

KEELY AND SCIENCE - PART 1

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reprinted from "Theosophical Siftings" Volume - 3 -

" The only hope for science is more science" — DRUMMOND.

" Matter is infinitely divisible" — SCHOPENHAUER.

" We seem to be approaching a theory as to the construction of ether. Hertz has produced vibrations, vibrating more than one hundred million times per second. He made use of the principle of resonance. You all understand how, by a succession of well-timed small impulses, a large vibration may be set up" — PROF. FITZGERALD.

Dr. Schimmel, in his lecture on "The Unity of Nature's Forces", says: — "The Greek philosophers, Leucippus, Anaxagoras, Democritus, and Aristotle, base their philosophies on the existence of an ether and atoms. According to Spiller's system, both ether and atoms are material. The atoms are indivisible. Chemistry, being based on the correctness of this statement, forces us to accept it". — We are "forced to accept it", only until it is proved by demonstration to be false. (*See note at end*)

The discoverer of the connecting link between mind and matter, the Newton of the *mécanique celeste* of the mind, foretold both by Kepler and Macvicar, has now reached a stage in his researches at which he is able to demonstrate the truth of the hypotheses which he is formulating into a system; and consequently the stage where he can demonstrate whether theories, that have prevailed concerning the cause of physical phenomena, are sound or without basis in fact. Until this stage was reached, it would have been as useless to make Mr. Keely's theories known, as it would be to publish a treatise to prove that two and two make five. Scientific men reject all theories in physics in which there is not an equal proportion of science and mathematics, excluding all questions of pure metaphysics. They were right; for, until the world had undergone a state of preparation for another revelation of truth, the man who demonstrated all that Keely is now prepared to demonstrate would have been burned alive as a wizard. To use the words of Babcock, one of Keely's staunchest adherents, in 1880: — "This discoverer [Page 2] has entered a new world, and although an unexplored wilderness of untold wealth lies beyond, he is treading firmly its border, which daily widens as with ever-increasing interest he pursues his explorations. He has passed the dreary realm where scientists are groping. His researches are made in the open field of elemental force, where gravity, inertia, cohesion, momentum are disturbed in their haunts and diverted to use; where, from unity of origin, emanates infinite energy in diversified forms". and, to this statement I would add — where he is able to look from nature up to nature's God, understanding and explaining, as no man before ever understood and explained, how simple is "the mysterious way in which God works His wonders to perform".

Mr. Babcock continues: — "Human comprehension is inadequate to grasp the possibilities of this discovery for power, for increased prosperity, and for peace. It includes all that relates mechanically to travel, manufacture, mining, engineering, and warfare". Up to within two years, Mr. Keely, the discoverer of unknown laws of nature, having their sole seat, origin, and function in the human mind, has been left partially to the mercy of men who were interested only in mechanical "possibilities". In the autumn of 1888, he was led into a line of research which made the mechanical question one of secondary interest; and yet the present results are such as to prove that on this line alone can he ever hope to attain mechanical success. The course then adopted has also been the means of placing his discoveries before the world, endorsed in such a manner as to command attention to his views and theories. It has been said that if extreme vicissitudes of belief on the part of men of science are evidences of uncertainty, it may be affirmed that of all kinds of knowledge none is more uncertain than science. The only hope for science is more science, says Drummond. Keely now bestows the only hope for science — "more science". He accounts for the non-recognition by scientists of his claims, in these words: "The system of arranging introductory etheric impulses by compound chords set by differential harmonies, is one that the world of science has never recognised, simply because the struggles of physicists, combating with the solution of the conditions

governing the fourth order of matter, have been in a direction thoroughly antagonistic, and opposite to a right one. It is true that luminosity has been induced by chemical antagonism, and, in my mind, this ought to have been a stepping-stone towards a more perfect condition than was accepted by them; but independent of what might be necessary to its analysis, the bare truth remains that the conditions were isolated — robbed of their most vita essentials — by not having the medium of etheric vibration associated with them".

In order to subdivide the atoms in the atomic triplet, after release from the molecule, the molecular ether, thus liberated, is absolutely necessary in order to effect the rupture of the atoms, and so on, progressively, each order [Page 3] of ether, molecular, inter-molecular, atomic, inter-atomic, etheric, inter-etheric, the ether so liberated in each successive division is essential to the next sub-division.

