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The Reproducible Thermal Anomaly of the Reich-Einstein Experiment under Limit Conditions

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Abstract

The experiment on ‘spontaneous heat generation’ that W. Reich set up with A. Einstein on a winter day in the midst of WWII, at a time when Nazi Germany had the upper hand, is likely the most bungled experiment in the history of science. And it would forever leave hanging over Reich a specter of failure, if not crankiness. The man who was later dubbed the greatest genius of the XXth century by the universal media entente, had rejected Reich’s discovery of a thermal anomaly as a trivial artifact resulting from the blockage of normal indoor convection currents - the ‘explanation’ having been provided courtesy of L. Infeld, then Einstein’s assistant.

The experiment centered on whether there was - as Reich claimed - or not, an anomalous positive temperature difference above the top plate of an insulated Faraday cage (named by Reich - the Orgone Accumulator). If reproducible, Einstein stated the thermal anomaly would be “like a bombshell in Physics”.

The present communication describes performance of what we consider to be the critical control to the Reich-Einstein experiment. We found that the positive temperature difference above the top of a naked suspended metal box, as compared to the suspended air thermometer is, in general, sustained around the clock and is highly significant even by statistical analysis. No such thermal anomaly is observed with only the wooden box. Furthermore, we demonstrate how the thermal anomaly can be separated from the cooling effect of any convection currents arising from the ground (or the floor), and persists when the underside of the metal enclosure is directly exposed to these currents. It is therefore independent of any convection currents in a closed room, and specific to the unknown energy functions of a metal box. This simple control would have by itself proven correct the hypothesis that Reich had proposed regarding the existence of anomalous radiative fluxes capable

of generating heat in seeming defiance of the Second Law, such as are responsible for the production of an excess thermal energy above the top of the metal box.

For nearly sixty years, the Reich-Einstein experiment has remained forbidden territory: not one stringent repetition was ever performed. This alone could stand as a tribute to the slowness of change which a socially promoted armor imposes upon human understanding and grasp of natural processes. Yet, the thermal phenomenon is verifiable, and observed even under disadvantageous or limit conditions. Thereby, Infeld's objection is shown to be facile, and Einstein's oscillation between his enthusiasm for Reich's explanation and his hasty acceptance of this facile objection, leaves us with the sensation that Great Men are only the idols of Little Men. The authors in fact contend that, for a brief moment, Einstein had in his hands the chance he had so much sought (with the gravity papers, the ZPE proposal, and the search for a unified field theory) to grasp an experimental basis for a non-electromagnetic continuous field action.

INTRODUCTION

This report presents conclusive evidence for the claims of W. Reich regarding the verifiability of the thermal anomaly which he discovered in simple metal boxes, and magnified in special boxes (which he termed Orgone accumulators, or simply ORAC) composed of alternate dielectric and metal layers. In another study due to be published shortly, we focus upon amplification of this thermal anomaly, but in the present communication we aim instead at measuring it under limit conditions when, by all accounts, it should disappear. This is what is known as the indoor Reich-Einstein experiment. We found we were able to experimentally verify the thermal anomaly reported by Reich, and we formally demonstrate how it can be analytically and experimentally separated from the effect of convection air currents.

Reich and his memory have been served with an unending stream of epithets that qualify him as a crank and his science as fakery. Persecuted by the FDA for nonlicensed medical use of the ORAC, betrayed by his own counsel, students, friends and relatives, and determined not to recognize any authority of legal courts and licensing bodies to make pronouncements on matters of scientific research and knowledge of nature, Reich stood his ground on the 'new physics' of the ORAC only to endure a jail conviction and to die miserably in the Lewisburg penitentiary under the most mysterious circumstances. The few who had reticently supported him, saw the outcome of the whole process as an expression of some supposed need - on Reich's part - for martyrdom, and they too, turned their backs on him. Aside from the recent New-Age-style mystical 'rehab' of vague 'Reichian' clichés, Reich's inheritance was 'neatly' defined for posterity by the FDA, the St. Louis National Museum of Medical Quackery where the ORAC still figures prominently, and by such anti-Reich deprecations as those that occasionally originate from FDA-sponsored science-cop organizations, such as SCICOPS.

Yet, despite all the claims of the likes of the Amazing Randi, to this day neither the FDA nor any other public or private institution has moved even a small finger to verify whether or not Reich's claims with respect to the ORAC he invented were true. At the very least, to this day the onus to demonstrate that there is *no* thermal anomaly lies with the FDA. Yes, a few private individuals have made claims of reproducibility or irreproducibility, but none of these so-called studies have had the substance needed to qualify their results as anything more than anecdotic, either way. The fact is that the authors of the present study do not know of *any rigorous reproduction* of Reich's findings with the ORAC that deserves reference here, except what Reich himself relates in several of his writings on the subject ^[1].

At the core of the controversy stands Reich's claim that he had discovered an unknown kind of energy (Orgone energy, or OR energy for short), which he claimed was neither electric, nor electromagnetic or inertial, and which he could passively concentrate in a specially insulated metal-lined box, the ORAC. He held that the presence of this energy inside these enclosures could be detected

by thermal, optical and electroscopic effects, such that: (1) it caused a spontaneous and sustainable temperature rise within the enclosure; (2) it dramatically slowed down the spontaneous rate of discharge of electroscopes; (3) and it caused different kinds of light phenomena within the enclosure which depended upon the degree of concentration of this “nonelectric and nonelectromagnetic form of energy”.

In the present report we endeavour to verify Reich's findings with respect to the thermal effect alone of the naked ORAC, ie a simple Faraday cage, and we will not take issue with Reich's notion of the nature of OR energy. It suffices to say that Reich did not realize the *ambipolar electric nature* of this energy, and thus mistook it for the latent heat that can be accumulated inside a Faraday cage and is responsible for the thermal and electroscopic “anomalies”. The reader will see from the present findings that there is no doubt that this cage creates and sustains a spontaneous temperature difference, and hence that Reich's fundamental observation was correct: the thermal “anomaly” he discovered is verifiable. In fact, Einstein himself confirmed the existence of the phenomenon and never denied it [2]. All that Einstein did was limit himself, following Infeld's advice, to suggest a trivial explanation for the heat increase that he himself observed, as being due to indoor air convection currents. This is all in the public record [3] even if neither the public nor the scientific community have effectively paid any attention to it. To counteract the trivial Infeld explanation, Reich placed ORACs outdoors in the shade and proved that, in the absence of indoor convection currents, the temperature difference, if anything, augmented, instead of disappearing [4]. Infeld and Einstein never addressed publicly or, as far as is known, privately, Reich's refutation. Note further that, whereas Einstein and Infeld did not deny the existence of a positive temperature difference inside the Faraday cage towards the indoor ambient air temperature, the FDA campaign against Reich consistently denied the existence of such a temperature difference inside the ORAC.

When Reich first addressed Einstein by letter on December 30, 1940, he introduced himself and his problem by stating that he had “discovered a specific biologically effective energy which behaves in many respects differently from all that is known about electromagnetic energy”, and that he had done so essentially on the basis of thermometric measurements and scintillation/photographic observations. Einstein answered in his January 6th, 1941 letter, that he is “rather willing to talk over your [Reich's] scientific matters with you”.

The first meeting took place on January 13, at 16:00 and lasted 4.5 hours. At the second meeting, February 1, 1941, Reich brought a simple ORAC for Einstein to test. Seven days later, Einstein would write the infamous fatidic letter confirming the thermal phenomenon but deeming it to be an artifact. By the time that the second meeting took place, Einstein had succeeded in placing the reproducibility and interpretation of the thermometric phenomenon as the Litmus test of Reich's discoveries and thought-system.

Essentially the thermal phenomenon or anomaly consisted of the fact discovered by Reich

that a thermometer inserted into a dielectric chamber “above an enclosed metallic space” placed indoors at least 1m away from building walls, will read a temperature higher by 0.5 to 2.0°C than a control thermometer placed at the same height, but outside the box arrangement [5]. Reich’s contention means that the temperature above the top of the cage is consistently greater than that of ambient air. On February 7, Einstein responded with his own results and interpretation. He began by confirming the existence of such a temperature difference, and thus verifying the phenomenon - a fact that most remarkably has escaped the attention of all detractors of Reich: “The box-thermometer showed regularly a temperature of about 0.3 to 0.4°C higher than the one suspended freely” [2]. Even more astonishingly, Einstein next proceeded to verify also that the phenomenon disappeared when he removed the side and bottom enclosure panels (Fenster, is the German term he employed) and sat the metal box directly on the table. He wrote: “The temperature difference disappeared or was, in any case, not more than 0.1°C”.

So, why then was Einstein not convinced about Reich’s claim? Because he now introduces another variable which leads him to conclude that the whole phenomenon is an artifact of air convection currents inside a closed building: as soon as he introduces “some of your [Reich’s] folded blue packing paper between the table top and the [bottom of the] box”, “the original effect reappears immediately and regularly”, and once again “the temperature at the box becomes 0.3 to 0.4°C higher than that on the freely suspended thermometer”[2]. This control fit entirely the objection which Infeld (then Einstein’s assistant) had drawn Einstein’s attention to - that in a closed room, thermal energy can be transferred by the movement of air molecules from one point to another, thermal convection always moving energy from warm to cool regions of an enclosure. The resulting updrafts of warm air and downdrafts of cool air interact with any horizontal surface placed perpendicularly to these drafts so that the underside of such a surface is cooler “by communicating through convection more with the [cooler] floor, whilst the top side would communicate more with the [warmer] ceiling”, to employ the very words of Einstein in the same letter. Then, categorically, Einstein concludes his letter: “through these experiments I regard the matter as completely solved. The temperature difference has nothing to do with the panels and the metal box, but is solely due to the horizontal table top”.

Now, there is no doubt that convection air currents exist inside buildings, nor that there is considerable thermal radiation from all surfaces, particularly horizontal ones. Indeed, the very point of suspending the control air thermometer freely in the room is one continuously missed in attempts to reproduce Reich’s original observation of a thermal increase of temperature above the top of an insulated metal box. If such a thermometer be instead suspended over a tabletop, still at the same height as the experimental thermometers placed inside the box(es), then even in the absence of electric lights in the room, there is sufficient thermal radiation being emitted, reflected and convected from the table top to often nullify the temperature difference of the box(es). This is the trap that

beginners run into - when they believe they have at last have found the right control, but the control itself is artifactual. But Einstein, under Reich's guidance, did not slip at this stage. Instead, he confirmed the temperature difference with respect to the freely suspended thermometer. However, what Einstein failed to do was precisely what Reich did next - a series of controls, in turn, on Infeld's control. First, Reich duplicated the table top - on which the box sat - with another wooden plate, this time placed above the top of the box, "thus interrupting the hypothetical "heat convection from the ceiling down to the tabletop"" [4]. This was found not to affect the anomalous temperature difference or its magnitude. Next, Reich replaced the bottom wooden plate by a metal one "which equalizes the temperature difference more quickly" - and again this did not affect the positive temperature difference. Finally, Reich suspended the simple ORAC "freely in the room, without a tabletop below", and again the positive ΔT value between the outer chamber and the control thermometer remained.

Einstein never responded to these counter-objections - and this greatly puzzled Reich. If Einstein had once stated that such a thermal phenomenon would be like a bomb in Physics, the trivial solution he now proposed seemed to satisfy his curiosity. For Einstein, as long as the metal box was cooled from below - even indirectly by contact with a horizontal surface that was in turn cooled by convection with the ground, ie for as long as the box was exposed to the same convection currents as the air thermometer, the thermal anomaly disappeared. Case closed.

In "The Cancer Biopathy", first published in 1947, Reich again described the crucial meeting with Einstein in these words:

"The experiment was conducted for the purpose of refuting a specific objection by a distinguished physicist. In January 1941, a few months after the discovery of the remarkable temperature difference, Albert Einstein set up a small orgone accumulator in his home in Princeton, New Jersey. In a subsequent letter to me, he confirmed the existence of a temperature difference at the accumulator, but discovered, in addition, a temperature difference between the underside and the top of the table on which the accumulator stood. This finding naturally undermined the validity of the reading at the accumulator. One of Einstein's assistants, Leopold Infeld, concluded that the temperature difference at the accumulator was to be ascribed to the fact that in the basement room, where the observations were made, there would be an increase in temperature "due to the convection of heat from the ceiling to the table top." However, this assistant failed to check his interpretation of the previously confirmed temperature difference *by simply taking measurements in the open air and in the soil*, where there can be no question of "convection of heat from the ceiling to the table top."

Did Reich's controls of Infeld's control properly address Einstein's objection? Our immediate concern in making this question is with the indoor experiments. Here, with respect to the first of Reich's controls, one could object that a second plate placed above the top of the simple ORAC would limit itself to introducing yet another segmentation on the path of any convection currents - so that there would be a double convection current between ground and the first horizontal surface (the table

top), and then another double convection current between this surface and the next (in the space where the device is placed) and still another set of currents between the top of the plate and the ceiling of the closed room, with the result that Infeld's objection would still apply. The second control is critical, but not decisive, since Einstein and Infeld could still argue that even though the bottom plate is now metal, it is still insulated from the inner metal core of the ORAC by the insulating bottom panel (Fenster) of the device itself. Finally, the third control performed by Reich came very close to be decisive - but, a meticulous Einstein or a zealous Infeld might still object that the bottom of the suspended ORAC continues to insulate the bottom of the metal box contained inside the ORAC from the cooling effect of any convection currents in communication with the ground or the floor.

