

## PREFACE

My own study of the art of counterpoint began in 1978 with Knud Jeppesen's *Counterpoint: The Polyphonic Vocal Style of the Sixteenth Century* (1939), a classic in its field which may be both praised and criticized. Jeppesen's work was based on his own analyses of the composition style of the late-16th-century Italian composer Palestrina. The historical reason for Jeppesen's choice is that Palestrina's work survived into the 17th and 18th centuries as the "classic" model of 16th-century counterpoint, such that J. J. Fux (1725), whose method really owes more to Zarlino, referred to him rhetorically as "the celebrated light of music... to whom I owe everything that I know of this art, and whose memory I shall never cease to cherish with a feeling of deepest reverence." <sup>1</sup> This bit of purple prose from Fux has been mistaken by some musicologists for a factual reference <sup>2</sup>, but Palestrina wrote no theory, and Fux quotes Zarlino on double counterpoint <sup>3</sup>, and uses Zarlino's modal system (reduced from 12 modes to 6 by merging plagals and authentics). The present work, on the other hand, is derived from a different source closer to the interests of guitar and lute players, as it is based directly on the didactic work of the Spanish monk Tomás de Sancta Maria, from his *Libro Llamado Arte de Tañer Fantasía* of 1565. Sancta Maria's work is based on the style of Josquin Desprez, whose style was formed almost a century earlier than that of Palestrina. This difference in source material results in many differences of detail from what was taught by Jeppesen.

In turning to Sancta Maria (whom I shall refer to by his initials as "TSM"), I am taking an authentic mid-sixteenth-century didactic model which is so close to the style of the vihuelists that we guitar and lute players may safely take his work as that which most authentically represents their fugal style, even though it was written for the keyboard. As it deals only with fugue, it does not address the style of the *vihuelistas* completely, since they also sang to the their own accompaniment and played popular songs such as *Conde Claros*. The mid-sixteenth-century Spanish theorist Juan Bermudo, another monk, tells us that "the bestial ears of the villagers are happy with *Conde Claros* on an out-of-tune guitar." <sup>4</sup> So we can bet that the repertory of the average vihuelist on the street did not include transcriptions of Josquin masses. What we are dealing with, in treating fugue on the vihuela, guitar or lute, is a somewhat rarified form of vihuela-playing which formed *part* of the practice of the non-religious courtier Luis Milan and of the priest Mudarra and the choir director Narvaez. The entabulations of Josquin masses by Mudarra and Narvaez must have been made directly from the part-books of Josquin masses, perhaps those published by Petrucci, or perhaps hand-copied. But what of the blind Miguel de Fuenllana, who opens his book with a canonic duo from a Josquin mass? Fuenllana had to understand fugue directly on the fingerboard, and by ear. It is this to which we may aspire.

1. Fux (ed. Mann), *The Study of Counterpoint*, p 18.
2. *Ibid.*, p x.
- Jeppesen, *Counterpoint*, p 38.
3. Mann, *The Study of Fugue*, p 107-138.
- Zarlino, *The Art of Counterpoint* (Part III of LIH, Marco / Palisca ed.), p 205.
4. Bermudo, *Declaración*, Book I, f.iii.v, col 1 line 39 ff.

Jeppesen's work begins with an "Outline History of Contrapuntal Theory" which was the inspiration for the study of the history of intonation which forms the first third of the present work. I read this history many times and eventually began to be disturbed by the extreme vagueness of the standard account of the origin of the church modes and their derivation from the ancient Greek modes with their various Greek ethnic epithets: Dorian, Phrygian, etc. This myth — for it is a myth — disappears into smoke and mirrors in the Dark Ages between Boethius's *DIM* of 500 CE and Alcuin's first mention of the church modes around 800 CE. The Greek modes go in, the church modes come out — and what happened? I determined to investigate the historical origin of the church modes, which appeared to be camouflaged in some way by the myth of their derivation from the Classical Greek *tonoi*. The more that I read about ancient Greek music, the more it seemed to be a completely different system than the church modes. The more that I read of the Benedictine monks who claimed, in the 9th through 11th centuries, that the church modes were derived from the modes of Boethius as given in *DIM*, the more obvious it appeared that they were describing a system of modes which also had some significant attributes which were *missing* from the modes of Boethius: specifically, that the church modes come in four authentic/plagal pairs, that they had originally been only four and were "later" divided into eight, and that they share only four Finals between the eight modes. The Benedictines never bother to try to source these attributes in Boethius, because they are not there; they state them as facts, but do not explain them. The famous "question of the eighth mode" is another serious point of disagreement between the church modes and the Boethian modes. The eighth Boethian mode would have lain in the octave-range from A3 to A4 *if* the Benedictine interpretation of Boethius had been correct; the eighth church mode lies instead in the octave-range from D3 to D4, and has its Final on G3 as reported by Hucbald, one of the earliest sources. This is not trivial — because the Benedictine interpretation of the Boethian modes was, amazingly, upside down. The result of my investigation is to propose that the church modes are not derived from the Greek *tonoi*, and are derived from ancient Middle Eastern liturgical practice in a form which was projected onto the fingerboard of the *oud*, and that is visible to this day in the way that the church modes begin on the A and D strings of the modern guitar in two parallel patterns. The Muslims were first to call the lowest open string *Alif*.

