

# Harmony



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"**Harmony** is the greatest of virtues." [Masaru Emoto]

## Keely

"**Harmony** is the simultaneous vibration of two or more bodies whose *harmonics* do not produce *discords*, and whose *fundamental* pitches are harmonies of the lowest *pitch*, or are a *unison* with the resultant notes or *overtones*, or *undertones*, of any two or more of them." [Keely]

"I shall not forestall an unproved *conclusion*, but fight step by step the dark paths I am exploring, knowing that, should I succeed in proving one single fact in *science* heretofore unknown, I shall in so doing be rewarded in the highest degree. In whatever direction the human *mind* travels it comes quickly to a boundary line which it cannot pass. There is a knowable field of *research*, bordered by an unknown tract. My experience teaches me how narrow in the strip of *territory* which belongs to the knowable, how very small the portion that has been traversed and taken *possession* of. The further we traverse this unknown *territory*, the stronger will become our *faith* in the immovable *order* of the world; for, at each advancing step, we find fresh fruits of the *immutable laws* that reign over all things,- from the falling apple, up to the *thoughts*, the words, the deeds, the *will* of man: and we find these *laws* irreversible and *eternal*, *order* and *method* reigning throughout the universe. Some details of this universal *method* have been worked up, and we know them by the names of '*gravitation*,' '*chemical affinity*,' '*nerve-power*,' etc. These material certainties are as *sacred* as *moral* certainties. . . . The nearest approaches to a certainty is made through **harmony** with nature's *laws*. The surest *media* are those which *nature* has laid out in her wonderful workings. The man who deviates from these paths will suffer the penalty of a defeat, as is seen in the record of '*perpetual motion*' seekers. I have been classed with such dreamers; but I find consolation in the *thought* that it is only by those men who are utterly ignorant of the great and marvellous *truths* which I have devoted my life to demonstrate and to bring within reach of all. I believe the time is near at hand when the *principles* of *etheric evolution* will be established, and when the world will be eager to recognize and accept a *system* that will certainly create a *revolution* for the highest benefits of mankind, inaugurating an *era undreamed of* by those who are now ignorant of the existence of this *etheric force*.'" [Keely, *Progressive Science*]

*All abnormal discordant aggregations in these resonating convolutions produce differentiation to concordant transmission; and according as these differentiations exist in volume, so the transmissions are discordantly*

transferred, producing *antagonism* to pure physical action. Thus, in *motor ataxy*, a *differentiation* of the *minor thirds* of the *posterior parietal lobule* produces the same condition between the retractors and extensors of the leg and foot, and thus the control of the proper movements is lost through this *differentiation*. The same truth can be universally applied to any of the *cerebral convolutions* that are in a state of *differential harmony* to the mass of immediate *cerebral* surroundings. Taking the *cerebral* condition of the whole mass as one, it is subservient to one general *head centre*; although as many *neutrals* are represented as there are *convolutions*. The *introductory minors* are controlled by the *molecular*; the next *progressive third* by the *atomic*; and the *high third* by the *etheric*. All these *progressive links* have their *positive, negative, and neutral position*. When we take into consideration the structural condition of the human *brain*, we ought not to be bewildered by the infinite variety of its *sympathetic impulses*, inasmuch as it unerringly proves the true philosophy that the *mass-chords* of such structures are governed by *vibratory etheric flows*. There is no structure whatever - animal, vegetable, or mineral - that is not built up from the cosmic *ether*. Certain *orders of attractive vibration* produce certain *orders of structure*; thus the infinite variety of effects; more especially in the *cerebral organs*. *Discordance* cannot exist in the molecule proper. *Discordance* in any mass is the result of differentiated groups induced by *antagonistic chords*, and any *differentiated mass* can be brought to a condition of **harmony** or *equation* by proper *chord media*, and an *equated sympathy* produced whether the *mass* be metal or *brain*. [Vibratory Physics - The Connecting Link between Mind and Matter]

"The normal *brain* is like a *harp* of many *strings* strung to perfect *harmony*. The transmitting *conditions* being perfect, are ready, at any *impulse*, to *induce* pure *sympathetic assimilation*. The different *strings* represent the different *ventricles* and *convolutions*. The *differentiations* of any one from its true setting is fatal, to a certain *degree*, to the **harmony** of the whole *combination*. If the *sympathetic condition* of any *physical organism* carries a *positive flow* of 80 per cent on its whole *combination*, and a *negative* one of 20 per cent, it is the *medium* of perfect *assimilation* to one of the same *ratio*, if it is distributed under the same *conditions* to the *mass* of the other. If two *masses* of *metal*, of any *shape* whatever, are brought under perfect *assimilation*, to one another, their *union*, when brought into contact, will be instant." [Keely and His Discoveries, Chapter 7] [Assimilation]

"**Harmony** is health. *Discord* is disease." [Keely]

WHAT KEELY MEANS BY "SYMPATHETIC FLOWS"

The action of *Nature's sympathetic flows* regulates the *differential oscillatory range of motion* of the planetary masses as regards their approach toward and recession from each other. These flows may also be compared to the *flow of the magnet* which permeates the field, existing between the molecules themselves, *sensitising* the combined *neutral centres* of the molecules without disturbing, in the least, the visible molecular mass itself. In the planetary masses - balanced as it were in the scales of universal *space*, floating like soap-bubbles in a field of atmospheric air, the *concentration* of these *sympathetic streams* evolves the *universal power* which moves them in their *oscillating range of motion* to and from each other. This *sympathetic triple stream* focalises and defocalises on the *neutrals* of all such masses *polarising* and *depolarising*, *positive and negative action*, *planetary rotation*, etc., etc.. It is thus that all the conditions governing *light, heat, life, vegetation, motion*, are all derived from the *velocity of the positive and negative interchange of celestial sympathy* with the terrestrial.

Every harmonious condition of *Nature's evolutions* is governed by *one incontrovertible law*; that of *concordant assimilative harmony*. This *concordant key* is the ruling one over all the antagonistic, negative, discordant ones; the one that diverts the *disturbance of sympathetic equilibrium* to one general *concentrative centre* for *redistribution*. **Harmony** concentrates, **Harmony** distributes. The *focalising point of concordant sympathetic concentration* is the *percussive electric field*, where the velocity of its *sympathetic streams* rebounds with a power that throws them far out into *universal space*; and so far beyond their *equative centre of equilibrium*, as to bring them in *sympathy* with the *universal attraction* of the combined *neutral centres* of all planetary masses. KEELY. [True Science]

"In setting the conditions of *molecular sympathetic transmission* by wire," writes Keely, "the same law calls for the harmonious adjustment of the *thirds*, to produce a *non-intermittent flow of sympathy*."

*Intermission means failure here. That differential molecular volume is required of sympathetic flow, seems at first sight to controvert the very law established by the great Creator, which constitutes harmony, a paradoxical position which has heretofore misled physicists who have propounded and set forth most erroneous doctrines, because they have accepted the introductory conditions, discarding their sympathetic surroundings. The volume of the neutral center of the earth is of no more magnitude than the one of a molecule, the sympathetic condition of one can be reached in the same time as the other by its coincident chord." Keely has ... attained the transmission of the etheric current in the same manner as the electric current with this one notable difference, that, in order to show insulation to the skeptical, he passes the etheric current, through blocks of glass in running his vibratory devices. [Snell Manuscript - The Book, page 2]*

In all molecular dissociation or disintegration of both simple and 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 center of said instrument so as to induce perfect harmony or concordance to the chord note of the mass chord of the instruments 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 the disintegrator. This is done by rotating the siren so as to induce a sympathetic communication along the nodal transmitter, or wire, that associates the two instruments. When the note of the siren becomes concordant to the neutral center 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 center of the diatonic and enharmonic ring, at the top of the 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, 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. [Snell Manuscript - The Book, page 4]

*"I find in my researches, as to the condition of molecules under vibration, that discordance cannot exist in the molecule proper; and that it is the highest and most perfect structural condition that exists; providing that all the progressive orders are the same. Discordance in any mass is the result of differentiated groups, induced by antagonistic chords, and the flight or motions of such, when intensified by sound, are very tortuous and zigzag; but when free of this differentiation are in straight lines. Tortuous lines denote discord, or pain; straight lines denote harmony, or pleasure. Any differentiated mass can be brought to a condition of harmony, or equation, by proper media, and an equated sympathy produced." [Keely and His Discoveries, Chapter VII]*

"Taking the law of assimilation as the cosmical law, together with self-manifesting power as the characteristic of being, we reach a primary classification of created objects, which corresponds with that which is known as mind and matter - or rather let us say mind and that which is not mind; for there is ground for the apprehension that mind and matter do not include all that exists; and that, along with matter, ether ought to be considered as something intimately related to matter indeed, but yet not just matter. When the elements of the ethereal medium are regarded as truly and simply material however small and light they may be, the elasticity and pressure which must be assigned to that medium in order to admit of the velocity of light, are altogether out of the harmony of things; and wholly incredible, especially when confronted with the phenomena and the theory of astronomy. Thus, to justify the velocity of light on the same principles as those of sound, in various material media, the ethereal pressure must be 122,400,000,000 times greater than that of the atmosphere - which is incredible, says Macvicar." [Law of Assimilation]

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## Quimby

*"Discord is disease; **harmony** is health and every person starts from one or the other of these two bases. The word **truth** is applied to both, but if there was not any **discord**, there would be no need of **harmony**, for before there was **discord** all was quiet. So that it is a **truth** that there is such a state as **discord** in the **mind**, but the **discord** is in us and not in the thing spoken of. The **discord** is not in the tune but in those that hear it, for if there were no one to hear it, there would be no **discord**."* [Quimby]

## Cayce

"Music alone may span that space between the finite and the infinite. In the **harmony** of sound, the **harmony** of color, even the **harmony** of motion itself, its beauty is all akin to that expression of the soul-self in the **harmony** of the mind, if used properly in relationship to body." [Cayce 3659-1]

