Chapter One

METAPHYSICAL CORRESPONDENCES

All music is based on the relations between sounds, and a careful study of the numbers by which these relations are ruled brings us immediately into the almost forgotten science of numerical symbolism. Numbers correspond to abstract principles, and their application to physical reality follows absolute and inescapable laws. In musical experience we are brought into direct contact with these principles; the connection between physical reality and metaphysical principles can be felt in music as nowhere else. Music was therefore justly considered by the ancients as the key to all sciences and arts—the link between metaphysics and physics through which the universal laws and their multiple applications could be understood.

Modern civilization has tended to reject the ways of thinking and scientific conceptions that formed its foundations. Western people have largely broken away from the social and intellectual regulations that restricted their freedom, and in doing so they have abandoned the age-old order and traditional knowledge that had been the basis of their development. This is why sciences and arts originally understood as diverse applications of common principles have been reduced to a condition of fragmentary experiments isolated from one another.

Thus, to take the domain with which we are here particularly concerned, there remain no data in the West on the nature of music except for a few technical and mostly arbitrary rules about the relations of sounds and the structures of chords. The strange phenomenon by which coordinated sounds have the power to evoke feelings or images is accepted simply as a fact. Attempts are made to define the effects of certain combinations of sounds, but these effects are discovered almost fortuitously and no search is made for their underlying cause. Just as one day Newton discovered the law of gravitation, it is only through the genius of some musician that we may be able to rediscover the significance of a particular relation of sounds; it is Gluck or Chopin who may

suddenly reveal to us the deep, absolute, and inevitable meaning of a chord or of a melodic interval.

Unfortunately, such fragmentary experiments do not allow us to reconstruct the general laws that would give us the key to all foreseen and unforeseen combinations, and these experimental discoveries remain without any logical connection.

The idea that all sciences are ultimately experimental is so dear to Westerners that they do not even notice that all the elements of their musical system are symbolic—as are almost all their ways of measuring time and space as well—and that if those elements appear to us as *natural*, it is only because of the correspondence between the symbols and the perceptible world. We find in supposedly scientific writings the poetic story of the primitive human who, having cut a bamboo stalk and blown through it, discovers the diatonic scale as defined by Zarlino, which is supposed to be the "natural scale." Such myths simply show their authors' complete ignorance of the thousands of scales that are possible, expressive, pleasant to the ear, and perfectly natural and legitimate.

Besides, the real problem is not to know how human beings may have acquired the knowledge of musical intervals, which always brings us back to a question of myth, ancient or modern, but to find out the real nature of the phenomenon by which some sounds can be combined to represent ideas, images, or feelings. This we obviously cannot discover by experiment nor decide by vote. So we shall have to draw upon the data of traditional metaphysics; though it may take many forms at different times and in different places, metaphysics always presents the same logical and coherent structure, of which we shall presently try to give an outline.

"All things," Dante once wrote, "are arranged in a certain order, and this order constitutes the form by which the universe resembles God."[1] If sounds can evoke in us emotions, beings, or landscapes, it is because there are correspondences between different aspects of the manifested world that the laws of music allow us to bring out.

In the *Li ji* (Book of Rites), edited by Confucius, we read that "music is intimately connected with the essential relations between beings"; and, according to Dong Zhongzu (second century B.C.E.):

> The vital spirits of humankind, tuned to the tone of heaven and earth, express all the tremors of heaven and earth, just as several cithars, all tuned on *gong* [tonic], all vibrate when the note *gong* sounds. The fact of harmony between heaven and earth and humankind does not come from a physical union, from a direct action; it comes from a tuning on the same note producing vibrations in unison. . . . In the universe nothing happens by chance, there is no spontaneity; all is influence and harmony, accord answering accord.[2]

To be able to realize the nature of this accord between the different aspects of the universe, we must know the principles that are common to all these aspects. This is why theorists of Indian music assert that although subtle correspondences can be experimentally discovered between the laws of nature and the laws of harmony, between the modes of music and the modes of our feelings, they can be completely and logically explained only by traditional metaphysics, whose source is in the Vedas. As René Guénon explains:

> The affirmation of the perpetuity of the Vedas is directly connected with the cosmological theory of the primordial nature of sound among sensible qualities (sound being the particular quality of ether, *ākāśa*, which is the first element). And this theory is in reality nothing other than that which is expressed in other traditions when 'creation by the Word' is spoken of. The primordial sound is the divine Word, through which, according to the first chapter of the Hebrew Genesis, all things were made. This is why it is said that the *Rishis* or sages of the first ages 'heard' the Vedas. Revelation, being a work of the Word like creation itself, is actually a hearing for those who receive it.[3]

According to Kśemarāja:

> The *bindu*, wanting to manifest the thought it has of all things, vibrates, and is transformed into a [primordial] sound with the nature of a cry [*nāda*]. It shouts out the universe, which is not distinct from itself; that is to say, it thinks it—hence the word *śabda* [word]. Meditation is the supreme 'word': it sounds, that is, it vibrates, submitting all things to the fragmentation of life; this is why it is *nāda* [vibration]. . . . Sound [*śabda*], which is of the nature of *nāda*, resides in all living beings.[4]

Swāmi Hariharānand Saraswatī explained the fundamental interdependence of sounds and forms as follows:

> The *things named* and their *names* are parallel manifestations resulting from the union of *Brahman* [undifferentiated principle] and *Māyā* [appearances] just as waves appear in the sea. From *Brahman* united with *Śakti* [Energy = *Māyā*] issue, in the order of manifestation of the world, on the one hand the *principle of naming*, from it the monosyllable *Om*, and from *Om* all words [or sounds], and on the other hand, the *principle of forms* and out of it all the world, living beings, etc. But between those two aspects of manifestation, the relation remains close; there is fundamental identity between the principle of names and the principle of forms, as well as between words and objects.[5]

The universe is called in Sanskrit *jagat* (that which moves) because nothing exists but by the combination of forces and movements. But every movement

generates a vibration and therefore a *sound* that is peculiar to it. Such a sound, of course, may not be audible to our rudimentary ears, but it does exist as pure sound. Since each element of matter produces a sound, the relation of elements can be expressed by a relation of sounds. We can therefore understand why astrology, alchemy, geometry, and so forth express themselves in terms of harmonic relations.

Although those pure, absolute sounds that Kabir calls "inaudible music" cannot be perceived by our ears (they may be perceptible for more delicate instruments, and the perception of such sounds is one of the stages in the practice of yoga), we may nonetheless be able to produce corresponding sounds within the range of vibrations we can perceive. We can establish relations between these partial sounds similar to the subtle relations of nature. They will be only gross relations, but they may approach the subtle relations of nature sufficiently to evoke images in our mind. Sir John Woodroffe, the learned commentator on tantric metaphysics, explains it thus: "There are, it is said, closely approximate natural names, combined according to natural laws of harmony [*chandahs*], forming *mantras* which are irresistibly connected with their esoteric *arthas* [forms]."[6]

If we were able to reproduce the exact relations that constitute the natural names, we should recreate beings, things, and phenomena, because this is the very process of creation, explained by the Vedas and also indicated in Genesis, or in the Gospel of John when the "creative Word" is spoken of. If, however, exact relations cannot be produced, approximate relations have a power, if not of creation, at least of evocation; sound "works now in man's small magic, just as it first worked in the grand magical display of the World Creator."[7] "The natural name of anything is the sound which is produced by the action of the moving forces which constitute it. He therefore, it is said, who mentally or vocally utters with creative force the natural name of anything brings into being the thing which bears that name."[8] By the artificial construction of harmony we can go beyond the phenomenon of sound vibrations and perceive not sounds but immaterial relations through which can be expressed realities of a spiritual nature. We can thus lift the veil by which matter hides from us all true realities.

By "the mutual aiding and inhibiting of the sounds in the *Chhandas*[9] collocation . . . the cumulative effect of the repetition of sounds and strings of sounds also may produce the aforesaid result."[10] The effect produced by a group of sounds is practically the same whether their collocation is simultaneous (chords) or successive (modes), the numerical relation being identical in the two cases.

