Fig. 1. Im Quarzkristall-Laboratorium.
Dr. P. Lertes (links stehend) zu Besuch bei den Erfindern Dr. Kowski und Ingenieur Frost. (Rechts in der Ecke zwei „Schwingrahmen", welche bei den Versuchen benutzt wurden.)

Bereits gleich nach Bekanntwerden nachstehender Einzelheiten hatten wir die Absicht, unseren Lesern näheres über die anscheinend mit gutem Erfolg durchgeführten Versuche zu berichten. — Um aber genauestens orientiert zu sein, besuchte auf Einladung der Erfinder Herr Dr. Lertes zunächst die Laboratorien, und wir sind somit heute in der Lage, gleichzeitig drei hochinteressante photographische Aufnahmen von Versuchen zu veröffentlichen. — Da die technischen Mittel für die Versuche selbst nicht allzu kostspielig sind, dürfte mancher Bastler und Amateur selbst sich entschließen, Versuche vorzunehmen; wir sind gerne bereit, weitere Wünsche den Erfindern zu übermitteln. *Die Schriftleitung.*

Ueberwindung der Schwerkraft?

Ein neuer Erfolg der Quarzkristallforschung.

Wenn noch vor kurzer Zeit, besonders von funktechnischer Seite der Beschäftigung der Radio-Amateure mit den kurzen Wellen jede Berechtigung abgesprochen und die Möglichkeit wesentlicher Verbesserungen und wertvoller Neuerungen auf diesem Wege verneint wurde, hat nunmehr die Beschäftigung zweier junger Forscher mit ultrakurzen Wellen eine Entdeckung gezeitigt, deren Tragweite in wissenschaftlicher und technischer Hinsicht sich heute noch nicht annähernd übersehen läßt. Damit dürfte die Behauptung der Fachleute, daß von der Betätigung der Amateure keine Förderung von Wissenschaft und Technik zu erwarten sei, widerlegt sein.

Die Entdeckung wurde etwa vor 6 Wochen in dem neueingerichteten Zentral-Laboratorium (Fig. 1) der Nessart-saddin-Werke in Darredein (Polen) durch die Herren Dr. Kowsky und Ingenieur Frost bekanntgegeben.

Bei Versuchen über das Konstanthalten ganz kurzer Wellen mittels Quarzresonatoren zeigte das verwendete Quarzstück plötzlich ein deutlich verändertes Aussehen; es war unschwer zu erkennen, daß sich im Innern des Versuchs-Kristalls, vor allem dann, wenn in dem Laboratoriumsversuchsraum eine Temperatur von nicht über 10° C Wärme herrschte und diese während der ganzen Dauer des Versuchs konstant gehalten wurde, milchige Trübungen zeigten, die sich schließlich bis zur vollständigen Undurchsichtigkeit steigerten. Wenn auch nach den Untersuchungen von Dr. Meissner (Telefunken), wonach mit Hochfrequenz behandelte Quarzkristalle deutliche Luftströmungen erzeugen, die sogar zur Konstruktion eines auf diesem Prinzip beruhenden kleinen Motors führten (vgl. „R.-U." 1926, Heft 39), weitere merkwürdige Erscheinungen an solchen Kristallen zu erwarten waren, so war doch diese Erscheinung zunächst ganz unerklärlich. Wochenlanges eifrigstes Experimentieren gab endlich die Erklärung, und weitere Versuche zeigten dann die ungeahnten technischen Anwendungsmöglichkeiten der Entdeckung.

Zur Erklärung muß einiges vorausgeschickt werden. Wie bereits teilweise bekannt sein dürfte, haben Quarz und einige andere Kristalle von ähnlichem Atombau die Eigenschaft, bei Anlegen von Spannungen in bestimmten Richtungen zur optischen Achse sich auszudehnen bezw. zusammenzuziehen und damit, wenn man schnell wechselnde Spannungen verwendet, die elektrischen in mechanische Schwingungen des Kristalls umzusetzen. Diese Schwingungen waren zwar außerordentlich klein, hatten aber bereits ihre technische Anwendung bei den Quarzkristall-Wellenmessern und bei der Konstanthaltung der Wellenlänge von Sendern gefunden. Durch eine besondere Anordnung der Erregung der Kristalle in verschiedenen Richtungen ist erreicht, daß der Kristall sich nun ausdehnt und nicht mehr zusammenzieht. Es

ist offenbar ein Loslösen von Elektronen aus dem Molekülverbande erzielt, das, zunächst nicht umkehrbar, die ganze Kristallstruktur verändert, so daß ein Zurückkehren in den früheren Zustand verhindert wird.

