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JUBAL VEL PYTHAGORAS, QUIS SIT INVENTOR MUSICAE?

By JAMES W. MCKINNON

WHAT HAS Athens to do with Jerusalem? what is there in common between the Academy and the Church, between heretics and Christians? Thus thundered the third-century Church Father Tertullian, proclaiming what is possibly the most basic con-

This study was originally presented at the November, 1974, meeting of the American Musicological Society, Washington, D.C. It aspires to convey historiographic meaning on at least three levels. The first is the surface one which purports to shed light on the development of musicology by surveying the principal issue of the discipline's pre-history: whether Jubal or Pythagoras holds priority as discoverer of music. Secondly, it conveys echoes of certain famous historiographic theses from earlier in our century, such as those advanced in Carl Lotus Becker's *The Heavenly City of the 18th-Century Philosophers* and Charles Homer Haskin's *The Renaissance of the 12th Century*; these have been absorbed and appropriately qualified within general historiography, but have yet to run their course in musical historiography. Finally the essay reintroduces the generalization, even the hyperbole, of a mode of musicological presentation long since unfashionable; it does so in trepidation of potentially offending specialists, but confident that certain legitimate historical concerns will otherwise go unexpressed.

¹ *De praescriptione haereticorum* vii, ed. Migne, *Patrologiae Cursus Completus: Series Latina*, II (Paris, 1844), col. 20. Subsequently the Migne edition will be abbreviated *PL* for the Latin series and *PG* for the Greek.

For the sake of convenience the practice will be followed here of citing standard series of texts such as those of Migne, Gerbert, and Coussemaker, unless more recent editions differ from them significantly.

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flict in Western thought: the conflict between Greek reason and Judaeo-Christian faith. We might expect that Tertullian's ecclesiastical descendants, the medieval musical theorists, will echo his position when they discuss the two principal claimants to the title of the inventor of music: the Bible's Jubal and the Greeks' Pythagoras. The respective cases of each are based on Genesis 4:21, which cites Jubal as "the father of them that play upon the harp and the organ,"² and the Greek legend, which tells of Pythagoras' discovery of the musical proportions from the sounds produced by a blacksmith's hammers.³

However, most of the earlier theorists do not favor Jubal; rather they profess a curious neutrality succinctly expressed by Isidore: "Moses says Tubal, of the family of Cain before the flood, was the inventor of music; but the Greeks say Pythagoras. . . ."⁴ Indeed this explicit neutrality is belied by an implicit prejudice for Pythagoras. Of the nine published theorists who discuss the discovery of music, ranging from the fifth-century Boethius to the thirteenth-century Engelbert, only three, Isidore, Aurelian, and Johannes Affligemensis, cite Jubal, and they do so in brief, perfunctory fashion. All nine, on the other hand, cite Pythagoras, and, with the exception of Cassiodorus and Isidore, dwell at some length on the implications of his discoveries in the fabled smithy.⁵

² "pater canentium cithara et organo" according to the Vulgate, the relevant text for our purposes; the original meaning of the Hebrew instrumental terms, a matter of interest to present-day organologists, is not a concern of the medieval authors.

³ The legend, from its earliest extant appearance in Nichomachos of Gerasa to the late Middle Ages, is surveyed by Hans Oppermann, "Eine Pythagoraslegende," *Bonner Jahrbücher*, CXXX (1925), 284-301. There are two other excellent studies which deal broadly with both the Pythagoras and Jubal legends: Paul E. Beichner, *The Medieval Representative of Music, Jubal or Tubalcain?*, Texts and Studies in the History of Medieval Education, No. 2, The Medieval Institute, University of Notre Dame (Notre Dame, Indiana, 1954); and Judith Cohen, "Jubal in the Middle Ages," *Yuval: Studies of the Jewish Music Research Centre*, ed. Israel Adler and Bathja Bayer, III (Jerusalem, 1974), 83-99. The historiographic observations of Cohen are very similar to those made here.

⁴ *Sententiae de musica* II, ed. M. Gerbert, *Scriptorum Ecclesiastici de Musica Sacra Potissimum* (hereafter, Gerbert), 3 vols. (St. Blaise Abbey, 1784), I, 20. The appearance of the name Tubal seems simply a variant spelling of Jubal; however, the eventual introduction into musical writings of Jubal's biblical half-brother Tubalcain will create genuine confusion among authors. Beichner's study, cited above, dwells upon this confusion.