In investigating the "music theory" of the Benedictine monks who wrote in the 9th through 11th centuries CE — and who are our major and perhaps only sources of "music theory" from this time — I discovered that they were operating under a political agenda in the service of the Carolingian Kings, and that the carrying out of this plan included the creation, in the 9th century, of a large body of forged legal documents backdated up to seven centuries, known today as the "False Decretals." This project was

instituted at a time when there was a new demand for legal documents under the Carolingian monarchs. The history of that creative project is fascinating: some Benedictine monk combed through the entire existing library of legal documents and cherry-picked choice passages to use for boilerplate text in creating entirely new and completely fictitious documents — one must appreciate the audacity of this massive program of deception, carefully planned and executed in the name of God, but totally concealed, in order to achieve specific short-term political goals. At this same time, Benedictine monks were also composing the lives of the Saints — including detailed accounts of their many miracles. Although it is not clear when in history this rule was first applied, a properly canonized Roman Catholic saint must have four confirmed miracles<sup>5</sup> to his or her credit (although Freeman says only two miracles<sup>6</sup>). To document so many miracles — there are, after all, many medieval saints — obviously required considerable exercise of the monkish imagination, a major creative writing project to which the famous 9th-century music theorist Hucbald also contributed. We may presume that they prayed for inspiration. Their third major creative writing project was the composition of a body of music theory which includes the proposition that the eight church modes are derived from the seven Greek *tonoi* as described by Boethius in his *De Institutione Musica* of about 500 CE. As I will demonstrate, this has no more credibility than the lives of the Saints or the forged Decretals. The immediate question which arises, then, is "what is being hidden by this myth?" The answer which I propose to that question is, in a sound byte, the "Arabic Influence." The most obvious influx of Muslim music theory is to be found in the treatises of "Pseudo-Odo" and Guido of Arezzo at the end of the 10th century and the beginning of the 11th, in the introduction of the Arabic term "Gamma [-ut]" (= *jam* or *jama'at*) — which is nonsensical as a "Greek" letter and anachronistic as Pope Gregory the Great's initial — and of the so-called "Letters of Gregory." However, the introduction of the church modes two centuries before Guido's time is the *second* most obvious example. The evidence for this will be detailed in Book Three.

The next question to arise, in considering the nature and origin of the medieval European Christian tonal system, concerns the so-called "Pythagorean Tuning," the origin of which is also camouflaged by a well-known myth, that of Pythagoras and the Harmonious Blacksmith, of which the earliest account is that of Nicomachus in the late 2nd century CE<sup>7</sup>. The earliest *extant* account of the Pythagorean tuning itself, although Nicomachus refers it to the lost work of Philolaus a generation before Plato, is in Plato's dialogue *Timaeus* of c. 360 BCE, a very influential and completely fantastical account of the creation of the Cosmos by a quasi-monotheist God and his helper or sidekick the "Demiurge," in which the order of the planets is governed by the numbers of the Pythagorean tuning. This, of course, is one of the greatest and most classic schemes

5. *New Col. Ency., canonization*, p 445.

"The evidence consists primarily of the proof of four miracles attributable to the saint and proof that the saint's life was exemplary."

6. Freeman, *The Closing of the Western Mind*, p 321.

7. Bower, *Boethius and Nicomachus*, p 42.

- Bower argues that Nicomachus must have known Ptolemy's *Harmonics*, and that therefore Levin's date for Nicomachus "fl. c. 100 CE" must be too early, and that Nicomachus was active around 150 - 175 CE. However, Ptolemy, *Harmonics 1:8* (Solomon, *Ptolemy Harmonics* p 25) appears to refer to Nicomachus's account of the Pythagorean Hammers. The best that can be said for sure is that they were both active in about the 2nd century CE, about two centuries before the institution of Imperial Christianity.

