Resonance

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When two or more objects are tuned identically as in two sympathetic tuning forks but are not excited (vibrating) they are said to be in sympathy or sympathetically connected/linked or entangled - but they are not moving. They are in a static state of harmony or sympathy. When one or the other is excited (struck) the other responds and the two are then said to be in a state of resonance one with the other. They then vibrate "as one."

When a mechanical or acoustical system is acted upon by an external periodic driving force whose frequency equals a natural free oscillation frequency of the system, the amplitude of oscillation becomes large and the system is said to be in a state of resonance. There are three types of recognized resonance: Phase Resonance, Amplitude Resonance and Natural Resonance.

Keely

"*The graduating of a perfectly constructed instrument, to a condition to transmit sympathetically, is no standard whatever for any other one that may be built, nor ever will be, because no concordant conditions of compound molecular aggregation can ever exist in visible groupings. If it were even possible to make their parts perfectly accurate one to the other, in regard to atmospheric displacement and weight, their resonating qualities would still have a high rate of sympathetic variation in their molecular groupings alone. If one thousand millions of coins, each from the same die, were sympathetically graduated under a vibratory subdivision of 150,000, the most amazing variation would be presented, in regard to molecular grouping (mass) and* ***resonance****.* [Snell Manuscript - The Book, GRADUATION OF MACHINES, page 5]

Chord of Resonance

"*The* ***chord of resonance*** *of the sphere was the sympathetic etheric chord of E flat, 3rd octave, and is highly sensitive to concordance, against the neutral sevenths of the mass chord, whether that concordance be physical or mechanical or the two combined. When the* ***chord of resonance*** *is harmonized with the mass chord, the highest degree of susceptiveness is manifested to negative antagonism. Antagonistic chords actually move and accelerate the sphere, demonstrating the perfection of Nature's laws governing the sympathetic flow.*" [HOW THE MUSICAL SPHERE ROTATES]

"Reception and dispersion are kept up on the atmospheric envelope of the earth by the atomic and interatomic conflict as "between the dominant and the enharmonic". This is brought about by the reception and dispersion of sympathetic streams, the ruling mode of whose vibration is the dominant, and the density of the coarser grades of matter, whose ruling vibratory mode is the enharmonic.

As every mass consists of vibrations in thirds, balanced in harmonic equilibrium without cancellation or diminution of energy, it stands therefore in harmonic relation to every other mass. All forms of matter and of motion are thus interrelated and interchangeable. Through **resonance**, increasing this sympathy, we can control the states of matter." [Mass Action, Snell Manuscript - the book]

"*Sounds are "communicated" when they are merely conveyed from one sounding body to another, and this can take place in a noise as well as a musical sound. Sounds are "excited" under two circumstances: when a body which is sounding and that to be excited have the same note and the vibration of one produces sympathetic vibration of the other, the bodies are mutually called "reciprocating", while of the vibration of one produces its harmonics in the other, the latter is said, with regard to the exciting body, to be "****resonant****". According to Helmholtz, "timbre" or "quality" depends on definite combinations or certain secondary sounds or harmonics*

*with a primary or fundamental sound, and such combinations he calls "**sound colours**". [A Dictionary of Musical Terms]*

"The condition where a forcing frequency coincides with a natural frequency of the system. A **resonance** is typically identified by a substantial amplitude increase, and related phase shift." [Field of Rotating Machinery Measurment, Monitoring and Analysis; Bentley Nevada Corporation]

(ACOUSTICS & MECHANICS) "When a mechanical or acoustical system is acted upon by an external periodic driving force whose frequency equals a natural free oscillation frequency of the system, the amplitude of oscillation becomes large (**Resonance** causes this increase) and the system is said to be in a state of **resonance**." [McGraw-Hill Concise Encyclopedia of Science & Technology]

Resonance or Co-vibration is the name given to the phenomenon of one vibrating body imparting its vibratory movement to another body, previously at rest. To obtain the maximum **resonance** two conditions are essential:
1) The two bodies must be in exact unison; that is to say, they must be capable of executing precisely the same number of vibrations in the same time.
2) A certain period of time must be allowed for the exciting body to impress its vibrations on the other. Hand Book of Acoustics, 5th edition; J. Curwen & Sons, London, 1903?

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Resonance is an effect of harmony (harmonization). Harmony is an approximation to what some call God - hence joy is experienced. Sympathetic vibration and sympathetic oscillation create or are that approximation - periodic motion or As One (in motion, being).

Hughes
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]

See Also

Bell Resonance
chord of resonation
Concord
Harmony
Hundredth Monkey Effect
Inductance
Law of Force
mutually amplify
Resonant inductive coupling
Resonant Transformer
Schumann Resonances
Sympathetic Association
Sympathetic Oscillation
Sympathetic Resonance

Sympathetic Vibration
Sympathy
Tuning Fork
Unison