⁵ All, with the exception of Boethius, *De musica* I, 10, PL 63, col. 1176-77, appear in Gerbert: Cassiodorus, *Institutiones musicae*, I, 15; Isidore, *Sententiae de musicae*, I, 20; Aurelian Reomensis, *Musica disciplina*, I, 31-32; Regino Prumiensis, *De har-*

This surprising contradiction of Tertullian's position is explained at least partially by the circumstance that these Christian luminaries write of music as one of the four mathematical disciplines of the *quadrivium*; in such a context one might say that Jubal appears as a Hebraic interloper among the Hellenes. There is also the more specific circumstance that several of them follow the authority of Boethius, who spoke only of Pythagoras. Then, too, Tertullian's outburst is not entirely typical of the early Christian attitude toward Greek learning; many of the dominant figures of the patristic period, men like Clement of Alexandria, John Chrysostom, and Augustine, worked out an accommodation with classical erudition, for after all, what other erudition was there? Still, they were united with Tertullian in a more fundamental sense: they were at war with Greco-Roman paganism, and in accepting the compromise which Tertullian refused they fashioned highly partisan rationalizations, such as whatever truth there was in Plato's writings derived from the wisdom of Moses.⁶ It is unthinkable that they would have preferred the testimony of the Greeks to the authority of Scripture, and the ease with which their spiritual descendants, the medieval ecclesiastical writers on music, seem to have done so stands in need of further explanation.

However, that task will be better performed after considering the second phase of the medieval evidence, the abrupt shift in favor of Jubal taken by several theorists of the High Middle Ages: the thirteenth-century Franciscan Aegidius Zamorensis leads the way, followed by the early fourteenth-century Jacques de Liège, and the author of the *Summa musicae* attributed by Gerbert to Johannes de Muris.

Aegidius recounts the standard tale of Pythagoras' discoveries, but then declares:

Assuming . . . that the philosopher Pythagoras with his lively ingenuity did discover something of this art, he was nevertheless not its first discoverer or author. As we have it through Hebraic truth, from the divinely inspired chronicles, in the fourth chapter of *Genesis*, and from a gloss on the passage, and from Rhabanus, and Josephus the outstanding writer of history, and the Scholastic

monica institutione, I, 239-40; Guido d'Arczzo, *Micrologus*, II, 23-24; Theogerus, *Musica*, II, 183; Johannes Cottonis (now Affligemensis), *Musica*, II, 233-34; Engelbertus Abbas Admontensis, *De musica*, II, 305-306.

⁶ See, for example, Clement of Alexandria, *Stromata* V, xii.

History.⁷ Tubal the son of Lamech by his wife Ada, was the father of those who play upon cithara and organ, but not the instruments themselves which were invented long afterwards. He was first and foremost to discover the proportions and consonances of music, so that the work of the shepherd, which is burdensome and attenuating for the body with its nightly watches, its labors and anxieties, might be turned into pleasure.⁸

Thus Aegidius, citing a complex historical tradition, reassigns Pythagoras' discovery to Jubal. Then he narrates the curious apocryphal story of the two pillars:

Therefore since Jubal had heard that Adam had prophesied concerning two judgments, of which the first was through water and the second through fire, lest the knowledge of music discovered by him perish, he carefully inscribed it on two columns, thereby transmitting in writing the principles of this knowledge. One of the columns was marble, which would not be dissolved in a flood; the other of brick, which would not be destroyed by fire or flame. The marble one indeed, according to Josephus, was afterwards discovered in Syria.⁹

Aegidius continues at some length, and rather than quote him in full three additional points will be extracted, the first of which, involving the blacksmith theme, is possibly the crux of his narrative. He reminds us that the very next verse, Genesis 4:22, tells us of his half-brother Tubalcain "who was a hammerer in every work of brass and iron," in short, the proto-blacksmith just as Jubal was the proto-musician. Jubal could scarcely forego such an opportunity and, "delighted by the sound of the hammers, as we have it in the Scholastic History, he cleverly deduced from their weights the proportions and consonances arising from them . . . which discovery the Greeks fictitiously attributed to Pythagoras."¹⁰

The second point is probably the most basic from a historiographic point of view. It is clear from the narrative of Aegidius as a whole that he does not wish to set up Jubal as a discoverer of music

⁷ Aegidius has the plural, *historiis scholasticis*, here as well as below (cf. n. 10), but surely he refers to one work: Peter Comestor's *Historia scholastica*, from which his own narrative is derived. Jacques de Liège will cite Peter by name, *Speculum musicae* I, vi, ed. Roger Bragard, *Corpus Scriptorum de Musica* (Rome, 1955-1973) 3, I, 26.

⁸ Gerbert, II, 371-72.