The keynote of Mr. Keely's researches is that the movements of elastic elements are rhythmical, and before he had reached his present stage in producing vibrations, on the principle of resonance, he has had problems to solve which needed the full measure of inspiration or apperception that he has received.

Hertz has produced vibrations about one metre long, vibrating more than one hundred million times a second. Keely has produced, using an atmospheric medium alone, 519,655,633 vibrations per second; but, interposing pure hydrogen gas between soap films and using it as a medium of acceleration, he asserts that on the enharmonic third a rate of vibration may be induced which could not be set down in figures, and could only be represented in sound colours. He has invented instruments which demonstrate in many variations the colours of sound, registering the number of necessary vibrations to produce each variation. The transmissive sympathetic chord of B flat, third octave, when passing into inaudibility, would induce billions of billions of vibrations, represented by sound colour on a screen illuminated from a solar ray. But this experiment is one of infinite difficulty, from the almost utter impossibility of holding the hydrogen between the two films long enough to conduct the experiment. Keely made over 1,200 trials before succeeding once in inducing the intense blue field necessary, covering a space in time of six weeks, four hours at a time daily, and should he ever succeed in his present efforts to produce a film that will stand, he anticipates being able to register the range of motion in all metallic mediums. On this subject Keely writes: — "The highest range of vibration I ever induced was in the one experiment that I made in liberating ozone by molecular percussion, which induced luminosity, and registered a percussive molecular force of 110,000 lbs. per square inch, as registered on a lever constructed for the purpose. The vibrations induced by this experiment reached over 700,000,000 per second, unshipping the apparatus, thus making it insecure for a repetition of the experiments. The decarbonized steel compressors of said apparatus moved as if composed of putty. Volume of sphere, 15 cubic inches; weight of surrounding metal, 316 lbs".

Recently some questions, propounded to Mr. Keely by a scientist, elicited answers, which the man of science admitted were clear and definite, but no physicist could accept Keely's assertion that incalculable amounts of latent force exist in the molecular spaces, for the simple reason that science asserts that molecular aggregation is attended with dissipation of energy instead of its absorption. The questions asked were: —

1) In disintegrating water, how many foot-pounds of energy have you [Page 4] to expend in order to produce or induce the vibratory energy in your acoustical apparatus?

"Answer. — No foot-pounds at all. The force necessary to excite disintegration when the instrument is sensitized (both in sensitization and developments) would not be sufficient to wind up a watch.

2) What is the amount of energy that you get out of that initial amount of water (say 12 drops) when decomposed into ether ?

"Answer. — From 12 drops of water a force can be developed that will fill a chamber of seven pint volume no less than six times with a pressure of ten tons to the square inch.

3) In other words, if you put so many pounds of energy into vibratory motion, how many foot-pounds do you get out of this?

"Answer. — All molecular masses of metal represent in their interstitial molecular spaces incalculable amounts of latent force, which, if awakened and brought into intense vibratory action by the medium of sympathetic liberation, would result in thousands of billions more power in foot-pounds than that necessary to awaken it. The resultant development of any and all forces is only accomplished by conditions that awaken the latent energy they have carried with them during molecular aggregation. If the latent force that exists in a pound of water could be sympathetically evolved or liberated up to the seventh sub-division or compound-inter-etheric, and could be stored free of rotation, it would be in my estimation sufficient to run the power of the world for a century".

This statement gives another of Keely's discoveries to the world, viz., that molecular dissociation does not create energy, as men have asserted Keely has claimed, but supplies it in unlimited quantities, as the product of the latent energy accumulated in molecular aggregation. This is to the physicist as if Keely had asserted that two and two make a billion, but as a man of science, who is held to be "the scientific equal of any man in the world", has come forward to make known that, in his opinion, "Keely has fairly demonstrated the discovery of a force previously unknown to science", the discoverer at last feels at liberty to make public the nature of his discoveries. Until Dr. Joseph Leidy had taken this stand, Mr. Keely could not, without jeopardizing his interests, and the interests of the Keely Motor Company, make known in what particulars his system conflicts with the systems upheld by the age in which we live.