of the "Music of the Spheres." The Benedictine music theorists were absolutely insistent on the use of this tuning, and included monochords for it in many of their works. The five Pythagorean-tuned monochords of Guido of Arezzo are of a particular form which betrays the "Arabic Influence" in certain details as will be shown. The Pythagorean tuning was also used by the 9th-century Muslim lutenist Ishāq al-Mauṣilī for the fret pattern on the "Old Arabian" oud, before Arabic musical style was mixed with Persian and Central Asian styles during the expansion of Islam. Most surprising and unsettling, the Pythagorean tuning is embedded subliminally in the Christian Myth itself: Judas Iscariot as the 13th member of the group is a bad apple, and his kiss of betrayal symbolically represents the Pythagorean comma as well as the Precession of the Equinoxes (Jesus is crucified at the Spring Equinox). For myself, a musician turned music theorist, historian and theologian, these last findings, which I owe to the great tuning theorist Ernest G. McClain, raised serious questions about the nature of Christianity itself, and by extension about the true nature of *all* of the surviving monotheist religions, which are, notably: Zoroastrianism, Judaism, Christianity, Islam — and Platonic Philosophy! which was the "religion" of Nicomachus and Ptolemy, with demonstrable thematic links to Gnosticism, Christianity, Islam and Judaism. This conundrum cannot be unraveled from within a religious perspective, which can lead only to sectarian dispute — one of the great evils of our time and of antiquity as well — and the entire subject must be treated from the point of view of rational atheism in order to avoid provoking this issue. To come to terms with the myths of medieval music theory, we must first come to terms with the myths of the Christian religion itself.

The monotheistic religions Zoroastrianism, Judaism, Islam and Christianity share themes which link them as a group. They have two agendas in common: the negative agenda of the elimination of polytheism, Goddess worship, promiscuity and human sacrifice, and the positive agenda of the institution of an abstract male God who is the Creator and Father, and who has the general planetary attributes of the Greek Zeus, Apollo and Chronos combined, and who does not have the planetary attributes of the Greek Hermes (Mercury), Aphrodite (Venus), Ares (Mars), or the Moon. Along with these comes a militaristic program: monotheism is to be spread by the sword, and non-believers are to be massacred. King Saul lost God's favor (*I Samuel 15:1-35*) for failing to comply with this order, and went insane. At about the time of the Babylonian Exile <sup>8</sup>, Zoroastrianism introduced two novelties: the idea of a Cosmic War between Good and Evil in which all righteous humans must participate in order to hasten the advent of the Day of God <sup>9</sup>, and the invention of a punitive hell to which sinners will be sent who do not support the divine agenda <sup>10</sup>. Structurally, it is easy to see that these religions have each had a specific political role to play at the times of their respective origins, and that the political purpose in each case was to bind together a particular group of diverse peoples inhabiting a particular geographic region which happened to be under military control at the time by uniting them in a common religion. The religious program may be an ad hoc invention to support the political program of the time, and

8. Campbell, *The Masks of God, Vol II: Oriental Mythology*, p 245-246.

9. *Ibid.*, p 7, 244.

- Campbell, *The Masks of God, Vol III: Occidental Mythology*, p 192.

10. Campbell, *The Masks of God, Vol III: Occidental Mythology*, p 197-200.

the theological differences between religions are to be explained as political litmus tests. The ad hoc invention of religious reasons for political necessities is revealed by the anecdote, both amusing and chilling, of Ghengis Khan's personal shaman, who "rode up to Heaven on a dapple gray horse" and returned to announce that the King of Heaven had appointed Ghengis Khan to be "his representative on earth."<sup>11</sup>

11. Hartog, *Ghengis Khan, Conqueror of the World*, p 32.

The religions of the Middle East are Pythagorean and Platonic. The Hebrews are excused by their antiquity from Platonic influence, but that Judaism has a Pythagorean core should surprise no one, because the Hebrews according to their own history had been exiled in *both* Egypt and Babylon, the two sources of Pythagorean thought. The Jews' own Babylonian Exile beginning in 597 BCE occurred at roughly the same time as Pythagoras's sojourns in Egypt and Babylon. Egypt and Babylon must have both influenced the religion and laws of the Jews.

Digressing to the numerology of Judaism, the 12 tribes are a stock Pythagorean motif, echoed in many examples of "twelve-ness" throughout ancient Mediterranean religion, mythology, chronology, astronomy and music theory. A continuing numerological thread of this motif is that the ten "Lost Tribes" who did not return from the exile are represented by 60 of the 72 translators who went to Alexandria, while the remnant who did return are represented by the remaining 12, again reconstituting the original number. The "lost" or "ghost" 60 represent the old Babylonian base-60 arithmetic, while the ubiquitous Precessional number 72 looks westward to Greek Pythagoreanism, based on the Egyptian Ogdoad as the ratio 9:8 and the musical Pythagorean Frame of ratio 12:9:8:6, and to Christianity's favorite number 144,000 (= 72 x 2 x 1000). The Old Testament is such a dense web of this type of numerology, as shown in antiquity by Philo Judaeus and in our time by Ernest G. McClain, as to prove its origin in the same Babylonian religious matrix as Greek Pythagoreanism, and later, Christianity.