⁹ Gerbert, II, 372. According to Josephus it was not Jubal himself, but the family of Seth which inscribed the pillars; for the history of the confusion see Cohen, "Jubal . . .", pp. 86-92.

¹⁰ Gerbert, II, 372. The word *fabulose*, translated here "fictitiously," does not seem to indicate moral disapproval; rather it probably means much the same as the English word "fabulously" when used in its proper sense of referring to marvelous tales and fables.

to the exclusion of Pythagoras, but rather to establish his priority in time. Chronology is the central consideration, and Aegidius goes on to cite numerous subsequent savants, with Greeks predominating, who added to the body of musical knowledge. Indeed he goes so far as to proclaim explicitly a theory of progress centuries before many historians would allow him to,¹¹ saying, "the younger, the greater the insight, as is manifest in the more ancient philosophers, then in Socrates, then in Plato, and finally in Aristotle."¹²

The third point, incidental when compared to the preceding, has to do with the part that the observation of nature has in musical discovery. Aegidius tells us of various post-Jubal authors who describe musical observations derived from the song of birds, especially the nightingale, the nocturnal whispering of wind in the forest, and other natural phenomena.¹³ This seemingly romantic theme, in all probability derived from uncited Roman poets, will become a commonplace of post-Renaissance music history.

Jacques de Liège and the Pseudo-Johannes de Muris recapitulate the views of Aegidius, modifying them only in detail. Jacques, for example, wishing to specify Pythagoras' contribution to the progress of musical knowledge and no longer able to attribute the discovery of the consonances to him, suggests that "perhaps he invented some new instruments which did not exist before."¹⁴ thus creating an ironic

¹¹ For many decades historians followed the lead of J. B. Bury's classic, *The Idea of Progress: An Enquiry into Its Growth and Origin* (London, 1920), which establishes the conception as the product of the Enlightenment, explicitly excluding the Middle Ages from any share in its development. On the other hand, W. Warren Wager, in "Modern Views of the Origins of the Idea of Progress," *Journal of the History of Ideas*, XXVIII (1967), 55-70, describes the "new orthodoxy" of the post-World War II period, replacing Bury's position. Briefly, the new orthodoxy, presaged by Carl Becker and Christopher Dawson, and established by a series of thinkers, including Reinhold Niebuhr, John Baillie, and Emile Brunner, sees the idea of progress as a secularized offspring, indeed a bastard offspring, of the optimistic strain in Christian eschatology. Aegidius' statement, while having more in common with the new position than the old, is actually quite different from both. It contradicts Bury in that it is an incontestable medieval expression of the idea, and differs from the new orthodoxy in that it is non-theologically motivated. The explanation for this is implicit in the splendidly documented study of Johannes Spörl: "Das Alte und Neue im Mittelalter," *Historisches Jahrbuch*, L (1930), 297-341, 498-524, which shows the idea to be present in isolated fields of endeavor during the twelfth and thirteenth centuries, but not as an over-all world view in the eighteenth- and nineteenth-century manner.

¹² Gerbert, II, 373.

¹³ Gerbert, II, 372-73.

¹⁴ *Speculum musicae*, Bragard, *op. cit.*, I, 26.

change of roles with Jubal. Pseudo-Johannes embellishes the "idea of progress" with a vivid, if not gracefully expressed, metaphor: "In this manner," he writes, "from a brook of the highest spring, through the collection of waters, there comes into being the ship-bearing river."¹⁵ The most significant variation comes when Jacques extends Aegidius' embryonic history beyond antiquity and the Old Testament into the Christian era: he cites Guido's contributions to chant and those of Lambertus and Franco to mensural music.¹⁶

It is true that not all contemporary theorists maintain the new doctrine. Some like the thirteenth-century Lambertus¹⁷ and Jerome of Moravia¹⁸ seem unaware of it and maintain the traditional position even if expressed in the new intellectualist language we should expect from Dominican scholastics. The early fourteenth-century Walter Odington, however, is aware of it and takes the interesting step of denying it explicitly:

Granted that through the histories we know Jubal to be the first to practice music, Pythagoras nevertheless was the first to measure consonances by weights, and he left to posterity the findings of precise reason.¹⁹

He presages the position of eighteenth-century writers like Gerbert and Hawkins, who with all due respect to the historical tradition are constrained to associate the rationalization of musical discovery with a Greek.

It is now time to take stock and consider the historiographic

¹⁵ *Summa musicae*, Gerbert, III, 194. This treatise does not cite the involvement of Tubalcain, but does place Jubal first for reasons of chronology. The author, writing sometime between 1274 and 1313, is unknown; see Ulrich Michels, *Die Musiktraktate des Johannes de Muris*. Beihefte zum Archiv für Musikwissenschaft, VIII (Wiesbaden, 1970), 16-17.