Mit der Ausdehnung war das Undurchsichtigwerden erklärt, gleichzeitig mußte aber auch eine Aenderung des spezifischen Gewichtes eingetreten sein. Ein Versuch auf der Wage zeigte, daß sofort nach Anlegen der Spannung der ganz kurzen Wellen die Seite der Wage, auf der der Kristall mit der elektrischen Anordnung lag, in die Höhe ging. Diesen Versuch zeigt das Bild Fig. 3. Der weitere Weg der Untersuchung war damit vorgezeichnet. Es

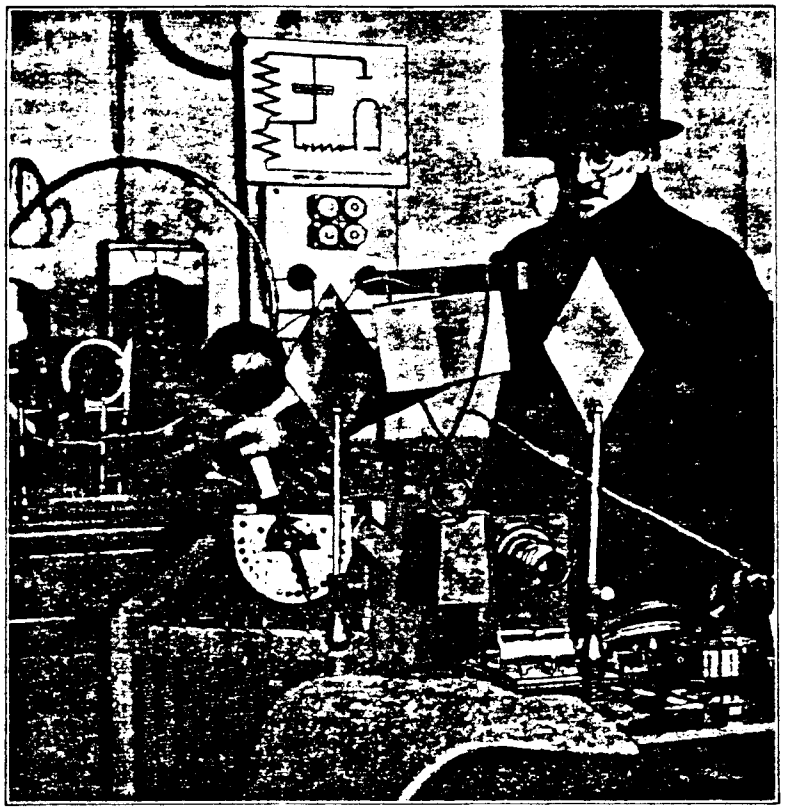

Fig. 2. 25 Kilo wurden durch den freischwebenden Kristall gehoben. Der Quarzkristall hat seine Struktur verändert und hält infolge der auftretenden Reaktionskräfte freischwebend im Raum ein 25-Kilo-Gewicht.

mußte versucht werden, wie weit die Verringerung des spezifischen Gewichtes sich treiben ließe. Durch Verwendung größerer Energien (zuletzt waren es mehrere Kilowatt) und längere Einwirkung ließ es sich schließlich erreichen, daß aus einem kleinen Kristall von 5 : 2 : 1,5 mm Seitenlänge ein undurchsichtiger weißer Körper von etwa 10 cm Seitenlänge entstand (Fig. 2), der so leicht war, daß er zuletzt die ganze Apparatur mit sich in die Höhe zog und sogar ein Gewichtsstück von 25 kg freischwebend in der Luft hielt. Eine genaue Messung und Berechnung, die dank der guten Ausstattung und der reichen Hilfsmittel des Laboratoriums in Darredein erfolgen konnten, ergaben, daß das spe-

