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The Revival of Speculative Music

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SPECULATIVE music has to do with looking at the cosmos musically, and at music cosmically. The philosophers tell us that it is impossible for us to have unmediated knowledge of the external cosmos: we can only know it as it is reflected in our minds. Suppose we approach it like Perseus stalking Medusa, cautiously peering at her image in his shield. Our picture of it depends on the state of our mental mirrors. Bright or dull, they are certainly warped, like the distorting mirrors of a fun house, by our education, our inclinations, and by the categories of knowledge we are willing to admit. Our minds, like Perseus' buckler, serve a dual purpose of reflection and protection from unwanted influences.

But a mirror can also shed light in dark corners where the sun cannot penetrate. The light will be modified, shaped, or colored by the nature of the mirror. The departments of human knowledge are such mirrors. The world can be perceived in the light shed by mathematics, for example, and then it will be understood in formulas of number, measure, and weight. The feelings are another source of illumination, telling us of good things and bad; they explore the qualitative side of things. One can also understand the world in the light of history, theology, or pragmatism. All these ways make it more comprehensible: all have their value and their place.

Speculative music is another such mirror (*speculum*), and that is where it gets its name. If I had Homeric gifts I would describe another shield than that of Perseus or Achilles: a shield on which would be

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engraved the laws of tone and the images befitting musical thought. Gazing into its polished surface, the viewer would see all things reflected in a new light. That is what speculative music was supposed to do. Boethius placed the speculative theorist first among musicians because he alone sought to understand the laws and nature of the cosmos *sub specie musicae*—through the categories of music. Musicians of other types are interested in reading or writing the designs on the mirror, but they do not look beyond its surface.

To some people, perhaps to the majority, the use of music as a means toward understanding the world seems a chimera, if not a patent absurdity. Today most people share the general assumptions about the nature of music and the universe that have been current since the time of Newton. They regard music as essentially an emotional language and the universe as a mathematical machine: two things between which there is no common denominator save the human being who can experience them both. The later seventeenth century, which saw the formulation of the musical doctrine of the affections, also witnessed the triumph of a mechanistic model of the universe, true to the Cartesian principle of separation between mind and body, subject and object. In such a worldview speculative music had, and has, no place.

It seems apt that the present century should have seen the revival of speculative music at the same time that physicists have called into question all the assumptions of their predecessors. When matter and energy, time and space, are known to be interchangeable, when the influence of the human subject on an objective experiment can no longer be ignored, and when the only certainty left is the concept of universal periodicity or vibration, then we seem no longer to inhabit the universe of Descartes and Newton, but rather that of Johannes Kepler or Robert Fludd—the last speculative musicians with whom most people are familiar. But we are not likely to learn anything very specific from those late philosophers, handicapped as they were by living in a time when this science was already moribund. In order to understand it we have to find its roots; before there can be a revival, it is necessary to know exactly what it is that is being revived.

Modern researches into speculative music follow two distinct paths, which I will define as the “historical” and the “actual”: one treats it from outside as a historical phenomenon; the other seeks to make it a way of thought, even a way of life, for today. The nature of the subject often prompts a single person to embrace both divisions, but it is useful to consider them separately here.

The historians have made the bold assumption—perhaps they would say that they have been forced to the conclusion—that earlier civilizations were far more inclined than our own Western one to think musically and to interpret the cosmos in the light of their speculations. It even appears that music was for some of them a primary mode of understanding, amounting to a philosophical obsession.

The first historian to suggest this was Albert Freiherr von Thimus. Born in 1806, he led the outward life of a distinguished jurist and served in the Prussian Reichstag. But at the same time he knew all that could then be known about music theory, ancient and modern; he was thoroughly at home in mathematics, philosophy, and theology; he could read Chinese, Hebrew, Arabic, cuneiform and hieroglyphic figures as well as the European languages. He says ruefully in a footnote to his one published work¹ that he would have preferred it to appear with no title at all, to avoid prejudicing his potential readers. Eventually it was published in two volumes, in 1868 and 1876, as *Die harmonikale Symbolik des Alterthums* (“The harmonic symbolism of antiquity”) and suffered a fate which the scholarly world reserves for books that are either beneath its contempt or beyond its understanding: total silence and oblivion. No one was competent to judge von Thimus, because no one else had devoted a lifetime to intense and single-minded research into this subject. Faced with such a prodigy of erudition, one could either take it or leave it: and his ideas were left in obscurity until rediscovered and developed by Hans Kayser between the two World Wars.

