

INTRODUCTION

This second volume of *Experimental Aetherometry* was a very special experiment. It attempted to bridge, on solidly empirical grounds, the incompleteness of Nikola Tesla's discoveries and his errors in understanding with the incompleteness of Reich's discoveries along with their errors and limitations. In the process, we came to discover, in turn, that Tesla radiation consisted, not in a production of 'electromagnetic radiation' or photons, but in the generation of massfree ambipolar (electric) radiation, and that this radiation - or its spectrum - encompassed precisely the true physical sense of Reich's discovery of what he termed 'orgone energy' and its functional opposite, 'deadly orgone'. This would lead us directly - as will be expounded in the next volume - to the specific identification of the spectra of solar and cosmic ambipolar radiation. In the present volume, however, we sought to experimentally explore the connections between blackbody electromagnetic radiation, latent heat (of molecular phase or structure), and ambipolar radiation. The critical experiments that permitted us to discern a method for differentiating between these distinct energy manifestations are all entirely new to the history of physics. They chart a very different analysis of all physical interactions than that which, until now, has been the 'organon' of physics - and they all pertain to the most fundamental problems in understanding which continue to plague basics physics.

We feel strongly, therefore, that physicists should acquaint themselves with this material. When all is said in done, we see this as nothing short of an ethical obligation, regardless of whether they enjoy the texts and find them challenging, or whether they find themselves in disagreement with them.

The fact we have employed Reich and Tesla as 'tuning forks for the instruments with which we played our pieces' has no special bearing on the amplitude of the questions we pose. Indeed, the work may well consist, in part, of a forensic and scientific investigation of their investigations; yet, we allowed it to carry us wherever it would lead, without prejudice - but with a great deal of analytical thought. The result was that, in order to correct and overcome the deficiencies of Tesla and Reich, we found ourselves equally obliged to correct and overcome the reductionistic errors, shortcomings and confabulations of accepted physics, both classical and modern.

We make no apologies for this - nor for the lessons which scientists should learn from it, including the fact that the only thing their physics knows something about is photons - but, even that, rather poorly. And undoubtedly, also, we shall remain anathema for a long time to come - precisely because we found it necessary to break one of the most sacred myths perpetrated by accepted physical theory, by asserting: "Light neither propagates transversely (as Maxwell wished) nor longitudinally (as would-be-disciples of Tesla still wish to this day). The fact is, Light does not propagate at all. Photons or light fibers may well be composed of transverse waves, yet what transmits the stimulus of light across Space and ultimately sources its energy is not electromagnetic radiation of any kind, whether conceived as transverse waves or whether conceived as longitudinal acoustic-like waves, but a radiation heretofore unknown to physics, heretofore unacknowledged by physics: ambipolar mass-free energy, in two words, Tesla radiation. Yes, it is longitudinal. But it is not electromagnetic. And it is massfree."

Is orgone the same as latent heat?

The first volume of *Experimental Aetherometry* was dedicated to the reproduction, evaluation and amplification of the two anomalies - thermal and electroscopic - which Reich discovered inside ORACs, and employed to lay the foundations of a new physical science, the science of organometry. Reich was convinced that he had discovered a new form of energy, which he termed orgone. This energy was massfree and filled the role of the old XIXth century classical stationary Aether, by transmitting the excitation responsible for the generation of light ('lumination', in Reich's language). Reich was also convinced that this energy had specific biological properties, that it interacted with Matter and was responsible for its its gravitational motion(s), and that it could electrically charge dielectric and metallic substances. Rather ambiguously, he also referred to an 'orgonotic charge' property that, as it turns out with respect to the electroscope, was unambiguously shown, in the previous volume, to reduce to the traditional properties of monopolar electric charges.

The distinct impression one derives from reading Volume 1 of *Experimental Aetherometry* is that Reich could have done a much better job of buttressing the reality of the two anomalies he discovered and, likewise, that he could have avoided much imprecision on the subjects of 'lumination', electroscopic charge, heat, etc - had he pursued his investigation with the same methodology that we employed. He would have found that Faraday cages and ORACs do not generate or accumulate electric monopolar charge, nor are they able to electrically charge an electroscope. And he would have found confirmation that these cages or boxes do indeed accumulate some other form of energy - besides sensible heat (or electromagnetic blackbody energy) - which is, indeed, not electric. By correlating the slowing or arrest of spontaneous electroscopic discharge with the action of solar radiation and the atmospheric cycle of evaporation and latent heat transfer, he would have discovered the 'electroscopic kinetoregenerative phenomenon' and thus would have come closer to proving his contention that this nonelectric energy captured by ORACs and Faraday cages was a non-electromagnetic derivative of solar energy. He would, in summary, have demonstrated that these boxes captured latent heat ultimately derived from solar radiation. But he didn't.