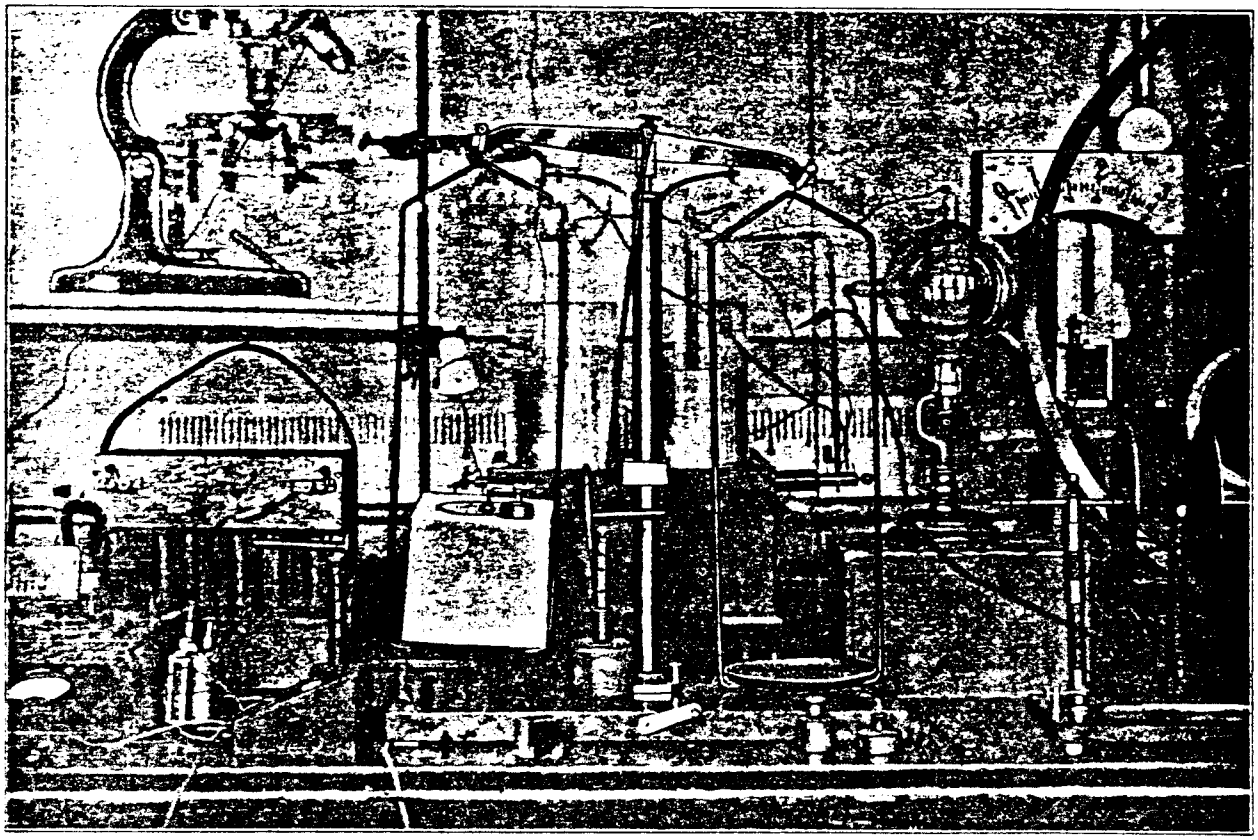

Fig. 3. Der Vorversuch: Die leere Wagschale senkt sich.
Nach Anlegen der Spannung an den Kristall wächst sein Volumen und damit seine Reaktionskraft und Auftrieb zusehends. Die Wagschale mit aufgelegtem Gewicht steigt, die leere Wagschale senkt sich.

Gravity Nullified

Quartz Crystals Charged by High Frequency Currents Lose Their Weight

Fig. 1. The gravitation nullifier is shown in this illustration. The quartz crystal may be seen supporting a 55-pound weight. Dr. Kowsky is shown in a top coat because of the temperature at which the experiments were performed.

ALTHOUGH some remarkable achievements have been made with short-wave low power transmitters, radio experts and amateurs have recently decided that short-wave transmission had reached its ultimate and that no vital improvement would be made in this line. A short time ago, however, two young European experimenters working with ultra short-waves, have made a discovery that promises to be of primary importance to the scientific world.

The discovery was made about six weeks ago in a newly established central laboratory of the Nessartsaddin-Werke in Darredein, Poland, by Dr. Kowsky and Engineer Frost. While experimenting with the constants of very short waves, carried on by means of quartz resonators, a piece of quartz which was used, suddenly showed a clearly altered appearance. It was easily seen that in the center of the crystal, especially when a constant temperature not exceeding ten degrees C. (50 degrees Fahrenheit) was maintained, milky cloudiness appeared which gradually developed to complete opacity. The experiments of Dr. Meissner, of the Telefunken Co., along similar lines, according to which quartz crystals, subjected to high frequency currents clearly showed air currents which led to the construction of a little motor based on this principle. A week of eager experimenting finally led Dr. Kowsky and Engineer Frost to the explanation of the phenomenon, and further experiments showed the unexpected possibilities for technical uses of the discovery.

Some statements must precede the explanation. It is known at least in part, that quartz and some other crystals of similar atomic nature, have the property when exposed to potential excitation in a definite direction, of stretching and contracting; and if one uses rapidly changing potentials, the crystals will change the electric waves into mechanical oscillations. This *piezo electric* effect, shown in Rochelle salt crystals by which they may be made into sound-producing devices such as loud speakers, or reversely into microphones, also shows the results in this direction. This effect was clearly explained in August, 1925 *Radio News* and December, 1919 *Electrical Experimenter*. These oscillations are extremely small, but have nevertheless their technical use in a quartz crystal wave-meter and in maintaining a constant wavelength in radio transmitters. By a special arrangement of the excitation of the crystal in various directions, it may be made to stretch or increase in length and

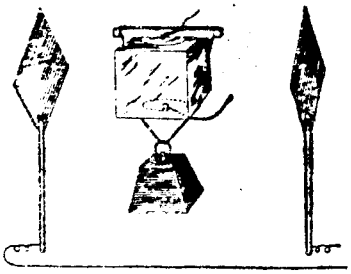

Fig. 2. The schematic diagram of the experiment is shown in this illustration. The high frequency oscillator has been omitted for clearness.

Fig. 3. This shows how the quartz crystal lost weight when subjected to the high frequency current. The original crystal was balanced on the scale.

will not return to its original size. It seems as if a dispersal of electrons from a molecule resulted, which, as it is irreversible, changes the entire structure of the crystal, so that it cannot be restored to its former condition.

The stretching out, as we may term this strange property of the crystal, explains the impairment of its transparency. At the same time a change takes place in its specific gravity. Testing it on the balance showe
that after connecting the crystal to the hig
tension current, the arm of t
balance on which the crystal wi
the electrical connections rests, ro
into the air. The illu
tration, Fig. 3, sho
this experiment.

This pointed the w
for further investigati
and the determination
how far the reduction
the specific gravity cou
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On exact measurem
and calculation, wh
on account of the exc
lent apparatus in
Darredein laborat
could be readily carr
out, it was found that the specific grav
was reduced to a greater amount than
change in volume would indicate. Its wei
had become practically negative.

