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Music before and after Solesmes

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Today I have the opportunity to speak to philosophers as a musicologist. From Greek times and throughout the middle ages, from Augustine to Boethius and Hugo of St. Victor, music, as a part of the quadrivium and later as one of the seven liberal arts, was always an approach to philosophical reflection. It was the means to demonstrate beauty and goodness which, at that time, always meant proportionality. Even the act of perceiving goodness and beauty was a question of the appropriate fit between senses and the proper object of sense. Speaking to Catholic philosophers, I want to explain this shift using the example of Gregorian chant, the music of the angels. Gregorian chant was the perfect metaphor for harmony between micro- and macrocosmos. I want to compare this understanding of the music of the angels with Solesmes 19th century restored form of Gregorian chant. In comparing these two different epochs of the meaning of music, I hope to point out a loss of proportionality in music. This example could be suggestive of using proportionality to rethink the history of philosophy.

The music of the christian church in medieval times was based on the music theory of the Greeks, handed down to Virtruv, Censorius, Fulgenius, Boethius and Isador of Sevilla. Studying these writings will show that music was the art of perceiving and reflecting on proportionality, or finding the good and beautiful in sound. All music theory was founded in proportionality.

If we speak about music today, we always think about it as a kind of aesthetical setting of predetermined standard tones. We are able to speak about music without referring to proportionality. This modern way of looking at music has its roots in the development of musical acoustics in the 18th century. This new science of acoustics allowed the setting of standard tone in the 19th century, the time of Solesmes.

The Greek term *tonós* did not mean a standard tone as we know it from the piano, but meant relationship between two parts of a string divided and plucked. An independent isolated tone was unthinkable. The main instrument for teaching proportionality was the monochord, a rectangular sound box of arbitrary length with a single string, which could be divided by a movable bridge. This teaching technique was used from ancient Greek times throughout the middle ages and the renaissance, from Plato to Guido of Arezzo up through to Descartes. All students were taught how to move the bridge and divide the string harmoniously, and to recognize the relationship between the segments of the string based on the sound on the string. For example the teacher would divide the string into a two-fifths and a three-fifth length of string to produce two harmonious sounds. Only by learning the idea of proportionality, could a student understand what harmony meant, the combination of parts which produce a pleasing affect.!! Along with arithmetics, geometry and astronomy, the sound of proportion was used as a sensible route to the appreciation of appropriate correspondences. By hearing, seeing and striking the appropriate division on the monochord, their musical ability and pleasure were accustomed to the harmony proper to the community, to the ethos, in which they were born. Therefore, to play music fitting some occasion according to the rules prescribed by the ethics of their ethos, one had to determine the intonation of the local flute or cithara. Music always had to fit in a framework, in which one chose the mode, the division of the scale, appropriate to the music of a certain place. This

musical frame, involving tetrachordal tuning, was called *genus*. Proportion underlay all this music theory as the constitutive principle or *logoi*(?).

The Greek word *logoi*, that is, relationships, and what we understand simply as intervals between two tones, would be understood as *ana-logia*, or as the concord of the strings. This intonation had to correspond to the *ethos*, actually the pace, the custom, the disposition or attitude, which was as different, from one place to another as gait and speech. Within these *ethnos*, one learned to think about the character of the *tonos*. This inherent dissymmetry, resulting from the ordered vibrating of two strings sounding against one another, is proportion, that which was enjoyed in ancient and medieval music. The choice of mode was not a musico-aesthetic, but an ethical issue. The rule of the local *ethos* was normative, determining which *genus* was to be chosen. The musical *genus* was always established on an analogy with the gender (a cognate *genus*) of the musicians, singers and dancers, further, each occasion - sadness or joy, war or love - had its own style or proper form. The Greek mind rested on two bases, appropriateness in expression - found in the rule of the *ethos* - and tone as *ana-logia*, as proportion or ratio. So the student's *synaesthesia* was tuned - the coordinated fit of ear, eye and touch for what was graceful and good in their community. What was appropriate was sensed and then judged to be good. But not only the proportion of tones determined music. The perception of sound - which prior to the development of scientific acoustics, was always musical sound - was an act of proportion which also determined music. Aristotle's *De Sensu* states that sound existed only by the perception of the ear, and the ear could only be called an ear by perceiving sound; like the relationship between the eye and light. Hearing and seeing were still acts of proportion.