So, now, at the outset of the second volume of *Experimental Aetherometry*, we should ask -

in light of the new experiments reported in the previous volume: is what Reich called 'orgone', in fact, the same as 'latent heat'?

The answer is a complex one; and, although it is pursued in Volume 1 of *Experimental Aetherometry*, a question mark is deliberately left on the matter. We conclude that volume with the question of whether there is an effect of optothermal light upon and inside the ORAC that could be responsible for the electroscopic kinetoregenerative phenomenon - because, if there were, then the entire argument regarding 'latent heat' might not be necessary: optothermal photon radiation might suffice to explain either of the anomalies, and the concept of 'orgone' would have proven itself superfluous.

It is in this context that in the first monograph of the present volume, we go on to document our discovery, with respect to the electroscope - whether the latter is charged positively or negatively - of a photoinduced kinetoregenerative phenomenon that is exclusively caused by LFOT (low frequency optothermal) photon absorption, essentially with wavelengths longer than 300nm.

This discovery has never before been experimentally observed, isolated or demonstrated, and neither Reich nor Hallwachs nor others have ever tested it. We exhaustively demonstrate that out of three types of electromagnetic radiation - ionizing, HFOT (high-frequency optothermal) and LFOT - only one type, LFOT light, can mimic the kinetoregenerative phenomenon that is driven by 'latent heat' inside the ORAC, and is observed at midday in an electroscope (positively or negatively charged) that is exposed to solar radiation filtered through the atmosphere.

However, we also formally show that the interposition of a simple ORAC layer between the light source and the target electroscope suffices to abrogate this LFOT photon-induced kinetoregenerative phenomenon, whether the light source is of short or long wavelength, including IR. This clearly indicates that the electroscopic anomaly inside the ORAC is not light-sourced. Our experimental protocol employed accumulators which were completely light-sealed and had two very thick outer layers. Likewise in the matter of the thermal anomaly, in particular the stringent replication of the Reich-Einstein experiment, the cages and the ORACs were placed in a dark room.

These findings made it clear that, in the same way that sensible heat (long wavelength LFOT photons) could not explain the electroscopic discharge arrest inside ORACs, or the IR modal absorption spectrum of these ORACs could not explain the observed anomalous evolution of sensible heat inside them, neither could shorter wavelength LFOT photons (in the visible light range) explain either anomaly.

Only the latent-heat model was left standing. Both the thermal and electroscopic anomalies had to be explained by the accumulation of latent heat - the anomalous evolution of sensible heat was a result of the conversion of latent heat into sensible heat, and the anomalous anti-gravitational work of the electroscope a result of the absorption of latent heat by the trapped charges.

Once Reich's error, in thinking that orgone was electrically charging those electroscopes and thus phenomenologically arresting their discharge, was removed, it became apparent that the electroscopic effect of the ORAC was not electric, and could not be electric. Now, with the first monograph

of the present volume, we can further rule out the possibility that it was caused by blackbody LFOT photons - be they visible light or sensible heat (IR photons).

Inside the accumulators there is no light intensity of a sufficient energy density or power to account for the kinetoregenerative phenomenon - whereas, when charged electroscopes are directly exposed to the sun, there, of course, is. But the kinetoregenerative effect inside ORACs is tremendously more intense than that observed with simultaneous atmospheric electroscopes. Hence the critical importance of the basic experiments conducted with electroscopes inside ORACs and being compared to atmospheric controls.

With these experiments, we were able to demonstrate that while some light, ie LFOT light, can feed the kinetoregenerative effect, so must 'latent heat', since the same effect can be observed in the absence of the required light intensity and mode, and in the presence of sensible thermal radiation (IR light) which, by itself, is insufficient to account for the observed arrest.

The proposed answer to the question - is 'orgone' latent heat? - then becomes a qualified 'no'; for orgone is, rather, that energy form of the solar radiation which, being incident upon the cage and in passing through it, becomes converted, in part, into latent heat - into the nonelectromagnetic latent heat captured and accumulated within the cage.

What is the physical sense of the OR/DOR disjunction?

At the end of this first monograph, we put forth our answer to the last question that Reich's quest was concerned with: What is "Orgone energy" (OR) and how does it relate to "Deadly Orgone energy" (DOR)? How was Reich's thought affected by this last dichotomy in his theory, and how did he solve it?