There can be no doubt that a beginn
has been made toward overcoming grav
tion. It is to be noted, however, that
law of conservation of energy is absolut
unchanged. The energy employed in tr
ing the crystal, appears as the counter ef
of gravitation. Thus the riddle of grav
tion is not fully solved as yet, and the pr
ress of experiments will be followed furt
It is, however, the first time that exp
mentation with gravitation, which hithe
has been beyond the pale of all such
search, has become possible, and it seems
if there were a way discovered at last
explain the inter-relations of gravity w
electric and magnetic forces, which con
tion, long sought for, has never been dem
strated. This report appears in a reli
German journal, "Radio Umschau."

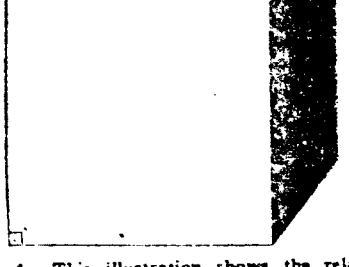


Fig. 4. This illustration shows the relat
sizes of the crystal before and after the exp
ment. It is approximately twenty times
original length on any side.

Anti-Gravity Properties of Crystalline Lattices

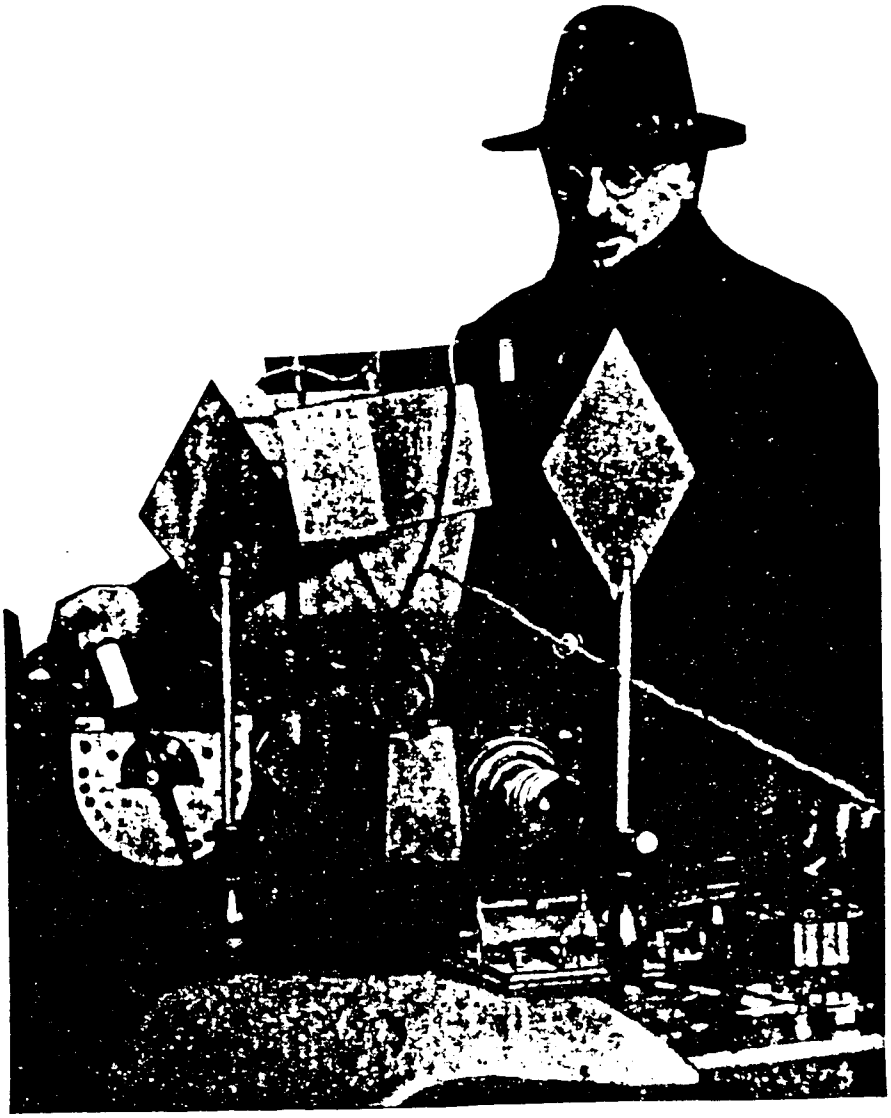
In the summer of 1927, two scientists, **Kowsky** and **Frost**, in Poland noted specific anti-gravity properties of crystals. They were pursuing some discoveries in piezo-electricity made by **Meissner** of Telefunken, whereby it was found that crystals could lose their transparency and change their specific gravity at the same time.

By the oscillations of radio transmitters of several kilowatts, at protracted exposure, Kowsky and Frost managed to include an eight hundred percent volume increase to a clear crystal. The small, lightened crystal carried the apparatus which oscillated it as well as a weight of twenty five kilograms suspended from it, floating free at a height of about two meters above the floor of a laboratory.

Shortly after this discovery, reports and photographs of the tests were published in the German journal, *Radio Umschau* and in *Science and Invention* (September, 1927 issue).

Those published reports permit a definition of the phenomena in today's terminology.