What, then, was the simple control that Reich needed to perform? Reich's last control came very close to it. Since essentially the phenomenon first discovered by Reich had to do with the anomalous thermal effect of energy radiation above a metal box, or some certain metal boxes, the decisive control was simply to freely suspend a 'naked' or noninsulated metal box - so that the thermometer above its top, being at the same height as the freely suspended air-thermometer control, would or would not verify whether the thermal anomaly subsisted. If it still did, then neither Einstein nor Infeld could have continued to object - for this time, the bottom of the box would have been a good thermal conductor in direct contact with any convection currents that might arise from the ground or floor. Reich's exposition of thermic organometry in "The Cancer Biopathy" is not amongst his clearest - yet, it begins precisely by building a cubic foot metal box, which he already calls an Orgone Accumulator [6], and measuring the temperature in a well insulated cylinder above this simple metal box against the temperature of the air in the room. To satisfy the entirety of the argument developed by Einstein and Infeld, Reich only had to suspend this very contraption - strictly speaking, this Faraday cage - and demonstrate thermally the presence of some radiation emanating from its top. *That* was the discovery, and nothing more. And that, also, was the core of what we have termed the Einstein-Reich experiment.

We begin therefore by a reproduction of this experiment, comparing the results obtained indoors precisely with a suspended metal box, against a suspended control thermometer, as well as against a metal box and a simple ORAC like the one that Reich loaned to Einstein, placed upon individual stands. This approach eliminates entirely the problem of tabletops, and compares a metal box that is freely suspended, and thus subject to convection currents on its underside, to one which is isolated from the ground, and thus isolated from convection currents on its underside, by an individual stand. With this method we succeeded in separating the thermal anomaly from the effects of any convection currents in a closed, basement laboratory room.

RESULTS

To reproduce the Reich-Einstein experiment with the adequate control that we have just described above, we built three identical galvanized iron metal boxes, suspended one, mounted the other on a stand, encased the last within a specially designed wooden box, to form a simple ORAC, and mounted this last contraption also on an identical stand. This simple (or single layer, 1x) ORAC reproduces the simple 1x ORAC that Reich lent to Einstein in 1941. It consisted of a 10"x10"x10" wooden box that fit over a galvanized iron metal box, into which was inserted (from the top) a mercury thermometer, having its bulb 2 to 4 cm away from the top of the metal inner chamber. When the wooden box and the metal box were taken apart, each could be tested separately - it is in this sense, that in his February 6, 1941 letter to Einstein, Reich reports that, by itself, each box developed a *minor or no positive* temperature difference towards ambient air, but when put together, they maintained a consistent difference of 0.5 to 1.1°C.

So we constructed two identical pine boxes (10"x10"x10", 0.5" thick) with a removable bottom and painted them with shellac, and three gauge 27 pulled galvanized iron metal boxes (8"x8"x8") having a swinging bottom. We next assembled one of the metal boxes inside one of the wooden boxes, to reproduce the simple ORAC arrangement that Reich loaned to Einstein, and kept the other two boxes, one of metal and the other of wood, as controls, suspended and mounted. At the height of 3 cm above the top of each metal box, we placed a thermometer inside a PVC pipe insulated on top by packed mineral fiber, with an unimpeded space all around the thermometer bulb (as per Reich's indications). All thermometers were identical -10 to +50°C calibrated mercury thermometers with a resolution of 0.05°C. They were all calibrated at three different temperatures in a shaker water-bath and proved to read within 0.05°C of one another, and within 0.025°C of their means at different temperatures. Subsequently, they were randomly distributed between the devices.

To make the test conditions as disadvantageous as possible towards proving Reich's contention, while keeping to strict verification and controlled repetition, we conducted the experiment indoors, during the winter, in a very large basement laboratory room that was not heated (hence the cool ambient temperatures that we registered), but had all four walls isolated from the ground and the outside air by other inner walls leading to cold cantina rooms. All doors were kept shut around the clock and significant air leaks plugged. The windows were sealed and the room was kept in the dark. Measurements were taken with a flashlight. All the devices were placed at the same height, half-way between the ground floor and the ceiling, such that all thermometers were also at the same height. The devices were placed (one suspended, the other two on individual stands formed by solid cardboard boxes) in a triangle around the control room thermometer, at >2 feet of distance from each other and from the control thermometer which was also freely suspended at the same height, in the center of the triangle. We would expect that, if Infeld and Einstein were correct, we might see a positive temperature difference in the two devices that are mounted on individual stands, since the stands

will block any convection currents that might cool the boxes from below; but we should not see any significant difference between the temperature of the metal box that is freely suspended and the temperature of the freely suspended thermometer, since the suspended metal box is directly exposed to cooling by communicating with the cooler convection currents that rise from the ground. Conversely, if Reich were correct, we should see a positive difference in all three box thermometers, because the phenomenon - the thermal anomaly in question - is not caused by convection currents, or their unbalance, but by the radiative property of metals with respect to an energy that is not *per se* the same as thermal energy, but which, by reflecting from metal surfaces, converts into heat.

The results shown in Fig. 1 are for a 6-day sample of a continuously running experiment, in the winter month of February, comparing the temperature of the thermometer 3 cm above the top of the suspended metal box with an identical indoor air thermometer suspended freely at the same height 2 feet away. The first obvious feature of this figure is the parallel diurnal pattern of the two curves which, with the exception of the first 24 hours, display a cyclic rise from midday onwards, and a steady fall through the evening, night and early morning. The experiment begins as a severe snow-storm is in progress outside, and this is immediately reflected in the null or even negative temperature difference observed for the first day of the experiment. For the next three days (24 to 96 hours),

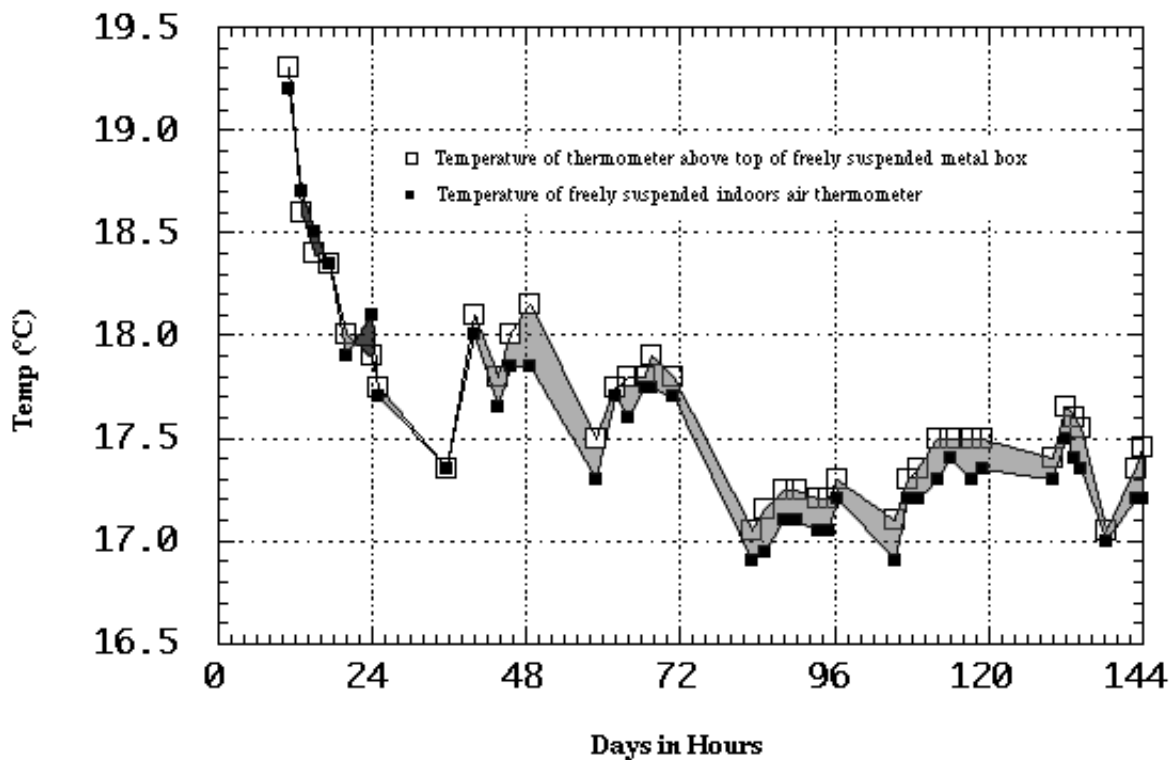


Fig. 1 - Control and experimental indoor temperature curves for a simple suspended Faraday cage, over a period of 6 days.

however, the weather was bright, clear and cold - and the temperature difference now becomes solidly positive, remaining so even through the cloud covered period of the fifth day (96 to 120 hours), and the second snowfall of day six, is responsible for the midday temperature fall at ca 132 hours. Despite the null and even negative values registered, a paired Student t-test indicates that the mean difference of $0.12^{\circ}\text{C} \pm \text{SEM} 0.016$ (max. 0.3°C) is highly significant, with $t = 7.699$, $p < 0.0001$ and $df = 39 = n-1$. This is indeed a much smaller difference than that claimed by Reich and corroborated by Einstein, but an irreducible one nevertheless that proves the reality of the anomaly, since it is observed even when the underside of the box is directly exposed to any convection currents that, arising from the ground, could cool the metal box. Einstein failed therefore to perform the critical control, and so did Reich, who came very close to doing so when he suspended a simple ORAC, instead of the metal box itself. But Reich is hereby vindicated by this experiment - even under conditions as disadvantageous as those we chose, one can detect a significant and persistent, positive temperature difference that proves the irreducible reality of the thermal anomaly that he discovered.

The results obtained simultaneously with an identical metal box whose underside was protected from communicating with any convection currents rising from the ground, are presented in Fig. 2. Here, one can graphically see how the difference between the temperature above the top of

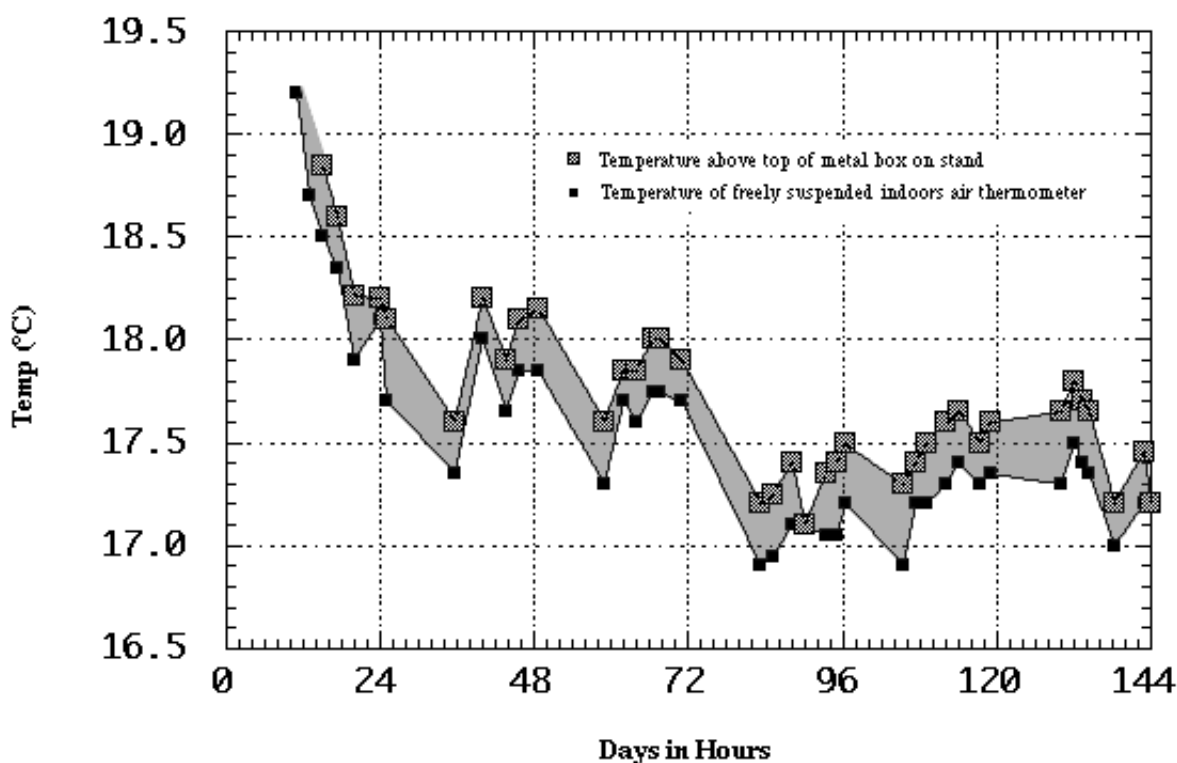


Fig. 2 - Control and experimental indoor temperature curves for a simple Faraday cage on a table stand, over the same 6 day period.

