmitted both by convection to radiation

that includes its *mass* scale in the first case for direct transfer of particles, another, undulatory for shock following *entities* solicited, forming the medium itself.

Einsteiniana the definition of "constancy of the speed of light independent of the speed of the source" is similar to that tested well in acoustics, and can not arouse the wonder, rather ostentatious in various scientific texts. Need to make a clarification, however: **the speed of light (as sound) is related to means of propagation considered in peace, for which it is made with the overall speed of the vehicle when it is detected by other reference system.** Example: The air around the Earth for several diameters land *or in quiet solidarity with it,* and then by a reference system linked to the Earth the speed of light is related to peaceful means. An outside observer, p. es. Sole in the system, should settle the speed with the speed c v *air* rotation of ether. I am not sure inertial systems, pure theoretical abstraction, but within the limits of space and time allowed can be considered such. Moreover, the principle remains valid that the systems reference materials (observers and measuring *instruments)* should not limit the *energy exchange* with objects observed, the change of momentum in direction does not change in energy. The further interactions between systems are generally in the first approximation, negligible.

The contraction of lengths in the direction of motion from a reference system to another has fascinated scholars, who are particularly attracted to the wonders and magic. The alleged "contraction" comes from having wrongly overlooked the behavior light. The "expansion of time" releases fantasies ... We should have a deeper *meaning of authentic mechanical,* implicit in the concept of time. Cronotopo, quadridimensionalità are dreaming, but there are so svilito away from common sense, inevitable as desirable in a product still qualified as a *human* Physics. Those expressions have their functionality mathematics, but nothing more.

Einstein introduced for example the dependence of mass speed so as not to violate the principle of conservation of momentum, far more serious and fundamental. So it is forced to consider p. es. neutrinos at rest. *dì free mass* [metaphysical abstraction true, that would not also no possibility of physical observation], not to give them a mass infinite, paradoxical, at the speed c [1].

But such bodies are at rest the universe? But as we evaluate the mass of celestial bodies, which compared us to move more disparate speeds? Once we are able to free us from *transumananze einsteiniane* to return humbly to

common sense, making it increasingly common sense and recognizing that the *human* Physics *is* produced, improved, but not transcendent?

 The famous formula E = ^{mc} 2 whose success has revived the Relativity of Einstein can be rationally deduced by the work done by the force F = c dm / dt proportional to the speed of electromagnetic disturbance that invests in a mass of time . Before the showing a reminder that my approach leads to say that all the forces so far classified, from nuclear, from interatomiche and intermolecolari to accelerate dynamic forces, deforming or static, not flexible and elastic to the forces of friction, of contact or medium, the electric and magnetic belong to one of only seven species possible.

 A point object can be detected in a certain position by a carrier **R** = ρ **r** **(see** Appendix) in a <u>cylindrical coordinate</u> system of which there trascurerà share on ze will refer to only xy plane. If the point P consider the mass m inevitably present, even for transit, in a certain moment, we can move the effective representation of the **position vector of mass** μ = m m **R** = ρ **r.**

 Any *temporal variation* of one of the three variables that make up the carrier μ gives *the* carrier *momentum [QDM]:*

δ m / dt = d (m ρ **r)** / dt = ρ **r** dm / dt + m **r** ρ d / dt + m ρ **r** d / dt =

P **r** = dm / dt mv **r** + m + ω ρ θ = **p**

[where: θ = d ω / dt, v = d ρ / $^{dt]\ (2).}$

The temporal variation of momentum **p then provide all possible forces:**

d **p** / dt = ρ **r** ^{d} 2 m / dt $^{2\ +}$ dm / dt (v **r** + ρ **r** d / dt) +

R + v dm / dt + **r** m dv / dt + mvd **r /** dt +

Ω + ρ θ dm / dt + θ m ρ d ω / dt mv + m + ω θ ρ d ω θ / dt =

P **r** = ^{d} 2 m / dt $^{2\ +}$ **r** v dm / dt + ω ρ θ dm / dt +

R + v dm / dt + **r** m dv / dt mv + ω + θ

Ω + ρ θ dm / dt + θ m ρ d ω / dt + ω θ mv - m ^{ω} 2 ^{ρ} **r** =

P **r** = ^{d} 2 m / dt $^{2\ +}$ **r** 2v dm / dt + 2 r ω θ dm / dt + **r** m dv / dt