*"For the joy of living, in an material experience, is dependent upon the peace of **mind** - not indolence but activative peace, activative **harmony**. Though the entity has seen and has known and touched much **discord**; the **desire** for **harmony** reaches almost to that which is sought by the musician, in bringing about the arousal of the emotions ... which answer to the chords within the **body**; whether in movements of the dance, or arousal of emotions for the **celestial** or **terrestrial** activity in the emotions."* [Cayce (880-1)]

"In the desire to create **harmony** - physically, and mentally, and in relationships with those at home, at work, and in other environments - the person must understand, and also comprehend: **Harmony** must first be within oneself." [Cayce (303-39)]

"Rise and pray - facing east! You will be surprised at how much peace and **harmony** will come into your soul." [Cayce 3509-1]

"Contentment, peace, **harmony**, glory, love, beauty, is from WITHIN; and is as a growth that makes for that activity, that expression, that which will bring the growth, the understanding, the environments, the necessary influences." [Cayce 165-21]

"Know that all comes to him who puts his trust in the all-powerful influence of love and **harmony**, the real poem of life, and then works like thunder for same!" [Cayce (2337-1)]

"For a body, mind and soul being in oneness of purpose brings **harmony** into the body as a whole." [Cayce 3250-1]

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## Leonardo da Vinci

"Do you know that our soul is composed of **harmony**?" [Leonardo da Vinci]

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## Christ Returns - Speaks His Truth

"I was brought to a realization of the **INFINITE POWER** of the '**Intelligent Creativity**' ever active within creation, maintaining order, co-operation, **harmony**, daily productivity, unequalled by man anywhere, at any time." [Christ Returns - Speaks His Truth, Letter 1, page 15]

"Creation is the product of **PRIMARY IMPULSES** working individually and together - making impressions upon the other, fulfilling inbuilt needs imprinted within consciousness - these needs being, at the outset to increase and experience self-expression leading to further separation then - to restore a sense of inner security and comfort - to be re-united within the **harmony** of **UNIVERSAL CONSCIOUSNESS**. Out of this driving force for a re-united **harmony** of being, came the male-female drive for re-union to recapture the bliss which is buried in

the soul consciousness." [Christ Returns - Speaks His Truth, Letter 5, page 23]

The **face** of **BONDING** drags, draws, attracts, demands, pulls, buys, grabs, clutches, clings to the people and possessions it craves. This **IMPULSE** creates an illusion of security in **togetherness** and possessions. It is the 'tool' of '**MOTHER CONSCIOUSNESS**' inspiring the building of families, communities and nations. It can be productive of **beauty, joy, harmony** and **love**. It can also wreck lives and destroy communities when it is 'Ego' driven. The **face** of **REJECTION** repels, thrusts aside, pushes away, evades, everything - people, animals, possessions it does not want. Thus the **IMPULSE of REJECTION** creates an illusion of **privacy** and **security**. [Christ Returns - Speaks His Truth, Letter 5, page 25]

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### Mary Baker Eddy

"**Harmony** is produced by its Principle, is controlled by it and abides with it. Divine Principle is the **Life** of man. Man's **happiness** is not, therefore, at the disposal of physical **sense**. **Truth** is not contaminated by **error**.

**Harmony** in man is as beautiful as in **music**, and **discord** is unnatural, unreal.

"The **science of music** governs tones. If mortals caught **harmony** through material **sense**, they would lose **harmony**, if time or accident robbed them of material **sense**. To be master of chords and discords, the **science of music** must be understood. Left to the decisions of material **sense**, **music** is liable to be misapprehended and lost in confusion. So man, not understanding the **Science** of being, - thrusting aside his divine Principle as incomprehensible, - is abandoned to conjectures, left in the hands of **ignorance**, placed at the disposal of illusions, subjected to material **sense** which is **discord**. A discontented, **discordant** mortal is no more a man than **discord** is **music**." [Mary Baker Eddy; Science and Health with Key to the Scriptures. 1971]

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### R. A. Schwaller de Lubicz

"**Proportion** belongs to **geometry** and **harmony**, **measurement** to the object and to **arithmetic**; and one necessitates the other. **Proportion** is the comparison of sizes; **harmony** is the relationship to **measures**; **geometry** is the **function** of **numbers**." [R. A. Schwaller de Lubicz, The Temple in Man, page 61]

"In fact, each of these individual members of the vegetable kingdom belongs to a **genus**, and this **genus** to a **family**; and these **families** belong to an original "**lineage**." At the head of this **lineage** is a **Neter**, a "**Principle**" synthesizing all the characteristics of this **lineage**; its **number**, its **rhythm**, its **classification** in the general **harmony**." [R. A. Schwaller de Lubicz, The Temple in Man, page 63]

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### Lydian Chromatic Concept

"The notion of chord/scale unity as the logical approach to the vertical manifestation of **harmony** was simply overlooked by classical Western theorists. The understanding that the term **HARMONY** means **UNITY**, and already complete VERTICAL ONENESS of elements existing in the momentary **NOW** above **time** was either missed or dismissed by the founding fathers of Western classical music theory." [Lydian Chromatic Concept, p. 222]

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### Blavatsky

"**Harmony** is the **law of life**, **discord** its shadow; whence springs suffering, the teacher, the awakener of **consciousness**." [Blavatsky's Gem of the Day]

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### Schauberger

In **Nature** there are only **structures** and **orifices**. From these arise all forms of **materialisation** and

dematerialisation, if orifices and vessels are organised in an inversely symmetrical configuration and within them the reciprocal gaseous substances are correctly dosed. Pressure and suction, and most important of all, the temperature-gradient should be aligned in the right sense (+ not -), through which the desired energy is freed at the point of intersection.

This can be accumulated if the thing is cooled during its motion, becoming homogeneously structured in the process. In this manner it is even possible to decompose ordinary air into animalistic electrical essences, or to produce an artificial thunderstorm, whose transformative essences discharge into metal conductors, calling into being a physical vacuum with which a thunderstorm can be produced in the tube, whose power exceeds that of a cyclone. While it is still necessary to use small quantities of earthly substances in the artificial production of petrol (gasoline), no fuels of any kind are needed to operate the air-turbine[4]. This will avert the crisis that will inevitably ensue if nature-alienated humanity continues to combust substances in its machines, which are preordained by Nature for the provision of food. The seemingly remarkable behaviour of liquids under the influence of light is the totally natural permanent condition of the eternal 'Arising' and 'Passing Away', of the evolution from small to large and vice versa, whose vital harmony Goethe has already explained to us so beautifully that all we need to do is read his works so as to create the perpetual interaction required by all molecules in order to exist in a state of well-behaved order. [The Energy Evolution - Harnessing Free Energy from Nature, Conclusions]

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### Ramsay

"Since Savart and Chladni and Helmholtz and Tyndal, and others, have studied the notes of our diatonic scale by the aid of such instruments as mechanical art has put into the hands of science in these last days, we have come to have a much more perfect understanding of music in its acoustical domain, and have been given to behold the beautiful mathematical measurements which Nature has applied in the marshalling of this host of the lower heavens; and which may suggest similar, though grander, and probably more complicated rhythms and harmonies in the astral heavens far off." [Scientific Basis and Build of Music, page 21]

"centrifugal force. A third note produced by the prime 5 is derived from the note produced by the first power of 3, and this note by the first power of 5 having being slightly acted on by the force of gravity, and the first power of 5 having only a little centrifugal force, the result is that this note E in the scale of C, derived from the first power of 3 by the prime 5, is balanced between the two forces. It is the only note in the system which in the octave scale has not a large interval on the one side of it nor on the other, and consequently it is the only note which attracts and is attracted by two notes from proximity. Thus it is that the musical system is composed of three notes having specific gravity and three having specific levity or bouyancy, and one note, E, the center of the tonic chord, balanced between these two forces. As the attractions of notes from proximity take place when the notes with downward tendency meet the note with upward tendency, had the notes been animated by only one of these forces there could have been no system of resolutions of the notes either in melody or harmony; they would all have been by gravity weighing it downwards, or by levity soaring upwards." [Scientific Basis and Build of Music, page 28]

The law of gravitation is the law of Music as well as of Astronomy. The cycles of the distances, that is the intervals, in Music correspond to the cycles of the periods in Astronomy. In Astronomy the distances and quantities of matter are primary, and determine the periods; in Music the periods and quantities are primary, and determine the distances or intervals. In Astronomy the distances are commensurable; in Music the periods are commensurable. In Astronomy the periods are incommensurable; in Music the distances or intervals are incommensurable. In Astronomy, because the simplicity is not in the periods, the conjunctions are very few at one time; in Music, because the simplicity is in the periods, the conjunctions are very many at one time. And herein lies in the one case the harmony and permanence of the solar system, and in the other case the harmony and beauty of the musical system. The periods and distances in Astronomy and Music are inversely related. [Scientific Basis and Build of Music, page 30]

When the major scale has been generated, with its three chords, the subdominant, tonic, and dominant, by the

primary mathematical ratios, it consists of forms and orders which in themselves are adapted to give outgrowth to other forms and orders by the law of duality and other laws. All the elements, orders, combinations, and progressions in music are the products of natural laws. The law of Ratio gives quantities, form, and organic structure. The law of Duality gives symmetry, producing the minor mode in response to the major in all that belongs to it. The laws of Permutations and Combinations give orders and rhythms to the elements. The law of Affinity gives continuity; continuity gives unity; and unity gives the sweetness of harmony. The law of Position gives the notes and chords their specific levities and gravities; and these two tendencies, the one upward and the other downward, constitute the vital principle of music. This is the spiritual constitution of music which the Peter Bell mathematicians have failed to discern: [Scientific Basis and Build of Music, page 37]