We reject, on the basis of empirical evidence, any attempts at flattening the disjunction between OR and DOR into merely a gratuitous, superfluous duplication of the disjunction between negative and positive (massbound) electricities - which so many disciples and detractors of Reich have indulged in - or at flattening it, instead, into a duplication of the separation, in the electromagnetic spectrum, between blackbody (nonionizing) and ionizing radiation.

Hence, we propose - at the end of that first monograph - a totally new model of the Aether and of Orgone energy - one, we think, far closer to the truth sought by Reich than the ambiguities he left us with, or the banal misinterpretations that followed. Ionizing radiation that results from the decomposition of Matter, or the release of Matter's internal energy, requires no Aether continuum for its expression or manifestation. This is not so for blackbody radiation - its photon production always results from the liberation of kinetic energy from Matter (leptonic or hadronic). If we consider blackbody radiation from stellar systems or the vacuum (cosmic background radiation), this kinetic energy of Matter is merely an expression of its capture of an underlying continuum of energy - merely an energy transiently acquired by matter from the Aether, from an Aether continuum. Blackbody photon production is merely a secondary transformation of this Aether energy after it has been appro-

priated by Matter to sustain defined states of motion. Moreover, the fundamental energy continuum which blackbody photons 'visibilize' (make visible, that is) is an electric one - one that carries electric charge, even if ambipolar. Transmission of the light-stimulus, conveyance of the excitation across Space, is an affair of ambipolar radiation - it belongs to the domain of OR and DOR physics, to the domain of massless, longitudinal wave energy; whereas local production of blackbody photons is the domain of electromagnetism, the domain of transverse wave energy.

How does this, then, relate to the problem of latent heat? The initial monograph indirectly confirmed the existence of latent heat inside ORACs and Faraday cages, but we will not resolve this question in the present volume. Operationally and phenomenologically, we were content with the fact that we could now begin to differentiate, in principle, between OR and DOR, and their respective blackbody photon byproducts - respectively, HFOT and LFOT. The OR/DOR disjunction did not duplicate the monopolar electric disjunction between charge polarities, any more than it duplicated the break in the electromagnetic spectrum between wave and particulate energy, between non-ionizing and ionizing electromagnetic energy. Rather, it was a qualitative split within the spectrum of the ambipolar continuum that became manifest by the biological and physical differentiation between two types of blackbody photons: HFOT and LFOT. Throughout the present volume we return to this new functional understanding: OR and DOR are nonelectromagnetic, ambipolar energies; their dichotomy cannot be flattened - but it can be, and is, physically doubled, and proven to be such, by its expression through the local production of blackbody photons, right within the non-ionizing EM spectrum. The entirety of the blackbody spectrum is nonionizing by definition. These two classes of photons are contiguous in the spectrum - the observed break being only qualitative. It is a single spectrum which carries both species and corresponds effectively to a contiguous, more fundamental, underlying spectrum of ambipolar massfree energy encompassing the two qualities - the 'orgone' quality and the 'DORgone' quality - of the ambipolar electric Aether.

This was the insight that led us forward and which we believe the epoch still has to learn and understand. For it led us to model latent heat as something no longer susceptible to confusion with Tesla energy. Latent heat - as a transient molecular property - is a nonelectrical and, strictly speaking, nonthermal energy. That does not mean it is not a physical form of energy - the phase states and noncovalent bonds of molecules are sufficient proof of the reality of latent heat and its physical effects. But the discoveries of this first monograph - and the initial model it proposed - gave us pause to realize that we had finally secured the tools to separate 'orgone' and 'latent heat'. In other words, we had now a model that fitted the observed facts and permitted us to differentiate between the massfree electrical and massfree nonelectrical energy manifestations of the Aether, as well as to differentiate both from their secondary manifestation as blackbody electromagnetic energy.

Exploring the relation between ambipolar radiation and blackbody photon production

It is within this model that we proceeded, in the present volume, to our widening investigation of energetics. Our first test of the model consisted of an analysis of atmospheric formation and the role played therein by known photon emissions associated with basic reactions. In AS2-09, we present a balanced chemical and photonic model of the atmospheric allotropic cycle that depends upon the asymmetric creation of massbound charges, specifically negatrons, following Reich's discov-

ery of a mutual conversion of oxygen and water with ozone and acid ion. The OR portion of the cycle contributes both the negatronic charges and the LFOT photons, to produce oxygen and water, whereas the reverse portion of the cycle is driven by the HFOT photons contributed by DOR radiation, and yields both ozone and acid ion. In the atmospheric allotropic cycle, the driving source of both OR and DOR is solar radiation. In the OR-driven portion of the cycle, there is a reduction of ozone brought about by the creation of charged leptonic mass and the input of a near-UV LFOT, with consequent release of both heat and blue light. In the DOR driven portion of the cycle, there is a free-radical process of molecular photodissociation and energy absorption, driven by successive HFOT inputs that results in the formation of ozone and the acidification of hydrogen, with a final threshold ionization at the Hartree energy limit (47nm HFOT). We have not yet, in this AS2-09 monograph, revealed the OR and DOR energy and frequency characteristics responsible for the atmospheric production of the LFOT and HFOT inputs that we describe, but understanding the cycle with balanced enthalpies became the stepping stone for a later comprehension of the relations responsible for the production of blackbody photons and the physicochemical processes responsible for the formation of the terrestrial atmosphere.