$2mV + m + \omega\,\theta\,\theta\,\rho\,d\,\omega\,/\,dt - m\,^{\omega}\,2\,^{\rho}\,\mathbf{r.}$

So you **have** three times linear or QDM The expressions note, dates from the product of mass m particle component to the radial velocity or his <u>or azimuthal component</u> is added to the first, which expresses the QDM at one point due to mass that crosses or invest in the unit of time (eg. wind flying perpendicular to a point of a sail).

Among **the** seven are resulting forces *distinguish* four <u>radial,</u> with a centripetal, *and* three <u>azimuthal.</u> The first is the elastic strength of position or constraint, the second is that which occurs *in half nell'attraversamento* with radial velocity, with the third speed transverse (eg. In the rotation), the fourth is obviously the strength to accelerate an object free from constraints (proposed by Newton), the fifth gave the complementary strengths or Coriolis, the sixth is active in a uniformly accelerated rotation. Finally, the seventh is the centripetal force, in rotation, the normal sense of motion, does not work and therefore does not require power to maintain the motion, so a system that rotates smoothly is to be considered inertial. The forces electrical, magnetic, molecular, atomic and nuclear fall in the seven identified in mechanical forces.

A courageous, rational and extremely simplifying mechanical interpretation of Maxwell equations allows [see G. Cannata, "electromagnetism in ether," *Proceedings of* International Conference *1999 "Galileo back in Italy II",* Ed. Andromeda, Bologna, 2000].

The energy radiated by the force $\mathbf{F} = c\,\mathbf{r}\,dm\,/\,dt$ (which spreads with speed

$c = d\,\rho\,/\,dt$) is as follows:

$$W = \int \mathbf{F}.\,D\,\mathbf{s} = \int (c\,\mathbf{r}\,dm\,/\,dt).\,d\,\mathbf{s} = \int (cdm\,/\,dt)\,(cdt) = \int dm\,^{c}\,2 = mc\,^{2.}$$

Scholars also discuss the validity or otherwise of special relativity for non inertial observers. Recall that the choice of inertial reference systems is due to the fact that observer and measuring instruments, in solidarity with the reference systems, must be free from external interventions, which do not allow the formulation of any law, the phenomena observed, if you do not know perfectly interactions with the outside world.

At the end as well as a table, which allows a comparison between today and what we propose, although aware that should be handled much more relaxed the many points barely touched and cite other no less important.

In summary, we reiterate some points. The air, in the popular (in which <u>only</u> we understand everything that is physically observable, present and potential), which penetrates everywhere, is made up of countless vortices at any level, from galactic clusters gradually to individual elementary particles. The large vortices include those children, all still in axial symmetry, more or less obvious. While in their nuclei matter is condensed, the vortices stretch the field with more rarefied, for example to gas ever lighter, until vortices limit other neighbors of the same level, with which the prevailing mass (or temperature) more , Is a whirling system of higher level, where interacting been reaching equilibrium and allowing the passage of disturbances or evolutionary processes. The set, like every single part, is subject to fundamental physical laws, p. es. the principles of conservation, and appears stable and at the same time of great vitality.

 The basic form electric charges primordial vortices of air, which follow the laws of fluid dynamics, and axial symmetry. The electrons (or protons) are rejected with each other only when they are opposing their axes flow into the ether (or outflow) but are willing to attrarsi if their axes are supported (at the edge parallel) like when generating currents , Under the action of an electric field. This tends to guide them and we could perfectly with low temperatures around absolute zero (superconductivity), while our temperature environment of elementary positions (particularly the electrons in metallic conductors) for the thermal agitation range, the more quickly the more intense the electric field, so radiating electromagnetic waves with increasing frequency. The neutrons, which appear as hydrogen atoms, "cold" that is, with proton and electron compact, but ready to separate the "temperature" outside the nuclei, not affected by electrostatic attraction or repulsion, but suffer if the fluid attractions are parallel spin, similarly to the elementary office, but most humbly.