What von Thimus proved was that the higher cultures of antiquity shared a symbolic system of a musical and mathematical nature, based on the knowledge of harmonics. This system was an esoteric one: it was never overtly explained, but it emerges from certain Greek and Latin writers, from the Kabalistic books, the Chinese classics *I Ching*

¹ *Die harmonikale Symbolik des Alterthums*, I, 36n. The first volume is subtitled: *Die esoterische Zahlenlehre und Harmonik der Pythagoreer in ihren Beziehungen zu älteren griechischen und morgenländischen Quellen insbesondere zur altsemitisch-hebräischen Ueberlieferung*. The second: *Der technisch-harmonikale und theosophisch-kosmographische Inhalt der kabbalistischen Buchstaben-Symbole des althebräischen Büchlein's Jezirah. Die pythagorisch-platonische Lehre vom Werden des All's und von der Bildung der Weltseele in ihren Beziehungen zur semitisch-hebräischen wie chamitisch-ägyptischen Weisheitslehre und zur heiligen Ueberlieferung der Urzeit*. The book was published in Cologne by M. DuMont Schauberg, and has been reissued in facsimile by Georg Olms (Hildesheim and New York, 1972).

and *Tao te Ching*, and Egyptian sources. Reasoning like a good lawyer, and explaining every step in excruciating detail, he builds up a case that would take more than a von Thimus to demolish. Here I will simply give a few of his main points.

Central to harmonic symbolism is the idea of reciprocity. It is this meaning, not the more usual one of odd and even numbers, that von Thimus gives to the terms *artios* and *perissos* in the Greek mathematicians.² The series of *artios* numbers increases in arithmetical progression from 1, 2, 3, 4, and so on to infinity. Applied to string lengths, they give notes of an inverted harmonic series: c''' c'' f' c' a b d c , and so forth, which several music theorists have posited as "undertones." The *perissos* numbers, the reciprocals of the *artios* numbers, decrease in harmonic proportion: 1, $1/2$, $1/3$, $1/4$, and so on to $1/100$. Applied to string lengths, the *perissos* numbers give the normal harmonic series: the overtones.

The symbolism of these two reciprocal sets of harmonics corresponds to the primordial duality found in all ancient metaphysical systems. In Plato's terms they are the Infinite and the Bound: one expanding to infinity, the other contracting to zero. In Far Eastern philosophy they are the archetypal qualities of Yang and Yin, represented in the *I Ching* by the whole and broken lines of the sixty-four hexagrams.³

Most of von Thimus' musical conclusions—concerning scales, tunings, harmonics, and so on—arise out of the simultaneous consideration of a given harmonic series and its reciprocal, the two together constituting a set of pitches. As the simplest possible example we can take the musical *tetraktys*:⁴ the ratios 6:8:9:12. This set of four pitches is derived from the arithmetical progression 6:9:12—say c , g , c' —and the harmonic mean between the same limits: c' , f , c . The whole set will therefore contain the common limits of c and c' , and the notes f and g in between them representing the arithmetical and harmonic means. If we now seek the third mean of Classical theory, the geometric, it will fall in between the other two: it is $\sqrt{72}$, an irrational number, the root of the product of the outer members of the set. It is the tritone between G^b and F^\sharp , found simply enough in equal temperament but inexpressible in the rational mathematical terms preferred by the ancients.

² *Ibid.*, I, 67 ff.

³ *Ibid.*, I, 79 ff.

⁴ *Ibid.*, I, 95 ff.

All such reciprocal sets will have a crossing point, sometimes an actual note, more often an irrational value like $\sqrt{72}$. Reverting to symbolism, this note will represent the fulcrum, the point of balance between the opposites, the unmanifested "still point" where they are reconciled. The philosophical possibilities latent in this idea are vast, and von Thimus traces them through many systems.

His other major premise is the existence in antiquity of what he calls the "Pythagorean Table,"⁵ a graphing of both the overtone and undertone series in the shape of a Greek lambda Λ . Starting at the peak of the lambda from zero, one arm is marked with the whole numbers from one to some convenient limit—potentially it would continue to infinity. The other arm is marked with the reciprocal fractions. To each number or fraction corresponds a note. The space between the arms of the lambda is then filled in with a network of intermediate fractions and frequencies. The table thus unites numbers and tones in a symbolic statement of impressive simplicity and purity, making possible many interesting calculations, harmonic and mathematical alike, and underpinning it all with a philosophical and numerological basis which we will discover when we discuss von Thimus' spiritual heir, Hans Kayser.

Von Thimus' work is the very essence of the historical side of speculative music. His was the first spadework—like Schliemann's simultaneous excavation of Troy—on which all future musical archaeology might have been based. That it was not so would have been no surprise to him, though: he admitted that he was unearthing doctrines that had deliberately been kept secret in antiquity, because very few people could make sense, let alone proper use, of them. The case has not changed much today.