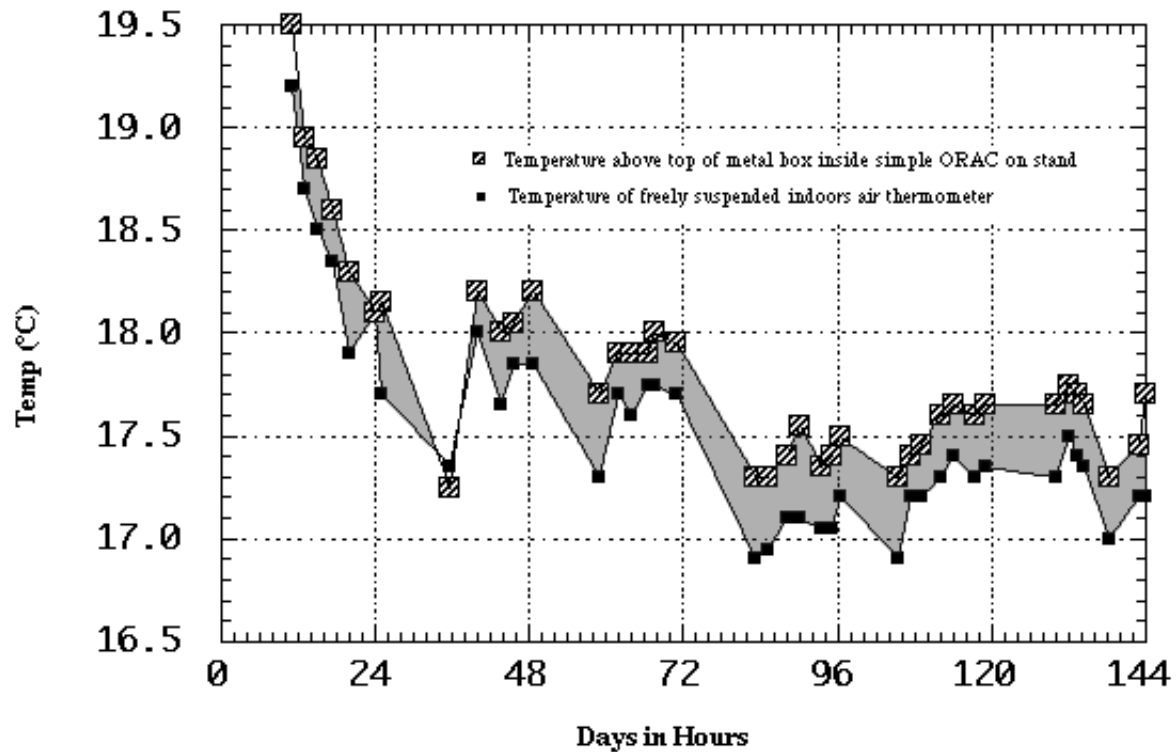
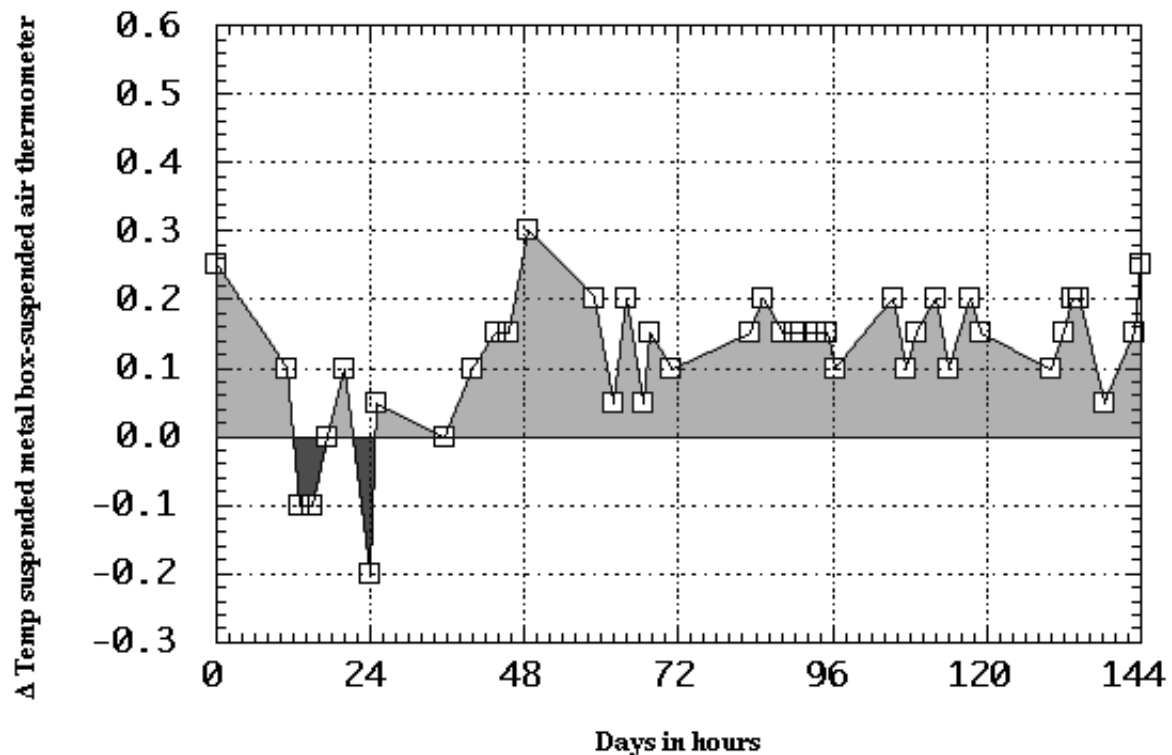
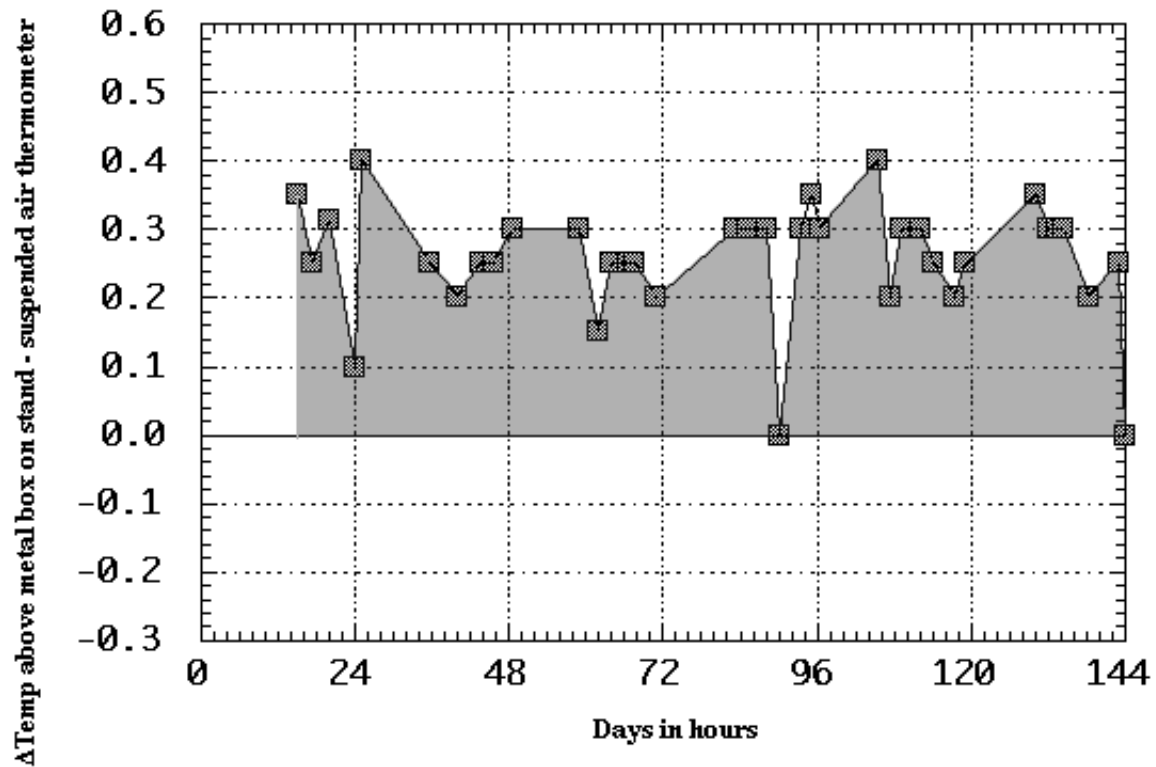
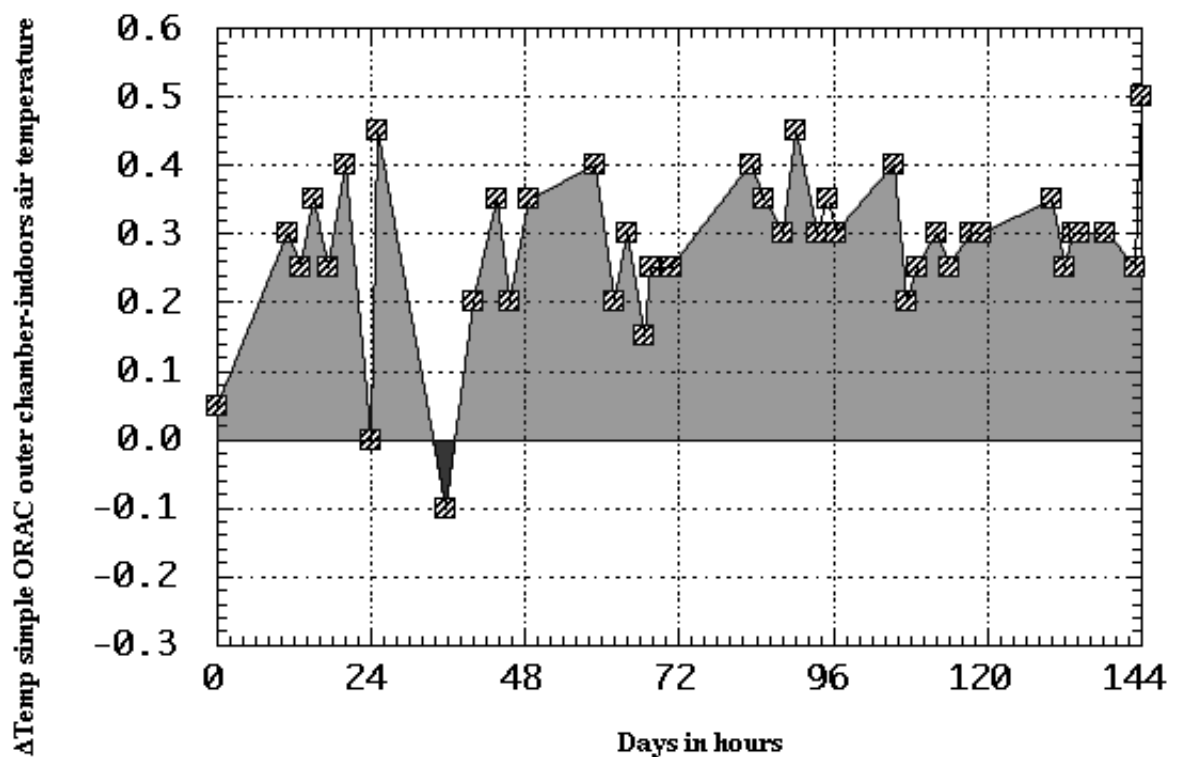


Fig. 3 (above) - Control and experimental indoor temperature curves for a simple ORAC on a table stand, for the same 6 day period.

Fig. 4 (below) - ΔT_1 values for suspended Faraday cage.



Fig. 5 (above) - ΔT_2 values for Faraday cage on a table stand.Fig. 6 (below) - ΔT_3 values for a simple ORAC on a table stand..

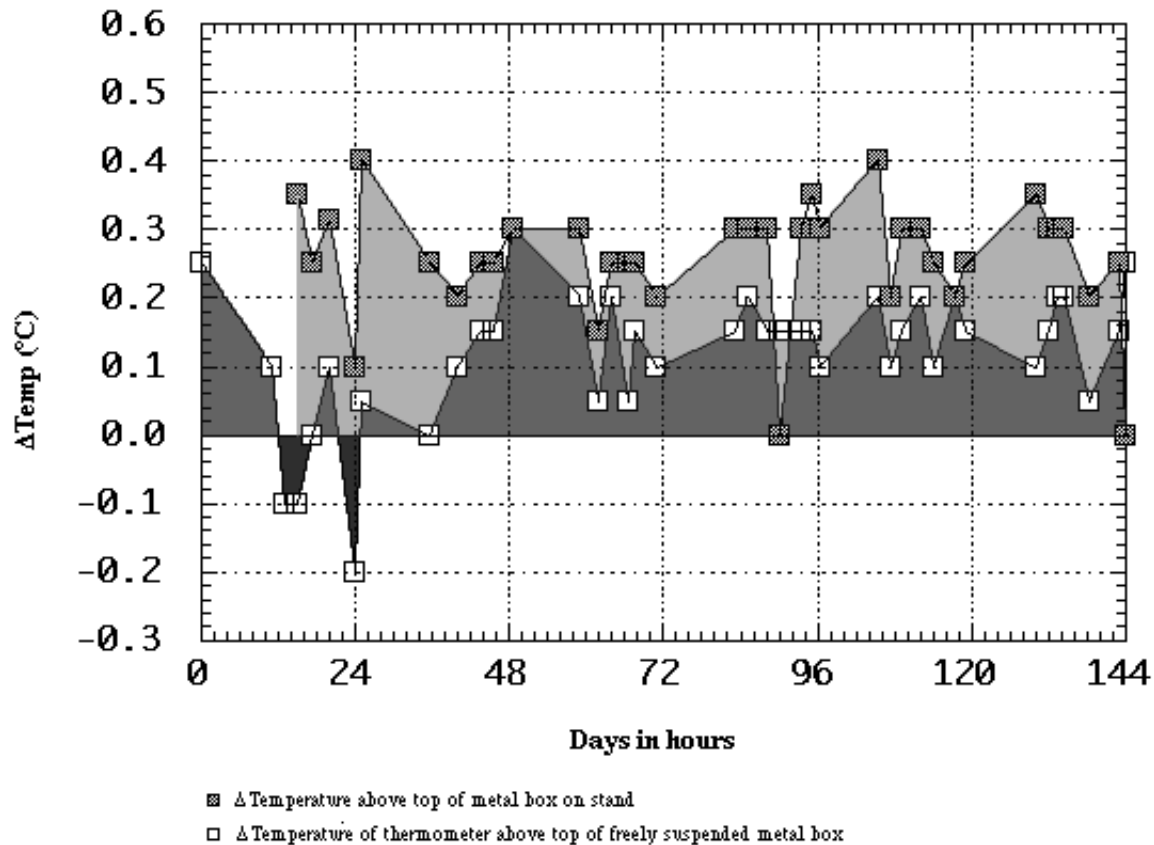


Fig. 7 - Comparison of ΔT curves of Figs 4 & 5.

the metal box on the stand and the temperature of the indoor air thermometer, has now increased, in fact by more than two-fold, and is always positive. The mean difference of $0.257^{\circ}\text{C} \pm \text{SEM}0.015$ (max: 0.4°C), was also evaluated by a paired Student t-test as highly significant, with $t = 17.822$, $p < 0.001$, and $df = 36$. A still greater positive difference was generally registered for the same time period by the thermometer above the top metal plate of the simple ORAC also placed on an identical individual stand, and this is shown in Fig. 3. For the outer chamber of the simple ORAC, the mean difference recorded was $0.283^{\circ}\text{C} \pm \text{SEM}0.019$ (max: 0.5°C), and a similar paired Student t-test also rejected the null hypothesis, with $t = 15.432$, $p < 0.0001$ and $df = 39$.