After the warning, given in the history of Huxley's "Bathybius", we may feel quite sure that if Keely had failed to demonstrate the genuineness of his claims by actual experiment, no scientist would have risked the worldwide reputation of a lifetime by endorsement of the discovery of an unknown force as Professor Leidy has done, while Keely himself was under such a cloud that, to advocate his integrity and uphold the importance of his [Page 5] discovery, has hitherto been enough to awaken doubts as to the sanity of his upholders. Among many others who have written of it from the standpoint of Keely's accountability for the mistakes of the managers of the Keely Motor Company — men who made no pretence of caring for anything but dividends

— was one who asserted, in the *New York Tribune*, that it was a "remarkable delusion, full of tricks too numerous to mention, the exposure of which ought to be made to bring the Keely craze to an end". In the same journal an editorial states that "Mr. Keely appears to have no mechanical ingenuity, his strong point being his ability as a collector. He has one of the largest and best arranged collections of other people's money to be found in the United States. Having, a number of years ago, during a fit of temporary insanity, constructed a machine which, if any power on earth could start it, would explode and pierce the startled dome of heaven with flying fragments of cog-wheels and cranks, he now sits down calmly, and allows this same mechanical night-mare to make his living for him. This is genius; this is John W. Keely; he toils not, neither does he spin, but he has got an hysterical collection of crooked pipes and lob-sided wheels tied up in his back room that extract the reluctant dollar from the pocket of avarice without fail".

This is a specimen of the nature of the ridicule which was encountered by Keely's "upholders", as well as by himself. Until Professor Leidy and Dr. Willcox came to the front, in March, 1890, Mr. Keely had no influential supporters, and not one scientist could be found who was ready to encounter the wasps represented in Lavater's allegorical vignette; where a hand holding a lighted torch is being stung by one of a swarm.

Underneath are these lines: —

"And although it singes the wings of the gnats,
Destroys their heads and all their little brains,
Light is still light;
And although I am stung by the angriest wasp,
I will not yield."

Such is the position of all defenders of the truth in all ages; but the torch being held aloft, in such hands as have now seized it, the opportunity is given to see what Keely proclaims as truth.

We know that science denies the divisibility of atoms, but Keely affirms and demonstrates that all corpuscles of matter may be divided and subdivided by a certain order of vibration. During all these years in which he has given exhibitions of the operations of his generators, liberators, and disintegrators, in turn, each being an improvement, successively, on the preceding one, no one has attempted to give to the public any theory, or even so much as a sensible conjecture, of the origin of the force.

When Mr. Keely was asked, in 1884, if it were not possible that he had [Page 6] dissociated hydrogen gas, and that his unknown force came from that dissociation, he replied that he thought it might be; but he made no assertion that he had. This conjecture was repeated to an English scientist, who replied that he was willing to make a bet of £10,000 that hydrogen is a simple element. The same scientist says now that he should answer such a question with more caution, and says that he had never known hydrogen to be dissociated. Mr. Keely gives this

THEORY AND FORMULA OF AQUEOUS DISINTEGRATION

The peculiar conditions as associated with the gaseous elements of which water is composed, as regards the differential volume and gravity of its gases, make it a ready and fit subject of vibratory research. In submitting water to the influence of vibratory transmission, even on simple thirds, the high action induced on the