An optical grade quartz crystal 5x2x1.5 mm of defined lattice structure was piezoelectrically overloaded with a resulting opaqueness, a growth of volume and a structural change along with specific gravity change. The crystal was reported to increase dimensions along one side of two thousand percent (volume increase of 800%). Its weight of approximately one ounce was reduced by an unknown amount during the increase in volume. When electrically excited to lift itself, the crystal was capable also of lifting an additional eight hundred and eighty ounces. This lift occurred when the crystal was subjected to vertical oscillation pressure via direct electrode contacts, and transverse oscillation via non-attached electrodes broadcasting radiation with the crystal interposed between them.



A "gravitation nullifier" is shown. The expanded quartz crystal is supporting a 25 kilogram weight. Dr. Kowsky is shown in a top coat because of the low temperature at which experiments are performed.

Source: Science and Inventions

Radio Frequency Emissions and Magnetostriction of Mass

Magnetostrictive masses emit heat and undergo dimensional changes on a temporary basis when exposed to a varying magnetic field. The molecular alignment of the mass with the field of current induces mechanical pressures that cause a distortion or dimensional change. Normally such physical changes have been assumed to be temporary or of unimportant plasticity. Certain non-magnetic substances like

dielectric crystals also react to an imposed magnetic field with molecular re-alignment.

The re-alignment causes a crystal distortion in one direction, and with alternating current fields, oscillation occurs. Such is the piezo-electric phenomenon. The angle of turn of the molecule on its axis is proportional to the "strength" of the induced magnetic field until a limit of saturation is reached: "weber angle", or maximum distortion potential of the dielectric.

If additional power is applied to create a still stronger magnetic field, molecules that happen to exceed weber angles are wrenched away to migrate along the field path, to form bonds at new positions of equilibrium. The displaced and re-positioned molecules are termed "deflexions", or displaced ions (**Maxwell, Jeans**, 1916).

The magnetic susceptibility of a substance varies inversely as the temperature (Curies Law). This experiment potentially justifies a "K", or a susceptibility enhancement by lowered temperatures of the 'freeze storage' of all new re-positioning ions, and consequent stability in new positions. Ion bonds form slowly in a dielectric heated by intense magnetic field changes, known as 'inductance heating'. Cooling of the dielectric by air currents around the dielectric which draw off heat allows the dielectric to escape destruction by melting, brittle fracture, or other heat-caused affects.

The migration of displaced ions is to a surface area of the dielectric, where the heat sink phenomena allows a re-bonding temperature.

Known research in electric action versus dielectrics leads to other supporting information about the physical phenomenon.

- **Helmholtz:** *The value of "K" changes in a dielectric when it is subjected to distortion. (K equals the dielectric constant of that mass).*
- **Maxwell:** *With displacement, the density of the medium (crystal structure) is changed so that its molecular structure is changed, as is its "K".*
- *The K of quartz depends on the direction of the imposed magnetic field "relative" to the crystal axis. A vertical K of quartz is 4.55, and horizontal K is 4.49 where K is a reaction to the Earth's field.*
- *Magnetic conduction in a dielectric is altered as if the properties of the medium were altered during conduction by a change of the dielectric constant of the mass itself.*

So far the phenomenon appears not to be rejected by known physical actions. About the phenomenon itself, a brief theoretical model may be postulated.

This may be a stress model of mass where changes of internal stress induce 'deformation of mass'. Thus the model suggests a 'two-part' investigation; (1) the stress model, (2) the later physical phenomena produced as a product of distortion, and the physical performance relative to change.

The Stress Model

The electric force between charged particles is independent of the masses of energies of the particles, and depends only on their charge; whereas, the gravitational force is proportional to the masses themselves. Since in special relativity mass and energy are related by $E = mc^2$, the 'strength' of the gravitational field increases as the energies of the virtual particles increase.

An artifically induced increased 'stress' in mass increases the energy of both virtual particles and gravity.

In an electron flow such as common electricity along a conductor, the 'pressure' of the flow affects the mass of the conductor by several methods:

1. free electrons are displaced by induced energy.
2. torque from electrical action is applied to the mass.
3. stresses are induced within the mass.
4. compression is induced within the mass.
5. structure bonds are affected by such imposed stresses.
6. ion orbital structure is relative to the induced energy; greater energy produces energy absorbtion with smaller orbits, higher velocities, (packing fraction)

Electric/Dielectric Combinations

The electrostatic attraction of one object to another depends on *charge, shape, and surface area;* but the magnetic attraction to a fragment of dielectric is a molecular phenomenon 'independent of shape', *but not surface area.* A non-magnetic body will be components of/or magnetic particles when a magnetic field is imposed; ie. an attraction. Finally, a magnetic field will exist in a dielectric after/when an induced field changes, or is no longer imposed. So it may be assumed that an intense magnetic field is the one force which is capable of externally affecting the dielectric molecular axis change.