¹⁶ Bragard, *op. cit.*, I, 27. The Pseudo-Simon Tunstede also includes Guido and Franco, but does not follow Aegidius in asserting the priority of Jubal, *Quatuor principalia musicae*, ed. E. de Coussemaker, *Scriptorum de Musica Medii Aevi* . . . (hereafter, Coussemaker), 4 vols. (Paris, 1864-76), IV, 206-7.

¹⁷ *Tractatus de musica*, Coussemaker, I, 253-54.

¹⁸ *Tractatus de musica*, Coussemaker, I, 6-7. Others maintaining the traditional position are Johannes de Muris, Gerbert, III, 249; Marchettus de Padua, Gerbert, III, 65-66; and Johannes Kekius, Gerbert, III, 322.

¹⁹ *De speculatione musicae* ii, Coussemaker, I, 193. Odington must certainly refer here (*per historias*) either to Peter Comestor or at least the tradition of historical commentary on Scripture commencing with Josephus and culminating in Peter: were he simply repeating the standard reference to Jubal from the *ars musica* tradition, he would cite Moses or Genesis rather than the *historiae*. Moreover, in an earlier passage he displays knowledge of Comestor when he writes: ". . . thus say those who think that Jubal, the son of Lamech, was the inventor of this science." *ibid.* I, p. 192.

significance of Aegidius' position. What he writes results from the coming together for the first time of two venerable medieval literary traditions: that of *ars musica* and that of universal history.²⁰ What is the latter? Aegidius gives us a succinct summary of it when, as his source for the Jubal story, he cites Genesis, a gloss on it, Josephus, Rabanus, and the scholastic history. It begins with the Old Testament, which contains a superb series of historical works, organized into a canon by the historically conscious Jews of the last centuries before Christ. Josephus, the first-century A.D. Jewish historian, sets the pattern for subsequent universal history in his *Antiquitates Judaicae*, a commentary, in the broad sense, on the Old Testament. Eusebius of Caesarea extends the tradition in his *Chronikoi kanones* (ca. 303) and *Historia ecclesiastica* (ca. 303-325); he does so chronologically to include the Christian church and outwardly to include the Gentiles. A device he employs in the latter is the drawing up of parallel chronological tables comparing biblical-Christian with Chaldean, Greek, Roman, and Egyptian history.²¹ Another significant

²⁰ It should be emphasized that this essay is concerned only with the tradition of universal history; much of what is said will not apply to other medieval historical genres such as hagiography, chronicles, royal biography, and works of travel and conquest.

The literature on medieval historiography is far from satisfactory. The two standard English-language surveys, James W. Thompson, *A History of Historical Writing* (New York, 1942), and especially Harry E. Barnes, *A History of Historical Writing* (Norman, Okla., 1938), are lacking in elementary insight, sympathy, and synthetic ability. Of the two famous interpretative essays, Benedetto Croce's, *Theory and History of Historiography* (1917), trans. D. Ainslee (London, 1921), and R. G. Collingwood's *The Idea of History* (Oxford, 1946), the latter strikes the present author as both more cogent and less remote from the primary sources. There are at least two recent works of broad scope by professional historiographers, but they touch only indirectly on issues relevant to this essay: William J. Brandt, *The Shape of Medieval History* (New Haven, 1966), and Benoit Lacroix, *L'Histoire au Moyen Age* (Montreal, 1971). One hoped the need would be supplied in the recent survey by the eminent medievalist Beryl Smalley, *Historians in the Middle Ages* (London, 1974), but rather than a standard work like her *The Study of the Bible in the Middle Ages* (Oxford, 1952), we have the product of a curious editorial decision to publish a popular book on a subject of interest only to professionals.

Some of the most lucid pages on medieval universal history appear in Eva Matthews Sanford, "The Study of Ancient History in the Middle Ages," *The Journal of the History of Ideas*, V (1944), 21-43; and especially the chapter, "The Historical Tradition," in Jean Seznec's classic *The Survival of the Pagan Gods* (1940), trans. Barbara F. Sessions (New York, 1953). Once again we are reminded of the overwhelming contribution to cultural history of the Warburg-related iconographers.