hydrogen as contrasted with the one on the oxygen (under the same vibratory stream), causes the antagonism between these elements that induces dissociation. The differential antagonistic range of motion, so favouring the antagonistic thirds as to become thoroughly repellant. The gaseous element thus induced and registered, shows thousands of times much greater force as regards tenuity and volume than that induced by the chemical disintegration of heat, on the same medium. In all molecular dissociation or disintegration on both simple or compound elements, whether gaseous or solid, a stream of vibratory antagonistic thirds, sixths, or ninths, on their chord mass will compel progressive subdivisions. In the disintegration of water the instrument is set on thirds, sixths, and ninths, to get the best effects. These triple conditions are focalized on the neutral centre of said instrument so as to induce perfect harmony or concordance to the chord-note of the mass-chord of the instrument's full combination; after which the diatonic and the enharmonic scale located at the top of the instrument, or ring, is thoroughly harmonized with the scale of ninths which is placed at the base of the vibratory transmitter with the telephone head. The next step is to disturb the harmony on the concentrative thirds, between the transmitter and disintegrator. This is done by rotating the syren so as to induce a sympathetic communication along the nodal transmitter, or wire, that associates the two instruments. When the note of the syren becomes concordant to the neutral centre of the disintegrator, the highest order of sympathetic communication is established. It is now necessary to operate the transferable vibratory negatizer, or negative accelerator, which is seated in the centre of the diatonic and enharmonic ring, at the top of disintegrator, and complete disintegration will follow (from the antagonisms induced on the concordants by said adjunct), in triple progression, thus: — First, thirds: Molecular dissociation resolving the water into a gaseous compound of hydrogen and oxygen. Second, sixths: **[Page 7]** resolving the hydrogen and oxygen into a new element by second order of dissociation, producing what I call, low atomic ether. Third, ninths: The low atomic ether resolved into a new element, which I denominate high or second atomic harmonic. All these transmissions being simultaneous on the disturbance of sympathetic equilibrium by said negative accelerator.

Example: — Taking the chord mass of the disintegrator B flat, or any chord mass that may be represented by the combined association of all the mechanical parts of its structure (no two structures being alike in their chord masses), taking B flat, the resonators of said structure are set at B flat, first octave, B flat, third octave, and B flat, ninth octave, by drawing out the caps of resonators until the harmony of thirds, sixths, and ninths are reached; which a simple movement of the fingers on the diatonic scale, at the head, will determine by the tremulous action which is highly sensible, to the touch, on said caps. The caps are then rigidly fixed in their different positions by set screws. The localization to the neutral centre is then established by dampening the steel rods, on the scale at the back, representing the thirds, sixths, and ninths, drawing a piece of small gum tube over them, which establishes harmony to the chord mass of the instrument. Concordance is thus effected between the disintegrator and the ninths of the scale at base of transmitters with telephonic head.

This scale has a permanent sympathetic one, set on the ninth of any mass chord that may be represented, on any and all the multiple variations of mechanical combinations. In fact, permanently set for universal accommodation.

The next step is to establish pure harmony between the transmitter and the disintegrator, which is done by spinning the syren disk, then waiting until the sympathetic note is reached, as the syren chord, decreasing in velocity, descend the scale. At this juncture, the negative accelerator must be immediately and rapidly

rotated, inducing high disturbance of equilibrium between the transmitter and the disintegrator by triple negative evolution, with the result that a force of from five to ten, fifteen, twenty, and thirty thousand pounds to the square inch is evolved by the focalization of this triple negative stream on the disintegrating cell, or chamber, whether there be one, two, three, five, or ten drops of water enclosed within it.

GRADUATION OF MACHINES

Mr. Keely gives a few introductory words concerning the necessary graduating of his instruments, for effecting conditions necessary to, ensure perfect sympathetic transmission, which will serve to show how great are the difficulties that have been attendant upon getting his machines into a condition to control and equate the differentiation in molecular masses, requiring greater [Page 8] skill than in researching the force of a sunbeam. He writes: — The differentiation in molecular metallic masses, or grouping, is brought about in their manipulations in manufacturing them for commercial uses; in the forging of a piece of metal, in the drawing of a length of wire, and in the casting of a molten mass to any requisite form.

The nearest approach to molecular uniformity in metallic masses is in the wire drawn for commercial uses, gold and platina being the nearest to freedom from differentiation. But even these wires, when tested by a certain condition of the first order of intensified molecular vibration, for a transferring medium between centres of neutrality, I find to be entirely inadequate for the transfer of concordant union, as between one and the other, on account of nodal interferences. We can appreciate the difficulty of converting such a medium to a uniform molecular link, by knowing that it can be accomplished only by removing all nodal interference, by inducing between the nodal waves a condition in which they become subservient to the inter-sympathetic vibratory molecular link of such structure or wire.

Therefore, it is necessary to submit the wire to a system of graduation in order to find what the combined chords of these nodal interferences represent when focalized to one general centre. Then the differentiation between these nodal waves and the inter-molecular link must be equated, by what I call a process of vibratory induction, so as to induce pure concordance between one and the other. To elaborate on this system of graduation, for effecting conditions necessary to ensure perfect and unadulterated transmission, would make up a book that would take days to read and months to study.