In the progression - that is, the going on from one to another - of these triplets in harmonizing the octave scale ascending, Nature goes on normally till we come to the passage from the sixth to the seventh note of the scale, whose two chords have no note in common, and a new step has to be taken to link them together. And here the true way is to follow the method of Nature in the birthplace of chords.<sup>1</sup> The root of the subdominant chord, to which the sixth of the octave scale belongs, which then becomes a 4-note chord, and is called the dominant seventh; F, the root of the subdominant F, A, C, is added to G, B, D, the notes of the dominant, which then becomes G, B, D, F; the two chords have now a note in common, and can pass on to the end of the octave scale normally. In going down the octave scale with harmony, the passage from the seventh to the sixth, where this break exists, meets us at the very second step; but following Nature's method again, the top of the dominant goes over to the root of the subdominant, and F, A, C, which has no note in common with G, B, D, becomes D, F, A, C, and is called the subdominant sixth; and continuity being thus established, the harmony then passes on normally to the bottom of the scale, every successive chord being linked to the preceding note by a note in common. [Scientific Basis and Build of Music, page 49]

Moreover, it is only from one to five, that is from C to G in ascending, which is its proper direction in the genesis, that the major in being harmonized does not admit of minor chords, but if we descend this same natural major scale of the fifth from five to one, that is from G to C, the first chord is C E G; the next chord is F A C; if this is succeeded by the minor chord A C E, there are two notes in common and one semitonic progression, as very facile step in harmony; and the following two notes are most naturally harmonized as minor chords. So modulation into the minor, even in this major scale, is very easy in descending, which is the proper direction of the minor genesis.<sup>2</sup> In a similar way, it is only from five to one, that is from E to A in descending, which is its proper genetic direction, that the minor in being harmonized does not admit of major chords; but if we ascend this same minor scale of the fifth from one to five, the first chord is A C E, the next is E G B, and if this chord be followed by the major C E G, there are here again two notes in common and one semitonic progression; and the two notes following are then most naturally harmonized as major chords. So modulation into the major, even in this minor scale, is very natural and easy in ascending, which is the proper direction of the major genesis.<sup>3</sup> The dominant minor and the tonic major are, like the subdominant major and the tonic minor, very intimately related in having two notes in common and one semitonic progression. [Scientific Basis and Build of Music, page 65]

Now we come to a remarkable arrangement of Nature. The minor does not grow in the same way out of this third chord's top. Two features come before us: first the minor chord grows out of the major, but it is taken not from the top but from the middle, from a rib out of his side. B, the middle of the major dominant chord; B, the last-born of the major genesis; B is the point of departure in the outgrowth of the minor mode. The feminine is a lateral growth from the masculine. Another feature: it grows downward, like a drooping ash or willow. Its first generated chord is its dominant, and its last is its subdominant. Its middle chord, like the middle one of the major, is its tonic. Still further, it is generated by division, not multiplication; B45 is divided by 3 and by 5 for the root and middle of this highest chord, E and G. E15 is divided by 3 and 5 for the root and middle of the tonic chord, A and C. A5 is divided by 3 and 5 for the root and middle of the lowest chord, D and F. Thus we have the whole generation of the elements of music, six generations of harmony, like the six days of creation. Up to this point the whole process and aspect is inverse; growing from a middle; growing downward; growing by division; - while the major is growing from the top; growing upward; growing by multiplication. But here the inverse aspect ends. The generating primes of the major are 3 and 5; 3 and 5 are also the generating primes of the minor. In this essential phase of their creation their comparison is direct, not inverse. [Scientific Basis and Build of Music,

Chords in a **harmony** are not at liberty to succeed each other in the way that single notes in a melody may. The notes in a melody may succeed in seconds, or they may succeed in larger intervals, any interval in the octave, even sometimes very effectively there may be a leap or fall of a whole octave. Chords cannot follow each other in this free way; they are under law, and must succeed accordingly. Their law is that they must be linked together either by having something in common in their elements, or have small intervals, semitonic progressions, between them. The former way, by notes in common, is the most usual way in diatonic succession of chords, the latter way, by semitonic progression, is a chief feature and charm in chromatic succession; but both in diatonic and chromatic progression of chords in **harmony**, notes in common and semitonic progression are usually found together. [Scientific Basis and Build of Music, page 68]

the excess of the vibrations of the one note over the other makes one or more sounds which are called "grave harmonics;" e.g., in the interval of the fifth, in the ratio of 2:3, the excess of 3 over 2 is 1, so the grave harmonic is an octave below the lowest of the two notes, that is, the ratio of 1:2. This reinforces the lowest note, 2, and gives it a solid effect. In this way the octave is incorporated into the fifth, and unity with variety is combined with the law of continuity at the very threshold of **harmony**. In 32 of the 42 intervals the grave harmonics are notes which belong to the natural scale. In the 10 remaining intervals which have not the exact number of vibrations found anywhere in the natural scale, 6 of them are from the number 7, thus - 7, 7, 7, 21, 21, 35; the remaining 4 are from 11, 13, 13, and 19. [Scientific Basis and Build of Music, page 77]

Helmholtz falls into a mistake when he says- "The system of scales and modes, and all the network of **harmony** founded on them, do not seem to rest on any immutable laws of Nature, but are due to the *aesthetical principle* which is constantly subject to change, according to the progressive development of taste." It is true, indeed, that the ear is the last judge; but the ear is to judge something which it *does not create*, but simply judges. Nature is the maker of music in its scales and modes. The styles of composition may vary with successive generations, and in the different nations of men; but the scientific basis of music is another thing. It is a thing, belonging to the *aesthetic element* of our being and our environment; it is under the idea of the beautiful, rather than the idea of the useful or the just; but all these various aspects of our relation to creation have their laws which underlie whatever changes may be fashionable at any period in our practice. If the *clang-farbe* of a musical tone, that is, its quality or timbre, depends on the number and comparative strength of the partial tones or harmonics of which it is composed, and this is considered to be the great discovery of Helmholtz, it cannot be that the scales and modes are at the caprice of the fickle and varied taste of times and individuals, for these partials are under Nature's mathematical usages, and quite beyond any taste for man's to change. It is these very partials or harmonics brought fully into view as a system, and they lead us back and back till they have brought us to the great all-prevailing law of gravitation; it is these very partials, which clothe as an audible halo every musical sound, which constitute the musical system of sounds. [Scientific Basis and Build of Music, page 78]

circumstances. And if we may add D to the subdominant chord of d F A C, so we may also, in other circumstances, add the subdominant chord as **harmony** to D, thus - D f a c, and no discord occur. There is only the interval of a second between F and G in this dominant 9th, and only an interval of a second between C and D in this subdominant 6th; a second standing alone is a *discordant interval*, as a poison by itself may kill; but as a poison by the processes of nature in chemistry compounded with something else may be an excellent medicine, so may a second when mixed and compounded with something else in music become an excellent **harmony**. Music is a great apothecary, skillful in compounds. [Scientific Basis and Build of Music, page 81]

The effects of different positions of chords. The first position is clear and solid; the second is light and pretty. The notes which have the most varied effect in a **stream of harmony** are the upper and under notes, the edges of the stream; the two outlines determine the effect:-

The 3rd in the tune and the 1st in the bass,	} pretty.
The 5th in the tune and the 3rd in the bass,	} nice.
The 3rd in the tune and the 5th in the bass,	} wild.
The 3rd in the tune and the 3rd in the bass,	} dull, monotonous.
The 5th in the tune and the 1st in the bass,	} drowsy.
The 6th in the tune and the 4th in the bass,	} good.
The 7th in the tune and the 5th in the bass,	} most effective.

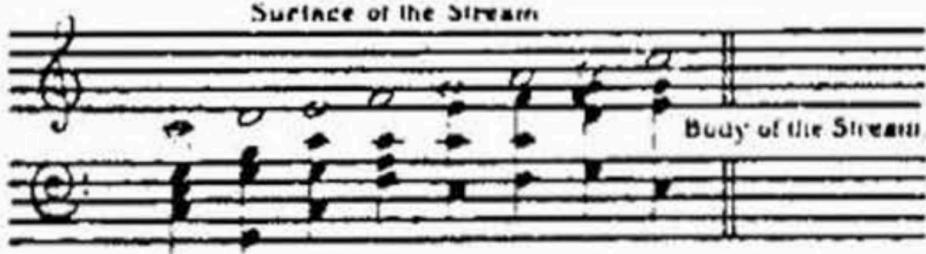
(click to enlarge )

[Scientific Basis and Build of Music, page 84]

In respect of **harmony**, the **natural scale** of five notes is like the **scale** of man's five **senses**; as the other **notes** can be **compounded** so as to form the **octave of harmony**, so **sensation** is joined by **reflection**, and new **elements of knowledge** come into existence in the process of **reasoning**. But the **knowledge** we have in our **logical deductions** is **knowledge** on different terms from **sensation**, which is **intuitive**; though if the **logical** process be rightly done, it is **knowledge** as certainly as the **compound chords** of the **octave scale** are **harmony**, quite as much, and a little more, perhaps, though on more complex terms, as that of the five **notes** of the **natural scale**. [Scientific Basis and Build of Music, page 86]

**musical vibrations** in both **acute** and **grave harmonics**, generate a **concentration** of mighty **action**, an ever-outgoing of **Nature's** own **power**, so that she, by her own **laws of vibratory motion**, can reproduce and perpetually maintain outgoing **power of action**; and, again, play in perfect **harmony** her **grand fugue** with these tremendous all-resolving **forces** in that high and hidden and **silent** region in which Mr. **Keely** is experimenting. [Scientific Basis and Build of Music, page 87]

When the **chords** follow each other placed in such a way as to bring the upper **note** of the one as near the upper **note** of the next as it can be, the upper surface of this **stream of harmony** is the **melodic scale** and the **harmony** is the bottom and the body of the **stream**.



Surface of the Stream

Body of the Stream

Erratum.—For E in the Bass read C.