²¹ Actually, Eusebius' works influenced Western historiography by way of subsequent Latin revisions: Jerome's of the *Chronikoi*, updating it to 378, and Rufinus' of the *Historia*, updating it to 395.

step is taken by Augustine when, in his *De civitate Dei* (413-26), he establishes the scheme of periodization which was to endure for more than a millennium: he distinguishes six periods — from Adam to the flood; from the flood to Abraham (Moses, in some authors); from Moses to David; from David to the Babylonian captivity; from the captivity to Christ (more precisely John the Baptist); and from Christ to the present.²² Augustine's profound interpretative concerns are by and large lost on medieval historians, who are content to use his framework, actually deriving it from the *Historiae adversus paganos* (418) of his popularizer Orosius. The tradition of universal history is maintained in the Middle Ages by authors such as Isidore and Rabanus, culminating finally in Peter Comestor's *Historia scholastica*, or simply *Historiae* (ca. 1173), a required textbook in thirteenth-century Paris²³ and the direct source of the Jubal-Pythagoras doctrine of Aegidius and Jacques de Liège.²⁴ Comestor, incidentally, fails to extend his history into the Middle Ages, displaying the ambiguous attitude toward later history which is still present in Padre Martini, but the vast compilation of the Dominican Vincent of Beauvais, the *Mirror historiale*, works its way up to the year 1244.²⁵ Peter's and Vincent's collections are immensely influential and continue to be copied, translated, and eventually printed for the next four centuries.

²² There are other standard medieval schemes of periodization, most notably that of the four kingdoms, deriving from interpretations of the four beasts from Daniel 7. Though obsolete, it is still maintained by some political historians of the seventeenth century, but fails to exert much influence on music history. For a summary explanation, see Smalley, *Historians*, pp. 32-38.

²³ See Saralyn R. Daly, "Peter Comestor: Master of Histories," *Speculum*, XXXII (1957), 62-73.

²⁴ The relevant passage of Peter Comestor appears in *PL*, CXCVIII, col. 1079. While it is certain that these musical authors are directly dependent upon Peter, it is by no means obvious that Jacques and subsequent music theorists know Aegidius. Thus occasional references in this essay to the "Aegidian position" are not meant to imply such knowledge.

²⁵ The year 1250 in a later extension. For an over-all view of Vincent's work see B. L. Ullman, "A Project for a New Edition of Vincent of Beauvais," *Speculum*, VIII (1933), 312-26. The musical portion of Vincent's work is published in Gottfried Göller, *Vincenz von Beauvais O.P. (um 1194-1264) und sein Musiktraktat im Speculum Doctrinale*, Kölner Beiträge zur Musikforschung, XV (Regensburg, 1959). The discovery of music is dealt with in Book XVII, chapters 24 and 25 (Göller, pp. 103-105). Unlike Peter Comestor, Vincent makes no attempt at historical synthesis and simply compiles relevant texts; the result in this case is the juxtaposition without comment of the contradictory Boethius and Comestor texts.

The most noteworthy traits of medieval universal history are its enthusiastic embrace of the entire past, biblical, pagan, or whatever, and its preoccupation with chronology. Eusebius and Orosius had included pagan history in order to establish the claims of Christianity, but the medieval historians accepted pagan gods and historical figures as part of their heritage: Zoroaster, Isis, Osiris, Apollo, Pythagoras, and Plato are integrated into the biblical chronology of Adam, Moses, and David, with their respective accomplishments and mutual influences enumerated. The specific conceptual device making this possible is euhemerism, so-called from Euhemerus, the third-century B.C. pagan philosopher who sought to rationalize the Greek gods as ancient heroes, deified after their exploits had faded into the past.²⁶ Christian authors of the patristic period exploited euhemerism to obvious polemical advantage, denouncing the pagan gods as frauds, mere human beings deceitfully posing as deities; but historians of the Middle Ages were enabled by it to indulge their encyclopedic impulse and to integrate them into their all-inclusive schemes. Ironically, they even reinvest them, now that they are on the same side, so to speak, with some of their original mythic power, just as they cause the saints with their miracles to share in the power of God.

We are prepared now to return to the question left unanswered toward the beginning of this study: why medieval theorists fail to display the antipagan partisanship of Church Fathers like Tertullian. It is a matter of radically different historical background: in the third and fourth centuries the new Church was engaged in a struggle to the death with Greco-Roman paganism, but in the Middle Ages paganism was only a memory, encountered not in everyday life, but in the pages of venerable manuscripts. Thus the earlier theorists follow their sources without scruple in their preference for Pythagoras, while the later theorists turn to Jubal, not because they have been converted to the message of Scripture, but because they are persuaded of Jubal's chronological priority. One might say that the patristic view is dualistic, with the known world divided into two camps, whereas the medieval view is monistic, or, rather, encyclopedic: the medieval scholar sees the world as a self-contained

²⁶ There is a vast literature on euhemerism: works combining both command of the sources and sure interpretative grasp are P. Alphandery, "L'Euhemerisme et les debuts de l'histoire des religions au Moyen-Age," *Revue de l'histoire des religions*, CIX (1934), 1-27; and J. D. Cooke, "Euhemerism, A Medieval Interpretation of Classical Paganism," *Speculum*, II (1927), 396-410.

unit, and his task is to integrate into it everything he knows, including ancient pagan lore and learning.