One natural successor to von Thimus is Ernest McClain, whose recent books *The Myth of Invariance*,⁶ *The Pythagorean Plato*,⁷ and *Meditations through the Quran*⁸ similarly follow a strictly historical line. McClain draws his first title from the idea that the laws of music were for early cultures the most invariable things known.⁹ In a time when activity on the physical plane was fraught with danger and

⁵ *Ibid.*, I, 132 ff.

⁶ *The Myth of Invariance: The Origin of the Gods, Mathematics and Music from the Rig Veda to Plato* (New York, 1976).

⁷ *The Pythagorean Plato: Prelude to the Song Itself* (New York, 1978).

⁸ (York Beach, Maine, 1981).

⁹ *The Myth of Invariance*, pp. 196 f.

uncertainty, and continually subject to unseen influences, a firm anchor could be found in the reliability of tone. The intervallic relationships on the monochord never varied, no matter what the pitch or other conditions were. And in cultures without writing and without mathematical notation, here was one place where number could be experienced directly and manipulated in certainty, the ear providing confirmation at every stage.

McClain expounds with incontrovertible logic a musical mathematics that lies at the very center of archaic thought. He develops the idea of reciprocity and the system of the Pythagorean Table in the particular direction of tuning systems—one of many possible paths that lead from von Thimus' findings. McClain shows that some of the most obscure passages in Plato, those dealing with numbers, are beautifully solved if read as descriptions of various tunings and scales. Not a note is out of place. Furthermore, he finds the same musico-mathematical thought in Hebrew, Babylonian, and Vedic texts, showing, just as von Thimus did (though with more conciseness), that these early civilizations were thoroughly imbued with musical thought: incapable, one might say, of separating numbers from notes, and mingling with their profoundest philosophy a semiplayful undercurrent of musical symbolism.

If one has read McClain, understood and accepted what he is saying, there is little need to read von Thimus: one's mind will already have made the necessary historical revisioning, and the rest is detail of concern only to specialists. But this revisioning is not an easy one for those schooled in accepted opinions about music and about archaic cultures. For if one does not merely read and learn the facts, but makes the imaginative effort of recreating these facts and systems in a largely illiterate culture, then the capacity of the ancients for juggling notes and numbers in their heads, and their enormous enthusiasm for doing so, become simply awesome. It leads one to a complete reversal of the common view of our ancestors' intelligence and sophistication.

Such an imaginative reconstruction of the intellectual world of the distant past was made by the German musicologist Marius Schneider, perhaps best known for his contribution, "Primitive Music," that opens the first volume of the *New Oxford History of Music*.¹⁰ During his several years' residence in Barcelona, Schneider published a number of obscure works in Spanish. The first and longest of these sets out his

¹⁰ (London, 1957), I, 1–82.

fundamental principles: its title may be translated as "The musical origin of symbolic animals in ancient mythology and sculpture: a historical-ethnographical essay on the totemistic and megalithic substructure of archaic cultures and on its survival in Spanish folklore."¹¹ Three subsequent books in Spanish deal in greater depth with subjects that are merely adumbrated in *Los animales-simbolos* (as I shall call it): the sword dance and Tarantella, Rain songs, the Don Juan myth.¹²

Los animales-simbolos is one of the most original works of nonfiction I have ever come across. Under the guise of a scholarly study in ethnomusicology, Schneider has created an imaginary universe as personal as any fantasy writer's. His world is that of the Megalithic period, when the earliest agricultural peoples celebrated their fixity on earth and their relation with the heavens in stone circles, dolmens, and gigantic monoliths. This culture, he says, had its main European flowering in Spain in the third millennium B.C., but it diffused both before and after that time to every quarter of the Old World.¹³

Schneider explains at the outset that Megalithic culture is symbolic through and through, and that his work will mean little to those who do not understand or accept his mode of thought. "The symbol," he says, "is the ideological manifestation of the mystical rhythm of creation, and the degree of veracity attributed to the symbol is an expression of the respect which man is capable of according to this mystical rhythm."¹⁴ For people at stages of culture prior to the Megalithic, the experience of this mystical rhythm was absolutely real and clear.¹⁵ They would find it self-evident, for example, that a certain person manifested the same symbolic rhythm as a certain animal,¹⁶ and that in accord with this rhythm would be certain colors, sounds, materials, seasons, and planets. In imitating the cry of a lion, or on wearing a leonine mask, the Paleolithic hunter would experience fugitively the very essence of the lion nature.¹⁷ Such unitary perception lies behind the totemism of all

¹¹ *El Origen musical de los animales-simbolos en la mitología y la escultura antiguas: ensayo histórico-etnográfico sobre la subestructura totemística y megalítica de las altas culturas y su supervivencia en el folklore español* (Barcelona, 1916).