(click to enlarge )

[Scientific Basis and Build of Music, page 88]

In a musical **air** or **harmony**, *i.e.*, when once a **key** has been instituted in the **ear**, all the various **notes** and **chords** seem animated and imbued with *tendency* and *motion*; and the **center of attraction** and repose is the **tonic**, *i.e.*, the **key-note** or **key-chord**. The moving **notes** have certain *leanings* or *attractions* to other **notes**. These *leanings* are from two causes, *local proximity* and *native affinity*. The *attraction of native affinity* arises from the **birth** and **kindred** of the **notes** as seen in the **six-octave genesis**, and pertains to their **harmonic combinations**. The *attraction of local proximity* arises from the way the **notes** are marshalled compactly in the **octave scale** which appears at the head of the **genesis**, and pertains to their **melodic succession**. In this last **scale** the **proximites** are diverse; the 53 **commas** of the **octave** being so divided as to give larger and lesser distances between the **notes**; and of course the *attraction of proximity* is strongest between the nearest; a **note** will prefer to move 5 **commas** rather than 8 or 9 **commas** to find **rest**. Thus far **PROXIMITY**. [Scientific Basis and Build of Music, page 91]

By *affinity* the **notes** group in **chords**. The **tonic** is the **center chord**, the **key of the harmony**; the **dominant** is the **fifth** above it and the **subdominant** the **fifth** below it, and these two are balanced on the **center chord** as the scales on a **balance beam**. The **dominant chord** is vigorous and active, tending to soar; the **subdominant** is solemn, soft, and grave, tending to sink; the **tonic** is melodious and restful, and in it the **harmony** finds **equilibrium**. This far **AFFINITY**. [Scientific Basis and Build of Music, page 91]

#### THE OPENING FOR MODULATIONS.

In passing from one **key** to another in the **fellowship of keys** in a **composition**, the new **key** *grows* out of the **top of the dominant** and converts the old **dominant** into a **tonic**. The **dominant** and **subdominant** being at the opposite extremes of the **key**, with the **tonic** between them, are not related by *affinity*. This want of *affinity* *makes an opening* in the system for the new **chord** to come in by, and it, being related by *affinity* to the **chord** of the old **dominant**, which is now the new **Tonic**, comes in and establishes itself and the new **key** for the time. It is this gap between **subdominant** and **dominant**, along with the *affinity* existing between the new **key** and the old **dominant**, which makes this musical event to be so gracefully accomplished. This is what is called *natural modulation*, the passing for a time into another **key** in the course of a **composition**; and its abundant and habitual use in **music**, even in the simplest **chorales**, shows how natural and acceptable it is. The young student will find illustrations in the second lines of the **Psalm tunes** - **Watchman**, Sicily, Tranquility, Eaton, Birmingham, Jackson, Bethel, Bedford, and Sheffield. Take **Watchman**, for example, and let the young student follow carefully, noting each **chord** of the little passage, which we shall analyse for his help. It is by such practice that he will become by-and-by familiar with the **kinship of keys** and the legitimate resources of **harmony**. [Scientific Basis and Build of Music, page 93]

In the opening of the third **measure** the **tune** returns to its own **key** by striking the **tonic**. This case is a very simple illustration of how a **composition** will move with perfect naturalness in more **keys** than one, the **keys** so *grow* out of each other, and may either merely snatch a passing **chord** from a new **key**, or pass quite into it for a **phrase** or two, or for a whole **measure**, then return as naturally, either by a smooth and quiet or by a strongly contrasted turn, according to the **chords** between which the turn takes place. In such **modulation** there may or there may not be marked a **sharp**, **?**, or **?**, in the **air** itself; the **note** which *Nature raises* in the new **key** may occur in one of the other parts of the **harmony**. In **Watchman** it is A, the fourth, which is altered; from being **?** it is made **?**. The change which takes place in the **sixth** of the **scale**, which is C in **Watchman**, is only *one comma*, the **ratio of 80 to 81**, and it slips into the new **key** as if nothing had happened. No mark is placed to it, as the **comma** difference is never taken notice of, although it is really and regularly taking place, with all the precision of *Nature*, in every new **key**. It is, however, only the **note** which is altered *four commas*, which is marked by a **sharp**, **?**, or **?**, as the case may be. [Scientific Basis and Build of Music, page 94]

#### PLATE III.

#### THE KEYBOARD AND THE CHORDS OF HARMONY.

Here on the **keyboard** we see, nearest to the front, the great **3-times-3 chord** of the full **genesis of the scale** from F1 to F64. When this **chord** is struck by the notched **lath** represented in front of the **keyboard**, the whole

harmony of the key is heard at once. Behind this great chord are placed, to the left the subdominant, tonic, and dominant chords of the minor. D F A, A E C, E G B; and to the right the subdominant, tonic, and dominant chords of the major, F A C, C E G, G B D. When the notched lath is shifted from F to D, the minor third below F, and the 3-times-3 minor is struck down in the same way as the major, the whole **harmony** is heard; and the complete contrast of effect between major and minor harmony can be fully pronounced to the ear by this means. Behind these six diatonic chords, major and minor, on the part of the keyboard nearest to the black keys, are the three chromatic chords in their four-foldness, in both major and minor form. The center one shows the diatonic germ of the chromatic chord, with its supplement of G# on the one hand completing its minor form, and its supplement of A? on the other hand completing its major form. A great deal of teaching may be illustrated by this plate.

ERRATUM. - B?, first chromatic chord, misplaced.

[Scientific Basis and Build of Music, page 104]

The Plate shows the Twelve Major and Minor Scales, with the three chords of their **harmony** - subdominant, tonic, and dominant; the tonic chord being always the center one. The straight lines of the three squares inside the stave embrace the chords of the major scales, which are read toward the right; e.g., F, C, G - these are the roots of the three chords F A C, C E G, G B D. The tonic chord of the scale of C becomes the subdominant chord of the scale of G, etc., all round. The curved lines of the ellipse embrace the three chords of the successive scales; e.g., D, A, E - these are the roots of the three chords D F A, A C E, E G B. The tonic chord of the scale of A becomes the subdominant of the scale of E, etc., all round. The sixth scale of the Majors may be written B with 5 sharps, and then is followed by F with 6 sharps, and this by C with 7 sharps, and so on all in sharps; and in this case the twelfth key would be E with 11 sharps; but, to simplify the signature, at B we can change the writing into C, this would be followed by G with 6 flats, and then the signature dropping one flat at every new key becomes a simpler expression; and at the twelfth key, instead of E with 11 sharps we have F with only one flat. Similarly, the Minors make a change from sharps to flats; and at the twelfth key, instead of C with 11 sharps we have D with one flat. The young student, for whose help these pictorial illustrations are chiefly prepared, must observe, however, that this is only a matter of musical orthography, and does not practically affect the music itself. When he comes to the study of the mathematical scales, he will be brought in sight of the exact very small difference between this B and C?, or this F# and G?; but meanwhile there is no difference for him. [Scientific Basis and Build of Music, page 108]

It is very interesting to observe how the number seven, which is excluded from the genesis of the system of vibration, comes into view after the genesis is completed, not only in the seven seconds of the melodic scale, but also in the seven of each of the intervals. As there are seven days in the week, though the seventh was only after the genesis of creation was finished, so there are six intervals, but seven of each, as we have seen; and in each 7-fold group three magnitudes determined by the three genetic magnitudes of the seconds. There is much symbolic meaning in all this. Any of the intervals may be used in melody; in **harmony** also, either in simple or compound chords, they all have the honor of fulfilling a part; and even those, such as seconds and sevenths, which are less honorable in themselves, have great honor in compound chords, such as dominant sevenths and compound tonics, which fulfill exceedingly interesting functions in the society of chords. [Scientific Basis and Build of Music, page 110]

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## Hughes

The scheme endeavours to prove that the development of **harmonies** of sound and of colours is regulated by the law of Evolution as gained from the Scriptures

—Youthful impressions regarding my great-uncle Dr. Darwin's views

—My cousin Charles Darwin's views touched upon

—The scheme involves the belief that life developing from the Almighty is the general key to disentangle the intricacies of the Natural Sciences

—A remark of Sir John Lubbock's quoted

—The development of Numbers, the stream of Time, the Sevens of Creation, &c., may eventually be proved to

proceed by the same [laws](#), . . . . . 9 [[Harmonies of Tones and Colours, Table of Contents1 - Harmonies](#)]

General remarks on **harmonies** of [tones and colours](#) —The scheme gained without technical knowledge —Brief explanation of how the [laws](#) were gained —The development of [numbers](#) showed the "to and fro" in the development of [sounds](#) —[Multequivalency](#) of **harmonies** veering round, or advancing and retiring in musical [clef](#) —Before judging, close examination requested, . 12 [[Harmonies of Tones and Colours, Table of Contents1 - Harmonies](#)]

General remarks on the method of **harmonies** developing on all kinds of instruments, including the human [voice](#) —Much [paradox](#), but yet the scheme will admit of clear demonstration —A musical [note](#) compared to a machine, the [motive power](#) not of our creation —The imperfection of [keyed instruments](#), from some [notes](#) acting two parts, attuned to the ideal of **harmony** within us —[Macfarren](#) quoted on the [echoing](#) power of a cathedral attuning the [Amen](#) —Why [music](#) as an [art](#) precedes painting —Philosophers and mathematicians have only studied [music](#) to a certain point —Every [key-note](#) a [nucleus](#), including the past, the present, and the future; no finality in any ultimate —The late [Sir John Herschel's](#) views on the musical [gamut](#) alluded to —The imperfection of [keyed instruments](#) adapts them to our present powers —The [laws](#) will be seen to develop the [twelve major](#) and the [twelve minor keys](#) in unbroken sequence and in harmonious [ratio](#); to gain them in [geometric order](#) [as] [keyed instrument](#) should be circular, the [seven octaves](#) interlacing in [tones](#) a lower and a higher series, . 15 [[Harmonies of Tones and Colours, Table of Contents1 - Harmonies](#)]

The [eighteen tones](#) of [keyed instruments](#) veering round and in musical [clef](#) below, the [twelve](#) seen that develop [major keys](#)

—The [seven colours](#) answer to the [seven white notes](#)  
—The use of the two [chasms](#), the [key-note](#) C and its [root](#) F rising from them  
—A [major key-note](#) complete in itself, embracing the [eighteen tones](#)  
—In the whole process of **harmony** there is limit, every [key-note](#) having its [point of rest](#), and yet it is illimitable, . . . . . 22 [[Harmonies of Tones and Colours, Table of Contents2 - Harmonies](#)]