Theology of the middle ages drew upon this notion of proportionality in considering the *musica coelestis*, the music of the angels. *Musica coelestis* was the medieval Christian interpretation of the music of the spheres described in the works of Plato and Cicero, the harmony sounding of the cosmos. *Kosmein* means to line up armies, the shores of a river, or, in this case, to match heaven and earth, on one side, the world/macro-cosmos and, on the other side, the human /micro-cosmos.

This thinking is clearly in the writings of Boethius and Dionysos Areopagita and later in the 9th century in the works of Johannes Scottus Eriugena. In his major work *De Divisione Naturae*, he describes music as an example of harmony between the world and God. For these medieval authors, music stood for the relationship between nature and the Creator.

If we want to understand the fundamental difference between Gregorian chant before and after Solesmes, we have to keep this relationship in mind. Before Solesmes, proportionality was the fundamental bases for understanding music. The story of the "origin" of Gregorian chant is probably one of the most well known. We have all seen at least one painting of the holy spirit embodied as a dove that is dictating the holy songs to Pope Gregor. Thinking about this fable we should not forget that until the 11th century the passing on of Gregorian chant was mostly oral. The monks had to learn the hundreds of different chants by heart. We can find the first notation of Gregorian chant in the 9th century. This group of signs, called neumes, is nonsensical for a modern reader. It merely gave some hints about the correct accent of each word, which could not possibly be understood without the guidance of a master. If we think

about notation today, we always think about it as a precondition of music performance; but neumes, on the other hand, were notes made during a performance for future reference.

The invention of neumes in the 9th century is the watershed of the shift from an oral to a written music traditions.

The monks had difficulty trying to accept the introduction of the *cantus romanus* by Charlemagne in the Frankreich as the universal way of singing the chants. Singing Gregorian chant obviously had a different meaning than Gregorian chant since the restoration by Solesmes. It meant the proper way of performing the psalms, the proper way of praying to the Lord. Like Greek music, it was always related to an ethos; Gregorian chant, the art of performing the psalms, was always related to a certain place, time and event. The choice of the right mode was the way of celebrating beauty and goodness. The invention of diastematic notation in the 11th century by Guido of Arezzo, one of the most important teachers of Gregorian chant in the Middle Ages, was a fundamental break in the understanding of Gregorian chant. Putting the neumes on lines, giving them a certain pitch, made it possible to sing chants without the aid of a teacher. Guido claimed that this notation made it possible to sing Gregorian chant in the "right" way. This did not mean "right" in congruence with the instructions of a master but, "right" in the sense of singing it like it was written. This was contrary to the teaching of the benediction monastery in Pomposa, where Guido was living, and he was forced to leave. Working at the cathedral school of Arezzo, he was still using the monochord for teaching Gregorian chant as a matter of proportionality; but the possibility of distinguishing between the master and the music, via diastematic notation, was the beginning first step to a separation of music as an issue of an philosophical reflection and the study of the performance of music.

Philosophical reflection of proportionality continued into the 17th century. In Harmonices Mundi (1619), Johannes Kepler referred to the Greek music of the spheres in describing the harmony between micro- and macrocosmos. Descartes also refers to this harmony in his first philosophical work, Musicae Compendium. Although he refers to traditional Greek music theory, he is the first to write about music and hearing as unrelated topics. This break in thinking of music and hearing in an proportional relationship is a precondition for scientific acoustics.

Two inventions in the 18th century radically changed the meaning of music: the introduction of equal tempered tones and the setting of a standard pitch.

This is the context in which the restoration of Gregorian chant occurred. A world where hearing is the perception of standard tones unrelated to the idea of proportion. In the middle of the 19th century the benedictian monk, Guéranger, worked to restore Gregorian chant to his small monastery in the French village of Solesmes. By comparing different sources, they tried to reestablish the "original" form of Gregorian chant, but in a way that would be valid for all churches. This creation of a standard performance had nothing in common with the picture of Gregorian chant as the music of the angels. Using standard pitched tones perceived by ears which were built to hear bureaucratic set tones, made it impossible to understand music as an expression of the harmony between macro - and microcosmos, as a matter of proportionality. It could not belong to an ethnos or community. Today, when I visit the little

monastery, Regina Laudis, I always enjoy the performance of Gregorian chant in their beautiful church. I know that these chants are still an aesthetic delight; but if I hear the world standard tone of the tuning whistle, I also know as the conclusion of the old tradition of expressing the good and beauty. It is the sound of the loss of proportionality.