In the present volume, we are no longer concerned with the orgone accumulator *per se*. It returns in discussions, as does the Faraday cage, the thermal anomalies, electroscopic discharge arrests, and so on. The concern of this second volume, we emphasize once more, is to establish the relationships between electromagnetic energy, 'latent heat' and, above all, massfree electric radiation.

By the time the reader reaches the third to fifth monographs of the present volume, a new physical role and a new quantitative approach is proposed for latent heat and its capacity to feed anti-gravitational work. The relations are formalized to suggest the existence of a fundamental nonelectric Aether energy element associated with leptons and their gravitons, and responsible for the physical linkage between gravitational and electromagnetic fields. The aetherometric model is further sharpened by the rehabilitation of Leibniz's notion of an Aether as the Dark, or as dark massless energy. Simple experiments demonstrate that ambipolar energy has the essential properties deduced by Leibniz with respect to the transmission of the light-stimulus, and required for the emission of both electrons and photons from metallic surfaces. Finally, in the fifth monograph of the present volume we are constrained to examine the fundamental physical and mathematical functions of the theory of electricity. Without such a basic - very basic - redressing of the fundamental functions and their problems and concepts, we would not have been able to move on to analyze ambipolar energy, nor, specifically, to study the Tesla radiation emitted by Tesla coils.

So the focus changes, once again, in the last two monographs of the present volume. The aetherometric solution sought by our proposed unitarian view of distinct energy manifestations finally begins to emerge when we put forth, in parallel, a novel understanding of electromagnetism with our step-wise (re)discovery of ambipolar energy.

Those familiar with the work of Reich are aware that he wondered, in his Oranur Report, whether or not Tesla waves were 'orgone' radiation - a matter which he never went back to resolve. For us, after having performed the experiments that we report in AS2-13, it became clear how Tesla waves are, in fact, massfree electric wave radiation. Following a series of experiments collected in the Oranur Report, Reich suggested that while 'orgone' interferes with conventional electricity, it pos-

sesses certain electrical properties as well. This line of reasoning is followed in his sequence of studies reported in *Orgonotic Pulsation* (1944), where the sharing of certain quasi-electric phenomena between orgone and electricity leads him to rename the electroscope as the orgonoscope. He did not think the orgonoscope was charged with 'latent heat' and, let us be clear, neither do we. However, by being charged electrically, with monopolar electricity, the electroscope also mediates a gravitational interaction - as we came to discover - where work performed against a local gravity field is subsidized by 'latent heat' in, and from, the local environment - its direct physical effect being that of opposing gravity. In other words, there is clearly an antigravitic effect associated with 'latent heat'. This, as we contend, is precisely one of its physical characteristics. Hence, when analyzing discharge arrests, there is no need to invoke any form of charging of the electroscope, be it subreptitious or unwitting. Discharge arrests simply mean that the electrokinetic energy of the trapped charges was successfully conserved.

Mired in the impossibility of discerning the role of latent heat in both anomalies he discovered, Reich was unable to extricate from each other the different physical phenomena caused by 'latent heat', specifically those arising through its conversion into sensible heat from those giving rise to antigravitic work. Furthermore, this prevented him from extricating these two physical processes from the nature and properties of ambipolar radiation itself. To employ Bergson's idiom, 'the (energy) mix was improperly differentiated', with distinct physical phenomena not being accurately dissociated and attributed. Reich made the first concerted effort to tease out the nature of massfree aether energy and uncover the common functioning principle for energetic variations that, in some cases, are electrical and, in others, are not. But the principle of variation was not adequately differentiated. Effectively, in the period of 1940 to ca 1951, he employed the term 'orgone' to designate what, in fact, turns out to be an entire syndrome of distinct massfree phenomena, electric and nonelectric. He suggested that 'orgone' was a better term for designating the dynamic Aether by its life-affine properties than simply the term 'Aether', since he believed aether energy was essentially orgone energy. But in 1951-52, with his discovery of what he would term 'DOR' in the second part of his Oranur Experiment, he painfully came to realize that orgone and Aether are *not equivalent* - not at all, since the Aether must also encompass at least one other massfree component, DOR. Yet Reich also remained unclear about the electrical nature of DOR - just as he had before about OR.