The [key-note](#) C sounding from within itself its [six tones](#) to and fro in [trinities](#), the [tones](#) written as [notes](#) in musical [clef](#)

—The [trinities](#) hereafter termed [primaries](#) and [secondaries](#)  
—The [seven](#) of each of the [twelve key notes](#) developing their [tones](#)  
—The [order](#) in which the [tones](#) meet, avoiding [consecutive fifths](#)  
—[Dissonance](#) is not [opposition](#) or [separation](#)  
—The use of the [chasms](#) and [double tones](#) is seen  
—The isolated [fourths](#) sound the [twelve notes](#)  
—Each [double tone](#) develops only one [perfect major harmony](#), with the exception of F#-G?; F# as the [key-tone](#) sounds F? as E#, and G? as the [key-tone](#) sounds B? as C?  
—The [primaries](#) of the [twelve key-notes](#) are shown to sound the same [tones](#) as the [secondaries](#) of each [third harmony](#) below, but in a different [order](#)  
—All **harmonies** are linked into each other, . 23 [[Harmonies of Tones and Colours, Table of Contents2 - Harmonies](#)]

[Major key-notes](#) developing by [sevens](#) veering round and advancing and retiring in musical [clef](#)

—The use of the [two poles](#) F#-G? in [tones and colours](#)  
—Retrace from Chapter V. the [tones](#) in musical [clef](#) as [notes](#), each [note](#) still sounding its [tones](#), leading the ear to its **harmony**, . . 25 [[Harmonies of Tones and Colours, Table of Contents2 - Harmonies](#)]

The same [laws](#), developing the [minor scales](#), show that the [ascending](#) and [descending scales](#) vary from the

**harmony** of the [key-note](#) and its [trinities](#)

—Each [key](#) developing [three harmonies](#)

—The [tenth note](#) of a [minor scale](#) modulates into a higher [key](#), . . . . 36 [[Harmonies of Tones and Colours, Table of Contents3 - Harmonies](#)]

FRAGMENTS FROM LAST NOTE-BOOK OF DR. GAUNTLETT.

**Harmony** expressed by [pulsations](#), [ebb and flow](#), [stress](#) and [accent](#) —Necessity of combining religious [feeling](#) with [natural science](#) in true [music](#) —Remarks on the new [College of Music](#), . . 50 [[Harmonies of Tones and Colours, Table of Contents4 - Harmonies](#)]

whether veering round, or advancing and retreating in musical [clef](#). I next tried the [major keys](#) which develop [flats](#), and I thought that [G?](#) would develop a perfect **harmony**, but found that it must be [F#](#), and that in this one **harmony** [E#](#) must be used in place of [F?](#); on reference, I found that thus the [twelve keys](#) developed correctly in [succession](#), the [thirteenth](#) being the [octave](#), or first of a higher [series](#). [[Harmonies of Tones and Colours, Dr. Gauntletts Remarks1](#), page 13]

In a few remarks on "[Tones and Colours](#)," inserted in the Athenæum of February 24, 1877, I alluded to the great loss I had sustained by the sudden [death](#) of Dr. [Gauntlett](#). I often retrace with grateful remembrance the kind manner in which he examined this scheme when it was but crude and imperfect; with a very capacious [intellect](#), he had a warm and generous [heart](#), causing him to think over with candour any new ideas placed before him. He was of the greatest use to me, by corroborating the points which I had gained. I remarked to him one day, "I find that, of the [double tones](#), [F#](#) is a [key-note](#) and [G?](#) a [root](#)." He replied, "You must have a right foundation to work upon, or you would never have ascertained the necessity of the [two poles](#); you have gained the [double tones](#) correctly, and the development of **harmonies** without limit. On this point I have always felt the failure of the [laws](#) followed by the musician." [[Harmonies of Tones and Colours, Dr. Gauntletts Remarks1](#), page 13]

There is amazing grandeur, united with simplicity, in the working of [Nature's laws](#) in the development of harmonies of [sound](#), so that the smallest conceivable point has its complementary and corresponding [gradation](#), which renders it capable of development into its peculiar **harmony**, causing the "[multequivalency of harmonies](#)" in endless variety, whether veering round, [to and fro](#), [ascending](#) or [descending](#), or advancing and retiring in musical [clef](#). [[Harmonies of Tones and Colours, Dr. Gauntletts Remarks1](#), page 13]

There is much [paradox](#), and the scheme differs so much from any hitherto published on the subject, that I am aware that, if any link can be found to be wanting in the chain, the defect will immediately be seized upon. I believe, however, that it will be found to admit of clear demonstration. Anyone who has studied the subject knows the difficulties that arise on all sides. In the problem before us, we have to reduce large fields of [thought](#) to certain elementary [truths](#). In my endeavour to do this, I have been entirely dependent upon the discovery of the [laws of Nature](#), as my [ear](#) is not musical enough to assist me in the matter. "All [mysteries](#) are either [truths](#) concealing deeper [truths](#), or [errors](#) concealing deeper [errors](#)," and thus, as the [mysteries](#) unfold, [truth](#) or [error](#) will show itself in a gradually clearer light. The great [mystery](#) of [music](#) lies in its infinite resources; it teems with subtle elements and strange analogies. A musical [note](#) may be compared to a machine: we touch the spring and set the machine in [motion](#), but the complex machinery exists beforehand, quite independent of our [will](#); the [motive power](#) is not of our [creation](#), and the [laws](#) on which its operation depends are superior to our control. The complex work of **harmony** is governed by the [laws](#) which are originated by the [Creator](#); every [note](#) performs what He has willed, and in tracing these [laws](#) let us not be indifferent about their Author, but ever bear in [mind](#) that the [source](#) or [fountain](#) of the [life](#) and activity of **harmonies** arises from the [Power](#) who created the machine, and who knows how it will act. Let us also remember that we understand this machine but partially, and govern it but imperfectly, as indeed the [finite](#) can only, in a small measure, grasp the [Infinite](#); and in any [[Harmonies of Tones and Colours, The Method of Development or Creation of Harmonies1](#), page 15]

study of the [natural sciences](#), as we progress, we find that "hills peep o'er hills, and alps o'er alps arise." As regards [keyed instruments](#), it appears that the [effect](#) of those [notes](#) which act two parts, such as [C#](#) and [D?](#), is

rectified in some way so as to be perfectly attuned to the **ideal** of **harmony** within us. Again, the "Amen" sung by the choir in a **cathedral** may not be in accurate **tune**, but if nearly the correct **intonation** is sounded, after traveling along the aisles, the **chords** always return to the **ear** in perfect **harmony**, because the natural **laws of music**, assisted by the **echoing** power of the building, have attuned them to the perfect **harmonical triad**. If the "Amen" be too much out of **tune**, these **laws** decline to interfere, and there is no such helpful **resonance**.\* [Harmonies of Tones and Colours, The Method of Development or Creation of Harmonies2, page 16]

I think it will be seen that most of the difficulties in the **rules of harmony** arise from not taking the **key-note**, with the **six tones** which it develops from itself, as guiding the **ear**, first to the **six notes** of its **harmony**, and then to the **key-note** which becomes the **leader of the scale**. In the study of the **natural gamut**, [Harmonies of Tones and Colours, The Method of Development or Creation of Harmonies2, page 16]

In the diagrams the **circles** are not drawn as interlacing into each other, from the difficulty of representing them accurately as rising **spirally** in **geometric progression**. If we endeavour to realise the development of **harmonies**, both in **geometric order**, and at the same time advancing and retiring, as in musical **clef**, we must imagine a musician having the physical power of striking all the **notes** on a circular **keyed instrument** of **seven octaves**, linked to a lower **series** of **seven octaves**, and a corresponding **series** of **seven** higher. But in fact the depth of the lower **series**, and the height of the higher, are alike unfathomable to our present powers. C, the first **note** of the **seven octaves**, sounds the four lowest **tones**, F, G, A, B of the lower **series**; and B, the last and highest **note** of the **seven octaves**, sounds in its **harmony** C? and D# of the higher **series** of **sevens**. [Harmonies of Tones and Colours, The Method of Development or Creation of Harmonies3, page 17]

Throughout the scheme **seven tones** and **seven colours** develop in every **harmony**. In the **relationship** between **tones and colours** the **seven** may be con- [Harmonies of Tones and Colours, On Colours as Developed by the same Laws as Musical Harmonies2, page 19]

The **tones** between the **seven white notes** of **keyed instruments**, and the **tints** and shades between the **seven colours**, cause the **multequivalency** of **colours** and of **tones**; consequently every **colour**, as every musical **harmony**, has the capability of **ascending** or **descending**, **to and fro** in **circles**, or advancing and retiring in musical **clef**. It is a curious coincidence that **Wünsch**, nearly one hundred years ago, believed in his discovery of the **primary colours** to be **red**, **green**, and **violet**; and in this scheme, **red**, answering to the **note** C, must necessarily be the first **visible colour**, followed by **green** and **violet**, but these not as **primary colours**, all **colours** in turn becoming **primaries** and **secondaries** in the development of the various **harmonies**. To gain facts by experiment, the **colours** must be exactly according to natural **proportions**—certain **proportions** producing **white**, and others **black**. In this scheme, **green** and **red** are shown to be a **complementary pair**, and therefore (as **Clerk Maxwell** has proved) **red** and **green** in right **proportions** would produce **yellow**. The same fact has been proved in **Lord Rayleigh's** experiments with the **spectroscope**. **Yellow** and **ultra-violet**, [Harmonies of Tones and Colours, On Colours as Developed by the same Laws as Musical Harmonies3, page 20]