The curves for $\Delta T = T_{\text{atopbox}} - T_{\text{control}}$, which Reich specifically designated as $T_o - T_i$, for each of the three boxes tested are shown in Figs 4 to 6: ΔT_1 for the suspended simple cage in Fig. 4, ΔT_2 for the simple cage on a stand in Fig. 5, and ΔT_3 for the simple ORAC on a stand in Fig. 6. All three curves document the consistently positive temperature difference that serves as signature to the thermal anomaly observable above certain metal boxes and which Reich discovered. Instances when ΔT is negative do occur, but they are by far and large exceptional situations, caused either by rapid warm-

ing of the local environment (whose effect lags inside even simple ORACs) or are coincident with severe weather systems. Despite these occasional null or negative values of ΔT , statistical analysis demonstrates that all three ΔT values and curves present highly significant differences.

Fig. 7 compares the ΔT values obtained for the two metal boxes, one suspended freely and the other on the stand. The darkest grey areas represent negative values of ΔT , the intermediate grey areas represent the instances where both boxes give positive ΔT values, and the lighter grey areas the positive ΔT values registered only by the standing metal box thermometer, in excess of the positive ΔT values for the suspended metal box thermometer. A paired Student t-test for the two metal boxes gives their difference also as highly significant, with the mean difference between them being $0.134^{\circ}\text{C} \pm \text{SEM}0.02$ (max: 0.418°C), and $t = 6.743$, $p < 0.0001$, $df = 36$. The difference in temperature between the thermometers placed above the two metal boxes (ie $\Delta T_2 - \Delta T_1$) is shown in Fig. 8, and indicates the full breadth of the thermal phenomenon Reich discovered, under stringent or limit conditions, since it now excludes any cooling of the metal box from below, which does in fact (but for one negative reading) obscure the phenomenon by the variable amount shown in that figure. Finally, the addition of the wooden panels to form a simple ORAC, adds to the naked metal box a marginal increase in temperature above its top plate ($0.032^{\circ}\text{C} \pm \text{SEM}0.022$, with max: 0.425°C), and

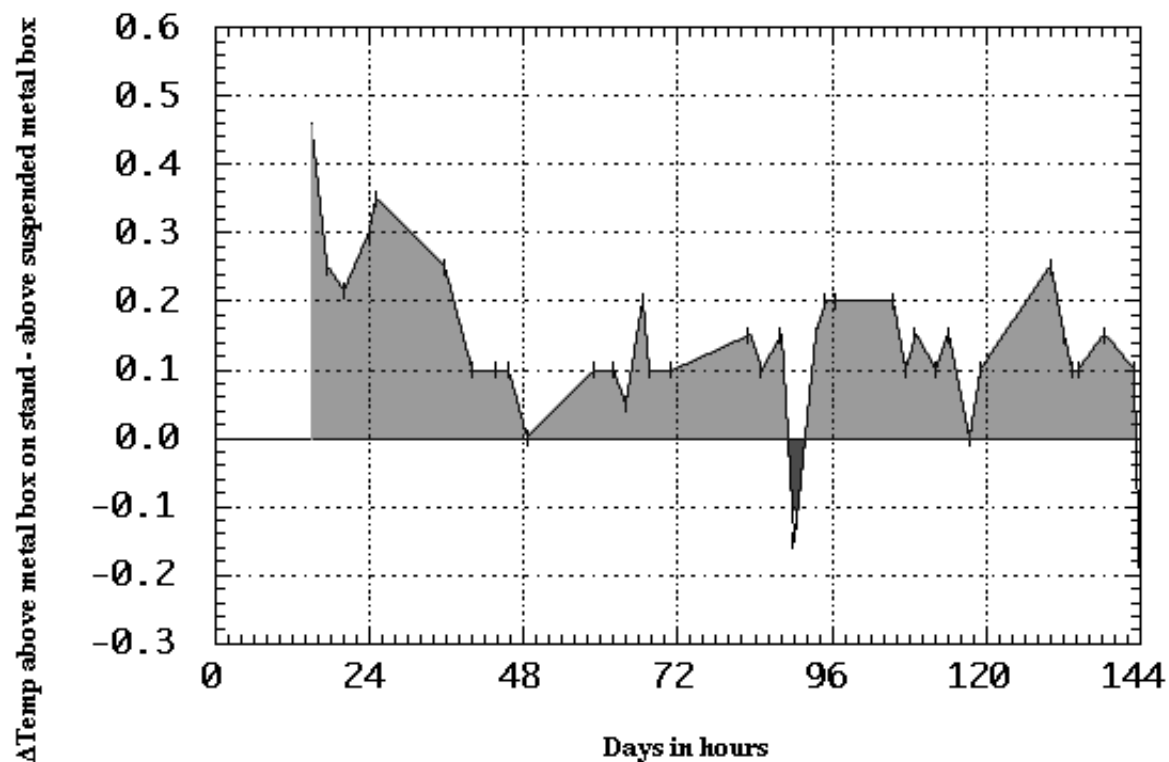


Fig. 8 - Curve for $\Delta T_2 - \Delta T_1$.

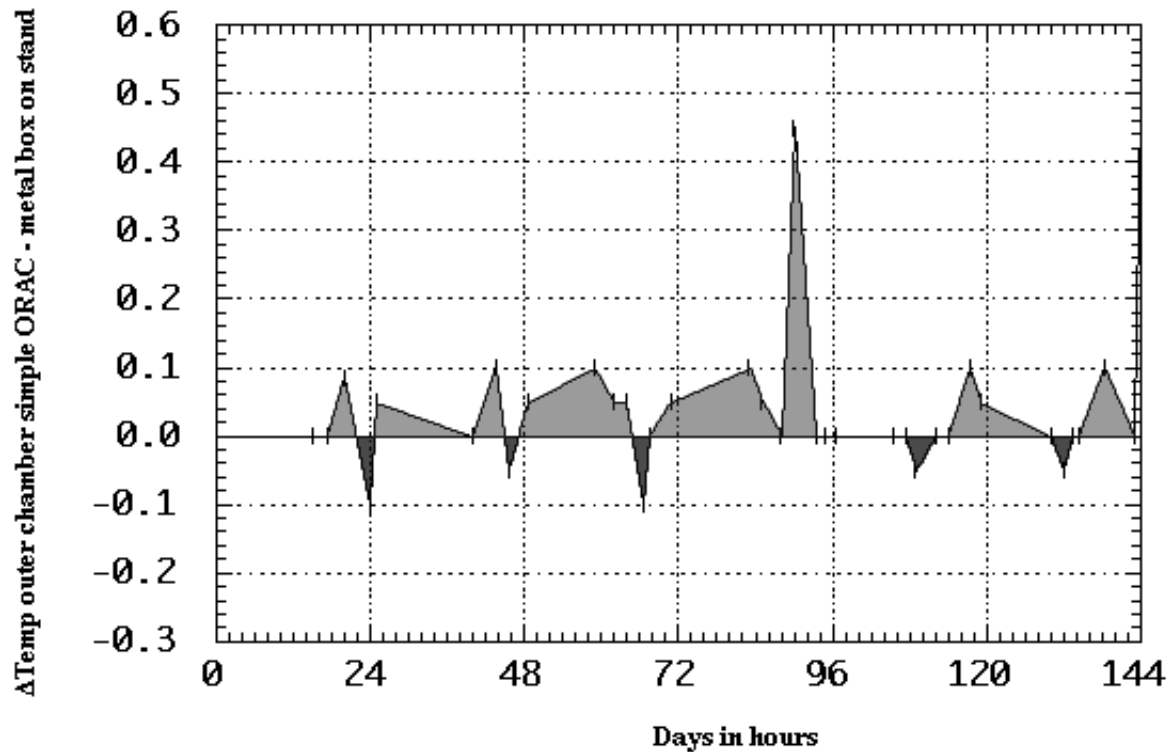


Fig. 9 - Curve for $\Delta T_3 - \Delta T_2$.

the difference between the temperature above the top of the simple ORAC and that above the top of the metal box on the stand (ie $\Delta T_3 - \Delta T_2$), is shown graphically in Fig. 9. An evaluation by the paired Student t-test accepts the null hypothesis at $p < 0.05$, since the t value is 1.462 (df = 36), putting $p < 0.152$ as condition for its rejection. We conclude, as Reich did in later years, that wood panels are poor absorbers of the ambient energy responsible for the observed thermal anomaly.

DISCUSSION

These simple results unequivocally demonstrate the correctness of Reich's observation regarding the existence of a thermal anomaly above certain metal enclosures, and formally as well as experimentally disprove the objections and interpretation put forth by Infeld and hastily accepted by Einstein. Furthermore, we demonstrate how the thermal anomaly can be separated from the cooling effect of any convection currents arising from the ground or the floor, and persists when the underside of the metal enclosure is directly exposed to these currents. Since Reich tried so many experimental variations on his measurements of this thermal anomaly with ORACs (going as far as responding to Einstein's letter with a 26 page letter replete with other experimental observations that served as evidence for his theory of a more fundamental kind of energy), he might well have been excused for not having performed what we have called the critical control experiment, particularly when he

came so very close to it. Yet, these authors firmly believe that such an experiment was all that Reich needed in order to have properly countered the Infeld objections that Einstein later adopted. The Reich-Einstein experiment remained therefore inconclusive and incomplete - as if for all time condemned to a permanent state of suspension, with its terms of reference forever muddled.

The experiment that Reich set up with Einstein on that February day in the midst of WWII, is in all probability the must bungled experiment in the history of science. It would forever leave hanging over Reich the specter of failure, if not crankiness. The man who was later dubbed the greatest genius of the XXth century by the universal media entente, had rejected Reich's discovery of a thermal anomaly as a trivial artifact resulting from the blockage of normal indoor convection currents. And the only reason why Einstein had deigned to talk to the most eminent pupil of Freud, and pursue the matter at all, had been because he had 'bitten' Reich's words which ventured that orgone energy research might possibly "be used in the fight against the Fascist pestilence". Thus, the official chronicler of Einstein, R. Clark, wrote in his biography - "Einstein, who had encouraged the country forward in what still seemed to be one in a million chance of using nuclear fission for this very purpose, was the last man to resist such a bait" [7] - only to conclude that "Einstein found a commonplace explanation of the phenomena which Reich had noted". The totally unwarranted plural - 'phenomena' - is employed here to dismiss the entirety of Reich's findings which he had reported to Einstein, as if Einstein could, with the wave of his hand, equally dismiss all the other anomalous phenomena Reich had unearthed. Further, to be loyal to the record, what was at stake in Einstein's own view, was not *phenomena*, but the *phenomenon* of a thermal anomaly, for which not Einstein but Infeld, had 'found' a trivial explanation. Never mind the small lapse on the part of a great mind, in having overlooked the obvious commonplace explanation (later supplied by Infeld), when Reich visited him at Mercer Street on January 13, 1941. It might well not have been the most intelligent move on Reich's part, to unveil all of his discoveries at once and thereby cause them to hinge upon verification of a thermal anomaly which clearly required more careful observation and experimentation than the man who was officially sanctioned as the brightest of the XXth century had been willing to dedicate. But there it was: all of Reich's discoveries seemingly pivoting upon one experimental proof.

For sixty years, the Reich-Einstein experiment has remained forbidden territory - unmentioned by conventional physicists, muddled further by the poor experimentation and understanding of Reich's would-be disciples. Not one stringent repetition was ever performed. This alone stands as a tribute to the tortuous slowness of change which the human armor imposes upon human understanding and grasp of natural processes. Yet, the thermal phenomenon is a verifiable reality, observable even under disadvantageous conditions. Therefore, Infeld's objection is shown to be a facile one, and Einstein's oscillation between accepting Reich's explanation and hastily accepting a facile objection, leaves us with a curious measure of the extent to which Great Men are only the idols of Little Men.