 Another issue of confusion and distortion is very little development of regular quantum mechanics, where unsubstantiated assumptions, often *ad libitum* are transformed into laws, verifiable in areas too narrow. E 'this a better development or an *envelope* due to the suppression ruling of a *free space* (ether) share essential electromagnetic phenomena.

 I fear that it will not be easy to leave the *Ginepraia* where it is hunted. We should not forget the many merits of distinguished scientists and you need to distinguish the good wheat *from* the chaff intrusive, because the transaction can review, without glorification or convictions.

Appendix

It 'good to stress that I consider <u>essential and the primary</u> *magnetic* <u>vector</u> *potential* **A** = A *A, **which** today is considered secondary only useful in further deepening the study of electromagnetic fields. The magnetic potential, as mechanical BY, took what **position the carrier** to a point of the air, of which, with Euler's method, you can identify changes. While the system MKSA has the size $[LMT^{2-1]}$ certainly not easy to interpret, in *purely mechanical* system [3] MKS has the size [L], that represents a mere *length.*

The opposite of part-time spin

$$- \partial \mathbf{A} / \partial t = - \partial (A \, A) / \partial t = - A \, \partial A / \partial t - A \, \partial A / \partial t$$

consists of two words, the first of which is the radial component of the velocity vector local, formerly known as *stationary electric field,* which is **conservative:** $E_r = - \nabla (V)$, the second term is the transverse or rotational speed (which varies only in direction), formerly known as the *electric field induced:* $E_{i = -A} \, \partial A / \partial t$.

The report **E** = E + $_E$ **i** $_r$ = - ∂ **A** / ∂ t is obtained by applying the operator to both rotor States, the Maxwell equation for the induction em:

$$rot (\mathbf{E}) = rot (\mathbf{E}_{i)} = - \partial (\rho o \tau (\mathbf{A})) / \partial t = - \partial \mathbf{B} / t \partial$$

[where there was, as **usual,** B = rot **(A);** rot (**E** $_r)$ is zero, because as we said this is conservative].

Interesting is also the interpretation of the *Poynting vector:* N = E ∧ **H,** whose dimensions are $[MT^{-3]}$ in *both systems.* It shows the intensity of

electromagnetic radiation, namely the power of unity through-surface normal the direction of propagation.

 The presence of the inevitable spin in the elementary electrical charge excludes sphericity, and suggests the axial symmetry of vortex flow of air from the outgoing proton in the (incoming instead to the axis nell'elettrone), flow falling (or quit , Nell'elettrone) sideways, with swirling rotation of ether to the other end of the.
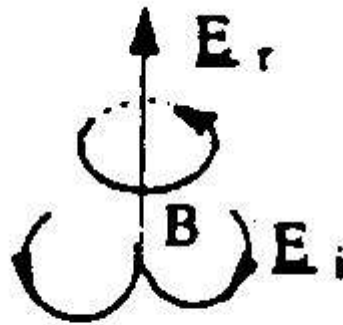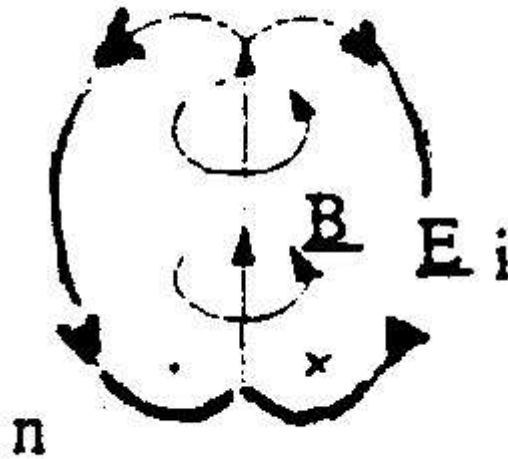