¹² *La danza de espadas y la tarantela, ensayo musicológico, etnográfico y arqueológico sobre los ritos medicinales* (Barcelona, 1918); "Tipología musical y literaria de la canción de cuna en España," in *Anuario musical*, III, 3–58 (Barcelona, 1918). I am unable to locate the book on Don Juan which Schneider says was published in 1951 (*Singende Steine*, Introduction, Sec. n. 23).

¹³ *Los animales-simbolos*, pp. 382–81.

¹⁴ *Ibid.*, Introduction.

¹⁵ *Ibid.*, p. 35.

¹⁶ *Ibid.*, p. 32.

¹⁷ *Ibid.*, p. 13.

primitive peoples. But a profound spiritual crisis took place with the beginning of the Neolithic era, and this immediacy of perception was lost. What was gained, in turn, was the capacity for speculative thought and discursive intelligence.¹⁸ Reflecting the inner changes, the outer circumstances of mankind changed from nomadic hunters and shepherds to settled farmers and builders. Just as they built their knowledge of the cosmos into stone, so these Megalithic cultures petrified what had formerly been a self-evident, intuitive grasp of cosmic rhythms into huge systems of correspondence.¹⁹ For the imitative animal noises of their ancestors they substituted fixed tones,²⁰ correlating these with the elements, planets, signs of the zodiac, and with the various musical instruments which a settled existence allowed them to construct. To these they added seasonal and geographical correspondences, associations with psychological states, and a whole mythological imagery which becomes ever more elaborate (and improbable) as Schneider develops it.

What is most interesting about his books is the way in which they unconsciously illustrate the same spiritual crisis that he posits at the start of the Megalithic epoch, but which on a smaller scale is going on all the time: the confrontation of archaic magic with modern rationality. The usual outcome is for the rational mind to reject, totally and irrevocably, the magical universe in which primitives and children dwell. Schneider's solution, on the other hand, was to unite them. As a refugee from Nazi Germany transplanted to Spain, he found himself surrounded by a folklore and an architecture that bore witness to a mysterious symbolic world which he determined to understand rationally. So he struggled for hundreds of pages to erect a fantastic structure of correspondences, full of charts and tables, and rich in the ethnomusical learning he had acquired when he studied under Hornbostel in Berlin. He correlated the shape of the tarantula to that of the guitar;²¹ he lined up the animals carved on the columns of Romanesque cloisters with the tones which the Hindu writer Sarngadeva²² was to give them a few decades later, and showed that they make a plainsong hymn in honor of the patron saint;²³ he mapped out the journey of man through

¹⁸ *Ibid.*, p. 35.

¹⁹ *Ibid.*, p. 44.

²⁰ *Ibid.*, p. 372.

²¹ In *La danza de espadas y la tarantela*, plates.

²² In *Saṅgita-ratnakara*.

²³ In *Singende Steine: Rhythmus-Studien an drei Katalanischen Kreuzgängen Romanischen Stils* (Kassel, 1955); based on *Los animales-simbolos*, pp. 57–101.

life as a musical progression around a circle of fifths.²⁴ He suggested that the zodiac we know is only one of four zodiacs, each a different arrangement of signs and of the twelve tones;²⁵ and that the celestial and terrestrial zodiacs intersect at the "Mountains of Mars," in the "Mandorla of Gemini";²⁶ the place of the transvaluation of all values, the haunt of two-headed beasts, the source of all echoes, antiphonal singing, *haut* and *bas* instruments, flamenco and yodeling,²⁷ where the Cave of Sacrifice is found:

In this smithy, where liquid fire hisses in the bright darkness, pain becomes beneficent and fruitful, for this sojourning place of living corpses is the singing cauldron of the universe's dual powers. Their abrasion of each other precipitates the old, spent forces and creates new values. There are innumerable symbols of this noisy process in the Cave of Sacrifice: thunder, and the thunderous roll of drums, the vibration of gongs and instruments of stone, the sizzling of boiling water (fire mingled with water) and all vibrant notes of wind instruments; the night bird's call and the brazen clang of the sacrificial vessel (later to become the witches' cauldron); the noises of smithy and loom, of mortars and mills, of sacrificial axes and altars, double spirals and swastikas. All crossroads, every sort of transport, markets and dragons—and, not least, an androgynous dual Being who, sliced in two, becomes the aged, singing spinning woman of the solstices and her male partner of the equinoxes: the thundering god of war, who forges the lightning in spring and summer, and in autumn still fights on until in winter he falls, a victim.²⁸

But in this passage we hear not the systematizer but the magical Schneider, whose intuition strikes through the categories of thought to grasp the archetypal identities. Here he is a true German Romantic: a deeply poetic soul who understands the cosmos as the crystallized song of the Gods.²⁹ Music for him is the original state of the universe, emancipated from matter and unbounded by space.³⁰ To make music is to bring one's inner nature in harmony with the creative Word from which all creatures came.³¹ These ideas, taken from his later monograph on the Vedic philosophy of music, express the feelings of those speculative musicians to whom their science is an actuality, not merely an engaging historical study.