The Jews were deported by the Persians in 597 BCE and returned two generations later, but the ten "Lost Tribes" had gone missing, and it appears likely that the Persians had meanwhile settled other peoples in Palestine, deported by the Persians from somewhere else. The Pythagorean motif of the "Twelve Tribes" is a prominent organizing feature of one of Plato's great works of political philosophy, the *Laws*. While the Hebrews are ancient enough to have given a model for the *Laws*, the account given by Josephus, of Ptolemy II Philadelphus (285-246 BC) calling the 72 Jewish elders down to Alexandria to translate the Hebrew Scriptures into Greek (and to "miraculously" harmonize their 72 different versions, possibly by making the difficult executive decisions necessary to negotiate the amalgamation of the Priestly and Yahwist accounts into a single narrative, which must have been a major political achievement), postdates the *Laws* by a century, and that episode may have presented an opportunity for political influence by Ptolemy II Philadelphus, the Greek

Pharaoh of Egypt, on Judea, at that time a border province of his own domain, emulating his predecessor Ptolemy I Soter's sponsorship of Serapism. As with Serapism and Christianity, the simple explanation is of political support by the current ruler to the dominant cult of the region by legitimizing it as the state religion. The Greek-educated Ptolemy may have seen in Judaism an already-working Pythagorean religious plan which only needed some benevolent political support, its scripture registered in the Alexandrian Library, to achieve political unity in the region. The *Torah* is a very powerful myth of antiquity, designed to bind a specific people to a specific geographical area and to produce an effective, ideologically united military: e.g. the Maccabees. The Romans demolished the Temple and deported the Jews, yet their myth, being written in an immortal Book, cannot die, and the Jews have risen again in our time and recaptured their ancestral holding, almost two millennia (one-twelfth of a Precessional cycle) after the *diaspora*. Judaism takes its *millennial holding power* from its written myth, and this fact was not missed by the Roman inventors of Christianity, who emulated Judaism by successfully creating another religion also built to last for two thousand years. It is not to our purpose to deconstruct Judaism any further here: our real interest is in deconstructing Christianity, but as similar themes are present in all three major Monotheisms, what applies to one applies to the others except for the political litmus test details of theology.

The fingerprints of Plato and of later Neoplatonic and Aristotelian philosophers are all over both Christianity and Islam. Plato's *Timaeus* provides one peculiar strand of Christian theology, and Neoplatonic philosophy is a major thread of medieval thought both Muslim and Christian. Plato had discussed the raw political task of implementing a state religion from scratch in the *Laws*. He had recognized that it doesn't matter *what* the religious program is: the basic political problem is to implement the program. He is frank: "The minds of the young can be convinced of anything," he says; "...so that [the legislator] has only to reflect and find out what belief will be of the greatest public advantage..."<sup>12</sup> One of the best laws a nation can have, he says, is the one prohibiting criticism of the law by young people; the laws are to be said to have come "from God."<sup>13</sup>

Islam, purged of polytheism, contains a purer strain of older Greek philosophy than is to be found in Christianity prior to Saint Thomas Aquinas — who borrowed elements of his theology directly from Al-Fārābī<sup>14</sup> as well as from Aristotle. Islam is good Pauline Christianity with the mythic polytheistic elements removed by Arabic theologians, and the obligatory political litmus tests inserted. The very reason for the existence of Islam is to be found in the theological absurdities of Christianity: the Virgin Birth, the Trinity, and the Dual Nature of Christ as both God and Man. These are the old polytheistic themes which were rejected by Islamic theologians. The myth of the origin of Christianity as the teachings of a Semitic desert holy man is betrayed by the eclectic ingredients of diverse older cults which are found to have been embedded in the rites and myths of Christianity, some of which I will detail below. One of those ingredients is Platonic Pythagoreanism with its associated "Pythagorean" tuning.