The graduating of a perfectly constructed instrument to a condition to transmit sympathetically, is no standard whatever for any other one that may be built, nor ever will be, because no concordant conditions of compound molecular aggregation can ever exist in visible groupings. If it were even possible to make their parts perfectly accurate one to the other, in regard to atmospheric displacement and weight, their resonating qualities would have a high rate of sympathetic variation in their molecular groupings alone. If one thousand million of coins, each one representing a certain standard value, and all struck from the same die, were sympathetically graduated under a vibratory subdivision of 150,000, the most amazing variation would present itself, as between each individual coin throughout the number, in regard to their molecular grouping and resonance.

KEELY.

It will be realized in the future what immense difficulties have been encountered by Mr. Keely in perfecting his system of graduation, and in constructing devices for the guidance of artificers and mechanics, whereby those who are not as abnormally endowed as he is for his work, can bring a proper vibratory action into

play to induce positive sympathetic transmission, [Page 9] as well as the stupidity of the men who still seek to confine his researches to perfecting the so-called Keely motor, before his system is sufficiently developed to enable others to follow it up, should his physical strength give out. His system of graduating research, when completed, will enable men to take up the work, *not* from the standard of an already completed structure that is true in its operation, though a perfect duplicate as to size and gravity be made; for each successively constructed machine requires a knowledge of its own conditions of sensity, as regards its mass chords. Keely writes:

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That tuning forks can be so constructed as to show coincident or concordant association with each other, is but a very weak illustration of the fact which governs pure acoustic assimilation. The best only approach a condition of about a fortieth, as regards pure, attractive, and propulsive receptiveness. By differentiating them to concordant thirds, they induce a condition of molecular bombardment between themselves, by alternate changes of long and short waves of sympathy. Bells rung in vacuo liberate the same number of corpuscles, and at the same velocity as those surrounded by a normal atmosphere, and hence the same acoustic force attending them, but are inaudible from the fact that, in vacuo, the molecular volume is reduced. Every gaseous molecule is a resonator of itself, and is sensitive to any and all sounds induced, whether accordant or discordant.

ANSWERS TO QUESTIONS

The positive vibrations are the radiating or propulsive; the negative vibrations are the ones that are attracted towards the neutral centre. The action of the magnetic flow is dual in its evolutions, both attractive and propulsive. The sound vibrations of themselves have no power whatever to induce dissociation, even in its lowest form. Certain differential, dual, triple and quadruple chords give introductory impulses which excite an action on molecular masses, liquid and gaseous, that increase their range of molecular motion and put them in that receptive state for sympathetic vibratory interchange which favours molecular disintegration; then, as I have shown, the diatonic enharmonic is brought into play, which further increases the molecular range of motion beyond fifty per cent of their diameters, when molecular separation takes place, giving the tenuous substance that is necessary to induce progressive subdivision. This molecular gaseous substance, during its evolution, assumes a condition of high rotation in the sphere or tube in which it has been generated, and becomes itself the medium, with the proper excitors, for further progressive dissociation. The excitors include an illuminated revolving prism, condensor, and coloured lenses, with a capped glass tube strong enough to carry a pressure of at least one [Page 10] thousand pounds per square inch. To one of these caps a sectional wire of platinum and silver is attached; the other cap is attached to the tube, so screwed to the chamber as to allow it to lead to the neutral centre of said chamber.

KEELY.

MINERAL DISINTEGRATION

I have been repeatedly urged to repeat my disintegrations of quartz rock; but it has been utterly out of my power to do so. The mechanical device with which I conducted those experiments was destroyed at the time of the proceedings against me. Its graduation occupied over four years, after which it was operated successfully. It had been originally constructed as an instrument for overcoming gravity; a perfect,

graduated scale of that device was accurately registered, a copy of which I kept; I have since built three successive disintegrators set up from that scale, but they did not operate. This peculiar feature remained a paradox to me until I had solved the conditions governing the chords of multiple masses; when this problem ceased to be paradoxical in its character. As I have said, there are no two compound aggregated forms of visible matter that are, or ever can be, so duplicated as to show pure sympathetic concordance one to the other. Hence the necessity of my system of graduation, and of a compound device that will enable anyone to correct the variations that exist in compound molecular structures, or, in other words, to graduate such, so as to bring them to a successful operation.