Further Investigations

Alternating currents produce heat, and a magnetic field, in a dielectric to a depth proportional to the square root of the oscillation period; and to the applied strength. A magnetic particle, or ion, is capable of re-positioning, where 'all' mass particles are also susceptible. Unlike metals, *a dielectric 'acts' as if it conducts one hundred percent of any imposed field. This is the single most important difference.*

The molecular phenomenon may occur 'only' in a dielectric mass, and not in a metal. The magnetic conduction proportional to field depth with a strength sufficient to dislodge ions eliminates metals (exception: Bismuth) due to skin affect. The dielectric conduction of one hundred percent of imposed fields "throughout" the mass allows the 'total' mass to be involved, eliminating skin affect. So, it will affect all crystalline lattice structures (therefore metals affected), however the optimum solution for maximum affect of this phenomenon may reside within the electrical characteristics of dielectrics.

Magnetic Induction Currents

Magnetic induction postulated as a solenoidal induction throughout the field in the interior of the mass (all points equal) can occur in a dielectric, but not in a

metal. Magnetostriction of dielectrics: there is an expansion of mass proportional to the induced strains (internal) to release pressure. This is a known, accepted phenomenon. *There are 'diamagnetic' currents induced in the same crystal (opposite to magnetic) about which little is known, but which has been photographed at Gallimore Labs. Such currents are always found in 'stressed masses'.*

Crystal Expansion Confirmed

Crystal expansion was examined from actual replication of the Kowsky and Frost experiment.

The crystal will have intense internal strains, generally 'only' in the direction of applied fields producing expansion, and diamagnetic currents of unknown effects or phenomena. (Many phenomena were detected).

The revised theory of phenomenon is stated as: The molecular motion and reaction of mass to intense magnetic fields may change the structure of the (dielectric) mass if the imposed field strength exceeds a force needed to rotate fixed molecules past Webers angle, where the result would be a dislocation of the molecule from the mass structure. Given this field strength, it is almost certain that the re-positioning of molecules will change the normal lattice structure, and will be accompanied by permanent expansion of the dielectric along the vector of the imposed field.

Such diamagnetic currents as exist will be intense, and could produce a host of phenomena. The proposed 'Anti-gravity' phenomena fall within an 'acceptable' but not proven phenomena at the present time.

It is noted that from the **Chicago College on Gravity Research** that a 60 Hz alternating current imposed on a solenoid when placed under an aluminum plate, will cause the plate to heat, as well as 'lift' upwards as much as eleven inches. Such a lifting effect cannot come from magnetic actions, but may come from molecular actions, *and the little known diamagnetic currents.*

Since magnetic fields in alternating currents become stronger as the frequency increases, higher frequencies are found more efficient in producing the 'stress fields' producing lift phenomena.

Of interest is that one dielectric has been shown to 'fall' more slowly under 'natural' conditions than any mass should fall. It is unknown whether aluminum silicate reacts to existent low intensity magnetic fields, or whether it has an excessive diamagnetic current capability occurring naturally.

Water Absorbtion/emission

The expanded crystal has been found to be both effervescent and deliquescent. This is unusual in a single mass; to absorb and release water like a sponge where the material (silicon dioxide) is neither an absorber or emitter prior to change of the mass structure, a degeneration of the structure is seen after one water cycle, and apparently not repeatable.

The Kowsky and Frost experiment was reported to have a visual sighting of air currents flowing around the crystal when under electrical excitation. It is a fact that the air currents so described are a reality, but are not known to exist by crystallographers, unless they have considerable experience in electrical testing. Likewise, electrical testers and engineers are not likely to have witnessed this. It is here noted that air currents have been found around excited (oscillating) crystals, but *only when a frequency band of one hundred kilocycles to four hundred eighty kilocycles is utilized. This is further verification of actual research being in the frequency range specified, and of a 'true research sighting being transmitted.*

Electricity produced

An expanded lattice crystal has been found to produce a remarkable phenomenon: when an 'imbalance' occurs by stress changes in a 'stress balanced' crystal, electricity is produced.

A crystal 'grown' in an unbalanced state will 'convert one hundred percent of all radiation reaching it to electricity'.

Lift factor

The following equation is only generalized, and its veracity should be questioned. It may be a guideline of potential results. The resulting values are indicative within limits of what can be expected experimentally.

$$\frac{\text{Force applied in watts} \times \text{mass in Kg} \times \text{Expansion \%}}{\text{Frequency}/7770} = \frac{\text{Kg lift}}{100}$$

$$\text{Example } 2000 \text{ watts} \left(\frac{5 \text{ kg} \times 300\ \%}{777 \text{ kc}/7770} \right) = \frac{2000\,(150)}{100} = \frac{3000}{100} = 30 \text{ kg lift}$$

Mass Structure and Potential Collapse

All mass is susceptible to change. Dielectrics by having an organized molecular structure are subject to massive change through force applied. It is considered a phenomenon where lattice structure is expanded, and re-formed to a new related structure by energy; and that the structure is now a "storage medium" of great energies by strain locked in structure.

The stability of the medium, or rather the changed medium, is now questioned, as well as its life span. *A sudden sharp blow or even chemical activity may "detonate" or collapse the new structure with great release of energy. This potential is seen at the present time to be both real and hazardous.* Should the crystal mass be capable of sudden collapse, it could take one of two forms; sudden disintigration to a powder state, or detonation with a massive release of energy, perhaps similar to atomic conversion of mass to energy.