²⁴ *Los animales-simbolos*, pp. 232 ff.

²⁵ *Ibid.*, pp. 196–98.

²⁶ *Ibid.*, p. 243.

²⁷ *Ibid.*, pp. 241–52.

²⁸ *Singende Steine*, pp. 56–57.

²⁹ *Die Natur des Lobgesangs* (Kassel, 1964), p. 9.

³⁰ *Ibid.*, pp. 12–13.

³¹ *Ibid.*, p. 18.

This is certainly true of Kayser, who developed von Thimus' findings into an interdisciplinary science of "Harmonics." The story of his life and a summary of his teachings can be read in English in his little book *Akroâsis*, but his major works remain, like Schneider's, untranslated. His summa is the *Lehrbuch der Harmonik*,³² in which he applies the Pythagorean Table to comparative theology, architecture, acoustics, geometry, the growth of plants, ethics, anatomy, astronomy, harmony, color, crystallography, temperament, and numerology—an incomplete list, at that. Kayser was a rare phenomenon: a Renaissance man born out of time to whom the later separation of art, science, and religion made no sense. He offered *Harmonik* as a means of orientation for today's many-sided men³³ and as a way of bridging the gulfs which excessive specialization has cloven between the disciplines. Kayser's life and work are a perfect example of speculative music as I defined it at the outset: he uses it as a means of understanding these many and disparate subjects, and as a result it becomes the mirror in which he beholds the Cosmos and the Divine Principles behind creation.

Harmonic thought is a totally different affair from what Kayser calls the "haptic tyranny"³⁴ of the common view. Haptic thought proceeds on the assumption that things are true or false as they are perceived by our senses and evaluated in our minds. Harmonic thought, on the other hand, recognizes that every appearance has also an inner value.³⁵ It sees no point in the accumulation of heaps of knowledge which have no relationship to man as a whole and which ultimately leave him unsatisfied.³⁶ From the harmonic point of view, the purpose of knowledge is to find meaning that satisfies the needs of the soul. In the use of mathematics, for example, the harmonic approach fills out every number with a meaning that can be acoustically perceived. It takes dead quantity and reilluminates it with humanity. We can take the simplest mathematical theorems—things with which we are quite bored—and *hear* them!³⁷ Wonder is reborn as the world begins not merely to inform us, but to sing.

Kayser's world is full of such wonder. He goes back, for example, to the old idea that the planets are spaced according to musical laws—an

³² (Zurich, 1950).

³³ *Lehrbuch der Harmonik*, p. x.

³⁴ *Ibid.*, p. 27.

³⁵ *Ibid.*, p. 20.

³⁶ *Ibid.*, p. xliii.

³⁷ *Ibid.*, p. 167.

idea most thoroughly developed by his great mentor in harmonics, Kepler—and finds the planetary distances approximately parallel to a diatonic scale. Now this, he says, one can dismiss as coincidence. One may, on the other hand, recognize in the diatonic scale a "morphological norm": a kind of archetype governing phenomena of the most varied kinds; in which case it is clear to the harmonicist that the universal diatonic scale was indeed used for the planetary distances, but that accuracy was not quite achieved. The result is rather like what happens when one jars a chessboard: the pieces maintain their relationships, but they are all a little bit out of their true positions.³⁸

This is an example of the "actual" variety of speculative music. The historical variety is also much in evidence in the *Lehrbuch der Harmonik*: Kayser makes one well aware of the long ancestry of his kind of thinking. He would agree with Schneider that it is universal in archaic cultures; it was very highly developed among the Greeks—his last published book is a harmonic analysis of the Temples of Paestum;³⁹ it surfaces sporadically in the Middle Ages and Renaissance, and is a dominant factor in German Romantic literature.⁴⁰ But the major difference between Kayser on the one hand, and Schneider on the other, is that Kayser's world is built on the unarguable foundation of the harmonic series and its associated numbers, whereas Schneider's is elaborated out of a vague feeling for correspondence.

Kayser saw the main problem of mankind as the Cartesian split: the divorce of the quantitative from the qualitative. At the very beginning of his book he urges the reader to build a monochord and practice diligently on it.⁴¹ With this simple aid, one can see how the quantities of mathematics are intimately linked with the qualities of the musical intervals. Every thought that enters the head corresponds to a sound that enters the heart. Writing during World War II, Kayser attributed the present inner and outer apocalypse to the artificial separation of Being and Value, Nature and Spirit, World and Soul.⁴² He saw harmonics as a possible way in which this damage could be repaired.