KEELY.

DISTURBANCE OF MAGNETIC NEEDLE

If Keely's theories are correct, science will in time classify all the important modifications of the one force in nature as sympathetic streams, each stream composed of triple flows. Mr. Keely maintains that the static condition which the magnetic needle assumes, when undisturbed by any extraneous force outside of its own sympathetic one, proves conclusively that the power of the dominant third, of the triple combination of the magnetic terrestrial envelope, is the controlling one of this sympathetic triplet, and the one towards which all the others co-ordinate. All the dominant conditions of Nature represent the focal centres towards which the surrounding ones of like become sympathetically subservient. The rapid rotation of the magnetic needle of a compass which Mr. Keely shows in his experiments, rests entirely on the alternating of the dominant alone, which is effected by a triple condition of vibration that is antagonistic to its harmonious flow as associated with its other attendants. A rapid change of polarity is induced, and rapid rotation necessarily follows. Quoting from Keely's writings, — The human ear cannot detect the triple chord of any vibration, or sounding note, but every sound that is induced of any range, high or low, is governed by the same laws (as regards triple action [Page 11] of such) that govern every sympathetic flow in Nature. Were it not for these triple vibratory conditions, change of polarity could never be effected, and consequently there could be no rotation. Thus the compounding of the triple triple, to produce the effect, would give a vibration in multiplication reaching the ninth, in order to induce subservience, the enumeration of which it would be folly to undertake, as the result would be a string of figures nearly a mile in length to denote it.

When the proper impulse is given to induce the rotation with pure alternating corpuscular action, the conditions of action become perpetual in their character, lasting long enough from that one impulse to wear out any machine (denoting such action), and, on the sympathetic stream, eternally perpetual. The action of the neutral or focalizing centres represents molecular focalization and redistribution, not having any magnetism associated with them; but when the radiating arms of their centres are submitted to the triple compound vibratory force, representing their mass thirds, they become magnetic and consequently cease their rotation. Their rotation is induced by submitting them to three different orders of vibration, simultaneously giving the majority to the harmonic third.

Theory of the Induction of Sympathetic Chords to excite rotation by vibro-phonetic trajectory to and from centres of neutrality as induced and shown to Professor Leidy, Dr. Wilcock, and others, on revolving globe.

All hollow spheres, of certain diameters, represent, as per diameters and their volume of molecular mass, pure, unadulterated, sympathetic resonance towards the

enharmonic and diatonic thirds of any, and in fact all, concordant sounds. In tubes it is adversely different, requiring a definite number of them so graduated as to represent a confliction by thirds, sixths, and ninths, as towards the harmonic scale. When the conditions are established, the acoustic result of this combination, when focalised, represents concordant harmony, as between the chord mass of the instrument to be operated, and chord mass of the tubes of resonance. Therefore, the shortest way towards establishing pure concordance between any number of resonating mediums, is by the position that Nature herself assumes in her multitudinous arrangements of the varied forms and volumes of matter — the spherical. The great difficulty to overcome, in order to get a revolution of the said sphere, exists in equating the interior adjuncts of same. In other words the differentiation induced must be so equated as to harmonise and make their conditions purely concordant to the molecular mass of the sphere. Example: Suppose the chord of the sphere mass represents B flat, or any other chord, and the internal adjuncts by displacement of atmospheric volume differentiates the volume one-twentieth; this displacement in the shell's atmospheric volume would represent [Page 12] an antagonistic twentieth against the shell's mass concordance, to equate which it would be necessary to so graduate the shell's internal adjuncts as to get at the same chord; — an octave or any number of octaves that comes nearest to the concordance of shell's atmospheric volume. No intermediates between the octaves would ever reach sympathetic union.

We will now take up the mechanical routine as associated with adjuncts of interference, and follow the system for chording the mechanical aggregation in its different parts, in order to induce the transmittive sympathy necessary to perfect evolution, and to produce revolution of the sphere or shell.