We have performed what we consider to be the critical control to the Reich-Einstein experiment and, as the reader can see, the positive difference between the temperature atop a naked suspended metal box and the control temperature of a suspended air thermometer, is in general sustained around the clock and is highly significant by statistical analysis. Furthermore, the same thermal anomaly is not observed with a wooden box (results not shown) - where, to quote Reich, “the temperature above the wooden box [control] is the same as within” [8]. The thermal anomaly is therefore a reality independent of any convection currents in a closed room and is specific to the energy functions of a metal box. This alone would have proven correct the hypothesis that Reich had proposed regarding the existence of a nonthermal radiation that is ultimately responsible for the production of an excess thermal energy above the top of the metal box. But very much wanting to connect this radiation with the electrostatic phenomena of dielectrics, Reich appeared to make the phenomenon entirely dependent upon a certain arrangement of dielectric and metal materials (“The demonstration of such irregularities in the equalization of temperature succeeds only if one imitates, in miniature, the arrangement of materials of a planet such as our earth. Then one finds indeed *a constant temperature difference without a constant source of heat of any known kind*” [9]), whereas the phenomenon such as we have reproduced it and such as he and Einstein verified it, referred directly to the performance of the metal box, specifically to the production of heat above its upper surface, a phenomenon which the addition of the dielectric (or the arrangement of the materials) limited itself to further amplify.

Is orgone energy the same as thermal energy?

The question that then arises is whether the radiation ultimately responsible for this thermal anomaly is thermal radiation or not. Reich himself wavered in his reasoning, suggesting that his choice of emplacement of the thermometer was predicated on a flux of thermal energy that, to pick an argument, could just as well have been a convective flux as a radiative one, or for that matter a conductive one - as when he writes that “since heat rises, the most favourable spot for temperature change to be registered is above the top metal plate “ of an ORAC [6]. Yet, his reason to visit Einstein was predicated on the wider discovery (the ‘phenomena’) of a nonelectromagnetic form of energy radiation. Moreover, in the paragraphs preceding that quote, Reich had just introduced his reader to the notion that this nonthermal and nonelectromagnetic energy is radiated, as well as reflected, by the surface of a metallic box, and that when the motion of this radiated and reflected energy is blocked, it gives rise to a local increase in temperature. In the same presentation, Reich also entirely glosses over the thermometric measurement of the inner chamber of the ORAC - ie the measurement of the temperature *inside* the metal box of the ORAC. In a separate writing entitled “The orgone energy accumulator” published in 1951, the only reference he makes to the performance of the inner chamber of a simple ORAC is in the following passage: “The temperature, as compared with room tem-

perature, is highest *above the upper metal plate, slightly lower within the orgone accumulator* [he means, within the inner chamber], and lowest in the air of the room surrounding the orgone accumulator, at least three feet distant and at the same height" [10].

In another of his writings, which Ms. Higgins has seen fit not to republish, Reich describes his meeting with Einstein, but this time - for the first and only time - with direct reference to the problem of the difference between the inner chamber and the outer one. Since the top of the metal box inside the ORAC is a thermal conductor plate, were the energy radiating through it thermal, it should equalize the regions of space above and below it - which it does not. In the course of a reconstructed outdoor demonstration of the thermal phenomenon being given to an imaginary interlocutor, a "rational electrophysicist", Reich writes: "*The result remains the same. The thermometer inside the orgone accumulator shows a temperature several degrees lower than the thermometer above the upper metal surface. (...) When I told an eminent physicist about this fact he declared it to be impossible. The temperature within the orgone accumulator is always lower than above its upper surface.* This fact is difficult to explain." However, nowhere did Reich or Einstein actually measure the temperature inside the metal box, beneath the top metal plate, in the course of their interchange. The fact that it is lower than the temperature above the top plate cannot be inferred from Einstein's interpretation: that when the metal box is in direct contact with the tabletop, the temperature above the top plate ceases to present a positive ΔT value. A short while later in the same publication, Reich plunges head-on into a description of the crux of the "Einstein affair", as he would later call it:

"I had been observing the temperature difference in my basement laboratory since 1939. In closed rooms, it is rarely higher than 1-5°C apparently because the orgone radiation from the walls and from objects in the room is too strong. I presented my finding to a man who is a great authority in physics. At that time I did not yet know about the results of measuring the temperature in the open air because I had discovered the atmospheric orgone energy only a short time before. The physicist patiently listened to my story in the course of a four to five hours' conversation. The fact that the temperature above my accumulator was several degrees higher than inside he considered impossible. The difference between the box temperature and room temperature- if true- he considered a "bombshell". He expressed the wish to observe the apparatus for some weeks. I put one on a table in his basement. The control thermometer I suspended freely in the room, at the same height. He convinced himself in my presence of the temperature difference and observed its constant existence over a period of two weeks. He had promised me to support the orgone research if he could confirm the existence of the temperature difference. Now he had confirmed it. Then he called in an assistant. The assistant soon found "an explanation". The temperature difference, he opined, was due to "convection of heat from the room ceiling to the table top". If his interpretation had not been irrational, he would, of course, have convinced himself of its correctness or incorrectness by conscientious experimentation. All he would have had to do was to put the control thermometer at the same height with the orgone ther-

momometer above the table top. This would have shown him that the temperature difference continued to exist and that his argument was incorrect. His chief took the trouble of taking the apparatus apart and found a temperature difference between above and below the table top. This phenomenon was well known to me. It is explained by the stopping of the soil [ie ground] orgone radiation at the lower side of the table top and has nothing to do with the temperature above the apparatus. If one interrupts the convection of heat from the room ceiling and replaces the wooden table top by a metal one, thus eliminating the difference, the phenomenon T_o - T nevertheless continues to exist. Of these measures, the high authority in physics did not think. The simplest procedure of course, was that of excluding all heat influences as may exist in a room to measure in the open air as we just did. This excludes room ceilings as well as table tops.

E: The superficiality of this assistant is amazing. After all, that's no way of dealing with a gigantic problem. How did it come out.

O: As usual, I refuted the assistant's interpretations by the measurements in the open air, where not only the objection is eliminated but where the phenomenon is even more marked. I submitted the results of these new measurements to the physicist but never received an answer. I never quite understood this but I cannot help feeling that this man, who had understood my problems and findings very well, simply wanted to keep aloof in order not to engage himself although he must be convinced of the correctness of my findings.

E: That must have been a bad blow.

O: That it was. I had to think of the many great and small discoveries which, in less robust characters, are done away with in this manner only to be newly discovered, or rather, to be stolen, by others."

Now, this passage also is far from clear. Indeed, the way to disprove the significance of the effect of convection is not to expose the air thermometer also to it, by placing it over the table top. If one does so, it becomes much harder to detect the positive difference, since the convection of warm air rising from the table top increases the temperature read by the thermometer, and any thermal radiation arising or reflecting from the table top will also contribute to such rise. What was needed was to study the naked metal box suspended freely like the air thermometer was.

Secondly, the reference to radiation from the ground itself further muddies up matters, since it appears to deny the existence of convection currents beneath the table top and replaces them instead with the notion of radiation arising from the earth. However, Reich did not seem to notice the paralogical error he was hereby incurring, since the stoppage of such radiation arising from the soil by the underside of the table top would warm up the underside and not cool it, as the Infeld argument based on convection suggested it did.

In this same 1944 publication, Reich argues through the mouth of a rational electrophysicist being convinced by the evidence regarding the existence of a different energy form: "As we know, heat

is only a *form of manifestation* of energy anyhow, and not energy itself. But I cannot as yet think of a connection between orgone and heat" [9]. Even though this was written in 1944, before Reich's discovery of the "orgone motor circuit", there is no reason to believe that Reich was ever able to solve the problem of the relation between orgone and heat, either theoretically and mathematically, or experimentally. However, he steadfastly held to the view that the radiation responsible for the observed thermal anomaly atop a metal box could not be heat, since "in caloric research, one finds always the same thing; all temperature differences result in an equalization from the higher to the lower temperature which takes place more or less fast or slowly according to the conductivity of the substances involved" [9]. In other words, it is well established physics that heat can only dissipate - by conduction, radiation, absorption and re-emission - whereas the observed production of anomalous heat would require the latter to violate the entropy corollary of the Second Law of Thermodynamics in order to spontaneously accumulate in the outer chamber of the ORAC. Such a view is not compatible with the electromagnetic notion of passive absorption in blackbody theory - since it requires an "active drawing in" of a radiation field that prevents the equalization of temperatures predicated upon thermal diffusion of energy. The reader will realize that from the viewpoint of electromagnetic theory, whether classical or treated by Special Relativity, fields originate in emitters that are as near to being, in turn, perfect absorbers, as they conform to the stochastic distribution curve of a blackbody. But Reich was invoking not the properties of an emitter-absorber, but that of an "active receiver", as if the receiver could act to form a "draw field" (or Reich's "reverse potential") that sucked energy from its surroundings - obviously extracting it from many an emitter. Such an hypothesis would only contradict the Second Law of Thermodynamics if the energy drawn in by such a receiver were thermal; were this the case, then the experiment would have proven the existence of negentropy.

However, we do not think that the protocol of the Reich-Einstein experiment forces us in any way to conclude to a reverse potential, and even less to negentropy. The experimental results only force us to conclude that the anomalous thermal phenomenon is a verifiable reality which is not explainable by convection currents. But there is no reason to invoke a violation of the Second Law of Thermodynamics if the heat generated results from the conversion of radiant energy that is only absorbed or captured passively, be it advantageously because of the materials employed. In the indoor results, it is evident from the present study as well as from all measurements of the outer chamber of a simple ORAC [11], that - whatever the source of this radiation in a dark basement room is - the radiation can be trapped to increase the temperature of the outer chamber. Moreover, if the absorbed energy is not thermal, then the problem is not one of thermodynamics.

The question that matters, it seems to us, is the determination of the source and the nature of the captured energy that is converted into heat. The observed diurnal variation in heat production strongly suggests a solar source, but what is its nature - is it electromagnetic, or nonelectromagnetic? Is it electric or nonelectric?

Reich was obviously mistaken in thinking that heat is not a form of energy. For heat is either kinetic energy of molecules or electromagnetic energy of photons. In fact, had he just discovered that thermal radiation (photons) flows both entropically by a mechanical potential and negentropically by a reverse potential, under assignable conditions, this would have been no less a bombshell in physics than if this radiation that flows by a reverse potential were not thermal. But precisely, the experimental thermal anomaly does not contravene any law of thermodynamics, because the energy that gives rise to heat is - as invoked by Reich - neither thermal nor electromagnetic. It is this fact (and not some ill-conceived negentropy or violation of the Second Law) that should have been understood as “the bombshell in physics”: that an unknown form of radiant energy likely of solar origin could be converted into heat by certain materials or arrangements of materials placed even in a dark, cold room. This is apparent from the dialogue between Einstein and himself which Reich reconstructed as follows [9]:

[Reich:] (...) Then [at last] one finds [with a suitable arrangement of materials] indeed *a constant temperature difference without a constant source of heat of any known kind*.

[Einstein:]: I was prepared for all kinds of surprises, but this would really be a bombshell.

[Reich:] I am afraid that when this “bombshell” is going to explode, many a physicist will dig in behind an impenetrable wall of “interpretations” which are to explain the phenomenon away.”

However, Reich could not formally demonstrate just what type of energy this was, that generated heat when captured by certain materials. Anymore than he seemed to realize that heat is a generic term for different energy manifestations, some kinetic, others electromagnetic. He needed, in fact, a way to experimentally reproduce the increase in heat by using a controlled source of that nonelectromagnetic radiation, as we have presented elsewhere [12-13].

With his invention of the ORAC and his theory of an orgone energy distinct from thermal energy (in “Ether, God and Devil”, he writes that “most orgonotic functions are cold”, and that only reflection from metal and concentration in dielectrics by attraction or draw, can “create heat”), Reich felt that he could legitimately claim that his ORAC functioned not like a passive black body, but like a cavity that drew this nonelectromagnetic energy from the surrounding environment. The ORAC had to be conceptualized as a passive arrangement that actively drew or attracted (via a reverse potential) and then trapped (by its reflecting inner cavity) a fixed percentage of the constant atmospheric flux of the ‘orgonotic particles’ passing through it. This capture of orgone energy added energy directly to the medium in the enclosure, and it is only the reflection of this energy within the metal cavity, as well as outside of it, from its external surface, that is detected as heat. In his last published book, “Contact with Space”, Reich would systematize the two direct transformations of OR energy, *caloric* and *motoric*, the former involving “inner friction” of gases and solids, and the latter mechanical motion as OR energy transferred the momenta of its particles to matter. He added - “Raw as this thought is, it deserves consideration” [14]. Clearly, Reich considered that the thermal effect of the

ORAC was not a transformation of the kinetic (or the intrinsic) energy of the air molecules present within the enclosure, via intermolecular collision, but a far more direct process whereby a nonthermal, nonelectromagnetic radiant energy, if trapped and sufficiently concentrated, would convert into the sensible thermal energy that we measure with thermometers.