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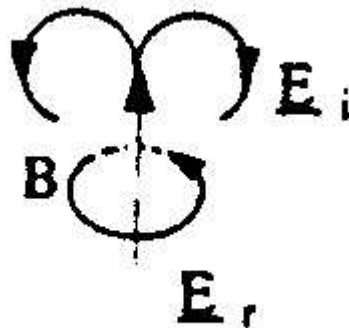
Electron

Neutron

Notes

1 - An article by Elizabeth during the *Sole 24 Ore - Science* of 3/3/2000 begins this way: "In 1930 Wolfgang Pauli predicted the existence ne twenty-five years after Frederick Reines observed for the first time, described him as the most tiny amount of matter that you can imagine, then, the neutrino has never ceased to be the elusive particle and asocial that keeps in check the international scientific community. Even today physicists are unable to say whether the 330 million neutrinos in every cubic meter of the Universe, which at any moment through our bodies, or not have a mass just does not matter if you believe that a

neutrino with a mass would give a nice jolt to the monumental pillar on which holds the modern conception of the universe and that is called the Standard Model. "

2 - We recall the components and temporal derivative of versore radial **r,** and versore azimuthal θ xy in the plan:

r = cos **(θ)** + sin **(θ)** φ, q =-sin **(θ)** + cos **(θ)** j

d **r** / dt = [-sin **(θ)** + cos **(θ)** j] d θ / dt = θ θ d / dt = ω θ

θ d / dt = [-cos **(θ)** i-sin **(θ)** j] d θ / dt = - **r** θ d / dt = - ω **r**

$^d 2$ **r** / dt $^{2=}$ θ (δ ω / dt) − w $^{2\,r}$

$^d 2$ $^{θ/}$ dt $^{2=}$ - **r** (d ω / dt) − w $^{θ\,2.}$

3 - In the "purely mechanical" is expressing such as Coulomb with the only size L, M, T. To achieve this, you can start by the law of Coulomb, in the form climb,
F = qq '/ 4 $_{εγ}$ 0 ^{r} 2, the second member must maintain the size of a force, [F] = [but] = LMT-2, as the first. Since there are no charges free mass, it is natural to do so may appear in the numerator of that expression, for the product qq ', a mass squared, but in relation to a square of the time. Since the mass appears only in the first degree into the size of force, a mass will then intervene, yet the first instance, in the coefficient $_{αvδ}$ 0 in the denominator. Finally, the simple term in the numerator of L LMT-2 can be obtained dimensionally thinking of a cube of space in the denominator $_{αvδ}$ 0. Ultimately you get with effective fluid dynamics analogy:

electrical charge = mass / time = *mass flow*

$_{αvδ}$ 0 = mass / volume density = (obviously on the *medium, mass density of the air,* see the following table).

TABLE

Mechanical dimensions and meanings of certain sizes electromagnetic International System

Will be shown, in this order:

- Name, Symbol, the system MKSA size, size in purely mechanical system MKS

- Meaning mechanical details.

Dielectric constant, $\alpha\nu\delta$ 0, $^{-3}$ M L $^{-1\,T}$ 4 ^{I} 2, M L $^{-3}$

Mass density of the air in rarefied air. It follows the law of Coulomb, see note 3. $_{Av\delta}$ 0 = 8.85 * ^{10} -12 kg / ^{m} 3. You can also obtain the energy density of space electric field, w $_0$ = ^{E} 2 / 2.

Electric charge, q, TI, MT $^{-1}$

Scope = mass flow of momentum per unit of volume, through an area closed.

Equation of continuity (Gauss): $\oiint$ **D.** D **S** = q.

Electric **field,** E, LMT $^{-3}$ I $^{-1,}$ LT $^{-1}$

Speed local area, radial, ether disrupted by active source (electrical charge). Limit value of E = dielectric strength E $_r$; for mica:

E $_r$ = 2 * 10 $^{8\,m}$ / s < c = 3 * 10 $^{8\,m}$ / s.