Example.— Suppose that we had just received from the machine shop a spun shell of twelve inches internal diameter, 1-32 of an inch thick, which represents an atmospheric volume of 904'77 cubic inches. On determination by research we find the shell to be on its resonating volume B flat, and the molecular volume of the metal that the sphere is composed of B natural. This or any other antagonistic chord, as between the chord mass of the shell and its atmospheric volume, would not interfere, but would come under subservience. We now pass a steel shaft through its centre, $\frac{1}{2}$ inch in diameter, which represents its axial rest. This shaft submits the atmospheric volume of the shell to a certain displacement or reduction, to correct which we first register the chord note of its mass, and find it to be antagonistic to the chord mass of the shell, a certain portion of an octave. This must be corrected. The molecular volume of the shaft must be reduced in volume, either by filing or turning, so as to represent the first B flat chord that is reached by such reduction. When this is done the first line of interference is neutralized, and the condition of sympathy is as pure between the parts as it was when the globe was minus its axis. There is now introduced on its axis a ring which has seven tubes or graduating resonators, the ring being two-thirds the diameter of the globe, the resonators three inches long and $\frac{3}{4}$ inch diameter, each one to be set on the chord of B flat, which is done by sliding the small diaphragm in the tube to a point that will indicate B flat. This setting then controls the metallic displacement of the metallic combination, as also of the arms necessary to hold the ring and resonators on shaft or axis. Thus the second equation is established, both on resonance and displacement. We are now ready to introduce the diatonic scale ring of three octaves which is set at two-thirds of the scale antagonistic to the chord mass of the globe itself, which is done by graduating every third pin of its scale to B flat thirds, which represent antagonistic thirds to the shell's molecular mass. This antagonism must be thoroughly sensitive to the chord-mass of

one of the hemispheres of which the globe is composed. The axis of the scale-ring must rotate loosely on the globe's shaft without revolving with the globe itself, which it is prevented from doing so by being weighted on one side of the ring by a small hollow brass ball, holding about two ounces of lead. The remaining [Page 13] work on the device is finished by painting the interior of the globe, one hemisphere black and one white, and attaching a rubber bulb, such as is used to spray perfume, to the hollow end of the shaft. This bulb equates vibratory undulations, thus preventing an equation of molecular bombardment on its dark side when sympathetically influenced. It is now in condition to denote the sympathetic concordance between living physical organisms, or the receptive transmissive concordance necessary to induce rotation.

KEELY.

PHILOSOPHY OF TRANSMISSION AND ROTATION OF MUSICAL SPHERE

The only two vibratory conditions that can be so associated as to excite high sympathetic affinity, as between two physical organisms, are: —

Etheric chord of B flat, 3rd octave, and on
Etheric sympathetic chords transmission
Eb on the scale 3rd, 6ths and 9ths; octaves harmonic;

having the 3rd dominant; the 6th enharmonic, and the 9th diatonic.

The chord mass representing the musical sphere, being the sympathetic etheric chord of B flat third octave, indicated by the focalization of its interior mechanical combination, as against the neutral sevenths of its atmospheric volume, makes the shell highly sensitive to the reception of pure sympathetic accordance, whether it be physical, mechanical, or a combination of both. Taking the chord mass of the different mechanical parts of the sphere and its adjuncts, as previously explained, when associated and focalized to represent pure concordance, as between its atmospheric volume and sphere mass, which means the pure unit of concordance, we have the highest position that can be established in relation to its sympathetic susceptiveness to negative antagonism. The beauty of the perfection of the laws that govern the action of Nature's sympathetic flows is here demonstrated in all the purity of its workings, actually requiring antagonistic chords to move and accelerate. The dark side of the shell, which represents fifty per cent, of its full area of pure concordant harmony, is the receptive area for the influence of the negative transmissive chords of the thirds, sixths and ninths to bombard upon; which bombardment disturbs the equilibrium of said sphere, and induces rotation. The rotation can be accelerated or retarded, according as the antagonistic chords of the acoustic forces are transmitted in greater or lesser volume. The action, as induced by the mouth organ, transmitted at a distance from the sphere without any connection of wire, demonstrates the purity of the principle of sympathetic transmission, as negatized or disturbed by discordants, which, focalizing on the resonating sevenths of resonators, or tubes attached to ring, the sympathetic flow is by this means transmitted to the [Page 14] focalizing centre, or centre of neutrality, to be re-distributed at each revolution of sphere, keeping intact the sympathetic volume during sensitization, thus preventing the equation or stoppage of its rotation.