The results in this report, taken in isolation, do not permit one to take any conclusion other than that there is a sensible thermal anomaly that occurs atop Faraday cages without any apparent source of heat. However, we contend that it is only on the surface that the anomaly appears to defy the Second Law of Thermodynamics. As thermal energy does not arise *ex nihilo*, it must result from the conversion of some other energy, evidently not thermal. So the results compel us to consider how such a conversion can take place. All sorts of conversion processes generate heat - chemical reactions, absorption of ionizing electromagnetic radiation, absorption of optical radiation, release of so-called latent heat. But it seems that, latent heat excepted, none of the others are at work inside or atop the Faraday cage. Elsewhere ^[15] we have shown that, when directly exposed to the sun, these cages also accumulate latent heat, besides sensible heat, but this accumulation of latent heat only raises once again the question of the nature of the radiation that the cage captures from its environment to begin with: How does latent heat accumulate inside of these cages? What exactly is the nature of the solar radiation that is converted into latent heat? Thus the problem increases in complexity, as solar radiation present in the environment is passively converted by these cages into variable forms of energy - latent heat of the molecules inside its enclosure, kinetic state of the same molecules, and release of electromagnetic energy or photons that together form the cage's blackbody profile.

Since we have demonstrated that every blackbody distribution results from the shedding - above all, by electrons - of kinetic energy that was initially absorbed by exposure to an accelerating electric field ^[13]; and given that we have also formally shown that this field is ambipolar and massfree ^[16], we suggest that the blackbody profile of Faraday cages is, even when plunged in the dark, the indirect result of their capture of a solar energy flux that is not electromagnetic, but ambipolar and mass-free. How captured energy is released as sensible heat, or held instead as latent heat, is still another problem to be understood - and this we have done in separate communications ^[17-20].

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Demonstrating Aether Energy

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If you were a deep-living fish, it might be tough to prove to your fellow fish that the world you were swimming in might hold, besides water, an invisible component indispensable to your existence, which you constantly move through and breathe in with the water that you swallow. Without a sensation of that pristine dissolved gas phase on its own, all your fellow fish would assert that the world was no more than interminable water, bounded with a sandy or rocky “bottom.”

Debates would rage among the more philosophical fish about the “air” that might exist within (and perhaps *above*) the water, or about a hypothetical three-dimensional, infinite “empty space” that might comprise the greater universe. That “space,” some fish would claim, might be even more fundamental than water and could be absolutely devoid of it—a barely conceivable idea for a fish! Virtually all physicist fish in this WaterWorld would be content to build their “theories of everything” on the hydrodynamics of water.

As fish are to air and space, so are human beings positioned with respect to the hypothetical *aether*. It has been difficult to fathom what lies right inside, around, and beneath our very noses. In critiquing the history of the aether and Einsteinian relativity, whose supporters dismissed that hypothetical light-conveying medium, the last three issues of *Infinite Energy* dealt with some profound errors at the foundation of modern physics.

Through the work of Dr. Paulo and Alexandra Correa, we learn that though the “luminiferous,” static aether may be dead, thanks to the null result of the Michelson-Morley experiment and others that followed, a far different aether is very much alive. The Correas have communicated to me this apt summary of their experimentally-informed position on the aether:

“We actually feel quite strongly that Einstein made a forward step with his notion of a null-result having physical significance. We must defend Einstein against those who view the aether as merely the medium for the propagation of light. We dispute the nature of *what* propagates in

Space—since it is not light, it is a different form of radiation. But the aether is not there to propagate light, any more than it is a medium for light. Space is not a container; Space is contained by the very energy that propagates through it. What, so to speak, propagates in the vacuum (in the phenomenological absence of matter) is mass-free ambipolar [ambi-electric charge] radiation; this radiation happens to carry the excitation for local light production, but only the presence of matter reveals this excitation by the local production of light. Einstein must be at once negated, double-negated and affirmed. The medium itself is not the conveyor of light. All theories of the static aether are thereby proven wrong. We are with Einstein at that departure. So Einstein did dismiss the static aether that functioned as a mere conveyor of light, not prematurely, but in the nick of time.”

That may well be true, but it is certainly most unfortunate that the dismissal of the original “luminiferous” conception of aether led to the denial of *any* other kind of aether. *Infinite Energy* readers have learned from the Correas of the immense opportunity that was lost when Albert Einstein botched the conclusion of the temperature measurement experiment brought to him by Wilhelm Reich in January 1941 (see *IE* No. 37, “The Reproducible Thermal Anomaly of the Reich-Einstein Experiment Under Limit Conditions,” p. 12 [NEJAR: this is the previous report in the present issue of JAR]). This was a window to new aether physics. Now the Correas have magnified and demonstrated that thermal anomaly with what might be thought of as an “aether transducer.”

A small, precision Stirling heat engine, derived from what Scotsman Robert Stirling invented in 1816, runs quite well—apparently on this transduced aether energy. People such as Dean Kamen (of “IT,” “Ginger,” and now “Segway” fame) have been trying to perfect Stirling engines for power generation in developing countries and elsewhere. Before going much further they should look into the infinite energy source staring them in the face.

Yes, the cover of this issue depicts schematically the Correas’ experimental apparatus (see Fig 1). Their article, “A Modified Orgone Accumulator (HYBORAC) as a Drive for a Low Delta-T Stirling Engine” ^[1], makes the case that the locally experienced aether energy is sourced, in part, in the Sun. A follow-on article by the Correas on this aether demonstration device, which will appear in the next issue of *Infinite Energy* ^[2], describes how they have made the same Stirling engine operate through almost seven hours of nighttime darkness! ^[3] Those skeptics who would try to pass off this issue’s discussion, and the included controls, as “merely a demonstration of ordinary solar energy and its storage,” will be more hard-pressed to explain how a Stirling engine can work so well at nighttime with no evident fuel source—preserving an adequate temperature difference between its bottom (hot) and top (cold) plates.

It is unlikely that the demonstration of aether energy described in this and the follow-on paper will convince skeptics, as the Correas themselves are first to admit. They write, “By itself, this irrefutable demonstration of free energy is not an analytical proof of the existence of either orgone

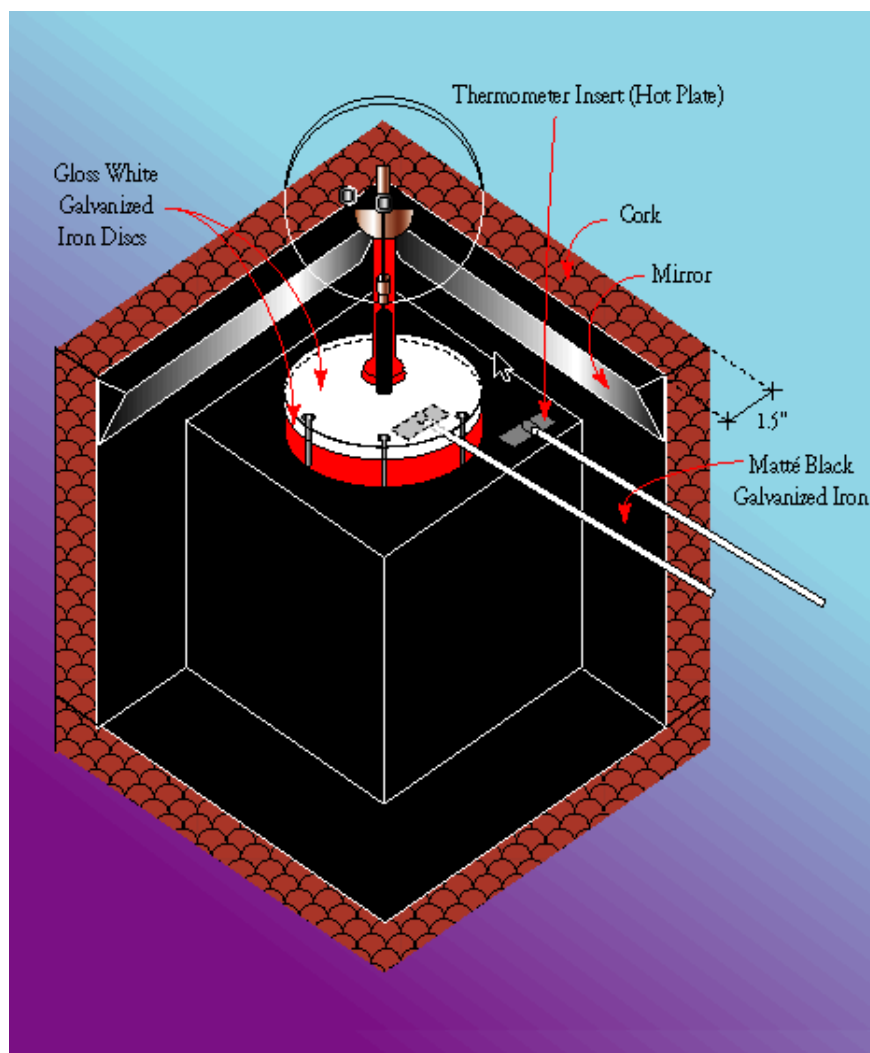


Fig. 1 - The first generation of the Hyborac Stirling machine.

energy or latent heat. [Ed. note: ‘Orgone energy’ was W. Reich’s term and ‘latent heat’ is a special term used by the Correias to characterize one component of the aether (see elaboration in text below)]. One can already hear the objections of mechanistic-minded scientists—‘all you have shown is that you can drive a Stirling from solar radiation.’ That is right. But why the contempt or incredulity? Because what they mean is that all we have succeeded in doing with the preceding was merely to show that a matte black box, properly constructed, can maximize capture of the influx of solar electromagnetic radiation and convert it into heat. Here, however, is precisely where they are proven wrong by our own demonstration that the main modes of blackbody [electromagnetic] absorption for BORACs [Black Orgone Accumulators], or the measured rate of heat flow, cannot account for the heat radiated and trapped in these devices, even when they are ‘directly exposed to the Sun.’” They refer to their website monograph, AS2-05, “The Thermal Anomaly in ORACs and the Reich-Einstein Experiment: Implications for Blackbody Theory.” [4] (Available on www.aetherometry.com.)

One of the most stark conclusions of the Correás' theory is sure to stretch the limits of the most open-minded of physicists. Their challenge:

“Aetherometry demonstrates that what traverses Space is not transverse electromagnetic radiation (and certainly not sensible heat), but longitudinal *ambipolar electric radiation* [5] emitted from the Sun. All that electromagnetic radiation consists of is a local production of photons (for those who care to listen: aether energy is *not* composed of photons, actual or virtual).”

This formulation suggests that modern physics is not just wrong, it is profoundly wrong—catastrophically wrong about even the most fundamental questions of existence, such as: 1) Is there an energetic aether? and 2) What is the nature of light? To be sure, certain mainstream (and not-so-mainstream) physicists are beginning to use the term “aether” in a revisionist sense, but only with abracadabra incantations of “zero point energy” and quantum mechanics (see the comment in this issue about a recent cover story in *New Scientist*, p. 57), or what Einstein said about “aether” in his later years. That *cannot* be the aether physics that presumptively runs this Stirling engine. To begin to understand that new physics requires reading at least the Correa monograph AS2-05.

Concerning the “latent heat” alluded to above, the Correás attribute to it precisely the same properties that meteorologists do, or that thermodynamicists attribute to the intrinsic energy of a molecule, except that they view the complex of manifestations of latent heat as a non-electric form of radiant aether energy that exists either bound to mass in an “antigravitokinetic” relation or in mass-free form. This massfree aspect may have profound cosmological implications.

Now, if the HYBORAC Stirling engine experiments fail to move you to study aether physics, and if you want to see for yourself how profoundly misdirected modern physics may be, do this, as I did last spring. Carry out a minimalist Reich-Einstein experiment. If nothing else, it's a quick way to prove that you are a better experimentalist than “*gedanken* experiment Albert” ever was:

Get yourself at least two identical batch-calibrated mercury thermometers (range 0°C to 50°C, with 0.05°C divisions). Confirm that the thermometers read the same value within say $\pm 0.025^\circ\text{C}$, by having their bulbs touching as the two thermometers rest side-by-side, suspended in air or lying on a uniform surface. I recommend using the exemplary services of the Miller & Weber, Inc. precision thermometer company (1637 George Street, Ridgewood, NY 11385, Ph: 718-821-7110). The thermometers I used were designated “T-3400s/50C1” and were 24 inches long, total immersion, yellow back, and mercury filled.

Next, have your local sheet metal fabricator make you a galvanized metal cubical container (say 8” on edge). This is your Faraday cage, which can be made air tight if you wish, but that is not very important. Then in a darkened room, perhaps a section of a cool basement and distant from walls or active heating devices, conduct a week-long experiment—or longer if you have the patience.

Hang one thermometer from the ceiling, with nylon cord tied or taped to its top, such that the mercury bulb is about at mid-room height (*e.g.* three feet from the floor). Affix the other thermometer just over the center of the top of the metal cube. Begin by taping (with clear tape) a 2" length of 0.5" PVC plastic pipe to the metal surface—orienting the tube vertically. Use black electrical tape wrapped around the thermometer just above its mercury bulb, to make a support plug for the thermometer. When the thermometer is inserted into the vertical PVC tube (or more conveniently perhaps into a snap-on PVC union coupling), the bottom of the thermometer bulb should hover 1 to 2 centimeters above the top surface of the metal cube Faraday cage.

Now you are ready to hang this contraption from the ceiling with four tough strands of nylon fishline (remember, you are *not* a dumb fish—you are *looking* for evidence of the aether!) that can support the cube from its bottom like a net. The four cords should come together above the center of the Faraday cage; the top surface of the cage should be level with the horizontal plane; and the mercury bulb of the thermometer should be at the same height as the nearby air-suspended thermometer. The Faraday cage should be reasonably close to the air-suspended thermometer—say one to two feet away.