Moving electric, $\alpha\nu\delta$ **D** = $_{0\,E,}$ L TI $^{-2,\,-2}$ MT L $^{-1}$

Pulse or QDM unit volume of ether = surface density of mass scale. Surface charge density σ $_{and.}$

Power, V, ^{L} 2 MT $^{-3}$ I $^{-1,\,L}$ 2 T $^{-1}$

Potential irrotazionale speed flow of air; scalar potential φ **v** speed. Hydromechanics **analogy:** v = - ∇ φ; in electromagnetism:

E = - ∇ V.

<u>Target current,</u> I, I, MT $^{-2}$

Energy per unit area under a common thread running. Current determined from the positions of elementary free, under the action of the field **E.**

<u>Inverse magnetic permeability</u> μ_0, $1 / \mu_0$, L $^{-1}$ M $^{-1}$ T 2 ^{I} 2, L $^{-1}$ MT $^{-2}$

Form compressibility of ether = energy per unit volume. In mechanics: k $_c$. The report **H** = B / $_\mu$ 0 tantamount to report mechanical:

$_c$ k τ = $_\theta$, ωηερε t is the torque θ and the angle of twist.

<u>Magnetic **induction,**</u> B, MT $^{-2}$ I $^{-1,}$ L 0 ^{M} 0 ^{T} 0

Angle of deflection due to torque. It has the density of energy density: w = $\int$

H. D B. In rotational mechanical energy of torsion is W = $\int$ τ. d θ.

<u>Induced electric **field,**</u> E $_i$, LMT $^{-3}$ I $^{-1,}$ LT $^{-1}$

Speed local area, rotational, in the air, with only temporal variation in direction. In mechanics, ϖορτιχεσ: w = ∧ ∇ **v.**

<u>Current **density,**</u> j, L $^{-2}$ I, L $^{-2}$ MT $^{-2}$

Force per unit volume, wire conductor voltage.

j = s **E (law** of Ohm) with σ = elettrica conductivity.

<u>Electrical χονδυχτιϖιτψ,</u> s, L $^{-3}$ M $^{-1}$ T 3 ^{I} 2, L $^{-3}$ MT $^{-1}$

Density space free of charge in an effective conductor; scope of mass per unit volume. Employee only by the presence of liberal positions, not the structure of the conductor.

<u>Electrical conductance,</u> G, L $^{-2}$ M $^{-1}$ T ^{3} 2 MT $^{-2}$ L $^{-1}$

Surface density of mass flow, consistent with the movement D. Surface charge density on the cross-section of the conduit.

<u>Electrical resistance,</u> R, ^{L} 2 MT $^{-3}$ I $^{-2,}$ ^{L} 2 M $^{-1}$ T

Cross-section area of the conductor for charging unit. Size reverse conductance. Has nothing to do with the friction that would face charges in the lattice.

<u>Electrical capacity,</u> C, $L^{-2} M^{-1} T 4^{I} 2$, $M L^{-2}$

Surface mass density, due to condensing superficial load. Densification of mass armor on, for opposing positions.

<u>Density of office σπαχε,</u> r, $L^{-3} IT$, $MT^{-3} L^{-1}$

Space density of mass scale. Consistent with acoustic conductivity, resistivity that instead usually sound.

<u>Inductance,</u> L, $^{L} 2 MT^{-2} I^{-2, L} 2 M^{-1 T} 2$

Area per unit of current together. Reverse the surface current density.

<u>Intensity of the magnetic **field,**</u> H, $L^{-1} I$, $L^{-1} MT^{-2}$

Mechanical time of the volume, similar in mechanics at the time τ of a force. Size equal to that of $1 / \mu_{0.}$

<u>Magnetic vector **potential,**</u> A = A **A,** $LMT^{-2} I^{-1,} L$

Carrier position to a point of the air, in Euler's method, where you can locate the disturbance. It 'the key primary nell'elettromagnetismo. The resulting azimuthal-A ∂ *(A)/* ∂ t is the electric field induced **E** $_i$; rot **(A)** = **B** gives additional meaning **to** B, **E and B are** derived magnitudes **of** A.

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