The development into **triplets** or **trinities** has been especially remarked in the **harmony** caused by the **falls of Niagara**.\* "A remarkable peculiarity in the **Arabian system of music** is the **division** of **tones** into **thirds**. I have heard Egyptian musicians urge against the **European systems of music** that they are deficient in the **number** of **sounds**. These small and delicate **gradations** of **sound** give a peculiar **softness** to the performances of the Arab musicians." [Harmonies of Tones and Colours, The Arabian System of Music, page 21]

The **inequality** of the **equinoctial points** is a well-known fact. It will be seen how apparent this is in the developments of **harmonies**. From the moment that **trinities** depart from **unity**, the **balance** is unequal, and the repeated endeavours after closer **union** cause a **perpetual restlessness**. May not this want of **equilibrium** be the **life** or **motive power** of the entire **universe**, with its continuous struggle after **concord**, even to **oneness**? "Closer and closer **union** is the **soul** of perfect **harmony**." In tracing **harmonies of tones and colours**, the **double tones** of **keyed instruments** will be seen to correspond with the intermediate **tints** and shades of **colours**. The **twelve notes**, **scales**, and **chords** in the **major** and **minor series**, the **meetings by fifths**, &c., all agree so exactly in their

mode of development, that if a piece of music is written correctly in colours with the intermediate tints and shades, the experienced musician can, as a rule, detect errors more quickly and surely with the eye than the ear, and the correct eye, even of a non-musical person, may detect technical errors. Although the arithmetical relation has been most useful in gaining the laws, it is not here entered upon; but numbers equally meet all the intricacies both of tones and colours. The bass notes have been omitted, in order to simplify the scheme. [Harmonies of Tones and Colours, The Arabian System of Music, page 21]

THE five circles represent a musical clef on which the twelve notes of a keyed instrument are written. Six of the notes are shown to be double, i.e., sounding two tones, eighteen in all, including E#, which is only employed in the harmony of F#, all others being only higher or lower repetitions. [Harmonies of Tones and Colours, Diagram I - The Eighteen Tones of Keyed Instruments, page 22a]

The diagram begins with C, the third space of the treble clef, as being more convenient to write than C, the lowest note in the bass clef. The life of musical sounds rising from a hidden fountain of life is shown by the chasms of keyed instruments between B and C, and E and F; their great use will be strikingly manifest as the developments proceed. The fundamental key-note C and its root F rise from the chasms. B, the twelfth key-note, and E, its root, sound the octave higher of the fountain B. The generation of harmonies is by one law a simple mode of difference. Each major key-note and its tones embrace the eighteen tones of keyed instruments which all lie in order for use. The power and extent of each are complete in itself, rising and developing, not from any inherent property in matter, but from the life communicated to matter. In the whole process of harmony there are limits, and yet it is illimitable. Its laws compel each key-note to follow certain rules within certain bounds; each separate key-note, being the fountain of its own system, has its own point of rest, and series after series rise and enlarge, or fall and diminish infinitely. [Harmonies of Tones and Colours, Diagram I - The Eighteen Tones of Keyed Instruments, page 22a]

IN tracing the origin of a harmony, or family of sounds, all divisions must come out of the one, or unit. Two powers are at work—cohesion and separation; a truth continually dwelt upon by the Greek philosophers. In the diagram, the note C may be considered as central, or as placed with four tones below and two above itself. [Harmonies of Tones and Colours, Diagram II - The Twelve Keynotes1, page 23]

A key-note developing its harmony may be compared to a seed striking its root downwards, and rising upwards. On striking a note, it sounds from within itself, in a rapid and subdued manner, the six kindred tones necessary to its harmony, and all which do not belong to that individual harmony are kept under; thus all harmonies are in sevens. Each seven forms an ascending and descending series; the ear is aware of the tones, but not of the order in which they rise. [Harmonies of Tones and Colours, Diagram II - The Twelve Keynotes1, page 23]

The arrangement of a key-note and the six tones which it sounds may be simply explained by writing tones in a musical clef as notes. In this diagram we have the harmony of C and its root F. Both of these rise from the chasms, and hence this harmony is not so closely linked to that of B, and its root E, as to the other eleven harmonies. [Harmonies of Tones and Colours, Diagram II - The Twelve Keynotes1, page 23]

The three lowest of the six tones are complementary pairs with the key-note and its two highest tones. Observe the curious order in which the tones sound, avoiding consecutive fifths. First, we have the key-note and its root, or fellow; next A; then D and its root; and then E, whose root, A, has already sounded between the first and the second pair. B, the fourth and central tone in depth, sounds seventh, and, finding no fellow within the compass of the harmony developing it, is isolated. Observe also how closely a key-note and its kindred tones are linked into each other. The Primaries spring from the key-notes, the Secondaries from the Primaries; the first pair comprises a key-note and a tone of the Primaries, the other two pairs have each a tone of the Primaries and a tone of the Secondaries. The key-note, after giving out its tones in trinities, or [Harmonies of Tones and Colours, Diagram II - The Twelve Keynotes1, page 23]

combinations of dissonance, rests, sounding neither scale nor chords. Dissonance does not express opposition or

separation, for there is no principle in musical tones which is productive of contraries; the dissonances follow the attraction of the tonic, or key-note, and the neutralization of the musical disturbance is implied in the disagreement in their motion with the repose of the unit, or key-note. So far is this from producing separation, that the apparent discord is simply a preparation for growth, the life of **harmony** causing an inherent tendency towards closer union. [Harmonies of Tones and Colours, Combinations of dissonance, rests, page 24]

We here trace the **twelve harmonies** developing in succession. Notice how exactly they all agree in their mode of development; also the use of the chasms between E and F, B and C. Remark also the beautiful results from the working of the double tones, especially C#-D?, and E#-F?, causing the seven tones of each **harmony**, when ascending, to rise one tone, and, descending, to reverse this movement. F#-G? is the only double tone which acts as F# when a key-tone, and G? when the root of D?. The root of each **harmony** is the sixth and highest tone in each succeeding **harmony**, rising one octave; when it is a double tone, it sounds according to the necessity of the **harmony**. The intermediate tones are here coloured, showing gradual modulation. The isolated fourths (sounding sevenths) were the previously developed key-tones; these also alter when they are double tones, according to the necessity of the **harmony**. Beginning with B, the isolated fourth in the **harmony** of C, the tones sound the twelve notes of a keyed instrument, E# being F?, and the double tones, some flats, some sharps. [Harmonies of Tones and Colours, Combinations of dissonance, rests, page 24]

The only exception is the double tone F#-G?, which is a curious study. F# as a **harmony** takes the double tones as sharps, and F? is E#. G? is also a **harmony** sounding the same tones, by taking the double tones as flats, and B? as C?. F# therefore takes the imperfect tone of E#, and G? the imperfect tone of C?. (See here the **harmony** of G? in musical clef.) [Harmonies of Tones and Colours, Combinations of dissonance, rests, page 24]

We find that on a keyed instrument each primary sounds the same tones as the secondaries of each **third harmony** below, but in a different order, and the double tones are altered sharp or flat as the **harmony** requires. For example, the secondaries of B are sharps; when primaries of D?, they are flats. In order to trace this quickly, the sharps and flats are written to each note. [Harmonies of Tones and Colours, Combinations of dissonance, rests, page 24]

The Major Key-note of C is here shewn developing its trinities from within itself, veering round; C and the other 11 developing their trinities in musical clef. Below each is the order in which the pairs meet, avoiding consecutive fifths. Lastly, C# is seen to be an **imperfect major harmony**; and G?, with B as C?, make the same **harmony** as F#. The intermediate tones of sharps and flats of the 7 white notes are here coloured in order to shew each **harmony**, but it must be remembered that they should, strictly, have intermediate tints. [Harmonies of Tones and Colours, The Major Keynote of C, page 24c]

In the progression of harmonies these are always closely linked into each other. If any key-note is taken as central, its root will be the fifth note of its **harmony** below, and it becomes in its turn the root of the fifth note above. If we add the silent notes, the root of the central note is the eighth below, and becomes the root of the eighth above. To explain the lower series of the notes sounding the six tones from within themselves, the only plan appeared to be to write the tones as notes in musical clef. By reference to Chapter V., we see that the lowest series still sound their tones, and lead the ear to the higher series of a key-note, and the six notes of its **harmony**, as they follow each other in trinities. [Harmonies of Tones and Colours, Diagram III - The Major Keynotes Developing by Sevens, page 25a]

THE term "key" will now be employed in the ordinary sense of the musician, as a note which keeps all those other notes under subjection which do not belong to its **harmony**. A good ear requires that the first note struck should govern and regulate the rest, carrying on the intricacies of the key through the seven octaves ascending and descending. [Harmonies of Tones and Colours, Diagram IV - The Development of the Twelve Major Scales, page 26a]

In the development of the key-notes, the sharp or flat is written to each note, but not to the keys. The reversal of

the **three** and **four notes** of each **seven** of the **twelve key-notes** and their **trinities meeting by fifths** having been traced, we will now examine the **twelve scales meeting by fifths**, and the results arising from the **reversal** of the **three** and **four notes** of each **fifth lower scale** in the **fifth higher**. Take as an example the **scale of C**: C D E F G A B, and that of **G**: G A B C D E F#. The **four lowest notes** of the **seven** of C are the **four highest**, an **octave** higher, in G; F, the **central** and isolated **note** of the **seven** of C, having risen a **tone** higher than the **octave** in the **scale of G**. The **twelve scales** thus modulate into each other by **fifths**, which sound the same **harmonies** as the **key-notes** and their **trinities**. Refer to the **twelve scales** written in musical **clef ascending** by **fifths**, and strike them, beginning at the lowest C in the **bass clef**; this **scale** sounds no **intermediate tones**, but these must be struck as required for all the **scales** to run on in **fifths**. After striking the **seven notes** of C, if we fall back **three**, and repeat them with the next **four notes** of the **seven**; or strike the **seven** and **octave** of C, and fall back **four**, repeating them and striking the next **four**, the **four last notes** of each **scale** will be found to be always in the **harmony** of the **four** first of the **fifth higher scale**. When the **twelve scales ascending** have been thus gained, as we trace them also on the table, they may be struck **descending** by following them as written in musical **clef** upwards, and [Harmonies of Tones and Colours, Diagram VII - The Modulating Gamut of the Twelve Keys2, page 30]

may be traced in the same way on the table; the **third** and **seventh notes** meeting, **ascending** and **descending**, sounding one **harmony**. [Harmonies of Tones and Colours, The Twelve Scales Meeting by Fifths, page 31a]