12. Plato, *Laws*  
663.

13. Plato, *Laws*  
634.

14. Hammond,  
*The Philosophy  
of Al-Fārābī and  
its Influence on  
Medieval  
Thought*  
(Hobson Book  
Press, NY  
1947)

Christianity was co-opted and politicized into an Imperial cult by the Emperor Constantine in the 4th century CE, and in this process the major cults of the late Roman Empire were amalgamated into one nominal "Catholic" faith under Imperial control. Earlier Christianity in all its colorful Gnostic variability was consumed and engulfed by this new political hybrid along with several other ancient cults of which traces are clearly visible in the Christian myth and rite. Some of the major themes of Christianity which are borrowed from other religions are sketched below. Now, I am aware that every word of this broad-brush picture may be refuted by volumes of theological and historical quibbling. But from my perspective, the contradictory teachings and questionable historicity of the New Testament are guaranteed to mire sincere intellectuals in the mud of theological dispute and to keep them inside the box. Imperial impatience with the impossibility of negotiating any theological concensus out of the enforced amalgamation of so many warring sects led to the use of a trump card, Faith over Reason. Christians must surrender reason; all theological argument is toward that purpose, and is therefore absurd. (At least the Jews are allowed to argue!) As a (nominal) materialist atheist, I am able to stand outside that box and look at the big picture, and I ask: just what is this theological amalgam that is called Christianity?

**1. Judaism.** Since the Jewish military had been destroyed, the Temple demolished and the Jews deported, the Roman inventors of Christianity considered themselves at liberty to claim (three centuries later) that Christianity was the "New Covenant" and to freely incorporate elements of Judaism and even make the Saviour a Jew by birth, clearly hoping to displace Judaism entirely. This may be readily compared to the 20th-century American promotion of "wise old Indian" teachers — *after* the destruction and neutralization of Native American culture. Since the real Jewish Saviour should have been a military hero, Jesus Christ is a counterfeit in Jewish terms. He represents a Roman attempt to co-opt and redirect Judaism by promoting the Judaeo-Christian splinter group over Judaism itself. Throughout the Gospels, Old Testament prophecies are cited as having been fulfilled; this is also to defuse Judaism. The importance of Judaism as a political force in the Empire for centuries after the diaspora is suggested by how much of Christianity is devoted to trying to absorb it. However, one major element of Christianity that does not come from Judaism is the theme of human sacrifice and cannibalism which is implicit in the Christian Communion. An admirable virtue of Judaism is its rejection of human sacrifice in the myth of Abraham and Isaac, and in its admonition to the Jews (*Leviticus 18:21*) that they are not to sacrifice children to Moloch (the God to whom the Carthaginians sacrificed their first-born children). So what are the human sacrifice and cannibalism themes doing in the Christian myth? Those are inherited from several other ancient religions. Cannibalism is as old as the Neanderthals <sup>15</sup> and was practiced in New Guinea into modern times <sup>16</sup>,

15. Campbell, *The Masks of God, Vol I: Primitive Mythology*, p 373, 394-395.

16. *Ibid.*, p 170-171, 373, 394.

17. *Ibid.*, p 137, 222-224, 152-159, 405-410, 419.  
 - *New Col. Ency.*, **cannibalism**, p 443
18. Wasson *et al.*, *The Road to Eleusis*.
19. Campbell, *The Masks of God, Vol II, Oriental Mythology*, p 47;  
 - *Vol III, Occidental Mythology*, p 27, 235.
20. Graves, *The White Goddess*, p 40.
21. Campbell, *The Masks of God, Vol I: Primitive Mythology*, p 185.
22. *Ibid.*, p 161, citing:  
 - Diodorus Siculus, *Bibliotheca historica* III.5-6.
23. *Ibid.*, p 420-421.
24. Campbell, *The Masks of God, Vol III: Occidental Mythology*, p 323-324.
25. Campbell, *The Masks of God, Vol I: Primitive Mythology*, p 139-140.

and in the case of tribes who eat their own dead, it is a religious rite. Cannibalism and human sacrifice have been religious rites in many parts of the world <sup>17</sup>, notably among the Aztecs of pre-Hispanic Mexico, who killed and ate the young warriors of subject tribes as a means of population control, offering their living hearts to the Gods by the thousands to make sure that the sun would rise.

**2. The Eleusinian Mysteries.** The Mysteries are believed by some (following Gordon Wasson <sup>18</sup>) to have featured an ergot-based psychedelic potion. Washing a psychedelic wafer down with a sip of wine would move it into the bloodstream faster. This also appears to echo the rites of Dionysus (another dead and resurrected God <sup>19</sup>): a mushroom cap and a glass of wine leading to ecstasy <sup>20</sup>. The colored windows, cathedral acoustics, and heavenly music of Christianity add up to a reasonable illusion of a psychedelic experience of God, but the Christian communion wafer is disappointingly a fake — a placebo, as anyone can laughingly attest who has ever taken a *real* psychedelic drug. Early Christianity was able to advertise, "yes, we have the wafer!" and perhaps they really did have it instead of the later fake, who knows? <sup>21</sup> but the real Eleusinian Mysteries were suppressed by the Emperor Theodosius in 392 CE, not too long after the adoption of Christianity as the state religion.