The other trait we have singled out as most characteristic of the medieval universal historian, his preoccupation with chronology, has deep roots. He looks back upon a five-millennial succession of related events, Creation, Fall, Redemption, etc., whereas the classical historian had tended to see history as a series of repeatable cycles. The sense of chronology was most pronounced in the twelfth century among politically conscious historians like Otto of Freising and William of Tyre, as well as biblical scholars like Peter Comestor. In the thirteenth century it gave way to the timeless speculation of the great philosopher-theologians like Thomas Aquinas, but yet enjoyed at least a minor resurgence in the musical thought of Aegidius and subsequent theorists. What it achieves there is the creation of a skeletal music history, exceedingly brief, yet, in a sense, complete: the most renowned musical figures of universal history, like Jubal, David, Mercury, Pythagoras, are extracted and set down in chronological order against the background of the Six Ages. This is no less, as we shall see, than the basic plan of post-Renaissance music history; one is tempted to suggest that Johannes Forkel's occasionally cited title, the founder of musicology, be surrendered to Aegidius Zamorensis.²⁷

* * *

The Renaissance²⁸ presents a curious interlude in the progress of the Jubal-Pythagoras saga. On the one hand the most eminent

²⁷ Leo Schrade once made an assertion superficially similar to that made here. "Eine Einführung in die Musikgeschichtsschreibung älterer Zeit," *Musikerziehung*, VII (1930), 3-13, reprinted in Leo Schrade: *De Scientia Musicae Studia atque Orationes*, ed. Ernst Lichtenhahn (Stuttgart, 1967), pp. 17-33. He maintained that the very question, *quis sit inventor musicae*, regardless of the stereotyped answer, bespeaks a historical consciousness (*historischer Besinnung*). The present author, on the contrary, accedes to the generally accepted view that the western intellectual trait referred to as historical consciousness is a post-medieval phenomenon, and fails to detect any noteworthy exception in the *quis sit* . . . question. The particular answer given to it by Aegidius, however, will prove to be historiographically significant.

²⁸ This term will be used many times during the next several pages without qualification or explanation, but the thoughtful reader should be aware that the author is not entirely innocent of the twentieth-century literature on its controversial history. Suffice it to say that the term is used within the context of the new orthodoxy or neo-Burkhardtian position of Ferguson, Chabod, Panofsky, Baron, Mattingly, Kristellar, etc. The position is best described, possibly, as a synthesis of the original Burkhardt thesis with the antithesis of the twentieth-century medievalists' reaction; that is to say that, after all the proper qualifications are acknowledged, such as the persistence of medieval traits throughout the period, regional differences, differences among the various facets of cultural, political, and social life, there was after all

Italian theorists add nothing to the historical outline of Aegidius, but on the other, modern intellectual historians are virtually unanimous in tracing the beginnings of western historical consciousness to Renaissance humanism.²⁹ Before attempting to resolve this contradiction, something must be said about the conception of "historical consciousness" or the synonymous "sense of history." Actually, in its full nineteenth- and twentieth-century western form, it is a comprehensive outlook on reality involving difficult epistemological questions, but for our purposes a functional definition can be achieved by isolating its more obvious traits. Peter Burke has done this with admirable efficiency in *The Renaissance Sense of the Past*, where he singles out three: (1) "the sense of anachronism," manifested, for example, in Petrarch when he recognizes ancient Rome to be qualitatively different from the present;³⁰ (2) "the awareness of evidence," as displayed in Valla's exposure of the ninth-century forgery, "The Donation of Constantine";³¹ and (3) "the interest in causation," that is, the search for historical explanations more rational and less generalized than, say, Divine Providence or the whims of Fortune. While it may be arguable whether Renaissance historical explanations are that much of an improvement on those of the Middle Ages, it is incontestable that medieval historical writing was strikingly deficient in the first two of these traits, and that they appear with increasing frequency, either singly or together, in fourteenth- and fifteenth-century Italian historiography.

a Renaissance, a broad movement introducing distinctly new and profoundly important characteristics into European civilization.