THE term "**key**" in the **minor developments** must be taken in the sense in which it is understood by musicians, although it will be seen that it is only the **seven of the harmony** that are the **relative minor keys** of the **majors**, the **scales** with their **chords** sounding other **keys**. The grandeur, combined with simplicity, of the **laws** which develop musical **harmonies** are strikingly exhibited in the **minor keys**. Although at first they appear most **paradoxical**, and, comparing them with the **majors**, we may almost say contradictory in their **laws** of development, when they are in some **degree** understood, the intricacies disappear, and the **twelve keys** follow each other (with the **thirteenth octave**), all exactly agreeing in their **mode of development**. I shall endeavour to trace them as much as possible in the same manner as the **majors**, the lowest developments of the **minor keys** being **notes** with **scales** and **chords**, the **notes** always sounding their **major harmonies** in **tones**. Here an apparently **paradoxical** question arises. If the **major keys** are gained by the **notes** sounding the **major tones**, how are the **minor keys** obtained? Strictly speaking, there are no **minor key-notes**: the development of a **minor harmony** is but a **mode of succession** within the **octave**, caused by each **minor key-note** employing the **sharps** or **flats** of the **fourth major key-note** higher; and with this essential difference, it will be seen in how many points the developments of **major** and **minor harmonics** agree. I have carefully followed the same **laws**, and if any capable mind examines the results, I am prepared for severe criticism. I can only express that it was impossible to gain any other results than the **seven of the harmony**, the **ascending** and the **descending scale** and the **chords** combining **three different keys**. [Harmonies of Tones and Colours, Diagram VIII - On the Development of the Twelve Minor Harmonies, page 32]

Probably the lowest **harmony** which we have the power of partially **hearing** is **A minor**, rising in the lower **series** of **seven octaves**; C, its highest **note**, sounding the **six tones** of C, its **major harmony**, on our horizon of **sound**. The diagram begins with A, the second space of the **treble clef**, as most convenient for writing. [Harmonies of Tones and Colours, The Minor Harmonies, page 33a]

DIAGRAM IX.—THE **MINOR KEY-NOTE "A"** AND ITS **SIX NOTES** VEERING ROUND IN **TRINITIES**—THE **TWELVE KEY-NOTES** THUS DEVELOPING WRITTEN IN **MUSICAL CLEF** BELOW.

"Lord, on Thee **Eternity** had its foundations—all  
Spring forth from Thee; of **light, joy, harmony**

Sole origin:—all **life**, all **beauty** Thine!"—Sir J. Bowring.

[Harmonies of Tones and Colours, Diagram IX - The Minor Keynote A and Its Six Notes, page 34a]

The diagram represents the **Minor Key-note A** and its **6 notes** veering round in **trinities**; A and the other **11** developing their **trinities** in musical **clef**. Below each is the **order** in which the **pairs** unite, avoiding **consecutive fifths**, Lastly, **D?** is shewn to be an **imperfect minor harmony**, and by employing B as **C?**, **E?** is seen to be the same **harmony** as **D#**. As before, it should be remembered that the **sharp** and **flat notes** should, strictly, have **intermediate tints**. [Harmonies of Tones and Colours, The Diagram Represents the Minor Keynote, page 34c]

This diagram shews the two last **minor primaries** of a **series of 12**, with the 12 of a higher **series**, and the two first of a **series** higher still. As in the diagram of the **Major**, the **secondaries** are written below the **primaries**, and the **sharps** or **flats** of each **harmony** are written to their respective **notes**. With the exception that one of the **primaries** rises a **tone** higher, it will be observed that in the same way the **notes** of each **minor primary** are identical with the **secondaries** of each **third harmony** below, but in a different **order**; and the **double tones** are altered **sharp** or **flat**, as before. [Harmonies of Tones and Colours, Diagram Shews the Two Last Primaries, page 34e]

THE same **laws** are followed here as in the development of the **major scales**. In that of A, F, the **sixth note**, has risen to **F#**, in order to meet B, which has previously sounded. In **descending**, the **seventh note**, B, falls to **B?**, in order to meet F, which has also previously sounded. The **notes**, **ascending** or **descending**, always follow the **harmony** of their **key-note**, except when rising higher or falling lower to **meet in fifths**. We may here trace the **twelve**, the **ascending scale** sounding the **fifth harmony** higher than its **key-note**, and, in **descending**, sounding the **fifth lower harmony**. The **four pairs** of each **scale** are written at the end of the lines. If we strike the **twelve scales** as they follow in **succession**, the **thirteenth note** being the **octave** of the first, and leader of a higher **twelve**; having gained them **six times**, at the **seventh** they gradually rise (though beyond the power of a **keyed instrument**) into the higher **series** of **seven octaves**, and again, in **descending**, they fall lower, and are linked into the lower **series** of **seven octaves**. **Nine notes** of any **ascending minor scale** may be struck without the necessity of **modulating** beyond the **fifth harmony**. For example, in the **scale of A**, its **tenth note**, **C#**, rises to meet the **sixth note**, which has previously sounded. In **descending**, **E?**, the **eleventh note**, meets **B?**, the **seventh note**, which has previously sounded. The **scale of A** may be traced veering round by reference to **Diagram IX.**, beginning with A, and carrying the four lowest **notes** an octave higher, F rising to **F#** in **ascending**, B falling to **B?** in **descending**. [Harmonies of Tones and Colours, Diagram XI - The Twelve Minor Keynotes with the Six Note of Each, page 36a]

ALTHOUGH only **twelve notes** of a **keyed instrument** develop perfect **minor harmonics**, there are fifteen different **chords**, the **double tones** **D#-E?**, **E#-F?**, **A#-B?** all sounding as **roots**. The **fifteen roots** are written in musical **clef**. A **major** and a **minor fifth** embrace the same number of **key-notes**, but the **division** into **threefold chords** is different. In counting the **twelve**, a **major fifth** has four below the third **note** of its **harmony**, and three above it; a **minor fifth** has three below the third **note** of its **harmony**, and four above it. A **major seventh** includes **twelve key-notes**, a **minor seventh** only eleven. As an example of the **minor chords** in the different **keys**, we may first examine those in the **key of A**, written in musical **clef**. The **seven of its harmony** have two **threefold chords**, and two of its **ascending scale**. If we include the **octave note**, the highest **chord** of the **descending scale** is a repetition (sounding an **octave** higher) of the lowest **chord** of the **seven in its harmony**, and the second **chord** of the **descending scale** is a repetition of the first **chord** of its **ascending scale**. These two **repetition chords** are only written to the **key of A**: the **chords** of the other **eleven keys** will all be found exactly to agree with those of A in their **mode of development**. We may again remark on the beautiful effect which would result if the **colours** of the **minor chords** could be seen, with the **tones**, as they develop. [Harmonies of Tones and Colours, Diagram XII - The Chords of the Twelve Minor Keys, page 37a]

"Religion and science are the two handmaidens of God between whom can be no real **variance**, because they are both **divine**, both complete, both do the work of their **Lord**. If they seem at **variance**, it is only because the dull **sense** of men cannot understand the beautiful variety, yet the heavenly **harmony** of their **manifestations**."—Rev. J. W. Reynolds, M.A. [Harmonies of Tones and Colours, Diagram XIII - The Twelve Keynotes with Their Trinities, page 38a]

BEGINNING with the lowest A in the [bass clef](#), let us strike the [trinities](#), [scale](#), and [chords](#), carrying each [key-note](#) a [fifth](#) higher, counting the [seven](#) belonging to its **harmony**. If the [silent notes](#) are included, each [fifth](#) is the [eighth meeting](#). [[Harmonies of Tones and Colours, Diagram XIV - The Modulating Gamut of the Twelve Minor Keys by Fifths1](#), page 39]

If we strike the [ascending scales](#) as written in musical [clef](#) again, beginning with the lowest A in the [bass clef](#), we see that the [second](#) and [sixth notes](#) of each [scale](#) meet in higher **harmony**; the [sharp](#) or [flat](#) of the [scale](#) which varies from the [seven notes](#) of its **harmony** is written to each [note](#). We [descend](#) as written in musical [clef](#) upwards; each [third](#) and [seventh note](#) meet in lower **harmony**, and thus all exactly agree in their [mode of development](#). Having examined the [scales](#) as written in the table below, where the [sharp](#) or [flat](#) as before is marked to each [note](#), but not to the [keys](#), let us strike the [key-notes](#), [trinities](#), [scales](#), and [chords](#). The **three harmonies** of each [key](#) are written at the end of each line of musical [clef](#). To [descend](#), we follow the musical [clef](#) upwards, as before. [[Harmonies of Tones and Colours, Diagram XIV - The Modulating Gamut of the Twelve Minor Keys by Fifths2](#), page 40]

TO recapitulate from the beginning, observe, firstly, the [twelve major key-notes](#) as they have developed from within themselves in [succession](#), [six tones](#) in [trinities](#) seven times through [seven octaves](#), each [thirteenth note](#) being the [octave](#) of the [first note](#) of the [twelve](#) that have developed, and being also the first of the higher [series](#). We may retrace all as still sounding their [tones](#), the [key-notes](#) leading the [ear](#) to the [six notes](#) of each **harmony**, the [keys](#) with [sharps](#) and those with [flats](#) being mingled. The [ascending](#) and [descending scales](#) always agree in their **harmonies** with the [key-notes](#) and their [trinities](#). [[Harmonies of Tones and Colours, Diagram XV - The Twelve Major and the Twelve Minor Keys](#), page 42a]