**3. The Sacrificed Son and Lover of the Goddess.** The old Goddess myths included a God, Adonis in the case of Venus and Adonis, but with many names and variants, who was both the Son and Lover of the Goddess, and whose human representative might be sacrificed on an annual basis, or every seven years, or on some other astrological basis. The myths associated with the rise of the Patriarchy, recounted by Campbell, include Diodorus's account of an Ethiopian king of the 3rd century BCE who "having had a Greek education" refused to be sacrificed when his termination of office was announced by the priests, and who called his soldiers and massacred the priests instead <sup>22</sup>. But in Africa, kings were ritually murdered by their priests, at the end of their astrological terms, right up into the 19th century <sup>23</sup>. Goddess worship had intruded into Roman politics with the controversial importation of the goddess Cybele in 204 BCE <sup>24</sup>. The Goddess, officially banished from Christianity, pops up loud and clear as the Virgin Mary, who has the attributes of Isis and other Goddesses: Mother of the Cosmos, Star of the Sea, Mother of both the Infant God and the Dying God <sup>25</sup>. The symbolic cannibal feast of the dead God's body and blood overlaps with the Eleusinian communion. The Triple Goddess — Virgin, Matron and Crone — is masculinized into the Trinity of Father, Son and Holy Ghost.

**4. Sol Invictus and Mithras.** These were two military cults of the Roman soldiers, both incorporating astrological themes. The image of Sol Invictus ("The Undeclared Sun God") is the model for the icon of Christ with his halo <sup>26</sup>. The cult of Mithras, originally Persian and possibly dating from the Age of Taurus, featured the sacrifice of a bull, in whose blood the initiate was bathed <sup>27</sup>. This was updated in Christianity to "washed in the blood of the lamb." Astrologically,



the Lamb of God is being sacrificed as the New World Age of Pisces dawns and the Age of Aries wanes. The metaphor is of Aries being "on the altar" at the Spring Equinox sunrise, consumed in the sacrificial light of the rising sun and replaced by the new rising sign, Pisces. Christ, the Lamb of God, is crucified on the equinox at the crossing of the ecliptic and the celestial equator.

**5. Isis and Osiris.** The Serapic religion of Isis and Osiris was perhaps mandated, but at the very least supported, by Ptolemy I Soter<sup>28</sup>, a new hybrid religion cobbled together from scraps of older Egyptian cults for the apparent purpose of the renovation of Egyptian religion after Alexander, and which was later suppressed under Christianity but only after thriving for *seven hundred years* — (in case any reader is in doubt that the successful religions of late antiquity as a class were political creations, not mass movements begun by crazed desert prophets in white robes). The worship of Isis spread all over Europe in late antiquity<sup>29</sup> and she appears even today in what was ancient Occitan, as the "Black Virgin" to whom pilgrimages are made. Isis is identified with Sirius<sup>30</sup>, a bright star near the constellation Orion, which in turn is identified with Osiris (and whose belt stars are the "Three Magi" of Matthew's Christmas story.) The Virgin Mary as "Star of the Sea" is Isis under another name; "Mary" means "Ocean [Goddess]". The myth of Isis, Osiris, Seth and Horus is a deep and complex myth with astronomical metaphors embedded. Jesus is analogous to Horus, the son of Isis and Osiris. The worship of the Virgin Mary (e.g. the *Cantigas de Sancta Maria* of King Alfonso) was a major thread of medieval Christianity, and it appears that her cult was a continuation of the worship of Isis in late antiquity, which was too widespread to be successfully repressed.

**6. Christmas and Easter.** Jesus is born at the Winter Solstice and crucified at the Spring Equinox, clearly an astronomical myth of the same class as many others described in *Hamlet's Mill* and to be found throughout Campbell's *The Masks of God*. If the Christian Myth is a "true" myth, then it should be possible to show that it follows the "rules" postulated by the authors of *Hamlet's Mill*, as follows: stars and constellations are represented by animals, planets as Gods, and celestial coordinates as "terrestrial" locations. William Sullivan, in *Secret of the Incas*, has shown that this code was used in Peru and elsewhere to encode dates of significant Precessional events in colorful myths involving animal characters. Extrapolating from Sullivan's findings of specific dates encoded in Andean myth<sup>31</sup>, the Christian myths of the Nativity and Crucifixion should be found to work together to pinpoint a particular date significant in late antiquity, which logically should be the cusp of the Age of Pisces, but could possibly reveal some other date on analysis, such as the 4th century CE when Christianity was actually instituted as the Roman Imperial religion. That is, this could be so *if* the Christian Myth is a "true" myth, which is by no means certain: it could be, at worst, a cobbled-up *imitation* of a true myth which in fact makes no sense because the original content has been lost, which might be possible considering that the Christians did not practice systematic astronomical observation and that observation had clearly been on the decline in late antiquity, as shown by Hip-

26. Freeman, *The Closing of the Western Mind*, p 156-157, 160-161.

27. Campbell, *The Masks of God, Vol III: Occidental Mythology*, p 260.

28. <https://www.britannica.com/topic/Serapis> [accessed 08-11-2024].