²⁹ Among the works consulted on this point and influential in establishing the view of Renaissance historiography maintained here are: Peter Burke, *The Renaissance Sense of the Past* (London, 1969); Donald R. Kelley, *Foundations of Modern Historical Scholarship* (New York, 1970); Hans Baron, *The Crisis of the Early Italian Renaissance*, rev. one-vol. ed. (Princeton, 1966); Myron P. Gilmore, *Humanists and Jurists* (Cambridge, Mass., 1963); Felix Gilbert, *Machiavelli and Guicciardini* (Princeton, 1965); Wallace K. Ferguson, *The Renaissance in Historical Thought* (Boston, 1948); Hans Baron, "Das Erwachen des historischen Denkens im Humanismus des Quattrocento," *Historische Zeitschrift*, CXLVII (1933), 5-20. Additional literature will be cited at appropriate places in the text.

³⁰ For a full appreciation of this point see Theodor Mommsen, "Petrarch's Conception of the 'Dark Ages,'" *Speculum*, XVII (1942), 226-42.

³¹ For more on the development of critical method, see Kelley's previously cited *Foundations of Modern Historical Scholarship*, which stresses the part played by philology, especially as applied to the legal tradition, in the development of historical method.

Quibbles aside, then, Burke's scheme is generally acceptable, but when turning to music history we find it to be only a partially adequate conceptual tool. It must be remembered that while there is a substantial body of medieval and Renaissance historical writing, there is no comparable music history. Therefore our primary task is to trace the growth of a music history tradition, a process in which chronology is the key factor, and only then to observe the exercise of the traits of historical consciousness, or, as they might better be called, the historical virtues. The issue, therefore, is not the refinement of music history, but its establishment, and with this distinction in mind we can return to the treatment afforded Jubal and Pythagoras in the Renaissance.

Only one theorist writing in Italy seriously considers the question of their priority: Johannes Gallicus, a Flemish-born Carthusian monk, who completed his *Ritus canendi vetustissimus et novus* in Mantua sometime during the reign of Pius II (1458-64). He is unique in his partisanship on Jubal's behalf, relating substantially the same material as Aegidius, but with an unprecedented tendentiousness. For the first time we have a true follower of Tertullian:

I marvel that men of our time, learned and expert, indeed even ecclesiastics, are able to put faith in those who say that the modes of music were discovered under rocks, as was mentioned above, or in drops of water or earthen caverns, unless perhaps they think that Jubal simply built the organ or the cithara, as thought among the foolish, and that neither he first nor anybody else sang before the flood. Which, if it be true . . . then indeed the sacred pages, which do not lie, have not given us the truth. For Moses wrote of this Jubal. . . .³²

Johannes continues with standard Josephus-Comestor-Aegidius doctrine, but again with a distinct change in tone, as when he writes: "Boethius, copying the fables and boasting of the Greeks, attributed the entire glory of this matter to the philosopher Pythagoras."³³

He displays a second distinctive quality in the consistency with which he alludes to the priority of Jubal throughout subsequent chapters of his treatise; there are at least half a dozen references to him in the *liber primus*, specifying his contributions to musical science and distinguishing them from later Greek refinements, for example his discovery of the four basic proportional strings (boastfully attributed by the Greeks to Mercury) and the subsequent ad-

dition of eleven strings by the Greeks to make up the fifteen described by Boethius.³⁴

These traits — partisanship and consistency of argumentation, which contrast with medieval neutrality and acceptance of contradiction³⁵ — are unique to Johannes, having no immediate influence upon subsequent musical literature. They are singled out here because they suggest a historiographic principle: the coherence and consistency of Johannes' historical position owe much to the stimulation provided by his polemical motivation — his prejudice, if you will. Unlike medieval theorists who write among colleagues sharing common views on fundamental issues, Johannes writes as one at war with a hostile intellectual environment, perhaps as a conservative monk among progressive humanists.³⁶ On a broader front the controversies of the Reformation will have much to do with the shaping of western historical consciousness. As D. R. Kelly says: "the exposure of most myths, it seems, was made in the name of honor or faith rather than of truth, and the search for new sources of information was seldom disinterested. The achievements of historical scholarship should be restored to their ideological context. . . ."³⁷

But, as indicated above, Johannes has no followers. That series of outstanding Italian theorists from Gafforio to Zarlino, for all their sophistication in matters of temperament and tuning, display no interest in the historical issues involving Jubal and Pythagoras. Not unexpectedly, they lack the ideological impetus of Gallicus, but,

³⁴ Coussemaker, IV, 303-6.