Now, everyone should agree that in the relatively still air of a darkened room, after the equipment has thermally equilibrated, one expects that two nearby mercury thermometers, with or without a Faraday cage under one of them, should read the same. *Not so!* I found a consistent, easily measured elevation of the temperature read by the Faraday cage thermometer over the air-suspended thermometer. The two thermometers differed—ranging from about 0.05°C to over 0.6°C, with an average elevation of the Faraday thermometer between 0.1 and 0.2 °C. See the accompanying graph of this data (Fig. 2).

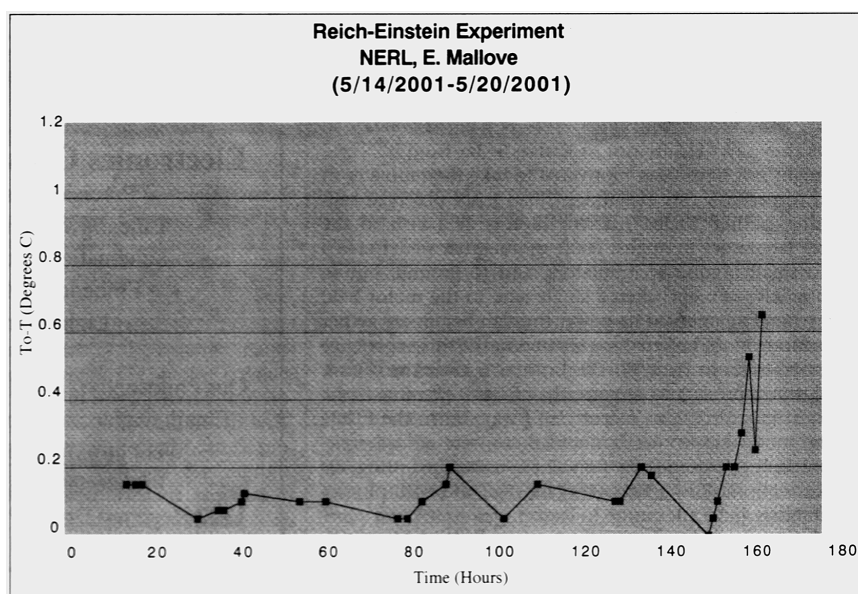


Fig. 2 - Temperature difference between Faraday cage thermometer and air-suspended thermometer during a 7 day course.

I performed several other experiments with this apparatus, but these are too involved to describe at this time. There is an apparent diurnal variation in To-T, which critics might try to pass off as some evidence of blackbody absorption differences, etc, that might be affecting the measurement. On that theory, one might have expected some negative To-T values, but there were none during that period. For now, I defer to the experts in performing the Reich-Einstein experiment repetition, the Correias, in their several references quoted earlier. In particular, their experiments with both white and black ORACs (enhanced Faraday cages) out of doors and in the shade show convincingly that some other factor is heating the interior of the Faraday cages and the heat is then percolating to and through the top. If this experiment is what it appears to be, as they say, “we are not in Kansas”—far from it.

I might not have been motivated to take thermometer in hand to perform this experiment, had I not observed self-running (aether-“fueled”) *electric* motors at a visit to the Correa laboratory in August 2000 [6], motors that were hooked up to small orgone accumulators, and to ground, but to nothing else—except when a single wire to the motor held in my hand augmented its power (human beings are aether transducers too!). I offered my testimonial of this experience in my editorial in Issue No. 39. I can now erase the caveat, “I do not represent to anyone that I have examined [the motor’s] innards.” On a recent visit I was shown the inside of the motor electronics box and there were *no active elements*, such as batteries. As far as I am concerned, these *are* self-running motors, aether energy is real, and both physics and biology have a lot more to learn.

I also saw cup-size electronics (with no active element or power source) that charged a capacitor (or re-chargeable battery) overnight. I saw an “aether field meter” (again with no power source) that produces a significant voltage according to the presence, distance, and condition of an approaching human being several meters away. Not to forget the Stirling motor demonstration, which is also a potentially utilitarian device—an augmented form of solar power.

Perhaps some of the devices (not the aether motors), which the Correias are considering licensing as scientific kits, may encourage others to study this exceptional work. I very much hope so.

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3. [NEdJAR:] Subsequent experiments and modifications permitted round-the-clock perfor-

mance, with a mean ≥ 2 watt of power for the flux of sensible thermal energy output from the Hyborac to the Stirling motor. See Correa, P & Correa, A (2003) “Around the clock free power from improved HYBORACs driving low delta T gamma Stirling engines - Part IV”, Akronos Publishing, Concord, Canada, ABRI monograph AS2-32.

4. Correa PN & Correa AN (1998, 2001) “The thermal anomaly in ORACs and the Reich-Einstein experiment: implications for blackbody theory”, Akronos Publishing, Concord, Canada, ABRI monograph AS2-05.

5. [NEdJAR:] The original Infinite Energy article contained the silly typing error “electromagnetic”, in the expression “ambipolar *electromagnetic* radiation”, which Christie Frazer failed to correct.

6. [NEdJAR:] Mallove would have occasion to see demonstrations of this Aether motor several times a year up until his death, including a chance to test it and analyze the circuit.

Theory: Experimental Physics

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Gravity and Its Thermal Anomaly:

Was the Reich-Einstein Experiment Evidence of Energy Inflow from the Aether?

(Reprinted from *Infinite Energy*, 2002, 41:61)

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Abstract

Infinite Energy has recently drawn attention to the thermal anomaly posed by a phenomenon associated with [certain] metal boxes. What has been called “orgone” energy can, it seems, be concentrated by specially-designed metal-lined boxes, which develop a sustainable temperature rise inside the box. Here the author draws attention to a phenomenon which emerged in the 1980s pertaining to a thermal action which affected the measurement of G , the gravitation constant, where forces acting on a metal sphere housed within a Faraday cage are affected by thermal radiation, as if electric charge is induced and held on the sphere, contrary to the physical teaching that charge on metal within and connected to a metal enclosure can only exist on the enclosure surface. The author’s own experiments confirm this and, given that non-neutralized electric charge is set up on and within the three-dimensional metal form, this is deemed to induce a “vacuum spin” (“aether spin”) condition which induces an inflow of aether energy that is shed as excess heat.

Introduction

One can but be fascinated by reading in *Infinite Energy* (Issue 37, 2001) first the article by Eugene Mallove (pp. 9-11)^[1] and then the detailed report on reproducing the thermal anomaly of the Reich-Einstein experiment by Paulo and Alexandra Correa (pp. 12-21).^[2] As someone having a special interest in energy anomalies, and particularly anomalies which point the finger at a mystery energy source hidden in the vacuum of space itself, what I read in these two accounts stirred some memories of my own past research efforts. I admit I had first heard of so-called “orgone energy” about fifteen years ago, but it made little sense to me and I tended to classify it along with psychic phenomena as something not belonging to the world of physics as I understood it. However, after seeing the

experimental evidence now presented by Paulo and Alexandra Correa, it cannot be denied that a real physical phenomenon is involved and, noting that it suggests heat production without an apparent source, the nature of that source must be explored.

Given that the phenomenon concerns an anomalous thermal effect of radiation above a metal box, one involving a quite small adjustment of temperature, one wonders why Reich sought advice on the matter from Albert Einstein. No doubt he thought that endorsement of the reality of the phenomenon by such an eminent scientist would stir a general interest in funding research to establish the phenomenon and then, perhaps, the exploitation of whatever of a practical nature might emerge. Einstein was interested initially but soon lost that interest, rejecting the phenomenon as merely being something connected with heat convection by air currents around the apparatus. Accordingly, by a few published records dating from the mid-twentieth century period, the “orgone” theme has passed into history, at least until now, with the valiant contribution of the Correas in producing what the Editor-in-Chief of *Infinite Energy* has termed “a landmark article.”

My contribution below is to draw attention to some references to publications concerning thermal anomalies affecting the measurements of G , the constant of gravity, anomalies which I feel sure might have reminded Einstein of Reich and would not have been ignored by him had he lived long enough to become aware of them. Also I shall outline the experiment which I performed in 1984 at the University of Southampton in England to check how thermal radiation could affect the force between two metal spheres suspended within a Faraday cage. What I found has an interesting bearing on the “orgone” experiments reported by the Correas, given a little license in speculating about “free energy” input, but by argument consistent with interpretation of several other types of anomalous “excess energy” experiments. Besides that, as a preliminary, I think it appropriate to mention an experiment reported some thirty years ago on a curious effect by which a very slow rotation of what was, in effect, a Faraday-cage could tame the wild antics of an arc discharge and stabilize its path along the spin axis.

The Tornado Experiment and the Faraday Cage

One of the great mysteries concerning anomalous energy and anomalous angular momentum is that posed by the tornado. Somehow warm air rises to cause a radial inflow of air at near-to-ground level and somehow a tornado funnel forms with air spinning at very high speed around the axis of that funnel. Expert opinion on the source of energy is that of Vonnegut,^[3] who suggested in 1960 that the trigger for that energy inflow comes from the electrical discharges we associate with thunderstorms, owing to the intense and recurrent lightning discharges known to occur within the tornado funnel. He writes: “It is possible that the vortex is initiated directly by electrical energy... An understanding of ball lightning may very well be necessary if the tornado puzzle is to be solved.”

Here, you see, we are dealing with energy on a grand scale, bearing in mind the destructive power of a tornado, and here is an expert on the subject telling us that the source of that energy is a mystery, possibly connected with electrical phenomena of the kind involved in creating those mysterious spherical ionized objects that are occasionally seen to float around before vanishing suddenly, often with violent release of energy.

It was in a lecture I gave to physics students at the-University of Cardiff in Wales in 1977 on the subject of “Space, Energy, and Creation” that I first drew attention to this subject, concluding with the words:

Finally, an interesting experiment has been performed by Ryan and Vonnegut.^[4] They arranged for a cage to rotate around an electric arc discharge at quite low speed and found that this stabilized the arc. The task of stabilizing an electric arc is one of the major problems of thermonuclear fusion research. It seems therefore very difficult to believe that the wild antics of the arc discharge are tamed merely by the slow rotation of a column of air. Perhaps there is vacuum spin in this experiment and it is the influence of the induced vacuum fields which stabilize the arc. Here then is more scope for research. Can an arc be stabilized in a vacuum? It is research which the modern physicist will not undertake because there is a widespread belief that the vacuum is a non-entity devoid of any special properties. It is a belief encouraged by those who believe in the development of relativity and in my experience those who believe in relativity deny the existence of the aether. On the other hand, I was once reassured by a comment Professor Cullwick ^[5] made about something I published. He quoted Einstein as saying: “The special theory of relativity does not compel us to deny the existence of the ether there is weighty evidence in favor of the ether hypothesis.”

My argument simply is that we should not be trapped into ignoring the power of the aether as a source of energy, merely because Einstein had ruled that space was a matter of geometry interwoven with the concept of time, a mathematical world that could be manipulated to fit certain observations concerning gravitation and its effect on the propagation of light. Here I was saying: “Look, there is experimental evidence that an electric arc discharge can be controlled and held in place along a straight axis merely by surrounding it by a Faraday cage and slowly turning that cage at one revolution every few seconds. Surely, if that is because of the air being dragged along inside that cage, then it is indeed incredible that such a minute influence can so affect that electrical discharge. Surely, therefore, someone should perform an experiment to reproduce the effect to see what happens when the air is extracted from the system, because if that same stabilizing effect occurs in a vacuum then here would be a major scientific discovery!”

What would that discovery be? Simply that something in the space medium itself having an electrical character has been caused to spin with that Faraday cage, something that produces in effect a radial electric field which can act on the ions in that discharge and so confine the ionization to the central region of the spin axis. Here then would be a pointer to something that not only could account for “orgone” energy anomalies but could open up the path of research on the grand energy trail and even account for why the solar system has an enormous amount of angular momentum with no counterpart to balance its origin.

In 1977 this interest was, for me, a mere hobby pursued on a theoretical basis, as I was in a senior management position in IBM as head of their European Patent Operations. It was in 1982, still in that corporate executive pursuit, that my paper entitled “Charge Induction by Thermal Radiation” was published in the *Journal of Electrostatics*. Still confined by circumstance to theoretical activity, this paper could only draw attention to aspects of physical science that warranted deeper research. The paper ^[6] suggested that thermal radiation could affect the measurement of the constant of gravitation where the test involved the measurement of force on a metal sphere carried by a torsional suspension within a Faraday cage.

In writing this I was speculating theoretically, having taken note of an experimental discovery by Frank Stacey and Gary Tuck of Queensland University in Australia. Hoping to arouse interest in my theory of proton creation and theoretical derivation of the proton/electron mass ratio as 1836.152, the subject of another paper,^[7] I had attended a conference on precision measurement of fundamental constants held in June 1981 at the National Bureau of Standards in Gaithersburg, Maryland. The Stacey and Tuck paper ^[8] claimed the discovery that G, the constant of gravitation, as measured deep down in mines, was as much as 0.5% to 1.5% higher than indicated by accepted Earth-surface laboratory determinations.

I was mindful that I had written books claiming to give a theoretical evaluation of the constant of gravitation and was convinced that G could not have such a variation. There had to be some influence at work to cause those G measurements to be misleading. I was equally mindful that a chapter in my 1972 book *Modern Aether Science* was devoted to a discussion of the true cause of the Earth’s atmospheric electric field, showing that it is thermal radiation from the upper to lower atmosphere that is absorbed by electrons in molecules of air to set up an electric field by their minute displacement relative to their atomic nuclei. I knew that this thermal radiation phenomenon could set up charge even on metal spheres housed within a Faraday cage and I knew from questioning Frank Stacey at that conference that Faraday cage-type enclosures were used in his G measurement to ensure that the interacting metal masses were uncharged electrically.