Evocation through sound, like creation itself, takes place not because of the material fact of physical vibration but on account of the existence of metaphysical correspondences. Therefore all psychological explanation of musical experience has to be discarded. In reality, the personality of the hearer counts

for nothing in the phenomenon of musical evocation because evocation takes place even if there is no hearer, and if the existence of this evocation is ephemeral it is only because of the imperfection of the relation of sounds. Hearers can be differentiated negatively only by the relative acuteness of their perceptions, their greater or lesser deafness.

"Several centuries before Plato, Pythagoras, imbued with Egyptian doctrine, requested his disciples to reject the judgment of their ears as susceptible to error and variation where harmonic principles are concerned. He wanted them to regulate those immovable principles only according to the proportional and analogical harmony of numbers."[11] The work of the musician consists therefore only in knowing, as accurately as possible, the symbolic relations of all things so as to reproduce in us, through the magic of sounds, the feelings, the passions, the visions of an almost real world. And the history of Indian music, as that of Chinese music, is full of the legends of marvelous musicians whose voice could make night fall or spring appear, or who, like the celebrated musician Naik Gopal, compelled by the Emperor Akbar to sing in the mode of fire (*rāga Dīpak*), made the water of the river Jumna boil and died burned by the flames that issued from every part of his body.

The ancient Greeks, too, knew the science of connections between sounds and other aspects of manifestation, a science that for modern Westerners goes under the name of magic. "Everything obeys a secret music of which the *Tetractys* is the numerical symbol, and the man who, like the initiated Pythagorean, has understood its true laws can achieve apparent miracles. It is, for example, with the sounds of the lyre that Amphion built the walls of Thebes."[12] The mathematical laws of music are part of the laws by which the world's harmony is regulated. This is why we shall find in music the same characteristics, the same geometry, the same particular numbers that are found in other aspects of the universe.

Michael Maier, the seventeenth-century hermeticist and physician, attempted to determine these relations:

> Like all visible things that are in nature, celestial bodies as well as terrestrial ones have been created in terms of number, weight, and measure. There is thus between them an admirable and marvelous proportion in the parts, the forces, the qualities, the quantities, and their effects, from which results a very harmonious music. There is also a kind of accord and musical concert between spiritual beings, among which the soul and the human intellect are included.
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> In the great system of this universe there is a *ditone* [third] from the earth, which is the base, to the sphere of the moon; from there up to the sun, which is the heart, a *diapente* [fifth]; and from the sun to the supreme heaven a *diapason* [octave]; so that the first distance is composed of eigh-

> teen commas or intervals, the second of thirty-six, and the third of sixty-one.[13] In the microcosm or little world, that is to say in man, one can see a similar proportion between the main parts, which are the liver, the heart, and the brain, counting from the soles of the feet, not as mathematicians or geometers do, but as physicists do.[14]

To be able to establish the correspondence between sounds and the different aspects of the universe, we must divide the indefinite progression of sound according to certain proportions, which are determined by the cyclic character of certain intervals and the properties of fundamental numbers.

According to the formula of the Tao-te ching , "One has given birth to two, two has given birth to three, three has given birth to all numbers."[15] In musical terms this principle manifests itself as the original sound first producing its octave (a frequency ratio of 2/1) giving duality, then a third sound, the fifth (3/2), from which all other sounds are born. Among these sounds, in indefinite number, we must select a few whose respective ratios are adequate for the representation of the world in which we are living. In this way the scale of sounds has been formed, corresponding to the material world, to the five directions of space (four cardinal directions and the center), the five elements, and so on. This is the basis on which develops the whole system of the harmony of fifths, which through their cycles form first a series of twelve sounds, then a series of fifty-two sounds, and finally a series of sixty sounds within the octave. As explained in an extremely ancient Chinese treatise, "the five degrees, born from the principles *yin* and *yang*, divide themselves into the twelve *lü* which, by their revolutions, produce the sixty *lü*."[16]

To these five principal sounds are added two auxiliary ones to form the scale of seven notes, the image of the celestial world, which corresponds with the seven visible planets in the world of spheres. Plato, in his *Timaeus*, noted that the soul of the world is divided into seven parts. And this is why it was the seven-stringed lyre that symbolized the beauty or the harmony of the spheres. Each string of the lyre was related to a planet. The musical sounds themselves were given the names of planets, and "because the mathematical laws observed in musical art and in cosmic spheres are related to the natural rhythms of the soul,"[17] music forms a logical and direct tie between the movements of the world and the movements of our soul.