THE above quotation from that beautiful work, [The Pendulograph](#), shows how firmly its author believes that the Almighty Himself will be proved to be the key to His works; a [belief](#) frequently expressed also in a striking work, [Nature and the Supernatural](#), by the Rev. [J. W. Reynolds](#), M.A. For many years I have been endeavouring to resolve some of the intricacies of natural **harmony** with the same views. In the pursuit of [knowledge](#) it is eminently important to "avoid profane and vain babblings, and oppositions of science falsely so called" (I Tim. vi. 20), and to remember that facts gained from the study of [God's](#) marvellous works, that "ought to be had in remembrance" (Psa. cxi. 4, Prayer Book Version), and the truths of [Holy Scripture](#), can never really oppose each other. Research shows us countless varieties developed by [trinities](#) springing from [unities](#), and we find true scientific depth in the Scriptural phrases, where the whole earth is continually mentioned as worshipping the Almighty. This truth is beautifully expressed in the Te Deum Laudamus—"Holy, holy, holy, Lord God Almighty; [heaven](#) and [earth](#) are full of Thy [glory](#)." [[Harmonies of Tones and Colours, Reflections on the Scheme1](#), page 43]

the present, and the future, developing in [geometric progression](#); as the past retires, the future advances. The [rests](#) in **harmony** correspond with [silence](#) in the [Scriptures](#), both limiting and illimitable. But there is this essential difference: [musical instruments](#) can only be tuned to a certain [pitch](#), whereas the [Bible](#) will never need fresh editions or corrections, but as it always has unfolded, it always will unfold, as it is necessary to meet our higher [mental powers](#). I believe that, eventually, scientific minds will arrive at the conclusion that all the [energies](#) around us arise from the [laws](#) which regulate the [life](#) of [matter](#), and cause the continual [development of trinities](#) from [unities](#). [Continuity](#) everywhere adapts simple [laws](#) to wondrous workings. If we evade the [belief](#) in the [development of trinities](#), this scheme falls to the ground. We can conceive no grander idea of the [power](#), [wisdom](#), and [love](#) of the [Parent](#) of the universe than that of His following out His own characteristics, knowing that at any moment, if His life-giving power were withdrawn, all would crumble into dust. Let us link with this [thought](#) these glorious promises— [[Harmonies of Tones and Colours, Scripture Compared with Scripture](#), page 47]

1867.—"Your plan of eliciting facts from [Scripture](#) (altogether new) interests me exceedingly." "To make out the scheme of [harmonical parallel](#) proper for the elucidation of your system, it will, if possible, run all true with the **harmony** of [colour](#), and this has never yet been done, except in a way which has been met with serious objections. When I commenced the examination of your theory, I spent five days at the [British Museum](#), and

collated about forty volumes." "I am very glad to hear you have a probability of **harmonising numbers** by the same **laws** as **light** and **sound**." "What you call **rest**, I call the **appearance and disappearance of a harmonical cycle**." "Your **series of fifths** is quite correct." [*Harmonies of Tones and Colours, Extracts from Dr. Gauntlett's Letters*1, page 48]

of **action** is the great law, and the same **force** that **excites sensation** with the **auditory nerve** lies at the bottom of **sensation** with organs of **vision**. When I say my plan, I talk in the old groove, and there are difficulties to be smoothed, but in a way that might be much grumbled over. One very curious thing is plain: your system meets many of the cases on which our present theorists stumble so awfully. I saw this from the first time I had the pleasure of considering it with you, and on this account never relished the idea of giving it up; and the more thought bestowed on it led to its applicability to the more ancient forms of **melody**—the little tunes of the old world in the East. These are said to be independent of **harmony**, but your system is perfect **harmony**. The latest theorists in Paris are all at war with the old theory, and there is now a petition lying before the governing powers of the **Paris Academy of Music**, praying for a total change in the teaching of **harmony** in that metropolis; and this memorial has been signed by all the rising celebrities in the musical world there. I really believe the best mode, after all, is the **series of six tones**—the **two trinities**; and the **law of 'to and fro'** is impregnable. That is all right. I should like that term to get into vogue, for it is much more plain and clear than what we call the **inverse and reverse**, or **counterchange**." "The grave, or rather extraordinary result of your system is, that so much, very much of it tallies with what may be termed the commonly unknown relatives of the **tones**. You offer **affinities** which are termed abstruse, and, although admitted, are accepted without demonstration. Why you should be able to explain the much-quarrelled-over connections is beyond my comprehension, and if I could discover the key, the result would be most important for the well-being of **music**. With this view your system always interests me. I suspect it lies in that wonderful adaptability of the **order of numbers**. With the **artificial system**, **music** is confined to a few single **harmonical tones**—none of which can ever be used without alteration—which we gently coax the **ear** into receiving." "Your system runs up the shortest way, and I find it of advantage in **composing**." [*Harmonies of Tones and Colours, Extracts from Dr. Gauntlett's Letters*2, page 49]

"All **theory** must be founded on one great fact—**harmony**; for **harmony** is the chief **beauty** of **two or more sounds** heard together. There may be figure, **schemata**, and all other niceties of **succession** and **combination**; but if no **harmony**, the **music** is not **beautiful**. It is dim, dull, and disagreeable." [*Harmonies of Tones and Colours, Fragments from the Last Note-book*, page 50]

"**Harmony** must be looked at in two ways at least: first, up the **score** from bottom to top—the **perpendicular** view; second, along the **score** from side to side—the **horizontal** view. Then as to its **periods** or **pulsations**—its **to and fro**, its **flow and ebb**. This brings us to **rhythm** and **measure**. At the bottom of these lie what is called **stress** or **accent**—**emission and remission**—strong and weak: of these the **bar** in modern **music** is an outward and visible sign of certain facts which ought to be in the **music**, but which, if not in the **music**, the presence of the **bar** is of no avail. The **bar** cannot give **stress** or **accent**. 'Wherever there is **time**, there must be **accent**;'\* but the tick of a clock has no **accent**. **Hullah** (or **Chorley**) should have said **life**." "The **semitone** makes **music**. What operation has it upon the **accent** or **to and fro**? It creates the call, it supplies the answer." [This point, I believe, **Dr. Gauntlett** never alluded to with me, and I have feared that making no difference between **tones** and **semitones** might be considered a difficulty with regard to the scheme. In the working of the natural **laws of harmony**, they must all equally be employed.—**F. J. H.**] "**Art** (grand and true) does not depend upon the teaching of facts. The **head** is of less importance than the **heart**. Unless the **tone** of **feeling**, the **habit** and **disposition**, be well fixed, nothing enduring can come out of the misdirected artist." [*Harmonies of Tones and Colours, Fragments from the Last Note-book*, page 50]

I was aware that my explanation of the **Minor Scales** was erroneous. I now see the beautiful Scriptural type which shows how they develop, rising or falling in perfect **harmony**. I hope to explain this clearly, and I think that any who have doubted my having gained these **laws** from the **Scriptures** will then see their mistake. [*Harmonies of Tones and Colours, Supplementary Remarks and Diagrams*, page 53]

DIAGRAM XVI.—The [seven](#) of each **harmony**, with its [scale](#)—The [pairs](#) of the [trinities](#) and [scales](#). [Harmonies of Tones and Colours, Additional Diagrams, page 57](#)]

## CONSCIENCE AND SCIENCE

"Mystical religions and philosophies, including the Rosicrucian, are monistic: They believe that the World is One. Mystics recognize [polar opposites](#) as the extremes of a gradual scale in which each valuation is relative. For instance, the state of Virginia is cold compared to Florida, but warm compared to Maine. Rosicrucian lessons and experiments show the value of these opposites: The release of [tension](#) between the poles produces action and progress.

It is more difficult to resolve the [dualities](#) between different categories - between duty and pleasure, law and chance, and especially between mind and matter. Rosicrucian teachings treat even these essential differences as graduations on a vibratory scale. For instance, the energy vibrations of matter are described as slower and more negative than the higher vibrations of conscious life force. Mystics are enjoined to harmonize all such dissonant distinctions; but **harmony** is possible only between related elements.

We must, therefore, strive to recognize all apparent [dualities](#) of experience as dual aspects of an underlying [Unity](#) - two sides of the same coin." [Walter J. Albersheim, PH.D., F.R.C (1960)]

See Also

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**369**

[Attraction](#)

[Balance](#)

[Bells Inequality](#)

[Bjerknes Effect](#)

[Concord](#)

[Concordance](#)

[Depolar](#)

[enharmonic third](#)

[equilibrium](#)

[Figure 9.18 - Harmonized Motions](#)

[Figure 9.19 - Enharmonized Motions](#)

[Full Harmonic Chord](#)

[harmonic attractive chord](#)

[harmonic circles](#)

[harmonic current](#)

[harmonic scale](#)

[Harmonic Series](#)

[Harmonic](#)

[harmonicity](#)

[harmonics](#)

[harmonies](#)

[Harmonies of Tones and Colours](#)

[harmonious](#)

[harmonium](#)

[harmonization](#)

[Harmonograph](#)

[harmony of the spheres](#)

[Helmholtz Subharmonic Series](#)

[inharmonic](#)

[inharmony](#)

[key of harmony](#)

**Kepler Theory of Harmony**

**Latent**

**Law of Attraction**

**Law of Harmonic Attraction and Repulsion**

**Law of Harmonic Pitch**

**Law of Harmonic Relationship**

**Law of Harmonic Vibrations**

**Law of Harmony**

**laws of harmony**

**Love**

**Order**

**organic harmony**

**polar harmonic current**

**Poles in Harmonies**

**Power of Beat Harmonics**

**Quantum Entanglement**

**rules of harmony**

**Scalar**

**stream of harmony**

**superharmonic**

**Sympathetic Oscillation**

**Sympathetic Vibration**

**Sympathy**

**synchronicity**

**Syntropy**

**Table of Plate Harmonics and Intervals**

**Tertian harmony**

**Unison**

**Vibrating Rod Harmonics**

**8.17 - Law of Harmonic Vibrations**

**8.22 - Law of Harmonic Pitch**

**13.23 - Degree of Concord Discord Determines**