It seems that speculative musicians all tend to a certain universality of interest and culture. Using music as a doorway to the understanding of the cosmos, they find that it opens up realms that would have

³⁸ *Ibid.*, p. 269.

³⁹ *Paestum* (Heidelberg, 1950).

⁴⁰ See his extensive historical Introduction in *Lehrbuch der Harmonik*, pp. i-xlix.

⁴¹ *Lehrbuch der Harmonik*, pp. 1 f.

⁴² *Ibid.*, p. 260.

remained closed to them if they had remained content with a more specialized mode of understanding. It is impossible, for example, for a speculative musician to consider aesthetics as divorced from physics, or the history of music as something separate from the history of the human soul. Ineluctably he is drawn into subjects for which academic musical training (especially in Europe) has never prepared him, but which he can no longer ignore. This must have been Kayser's experience. Although his books are filled with figures, he admitted that mathematics was his weak point;⁴³ he was not trained in the sciences, but was bold enough to trespass on their preserves. He says that universality of the kind which we admire in people like Plato, Leibnitz, or Goethe is still within our reach even today; it consists not in knowing everything, but in recognizing and experiencing what is important in every field⁴⁴—and that is often very little.

It is only sixteen years since Kayser's death, so is too early to judge the longevity of his theories. Certainly he has a faithful successor in Rudolf Haase of Vienna. Haase's essays, recently collected in a book,⁴⁵ are largely extensions of Kayser's own research, clarifying a loose end here, making a new analogy there, and elaborating a bibliography of kindred works.⁴⁶ Haase also shows a lively awareness of the role of harmonics in the postwar era. His orientation, like that of most speculative musicians, is strongly religious without being sectarian. As such, he sees the current revival of "harmonic Pythagoreanism" as part of a larger process in which the initiatic wisdom of the ancients is returning to mankind.⁴⁷

One does find an interest in speculative music among those whose principal concern is with such esoteric matters. Some of the most serious "actual" contributions to the subject have been made by the anthroposophist Rudolf Steiner⁴⁸ and his followers or admirers Anny von Lange,⁴⁹ Ernst Bindel,⁵⁰ Ernst Hagemann,⁵¹ and Hans Jenny.⁵² Only a few of

⁴³ *Ibid.*, p. 257.

⁴⁴ *Ibid.*, p. 111.

⁴⁵ *Aufsätze zur harmonikalen Naturphilosophie* (Graz, 1974).

⁴⁶ *Literatur zur harmonikalen Grundlagenforschung I, II* (Vienna, 1969, 1972).

⁴⁷ *Aufsätze*, p. 235.

⁴⁸ *Das Wesen des Musikalischen und das Tonerlebnis im Menschen* (Dornach, 1975).

⁴⁹ *Mensch, Musik und Kosmos: Anregung zu einer goetheanistischen Tonlehre*, 2 vols. (Freiburg i. Br., 1956, 1968).

⁵⁰ *Die Zahlengrundlagen der Musik im Wandel der Zeiten*, I (Stuttgart, 1950).

⁵¹ Annotated edition of Rudolf Steiner, *op. cit.* (Freiburg i. Br., 1974).

⁵² *Kymatik*, 2 vols. (Basel, 1967, 1974). Vol. II trans. D. O. Stephenson as *Cymatics*.

Steiner's four thousand recorded lectures were on music, but as in the case of his dicta on agriculture and education they were sufficient to found a new school of thought on the subject. Among other matters, Steiner gives a psychological justification for the use of music as a source for universal understanding. To follow his argument in detail one needs to be familiar with his anthroposophical worldview; but here I will leave that aside and try to make a fragment of it comprehensible in my own words.

Steiner says at the outset of his first lecture that music's task is to release the Spirit which is bound within Man.⁵³ With the everyday, physical world presented to our senses, music has nothing to do. It also has nothing to do with thought. (Certainly we can think about music while listening to music, but then we are thinking, not listening.) It belongs instead to a subtle world of formative forces that lies beyond the material world. Physicists know one aspect of this subtle world as the mathematical certainties underlying all phenomena. But they only know half the truth; the other half is that the subtle world is fully alive with intelligences who work in a manner best suggested to us by music. Their constructive activity—the music of the spheres—is what gives our world its order and seeming solidity. Similarly in the human being there are subtle bodies which, though we may usually be unconscious of them, inhabit correspondingly subtle worlds and imbue us with the "music" they hear there. The function of the composer is to make these unconscious experiences available, as well as this can be done with physical means, in order that we may better remember and rejoin our higher selves and the worlds in which they properly belong.