The steps by which Dante rose up to the supreme light also numbered seven: "the imprinted steps of the eternal power, which is the end for which the order of things is made."[18] "But what are these steps? They are precisely the different aspects assumed by this eternal power on which the order of the universe rests; they are the seven differentiations of the one light, the seven colors of the prism and of the rainbow, the seven sounds contained in the primordial sound, the seven luminaries by which is reflected onto our Earth the light of the

eternal great luminary that shines in the center of this vastness."[19] They are the seven horses that drag the chariot of Sūrya, the Hindu sun god. The union of the ternary and the quaternary, the sevenfold (4 + 3) symbol of the soul of the world, was represented by the seven pipes of the flute of Pan, the god of the universe.

Assimilated to the seven planets, the seven notes move across the twelve regions of the octave, corresponding to the signs of the zodiac, in which, as we shall see later, these seven notes will occupy twenty-two main positions (a number that is in certain cases reduced to seventeen). We shall also see why the twelve regions of the octave cannot be assimilated to twelve fixed sounds, as has been attempted in the tempered scale. They determine the space in which the notes move but can in no way be taken for the notes themselves:

> The number twelve, formed by the combination of the ternary and the quaternary (3 x 4 = 12),[20] is the symbol of the universe and the measure of sounds. . . . Pythagoras, Timaeus of Locres, and Plato, when they gave the dodecahedron as the symbol of the universe, only restated the ideas of the Egyptians, the Chaldeans, the Greeks. . . . The institution of the zodiac is the result of the application of the number twelve to the supreme sphere. . . . The number twelve, so applied to the universe and all its representations, was always the harmonic manifestation of the principles One and Two and of the way in which their elements were coordinated. It was therefore also the symbol of the coordination of sounds and, as such, applied to the lyre of Hermes.[21]

Built on such bases, music becomes a difficult science capable of a profound action. "In ancient times, music was something other than mere pleasure of the ear: it was like an algebra of metaphysical abstractions, knowledge of which was given only to initiates, but by whose principles the masses were instinctively and unconsciously influenced. This is what made music one of the most powerful instruments of moral education, as Confucious had said before Plato."[22]

But there is an imperfection at the very basis of the world's existence, because if the world were perfect it would immediately be reabsorbed into the infinite perfection. The heart is not in the center of the chest, the axis of the earth is oblique, and the solar year does not coincide with the lunar year (thus creating the cycles by which all existence is conditioned and human destinies measured). In the same way the development of twelve fifths, instead of bringing us back precisely to the octave, leaves a difference—the comma—with which we shall have to negotiate. This will complicate every calculation and prevent us from formulating those rigid and simple laws, attractive but inaccurate, in which our vain reason delights. This comma, which the modern world tries so hard to ignore, represents, for those who can understand it, the essential differ-

ence between what is finite and what is infinite. The fifths form a spiral whose sounds, coiled around themselves, can never meet. For us, this limitless spiral can be the joint in the structure of the world, the narrow gate that will allow us to escape from the appearance of a closed universe, to travel in other worlds and explore their secrets.