Self Contained Lifting Device

The subject mass utilized in this research has been quartz dielectrics. Quartz, unlike many substances, does not shear easily; but has a conchoidal fracture. Providing it did shear, then the lattice structure could be pried open at selected locations, and slabs of the expanded variety utilized in different applications. Because of the energy storage phenomena, it is

assumed it cannot be 'sawed' as the shock potential is high, yet proportional to the degree of the crystalline lattice expansion.

The crystal itself will resemble plastic foam in weight and rigidity. Perhaps it could be sliced by a laser or electron beam.

Very little power is required to oscillate the substance for high lift. This and the weight needed to supply that power allows a fully contained device to be a reality. Power applied as frequency would have six basic contacts regardless of design, size, or aerodynamic shape; ie. left side, right side, front, rear, top and bottom.

With solenoid controls, the full range of flight could be obtained; forward, left, right, up, down, reverse. The control would be by reversing polarities of a given area of surface section to provide the desired result. Each lift/control section would be electrically isolated in a smooth surface design by interposing non-expanded dielectric strips between sections. Such skin or the dielectric isolators could provide shape, rigidity, and supporting design.

Such dielectrics as ceramics display temperature resistance, and could be included as a "skin." However, since speed is fully controllable, there should be no need for heat buildup; simply reduce speed

Reverse Phenomenon

In trying to validate mass structure change as proposed, the 'reverse' method of gravitational emission (ie. "absorbtion") was used.

If a mass may "produce" radiation under coercion, then it may also be susceptible to that same radiation when exposed thus providing a "reverse phenomenon."

The lattice structure of a dielectric has been proposed as a storage medium of immense energies, when the energy applied produced a 'Deflexion' change (deflected ions) or structural stresses of great magnitude. A first discovery was that by utilizing a 'new' means of electrical excitement, a "commercial" process of Deflexion crystals was realized. In further research, the 'reverse' phenomenon indicates that 'all' dielectrics having 'any' stress components may be susceptible to gravity radiation.

Discovered in 1974, the reverse phenomenon allowed for an on-time gravity monitor where a dielectric with a known stress component was seen to change proportional to the acting gravitational intensities. Later, in 1978 a new detector was discovered, the difference being that a 'general' state of stress was utilized here as opposed to a known 'finite' stress.

(J.G. Gallimore)

SUPPOSEDLY

Nullified Gravity-A Hoax

Science and Invention for October, 1927 SCI. & INV. OCT '27

In our issue of September, on page 398, we ran an article entitled "Gravity Nullified,' with a subtitle "Quartz Crystals Charged with High Frequency Currents Lose Their Weight." At the end of tthe article we also ran a line, "*Don't Fail to See Our Next Issue Regarding This Marvelous Invention.*"

Those who were wise evidently must have had their suspicions aroused by the bottom line, and the wiser ones, if they inspected the main photograpg carefully, no doubt at once saw the hoax.

BUT IT WASN'T IN THE APRIL ISSUE ... ?

The article, which came to us from Germany, appeared originally in a German periodical as an April joke, but it was so excellent that we thought that we could take a little liberty with our own readers. The question remains as to how many of our readers were fooled.

If you look closely at the main illustration, which we reproduce herewith, you will observe that the article labeled "1" is nothing more nor less than a microphone with a resistance. "2" is a pair of head recievers, and "3" is an old time German telephone transmitter with a mouthpiece which, in this case, serves the practical jokester as a handle. Naturally the critical inspector of the picture must have wondered what two microphones and a pair of head receivers had to do with the Gravity Nullifier. Also the supporting wire does not even touch the ring on the weight. Anyhow, we ask our readers' indulgence for the little hoax, for which we hope to be pardoned because the article surrounding it seemed quite authoritative and contained really a lot of good science tending ot hide the hoax.

As a matter of fact, most of the statements are true, with the exception, of course, of those statements referring to the expanded crystal and to the loss of weight caused by the supposed high frequency currents.

There are so many wonderful things happening in science every day that he who would label anything as impossible may have to take his words back the next day. The real fact remains that gravity will be nullified sooner or later, and most likely by some such means as shown in the hoax in the September issue. That electricity and gravitation are closely allied no one doubts, and we would therefore not be surprised if even some of our more scientifically inclined readers, who did not pay close attention to some of the details, took the article as authentic.

Scientific hoaxes are no novelty. One of the most famous, which was not exposed as quickly as this one, appeared in no less than the New York *Sun*. At that time, in August, 1835, a certain professor was supposed to have submitted his report on a fantastic moon people to the *Edinburgh Journal of Science*, to which manuscript the New York *Sun* obtained the first rights, and the article ran consecutively over a period of time. These moon articles, written in a more or less scientific vein, aroused tremendous excitement, and the Moon Hoax was actually believed by thousands upon thousands of people at that time. Needless to say, the *Sun* afterwards exposed its hoax, but even though the newspaper did so, the hoax was still believed by thousands of individuals for years.

The moral is that we should not believe everything that we see, but do a little original thinking ourselves, because we may never know, otherwise, what are facts and what are not.

As a matter of interest to the editors, would like to hear from you as to your impression of the hoax article, and whether you believed it or not. This will give the editors a good basis for a compilation of interesting facts.

A Few Notes on the Articles

In this short commentary we will examine the apparent inconsistencies in the preceding articles and the scientific evidence supporting the first article reported in a recently published experiment by J.G. Gallimore which follows this commentary.