With this conviction I promptly wrote the *Journal of Electrostatics* paper. It was duly received by that journal on July 16, 1981. Its summary read:

It is argued that precision measurements which rely on the use of conductive housings for electrical screening may well be subject to spurious error owing to charge induction within the housing. If the momentum transfer processes associated with the absorption of thermal radiation act selectively upon electrons, a residual charge may be induced on surfaces internal to the housing and held in place by radiation pressure. The effects of such action upon the measurement of G is discussed in relation to anomalies reported in such measurements. The phenomenon is supported by the existence of the charge on the Earth's surface. A method of testing for the presence of induced charge and eliminating its effects is indicated.

The paper was duly published and, based on some feedback I received, it was on November 23, 1982 that I prepared the following note for distribution with the paper reprints:

Author's note on paper entitled "Charge Induction by Thermal Radiation" (H. Aspden, *Journal of Electrostatics*, 13, 71-80, 1982):

My attention has been drawn to the early measurements of the effect of temperature upon G , for example by L. Southern, *Proc. R. Soc. Lond.*, A78, 392-403 (1906) and P.E. Shaw and N. Davy, *Proc. R. Soc. London*, 102, 46-47 (1922). The measured effects are far less than might seem to be indicated by my paper.

The reason for this is that these experiments involve heating the apparatus by processes other than those involving incident radiation and then making the measurements with the gravitating body radiating energy at a higher temperature but absorbing incident radiation from an environment still at room temperature.

It is only the radiation absorbed by the layer of atoms at the surface that results in the charge induction predicted by the theory. If the body is heated there is transfer of heat to the surface atoms by conduction and any radiation from the layer of atoms at the surface is directed equally inwards and outwards and produces a balanced radiation reaction force on this surface layer and so induces no surface charge. Half the radiation goes inwards and asserts a radiation pressure on the atoms below the surface and so causes charge displacement but no residual surface charge induction.

Experiments of the kind suggested on page 78 (of that *Journal of Electrostatics* article) aimed at verifying this phenomenon seem, therefore, warranted notwithstanding the early studies of temperature effects on G .

H. Aspden
November 23, 1982

Charge Induction Within a Faraday Cage

It was not until 1986 that I saw in the science literature that two quite relevant and rather conflicting papers had been published. One was in the form of a news item in the Search and Discovery section of *Physics Today*, October 1986 (pp. 17-20) issue.^[9] Its author was Bertram Schwartzchild and it referred to Frank Stacey's concerns about G having different values along with other earlier findings and claimed the anomalies observed were evidence of some rather curious properties of different compositions of different kinds of particle according to their baryon number. Five-dimensional space and ten-dimensional superstring theories were included in the discussion. The paper was entitled: "Preliminary Analysis of Old Eötvös Data Suggests 5th Force...to Some."

The other paper,^[10] also published in the same month, October 1986, appeared in *Physical Review Letters* under the title: "New Force or Thermal Gradient in Eötvös Experiment?", its authors being S.Y. Chu and R.H. Dicke, neither of whom were mentioned in the references of the *Physics Today* paper, which suggests that they were published quite independently of each other. Here the conclusion was that "systematic effects due to thermal gradients can account for the experimental data."

However, some 136 pages on in that same October 13, 1986 issue of *Physical Review Letters* there was a paper by Fischbach *et al.*,^[10] which was no doubt the preview basis for the Schwartzchild report. It was entitled: "Alternative Explanations of the Eötvös Results" and this did include a direct reference to the Chu and Dicke paper. There one reads that its authors supported the baryon number interpretation, qualified by the comment:

Although this correlation agrees with what one would expect from the presence of an intermediate range force whose source is baryon number or hypercharge, the possibility remains that the EPF (Eötvös, Pekar, and Fekete) results could be explained in terms of conventional physics. The only alternative model we know of at present which has a serious chance of explaining these results is the "thermal-gradient" model of Chu and Dicke, (CD) and for this reason the CD model deserves to be taken seriously. . . In summary, the CD model is very clever and sufficiently promising to warrant more detailed study, should ongoing experiments fail to confirm the original EPF results. The issues that it must address more fully are mechanisms for producing a temporally constant thermal gradient over a long period of time.

Not surprisingly, I found the latter contribution more in tune with my thinking but still saw that the key point about thermal radiation affecting the charged state of a supposedly uncharged metal sphere had been missed. My paper,^[6] which dealt directly with such a "mechanism," was not mentioned and probably had laid unnoticed amongst the numerous papers in the numerous periodicals kept on university book shelves.

That 1982 paper refers to the experimental findings of Stacey and Tuck reported in 1981 in the journal *Nature*^[12] concerning the anomalous G measurements in mine experiments and it presents the formal analysis by which the electric field gradient induced by absorbing thermal radiation pressure at spherical surfaces is calculated. For ambient temperature conditions (288 degrees Kelvin) and based on the value of the Stefan-Boltzmann constant it was shown that the induced electric field gradient could be as high as 767 volts per meter, enough to explain the 300-500 V/m gradients observed in our local atmosphere.

That applies for surfaces of high emissivity factor (always less than one) and, as pointed out in my paper, for a polished lead sphere the emissivity factor at room temperature is 0.04, whereas for polished gold it is 0.03, and that led to my statement on the sixth page of my paper:

It follows, therefore, that potential gradients of the order of 20 to 30 volts per metre may be induced by the radiation mechanism proposed and where polished metal spheres are enclosed in housings having highly reflective metal surfaces.

In discussing the effect of this on standard laboratory G measurements, comparing the electrostatic repulsion as between two like polarity induced charges on metal spheres, albeit housed in a Faraday cage, and not unaware that charge on metal spheres that are close together has a tendency to induce a displacement charge of opposite polarity on the facing surfaces, this giving an attraction force as partial off-set, I then stated:

Thus, we are still left with the expectation that errors of the order of 1 or 2% could creep into the measurement of G by techniques using metal spheres of the dimensions indicated.

The point here was that if the apparatus was compact and used spheres of small radius the errors attributable to charge induction by thermal radiation would be greater than for the case where spheres of larger radius are used.

That 1982 paper does warrant attention by those interested in G measurement, and especially given the fact that it predates the above-mentioned research reported in 1986 by the several researchers who expressed concern about these gravity-measurement anomalies.

It was between these events in 1982 and 1986 that I, having become installed at the University of Southampton in England as a Visiting Senior Research Fellow, following my early retirement from IBM in 1983, embarked upon a series of experiments, one of which, pursued during the early half of 1984, was inspired by the subject here under discussion. I did in fact write a detailed paper reporting my findings and it was submitted some three years later to the Institute of Physics in the UK for presentation at the Seventh Conference on Electrostatics (Oxford, April 8-10, 1987). It

was accepted only for a Poster Session and duly presented in that form. It caused no stir, being presented to a forum of physicists concerned essentially with the hazards of static electricity arising, for example, from electric charge induction and its potential as a fire risk in oil tankers. Even though my case was supported by experimental data, it was not that welcome a suggestion to propose that electric charge induction can occur in a connected all-metal system housed within a Faraday cage. After all, such a thought goes contrary to the teachings which date from the time of Michael Faraday!

I have only now, in view of the interest developing on this “orgone” energy topic, dug deep into my research records to find that paper and, coupled with writing this report, I have posted its full text onto my website at www.energyscience.co.uk/papers/1984g.htm.

Reference to that paper will show that, even though the electrostatic forces between two metal spheres suspended on wire filaments within a Faraday cage are minute in relation to the gravitational interaction forces and even though the latter are so weak as to be not easily measured, I was able to devise a technique which overcame the difficulties. Unlike the situation for gravity, where gravity is not something one can control, I could enhance the measurement sensitivity by adding a positive charge potential to both spheres as the torsional suspension swung one way and an exactly equal negative charge potential as the suspension swung back the other way. With no intrinsic thermally-induced charge bias present, the mutual repulsive force action at any given separation distance arising from this extraneous charge condition is the same and so, for a given well regulated high applied voltage, switching between the two polarities, the separation distance of the metal spheres should hold reasonably stable. However, even a small bias charge on the spheres would mean that the progression of charge polarity reversals over time would cause the displacement to drift one way or the other, according to the polarity of that bias. The tests were rather prolonged because the natural period of the swing was 210 seconds.

The tests were performed (a) using brass spheres which had a smooth but dull appearance having been stored for years and left unpolished and (b) using brass spheres that were highly polished. The experimental finding was that under normal laboratory temperature conditions the dull spheres had an induced charge that was negative and amounted to a voltage on the spheres of 1.08V relative to the Earth connection of the Faraday cage. The corresponding induced charge on the polished spheres, also of negative potential, was 0.47V.

The title of my paper is that of the heading of this section, “Charge Induction within a Faraday Cage.” It was one of my contributions to my long-lasting efforts to fathom the mysteries of gravitation. I had a theory for determining G in terms of the fundamental constants that feature in particle physics. I had written extensively on that subject and it was important for me to satisfy myself that claims that G could actually vary and not be a true fundamental constant could not stand up. There just had to be something wrong with the experimental techniques used. Now, in the event of the interest aroused by the “orgone” energy theme, with the claim that something of an anomalous

energy nature is occurring where metal boxes are exposed to thermal radiation, I have begun to wonder if electric charge induction has a role to play. Accordingly, I will now conclude this account by a little speculation.

Vacuum Spin: The Aether's Free Energy Inflow Mechanism

I have mentioned "vacuum spin" above by reference to that 1977 lecture I was invited to give to the physics students at Cardiff University in Wales.^[13] It features many of my published contributions. A quite readable summary account is of record in *Electrostatics 1983*, UK Institute of Physics Conference Series Publication No. 66, my paper there being entitled: "The Thunderball: An Electrostatic Phenomenon."^[14]

Simply put, my argument is that if you can contrive to set up a unipolarity charge condition on a disc or within a sphere, especially one that is electrically conductive, then the vacuum medium within that object will react by displacing its intrinsic electric charge radially to set up a reacting field. Although this is the same action as one has with Clerk Maxwell's electric displacement fields set up as between parallel metal plates, even where the intervening dielectric is a mere vacuum, the key difference is that the "radial" field action causes the vacuum medium to match the charge reaction by a state of spin about the axis from which that field radiates.

Accordingly, once you have set up that unipolarity charge condition, as in an ionized air formed by a lightning discharge, there can be a vacuum spin reaction by which a sphere of aether spins to set up a compensating electric field which can hold the charge and its energy stable for a while before lapsing into decay. My theory told me that the electric energy component would be that deployed from the initiating source, but that the spin developed would bring in an inflow of energy related to angular momentum and drawing on the quantum energy of the so-called "zero-point" field of the vacuum underworld. One unit of electric energy in implies one additional unit of free energy, a two-to-one gain, but as a one-off action. Only by cyclic repetition of the process can one hope to achieve a steady inflow of surplus or "free" energy and to build the gain ratio one must devise a way of recycling that electric energy.

Vacuum spin is the key to any success reported in the homopolar generators we hear about and even, I believe, in the pulsed discharge devices developed by Paulo and Alexandra Correa.^[15] In one case you have a conductive disc spinning in an axial magnetic field, which implies radial electric field induction within the disc and in the other one has a contained ion discharge, with the usual and well-recognized anomalous positive glow features. The latter succeeds in sustaining excess energy generation because it is pulsed continuously, whereas the former exhibits anomaly transiently, as on start up, and is not easily cycled in the electrical sense.

Now, with that as background, consider the unipolar electric charge sitting on a metal sphere within a Faraday cage and held there by thermal radiation. Here the radial field exists outside the sphere. It too will induce a vacuum spin effect. The aether is caused to spin, albeit with little energy involved, but spin around that sphere. It is subjected to the Earth's magnetic field and aether in spin happens to have its own induced magnetic moment. This means that, to the extent that the Earth's magnetic field is not aligned with the aether spin axis, it will tend to precess, as does a gyroscope, owing to a turning couple exerted by the Earth's field. [One of the fascinating problems of physics is that posed by the precession of the geomagnetic N-S field axis about the Earth's N-S spin axis. The Earth has a 26,000 year or so rate of precession about an axis in space parallel with a fixed axis in space as duly explained by gravitational forces. The geomagnetic axis precesses at a rate of the order of one revolution every 1,000 years owing to a magnetic couple set up by the interaction of two electrical charge systems in spin, one being charge within body Earth and one being a neutralizing charge within coextensive aether.] This will surely break up the aether spin, causing the formation of vortices, etc. This means that the vacuum spin becomes a regenerative process as these vortices decay to shed energy as heat and a succession of reacting aether regions in spin make their contribution. What this amounts to is a state where a metal object shaped in a way which approximates a cube or a sphere, so as to have a center about which induced electric displacement has a radial form, will encourage inflow of energy from the enveloping aether which energy is shed by warming the air around the object and by convection [inside the cage], revealing a slightly higher temperature than ambient just above that object.

As I understand the description of the experiments outlined by Paulo and Alexandra Correa in their paper in *Infinite Energy*,^[2] this argument in terms of vacuum spin or, rather, "aether spin" is relevant. One must find the true explanation for that "orgone" energy mystery and here is an explanation that has much to offer in our search for a new energy source. The energy gain indicated is minute in commercial terms but its existence tells us that accepted physical teaching is lacking on this anomalous energy pursuit and, if only that fact can register in the minds of physicists in general, one can hope that they will be open to new ideas and will muster their forces in strength to broaden the field of battle and embark on a concerted crusade to break down the barriers which currently deny us access to the field of "infinite energy" which surrounds us.

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