Again, the sphere resting on its journals in the ring, as graduated to the condition of its interior combinations, represents a pure sympathetic concordant under perfect equation, ready to receive the sympathetic, or to reject the non-sympathetic. If a pure sympathetic chord is transmitted coincident to its full combination, the sphere will remain quiescent; but if a transmission of discordance is brought to bear upon it, its sympathetic conditions become repellant to this discordance.

KEELY

"There is no such thing as blind or dead matter, as there is no blind or unconscious law", the Buddhists have taught for centuries. Keely demonstrates the truth in this teaching; and Hertz in his conjectures that a knowledge of the structure of ether should unveil the essence of matter itself, and of its inherent properties, weight and inertia, is treading the path that leads to this knowledge. Professor Fitzgerald says: — "Ether must be the means by which electric and magnetic forces exist, it should explain chemical actions, and if possible gravity". The law of sympathetic vibration explains chemical affinities as a sympathetic attractive, but inherent, force; in short, as gravity. This opens up too wide a territory even but to peer into, by the dawning light of Keely's system of vibratory physics. The boundary line is crossed, and the crowds of researchers in electro-magnetism are full of ardour. Hertz constructed a circuit, whose period of vibration for electric currents was such that he was able to see sparks, due to the increased vibration, leaping across a small air-space in this resonant circuit; his experiments have proved and demonstrated the ethereal theory of electro-magnetism: — that electro-magnetic actions are due to a medium pervading all known space; while Keely's experiments have proved that *all things are due to conditions of ether*.

Prof. Fitzgerald closes one of his lectures on ether in these words: — There are metaphysical grounds for reducing matter to motion, and potential to kinetic energy. Let us for a moment contemplate what is betokened by this theory that in electro-magnetic engines we are using as our mechanism the ether, the medium that fills all known space. It was a great step in human progress when man learnt to make material machines, when he used the elasticity of his bow, and the rigidity of his arrow to provide food and defeat his enemies. It was a great advance when he learnt to use the chemical action of fire; when he learnt to use water to float his boats, and air to drive them; when, by artificial selection, he provided himself with food and domestic animals. For two hundred years he has made heat his slave to drive his machinery. Fire, water, earth, and air have long been his slaves, but it is only within [Page 15] the last few years that man has won the battle lost by the giants of old, has snatched the thunderbolt from Jove himself, and enslaved the all-pervading ether.

CLARA JESSUP MOORE,

Schlangenbad, August 5th, 1890

NOTE. — In Professor Fitzgerald's lecture on "Electro-magnetic Radiation", delivered in March before the Royal Institution of Great Britain, he says of Professor Hertz's experiments in inducing vibration in ether waves: — If we consider the possible radiating power of an atom, by calculating it upon the hypothesis that the atomic charge oscillates across the diameter of the atom, we find that it may be

millions of millions of times as great as Professor Wiedemann has found to be the radiating power of a sodium atom in a Bunsen burner; so that if there is reason to think that any greater oscillation might disintegrate the atom, we are still a long way from it.".....

Does not this statement border on an admission that the atom is divisible ? Keely stands alone in utilizing sound vibrations to increase the range of molecular motion; not (as scientists have been allowed to infer) to induce dissociation of themselves alone. (See p. 9) The lecture closes with "a possible theory of ether and matter": — "This hypothesis explains the differences in nature as differences of motion. If it be true, ether, matter, gold, air, wood, brains, are but different motions. Where alone we can know what motion in itself is, that is, in our brains, we know nothing but thought. Can we resist the conclusion that all motion is thought? Not that contradiction in terms, unconscious thought, but living thought; that all Nature is the language of One in whom we live, and move, and have our being."

The truth of this theory Keely demonstrates in his experiments.

The remainder of this Number is included, at the express request of Mrs. Bloomfield-Moore, as a sequel to T.P.S, Vol. I, No. 9. Mrs. Bloomfield-Moore is alone responsible for the contents of this paper, the T.P.S. having no connection whatever with financial articles of any kind.