29. Campbell, *The Masks of God, Vol III: Occidental Mythology*, p 473.

- <https://www.britannica.com/topic/Isis-Egyptian-goddess> [accessed 08-11-2024]: "Isis was worshipped from England to Afghanistan."

30. Campbell, *opus cit.*, p 339.

31. Sullivan, *The Secret of the Incas*, Chapter Three.

parchus's faulty estimate of the speed of the Precession, born of a lack of accurate legacy observation data. All the same, it would have been irresponsible of the theologians of the time not to attempt a "True Myth" according to their understanding. My own understanding of the mechanics of astronomy and of the Precession is too weak to untangle the symbolism precisely. However, it is certain that a number of identifiable astrological symbols are present in both myths, the Nativity and the Crucifixion. The cattle and sheep of the Nativity represent the constellations of Aries and Taurus, the old locations of the Spring Equinox before it moved into Pisces (conflating aspects of the two myths). The Three Magi are traditionally associated with the three belt stars of Orion, which is in the same region of the sky as Taurus, the Pleiades, and Sirius, who is Isis and (by extension) the Virgin Mary. The Star of Bethlehem has never been definitely identified, but it rose in the sky before Orion, so that the Wise Men "coming from the East" followed it in the predawn rising sequence. The mythological purpose of the Star, perhaps a conjunction of Saturn and Jupiter (which conjoin in an 800-year cycle), may be to identify precisely the timing of the Equinox sunrise at the cusp of Aries and Pisces, which might have been pegged anywhere within about a forty year window because of the glacial slowness of the Precession. The AD / CE date count is a date count of the Greco-Babylonian Age of Pisces.

32. The Stations of the Cross were revised by Pope John Paul II in 1991 so that Jesus dies at the 13th Station instead! If it were not so ludicrous, we might think that the Pope had decided to play for the other team.

- [https://catholic-resources.org/ChurchDocs/Stations\\_of\\_the\\_Cross.htm](https://catholic-resources.org/ChurchDocs/Stations_of_the_Cross.htm)

- [https://en.wikipedia.org/wiki/Stations\\_of\\_the\\_Cross#Scriptural\\_form](https://en.wikipedia.org/wiki/Stations_of_the_Cross#Scriptural_form)

[both accessed 12-04-2024]

33. Campbell, *The Masks of God, Vol III: Occidental Mythology*, p 138.

Christianity also imposes an Easter rite designed to overlay and replace the Jewish Passover, and here unfolds the Precessional myth of Christ dying on the Cross of Time at its "Twelfth Station," after his ceremonial tour of the Zodiac on the way to Calvary<sup>32</sup>. The Cross of Time is the celestial location (there are two, one in spring and one in autumn) where the ecliptic and the celestial equator cross at the point of the equinoctial sunrise. Christ is accompanied, as are King Arthur and Beowulf, by Twelve Companions representing the Zodiac, but with the novel Christian addition that Judas, number thirteen, reflects the Pythagorean tuning. The Triple Goddess is present at the crucifixion as *The Three Maries*. (Campbell points out that Passover had itself replaced the older Spring Equinox celebration of the annual resurrection of Adonis<sup>33</sup> — so, clearly, that celebration was also intended to be amalgamated into the Christian Easter. The original Easter, *≈ estros*, was a Spring fertility rite.)

**7. Numerological and musical content:** Christianity, bizarrely, includes its own proprietary tuning system embedded in it subliminally. This is the so-called Pythagorean tuning, which was — according to Plato's fantastical myth in the *Timaeus* — embedded by God in the structure of the Cosmos as He created it, and of which our Equal Temperament is only a minor modification. The explanation of this, in a way, is the entire subject of Volume One of the present work, and is the reason for all of this emphasis on the history of religion. The tuning system which we use today in the West, and which has infected most of the world carried by the modern global economy, is contained in and endorsed by Christianity (it should be understood that Equal Temperament is the direct offspring of, and spiritual heir to, the Pythagorean tuning). This is only one aspect of the multi-faceted and all-inclusive construction of the Christian