Only by respecting such subtle differences can the edifice of sounds become the image of reality and one of the ways of spiritual realization. "It is literally by way of 'assonance,' of 'accord,' that he who 'understands' [*evamvit*] is assimilated to the source of light or (in Christian terminology) assumes a glorified body. . . . And this is possible precisely because, as Plotinus expresses it, this music is 'a terrestrial representation of the music that exists in the kingdom of the ideal world.'"[23]

Even if we leave aside the role of music as a means of spiritual realization, the effect of musical chords and modes (*rāgas*) is much more far-reaching than our ears are at first able to allow us to perceive. Our ears can apparently be satisfied by a very approximate accuracy. Yet a perfectly accurate interval not only acts on our ears but also produces a transformation in all the cells of our body—a slowing down or an acceleration in the movements of every molecule in ourselves and in the surrounding matter. This effect was used to cure certain diseases, not only in India but also in ancient Greece and later in Persia and Arabia. Muhammad Hafid describes at length these musical therapies, indicating the scale to employ for each disease. But if we habitually use inaccurate intervals on the grounds that our ear does not clearly perceive the difference, the effect that those sounds will produce on our organism can well be the opposite of that which our complacent ears persist in accepting. It is with our mind alone that we accept this inaccurate music, which leaves us tired and tense through an unconscious effort of adaptation, instead of agreeably transformed by the beneficial influence of the harmony.

This is why disregarding small differences in intervals has very grave consequences with regard to the deeper effect of music, consequences that can only be neglected when the real purpose of art is totally misunderstood. Unfortunately the materialistic and highly utilitarian tendencies of our times rarely allow people to bother about anything that is not immediately tangible. We daily use all sorts of forces, recently domesticated, in total ignorance of their effect on the structure of our organism and on the balance of external events. This is why we find it quite normal to change the course of sounds if to do so brings some immediate simplification; and this leads us to try to change the endless spiral of fifths into a closed circle, to tear up the comma and divide it between the other notes and so bring the cycle of sounds within the narrow limits of human logic. Whatever advantages may be obtained by such an action (and there is no doubt that such advantages do exist), we nevertheless expel the heavenly element from music when we obliterate the possibilities of contacts

with spiritual forces by disfiguring the intervals. When music is thus reformed it loses its true purpose, and its magical effects, henceforth uncontrolled, can become dangerous. It is not without reason that Plato has Damo, the last of the great Pythagorean teachers, declare that "one cannot touch the musical modes without disrupting the constitution of the state."[24] He could as well have said "without disregarding universal order."

As René Guénon says,

> In ancient times, as can be seen particularly clearly in the Far East, modifications could be brought into music only in accordance with changes that had occurred in the very conditions of the world, according to cyclic periods. This is because musical rhythms were intimately related both to the human and social order and to the cosmic order, and even in some way expressed the relation between the two. The Pythagorean theory of the 'harmony of the spheres' is connected with exactly the same sort of consideration.[25]

For the world to be in a state of equilibrium, its different elements need to be harmonized. Since music expresses the relations between human and cosmic orders, it must respect the exact intervals on which these relations are based, as determined by the traditional data that define those relations. Disregard for such an obvious law necessarily leads to a breakdown of equilibrium and social disorder, as the *Yue ji* declares:

> If the *gong* [tonic: C (Sa)[26]] is disturbed, then there is disorganization: the prince is arrogant.
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> If the *shang* [tonic: D (Re)] is disturbed, then there is deviation: the officials are corrupted.
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> If the *jiao* [tonic: E (Ga)] is disturbed, then there is anxiety: the people are unhappy.
>
> If the *zhi* [tonic: G (Pa)] is disturbed, then there is complaint: public services are too heavy.
>
> If the *yu* [tonic: A+ (Dha+)] is disturbed, then there is danger: resources are lacking.
>
> If the five degrees are all disturbed, then there is danger: ranks encroach upon each other (this is what is called impudence) and, if such is the condition, the destruction of the kingdom may come in less than a day. . . .
>
> In periods of disorder, rites are altered and music is licentious. Then sad sounds are lacking in dignity, joyful sounds lacking in calmness. . . . When the spirit of opposition manifests itself, indecent music comes into being. . . . when the spirit of conformity manifests itself, harmonious music appears. . . . So, under the effect of music, the five social duties are without admixture, the eyes and the ears are clear, the blood and the vital spirits are balanced, habits are reformed, customs are improved, the empire is in complete peace.[27]