We visit these worlds, says Steiner, every night in deep sleep, but usually remember nothing of them except a vague sense of harmony.⁵⁴ The great composers are those blessed with a faculty that enables them to bring back to this realm a clearer shadow of what they have heard in the higher worlds.⁵⁵ Their music awakens the same latent memories in the souls of their listeners, and that is why people love music. Hearing music prepares one for the time after death in which one will enter consciously into these subtle worlds—a process which the ancients symbolized by the journey through the planetary spheres—and hear the music that resounds there. To the "man who has no music in him" this

⁵³ Steiner, *ed. cit.*, p. 9.

⁵⁴ *Ibid.*, pp. 46–47.

⁵⁵ *Ibid.*, p. 26.

will be a confusing and unfamiliar experience,⁵⁶ whereas the person whose life was imbued with music will feel thoroughly at home there.

Steiner's views on music are peculiar only for the time in which he lived. If he had been writing in the time of Plato, or of Plutarch, his opinions would be fully acceptable today: not that people would necessarily share them, but they would treat them seriously as one man's efforts to explain some of the enigmas of the universe. This raises the hoary question of historical versus actual validity—a very real one for musicologists. According to received academic opinion, a philosophical position or a musical style is valid only within its appropriate historical setting. Philosophies based on the assumption of higher worlds and posthumous soul journeys are acceptable if they are over five hundred years old; propounded in the twentieth century, they are considered absurd. In our own field of musicology, indifferent Baroque cantatas are valued, transcribed, published, and performed; yet if one were nowadays to compose an indifferent Baroque cantata—even a good one—one would be laughed at and nobody would want to hear the result because it was not true to its time.

I make this excursus because speculative musicians deal with just such questions of relative and universal validity: questions that are too big or too embarrassing to be generally aired. For example, most of the writers I have mentioned consider atonal music to be an aberration, because it is not based on the archetypal laws of harmony to which they accord a cosmic role. Hagemann concludes his edition of Steiner's lectures by observing that in 1961, after fifty years of atonal and polytonal "New Music," hardly anyone really believes in it. He points out that in the older musical revolutions it was the critics who objected, but the listeners who approved: in the present century it is the other way round. Atonal music is instinctively rejected by the musical person who has not become over-intellectualized. The soul wants to hear an echo of the sphere harmony to which it can harmonize itself, but cannot find it there.⁵⁷ Anny von Lange, in her two-volume work *Mensch, Musik und Kosmos*, goes totally against the current of modern aesthetics to reaffirm what was taken for granted in former times: the ethical power of music for good or ill, and its capacity to teach mankind to work consciously with the formative forces in the universe, rather than with the destructive

⁵⁶ *Ibid.*, pp. 85–86.

⁵⁷ *Ibid.*, p. 206.

ones.⁵⁸ Unfortunately her magnum opus suffers from the perennial temptation of speculative writers: the inflation of a personal insight into a universal system, and the gratuitous elaboration of correspondences.

These formative forces were not just occult abstractions to Hans Jenny, a physicist who, following hints in Steiner's lectures, decided to investigate the actual connection of sound and matter. Most people know about the early nineteenth-century researches of Chladni, who discovered the regular patterns that will spring up on a plate of sand when stimulated by a bow to sound various harmonics. Jenny took advantage of modern technology to apply tones to plastic and resinous substances while they were in the process of hardening from the liquid to the solid state. He was able by this means to catch the patterns which tone arouses in liquid and to freeze them. The most amazing and beautiful sculptural effects were captured and photographed, their uncanny resemblance to certain animal and vegetable forms answering to Steiner's explanation of the essentially musical quality of the formative forces which mold everything in nature. One senses here, too, an echo of Paracelsus and Jacob Boehme with their doctrine of signatures. It is only the one-dimensional, haptic mind that dismisses such things as coincidence; coincidences they certainly are, but all the more significant for that, for they help one to comprehend the patterns behind appearances.

In mentioning Steiner and his followers I have touched on an extreme point in the present-day revival of speculative music: one that is based on the assumptions of anthroposophy which are not widely acknowledged even among occultists. Many people may feel that Kayser's is the safer road, starting as it does from a completely empirical examination of harmonic phenomena. Others may consider that the whole thing is a subjective fantasy, and that Schneider's poetic vision is as valid as any such speculations can be—which may be not at all. Kayser says in his dialogue on Tolerance⁵⁹ that nothing in harmonics is conclusive: that is not its nature. I would develop this by saying that the present state of speculative music is not a body of knowledge, nor anything that can be learned and enclosed in a book. It is, rather, a frame of mind. It accepts the possibility that there is something that this study can teach us, something indefinable but none the less real, about the

⁵⁸ Von Lange, *op. cit.*, I, 143.