religion, but it is by no means insignificant for the history of music. The reason for its inclusion is that the myth elaborated in Plato's *Timaeus* (c. 360 BCE) was current among intellectuals of the early Empire, among whom were notably Nicomachus and Claudius Ptolemy, two major sources of imperial-era and medieval music theory. The *Timaeus* contains the earliest extant account of the Pythagorean tuning, in a context of the "Music of the Spheres," and it was taken so seriously by imperial-era intellectuals that it was included in the new religion as one of its components, although its placement is subliminal. The Pythagorean tuning is not just a simple formula: it is an entire mythic complex dating back to a time when Pythagoreanism was a genuine cult in several Greek cities in southern Italy, with its own particular cultish litmus tests — Pythagoreans were vegetarian but eschewed beans, and were sworn to secrecy. That the Pythagorean Tuning is placed subliminally in the Christian Myth is an echo of the practice of Plato himself, whose works contain a virtual ocean of subliminal numerology. The Pythagorean Comma is mythologized in Christianity as the Kiss of Judas, which also represents the Precession.

8. The last point to mention about Christianity is that in the institution of **Confession**, the Christians invented the greatest domestic intelligence-gathering device of all time, not to be equalled until the invention of electronic communications. This fact is relevant in considering that if a medieval Christian were to be heard to utter a heresy even in the most casual circumstances, a mechanism was in place by which the local priest would find out within a week, the bishop within a month, and the Pope shortly after that, given travel time. Medieval theologians and music theorists had to be very circumspect; Christianity in its full power was totalitarian and intended to be so.

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The necessarily hypothetical story of the development of the most ancient tonal systems, told in Book One, **Overtones**, places the (theoretical) origin of those ancient systems earlier than the origin and rise of the theory of the "Music of the Spheres," and continuing parallel to it in areas where the Pythagorean influence was not dominant. Although Kathleen Schlesinger does not belabor this point in the theory which she developed in *The Greek Aulos*, the *harmoniae*, or "modes," which she describes may have been (as a matter of historical logic) associated with the older, pre-Olympian layers of the Greek religion which are described by Jane Hamilton in *Prolegomena to the Study of Greek Religion* (1908). The later Olympian religion is distinctly more Patriarchal, and its twelve gods are a typical motif of the Old World star religions, and it is from these later Greeks that we have inherited our twelve semitones.

The invention of the Music of the Spheres, and the later institution of the Christian religion and its incorporation of the Pythagorean tuning, are recounted in Book Two, **Tunings**. The development of medieval European Christian music theory, with the origin of the Church Modes and the Gamut, is told in Book Three, **Frets**, and takes place against the backdrop of the medieval competition between Islam

and Christianity. Book Four, on **Modes**, is a description of the mature 8-mode system as we find it at the beginning of the 16th century, before the introduction of the 12-mode system. As TSM and the vihuelists all used the 8-mode system, the 12-mode system of Glarean and Zarlino is treated only peripherally.

After that, we will proceed to the study of counterpoint, the original — and final — purpose of this work. Volume II is entirely devoted to different aspects of fingerboard harmony in four real parts. Thomás de Sancta Maria's teachings on harmony are quite thorough, and may represent 16th-century harmony as the first unit of an historical study of harmony, which might then proceed to Figured Bass, Functional Harmony, and Jazz Harmony. I have abridged TSM's material on *Playing in Consonances* and on *Cadences*, where I have omitted as many as a third of his examples, those which definitely exceed the range of even an eight-course guitar or lute because the voices are too far apart on TSM's keyboard. Since he gives many similar examples in close voicings which are playable, there is nothing lost that is useful for our purpose, and I have included many examples that are unplayable anyway, for illustration. Volume III is entirely devoted to Fugue, and consists primarily of translations and transcriptions of TSM's own text and examples, with a certain amount of commentary which I hope will not be found impertinent. It was not necessary to abridge TSM's teachings on fugue, because there his voice leading is very compact and disciplined, and usually adheres strictly to the modal ranges, so that most of the fugues are possible on eight courses, and many, not all, are adaptable to six courses. As the vihuelistas show us, these techniques may be used on four, five or six courses.

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Final note, Wednesday December 4th 2024:

How many times have I written a "final note?" Once again, this work must be finished now, although it is in many respects unfinished, because I have other projects which beg my attention. My research is incomplete, and the knowledgeable reader will recognize this, but in my eighth decade I can no longer count on unlimited time. As I re-read my sources, I find many details of interest which could have been included, the significance of which had escaped me until I had developed this material. However, I have to draw the line and finish the work. Here I apologize for the many loose ends, the probable errors (which I hope are few, but undoubtedly there may be some), my *non-sequiturs* as I fill in pieces of the big picture, and for an excess of material and several redundancies by which I emphasize or repeat points that I consider important. The material that I have assembled is here: the reader may judge. I sincerely hope that a few musicians in the world may find this work useful. Please don't forget to read and study Book Five before playing the fugues.

JZ