It makes one wonder why such a magazine as Science and Invention would put their credibility on the line by publishing such a hoax. It is possible that they intended the sensational article to boost their sales much as the "fantastic moon people" article did for the New York Sun (this series of articles boosted the paper's circulation to the highest of any paper in the world at the time). However, one must wonder, in light of current knowlege of harmonic math and the incredible properties of crystals, whether or not the real hoax is not Science and Inventions retraction. Also, J.G. Gallimore claims to have successfully reproduced this experiment as reported in the Planetary Association for Clean Energy newsletter, volume 2, Numbers 4 & 5, Febuary 1981 (this article follows).

Can this be called a hoax because the equipment bears a resemblence to certain mundane articles? It is commonplace for engineers to build projects from any scrap materials that they could use to prove the viability of their project. In light of this, could those items be microphones, a German telephone transmitter, a head receiver, etc.? Quite possibly those items may have been the raw materials that they used for the experiment, and the "scrap" material that they used no longer functions the way it did originally. Is it true that high frequency currents may produce anti-gravity effects? Referring to the article "Nullified Gravity--A Hoax": "As a matter of fact, most of the statements are true, with the exception, of course, of those statements referring to the expanded crystal and to the loss of weight caused by the supposed high frequency currents." If the October, 1927 article is indeed a hoax, then this may be similar to the Orwellian "Newspeak", and the very thing that they deny so vehemently is actually the truth. Actually, for the publication to take this stand would be an insult to the work of Nikola Tesla who experimented with the anti-gravitic effects of high frequency currents of high potentials and found them to "contain great promise" (see Bib.).

A number of inconsistencies have been revealed in the article "Nullified Gravity--A Hoax" through the evolution of our technology since its appearence in September, 1927. One inconsistency involves the digital reprocessing of the photograph that is in the article "Gravity Nullified". Digitizing the photo reveals that the ring actually does seem to touch the supporting wire.

Another interesting point is the admonition:

"There are so many wonderful things happening in science every day that he who would label anything as impossible may have to take his words back the next day. The real fact remains that gravity will be nullified sooner or later, and most likely by some such means as shown in the hoax in the September issue. That electricity and gravitation are closely allied no one doubts..."

And why choose a frequency within the range that they selected to conduct the experiments? That "magic" frequency just happens to be within the same range used by other anti-gravity and "free energy" researchers. Which leads one to suspect that they knew exactly what they were doing when they performed the experiment. And why would a hoax have so much apparently valid experimental data? Usually scientific hoaxes have intrinsic inconsistencies concerning the experimental parameters that are used, and it is those very inconsistencies that reveal the hoax. This contrasts to the body of the article "Gravity Nullified".

Also, in the article "Gravity Nullified," in the second paragraph, first line, "The discovery was made about six weeks ago in a newly established central laboratory..." This

statement was made in the September issue, which would have put the article's appearence sometime in July. This would have been a bit late for an April fool's joke, as is stated: "The article, which came to us from Germany, appeared originally in a German periodical as an April joke...", in the article above. It seems curious that a greater amount of inconsistency appears in the text debunking the original article than in the original article itself.

In conclusion, the only way the world will ever know what is really going on is to repeat the experiment as outlined in the original article, to see if the observed Anti-Gravity effects actually exist.

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Anti-Gravity Properties of Crystalline Lattices

In the summer of 1927, two scientists, **Kowsky** and **Frost**, in Poland noted specific anti-gravity properties of crystals. They were pursuing some discoveries in piezo-electricity made by **Meissner** of Telefunken, whereby it was found that crystals could lose their transparency and change their specific gravity at the same time.

By the oscillations of radio transmitters of several kilowatts, at protracted exposure, Kowsky and Frost managed to include an eight hundred percent volume increase to a clear crystal. The small, lightened crystal carried the apparatus which oscillated it as well as a weight of twenty five kilograms suspended from it, floating free at a height of about two meters above the floor of a laboratory.

Shortly after this discovery, reports and photographs of the tests were published in the German journal, Radio Umschau and in Science and Invention (September, 1927 issue).

Those published reports permit a definition of the phenomena in today's terminology.

An optical grade quartz crystal 5x2x1.5 mm of defined crystal lattice was piezoelectrically overloaded with a resulting opaqueness, a growth in volume and a structural change along with specific gravity change. The crystal was reported to increase dimensions along one side of two thousand percent (volume increase of 800%). Its weight of approximately one ounce was reduced by an unknown amount during the increase in volume. When electrically excited to lift itself, the crystal was capable also of lifting an additional eight hundred and eighty ounces. This lift occurred when the crystal was subjected to vertical oscillation via direct electrode contacts, and transverse oscillation via non-attached electrodes broadcasting radiation with the crystal interposed between them.

Radio Frequency Emissions and Magnetostriction of Mass

Magnetostrictive masses emit heat and undergo dimensional changes on a temporary basis when exposed to a varying magnetic field. The molecular alignment of the mass with the field of current induces mechanical pressures that cause a distortion or dimensional change. Normally such physical changes have been assumed to be temporary or of unimportant plasticity. Certain non-magnetic substances like dielectric crystals also react to an imposed magnetic field with molecualr re-alignment.