⁵⁹ *Op. cit.*, pp. 255 ff.

human condition, the external universe, and the relations between them. If this knowledge could be expressed in words or figures, then it would be philosophy or mathematics, but not speculative music. In exactly the same way one can say of a composition that it is the nonverbal essence of it which justifies its existence as music. The piece of music goes somewhere, or comes from somewhere, beyond what can be depicted, materialized, or spoken of. Otherwise its job would be better done by painting, sculpture, or poetry.

Whereas the results of research in the haptic sciences can be shared and reproduced, speculative music is a personal affair: everyone finds in it something personal, whether that be a grand overview of the cosmos, a revisioning of history, a fresh insight into the geometry of nature, or a meditative preparation for life after death. And what one gets out of it depends on what one brings to it. Therefore what awaits future researchers is not a single discipline but a multiplicity of paths, differing from each other as markedly as human beings do.

The highest task of speculative music is the one alluded to at the beginning of this essay: the solution through music of the metaphysical enigmas surrounding Man. Among modern writers who have attempted this, Marius Schneider (in *Die Natur des Lobgesang*) Dane Rudhyar, and Hazrat Inayat Khan seem to me to have had the most penetrating insights,⁶⁰ but much is left to be done especially in the context of comparative religion and occultism. On a more concrete level, future researchers may investigate connections within the subjects of the Quadrivium, such as the precise relationship between music, the Platonic Solids, and the planetary distances.⁶¹ Others may reconsider seriously the claims of psychological efficacy for certain tuning systems over others.⁶² Another ancient belief that calls for reevaluation is the Platonic dictum on music and its effects on society, with particular regard to the types of music most popular today. Connected with this might be the study of musical perception in altered states of consciousness.⁶³

⁶⁰ Dane Rudhyar, *The Rebirth of Hindu Music* (Adyar, Madras, 1928); Hazrat Inayat Khan, *The Sufi Message of Hazrat Inayat Khan*, Vol. II (Geneva, 1962).

⁶¹ Rudolf Haase, "Fortsetzungen der Keplerschen Weltharmonik," *op. cit.*, pp. 101-16, considers Uranus, Neptune, and Pluto in this regard. See also Thomas Michel Schmidt, *Musik und Kosmos als Schöpfungswunder* (Frankfurt, 1974).

⁶² See Hermann Pfrogner, *Lebendige Tonwelt* (Munich, 1976), pp. 467-504. Pfrogner's is the most complete handbook of speculative music known to me.

⁶³ On music and meditation, see Peter Michael Hamel, *Through Music to the Self*, trans. Peter Lemesurier (Tisbury, Wilt., 1978); for a description of music heard under the influence of hallucinogenic drugs, see Aldous Huxley, *Island* (New York, 1962), Chap. XV.

In the historical direction, one awaits a musical commentary on R. A. Schwaller de Lubicz's Egyptological work,⁶⁴ so much of which presupposes a "Pythagoreanism" in full development ages before Pythagoras himself. The current concern with Neolithic science, already revealing astonishing sophistication in mathematics and astronomy,⁶⁵ needs to be extended along the lines of McClain's researches to consider the possible primacy of musical thinking in Western European cultures. In later times, the use of musical proportions in architecture and of architectural proportions in music is accepted⁶⁶ but by no means fully researched nor explained in any but its own terms. For an understanding of what proportion means in the cosmos, one may have to go back to Schwaller de Lubicz.⁶⁷ Finally, the connection of musical styles with periodic changes of human history, bravely but naïvely attempted by Cyril Scott,⁶⁸ requires illumination by people with a real knowledge of what makes historical currents flow.

All of these paths lead beyond the frontiers of conventional musicology into the sometimes hostile territory of other disciplines. Yet this is the challenge faced by all who attempt to forge a holistic vision from the shattered fragments of twentieth-century learning.

⁶⁴ *Le Temple de l'homme* (The Temple of Man), trans. Robert and Deborah Lawlor, not yet published. The original limited edition (Paris, 1956) is available in a few libraries.

⁶⁵ See Keith Critchlow, *Time Stands Still* (London, 1979), for a "Pythagorean" view of archaic cultures.

⁶⁶ See, for example, Charles W. Warren, "Brunelleschi's Dome and Dufay's Motet," in *The Musical Quarterly*, LIX (1973), 92-105; and M. van Creveld, introduction to Jacob Obrecht, *Missa Maria Zart* (Amsterdam, 1961).

⁶⁷ See R. A. Schwaller de Lubicz, *The Temple in Man* (Brookline, Mass., 1977), pp. 57 ff.

⁶⁸ *Music: Its Secret Influence throughout the Ages* (London, 1933).