It is no longer useful or valid today to continue to employ these distinctions in these ambiguous ways. It is neither scientific, nor intelligent. They were quite functional in terms of Reich's own process of discovery, but others have made a mockery of them with their wild and inarticulate claims of replications of the Oranur Experiment (there is a whole network of disinformation on this subject, some of it gathered around that National Enquirer of Free Energy called KeelyNet).

It is no longer viable to refer to OR and DOR without placing these manifestations of aether energy in their proper context. This boils down to the fact that there is indeed a domain of massfree ambipolar electricity which is, in general, radiant - though it can conduct through the ground, through metallic bodies and through dielectrics as well. Its real discoverer was Nikola Tesla - who insisted that his 'electrostaticodynamic' electricity was distinct from both electromagnetic energy and the electricity of cathode rays or any other massbound charges. Reich, who gave Tesla very little open credit for Tesla's discovery, and was not even sure that Tesla waves were the same as orgone energy,

simply rediscovered this massfree ambipolar energy in its two fundamental antagonistic subtypes, OR and DOR. But his ambivalence towards the electrical or nonelectrical characteristics of OR and DOR precluded him from fully realizing the connection to Tesla waves. Reich understood, however, that OR and DOR form an inseparable continuum. The contribution of aetherometric theory in this context is the demonstration that this continuum of massfree electrically ambipolar aether energy also produces, through its interaction with Matter, all possible and known blackbody spectra. But aetherometric theory also provides something that neither Tesla nor Reich could - the exact energy, wavelength and frequency characteristics of the OR/DOR continuum. This work, which will culminate in the findings of the next volume, *Experimental Aetherometry Volume IIB*, will strikingly confirm Reich's contention for the existence of massless energy or a dynamic Aether.

Our answer to the two previous questions

In essence, then, the last two monographs of the present volume permit both an experimental and an analytical definition of precisely what ambipolar energy is - and how it differs from other energy manifestations. It is on the basis of these fundamental findings that the next volume (IIB) will address the complete identification of this massfree electric form of the Aether, and thus employ it as a tool to differentiate between what is 'orgone energy' as electrical massfree energy and what is the nonelectric 'orgone effect' of 'latent heat'. Both these energies are massfree aether forms, both are fundamental, but they are nonetheless distinct.

In Physics it is necessary to designate as different, energy manifestations that are distinct in terms of their very specific physical characteristics. So in the case of sensible heat, for example, we have the characteristics of sensible temperature and pressure caused by volumetric expansion or contraction of molecular microatmospheres, while in the case of charge we have electrical and magnetic characteristics. In the case of electromagnetism, if it is ionizing, we have the electric effects associated with heterolysis, polarization and ionic fluxes, and if it is not, then we have the very different absorption and chemical phenomena related to the action of HFOT and LFOT photons. Likewise, then, we are led to wonder what these two variants of aether energy are, one electric and the other nonelectric. Should we continue to call them both 'orgone'?

It is true that Reich himself might well have had an inkling of our aetherometric argument - since in *Orgonotic Pulsation* he went as far as to tentatively put forth the notion of an 'orgone heat'. But that, too, left much unaddressed. Was orgone heat sensible or latent? Reich's description and context suggest he is referring to sensible thermal effects, i.e. a set of physical characteristics none of which (save for barometric effects) are shared by latent heat. And if, before Reich knew of the existence of 'DOR', it still made some sense to contemplate an energy form that sometimes behaved electrically and at other times did not - and thus to go on replacing 'Aether' with 'orgone' - after the Oranur experiment it could no longer make sense to agglutinate three distinct manifestations of massfree aether energy, OR, DOR and 'latent heat', under the same rubric of 'orgone'. With the discovery of 'DOR', it also became imperative to separate the electric from the nonelectric variants of aether energy.

'Aether' is, in fact, both historically and conceptually, the correct term to encompass all these electric and nonelectric forms of energy, for they are all physical expressions of the same massfree, imponderable energy. In some cases the expression is electrical and carries a duality of qualities. The duality is between OR and DOR, and not between positive and negative. In other cases, it is not electric, and its fine structure had remained mysterious until Aetherometry emerged to propose a novel treatment of both gravity and 'latent heat'.

It is this process of discovery, begun in the present volume, that will come to its ultimate consequences in the next volume - where a very different model of aether energy than any heretofore proposed will be, at last, experimentally shown and theoretically demonstrated.

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