³⁵ The peculiar medieval trait, cited several times above, of juxtaposing directly conflicting opinions, is mentioned also by Lawrence A. Gushee, "Questions of Genre in Medieval Treatises on Music," *Gattungen der Musik in Einzeldarstellungen: Gedenschrift Leo Schrade*, ed. Wulf Arlt, Ernst Lichtenhahn, and Hans Oesch, Erste Folge (Bern/München, 1973), p. 375. This splendid essay is rare among writings on medieval music theory for its sophistication in general medieval intellectual history.

³⁶ Leo Schrade, in "Renaissance: The Historical Conception of an Epoch," *Kongress-Bericht Internationale Gesellschaft für Musikwissenschaft Utrecht 1952* (Kassel, 1953), reprinted in *Leo Schrade: De Scientia*, pp. 317-19, takes precisely the opposite view, proclaiming Johannes as the first musical humanist. Granted that Johannes studied under Victorino da Feltre at Mantua, there is nothing in his treatise to warrant the full-blown Renaissance consciousness Schrade attributes to him. Whether or not he is actually an antihumanist, which is suggested here for want of a more plausible alternative, he certainly maintains a conservative position against a host of contemporaries he looks upon as *stulti*, *insensati*, and, by implication, godless. The precise determination of Johannes' ideological bias seems a sufficiently interesting task for an enterprising historiographer.

³⁷ *Foundations of Modern Historical Scholarship*, p. 11.

³² Coussemaker, IV, 299.

³³ Coussemaker, IV, 300.

more to the point, they are innocent also of Aegidius' sense of chronology, and even display an unblinking acceptance of historical contradiction strikingly similar to that of the earlier medieval theorists. Gafforio, for example, recounts with seeming approval the standard Boethian material on Pythagoras' discoveries, but then concludes the discussion with one brief unreconciled reference to Jubal:

Josephus, however, attributed this Pythagorean investigation to Jubal before the flood, who, indeed, fearing that very flood, since Adam had prophesied to the human race that the world would suddenly perish by flame or water . . . inscribed on two columns that very pleasing and special art of sound. . . .³⁸

Aaron's treatment of the *inventori de la musica* is even more peculiar. He enumerates the many minor inventors of music, in a manner reminiscent of Isidore, reserving, however, a special place for Pythagoras, that "diligent investigator," who "gave order to the consonances" and who "reduced to the certain and firm judgment of the mind what others rashly wished to leave to the dubious and untrustworthy whim of the ears."³⁹ But he concludes his discussion with the surprising declaration that

we, nevertheless, have the old Testament as the foundation of our true Christian faith, and again are told in it and believe it to be the truth what Moses says in *Genesis*, that Tubal was the founder of musical science, he who was of the family of Cain before the flood.⁴⁰

Zarlino is free from such obvious contradiction, but still shows no interest in the historical implications of the subject. In a chapter entitled, "Della origine et certezza della musica,"⁴¹ he combines standard information on the inventors with scholastic doctrine on the relation of the five senses to knowledge, in order to demonstrate the firm and ancient position of music among the mathematical sciences. He reminds one of the thirteenth-century preoccupation with philosophic issues, and its corollary disinterest with history.

In short, the outstanding Italian theorists display, if anything, a retrogression from the historiographic achievement of Aegidius. What, then, of the vaunted historical consciousness of the Renaissance; did it fail to have its effect upon musical literature? By and large it did, and this is the fundamental circumstance to have in mind

³⁸ Franchino Gafforio, *Theorica Musice*, I, 8 (Milan, 1492) [no pagination].

³⁹ Pietro Aaron, *Thoscanello de la Musica*, I, ii (Venice, 1529).

⁴⁰ *Thoscanello*, I, ii.

⁴¹ Gioseffe Zarlino, *Le Istitutioni harmoniche*, I, i (Venice, 1558), 3-4.

when considering those modest manifestations of historical consciousness which are in fact present in Renaissance musical writing. Modern musical historiographers are generally reconciled to this. Typically, they point out that there is no music historian comparable to Vasari, and quite rightfully they explain it by citing Leonardo's famous dictum to the effect that while art works survive, music vanishes after its performance.⁴² But the compulsion to maintain an unqualified, and in fact exaggerated, Burchardian position is too strong, and the same authors insist upon the Renaissance origins of western musicology, dismissing out of hand the possibility of any medieval contribution. In doing so they ignore the implications of the *inventores musicae*, and emphasize instead that interesting new commonplace of Renaissance musical literature which we first encounter when Tinctoris in his *Liber de arte contrapuncti* (1477) praises Dunstable, Dufay, Ockeghem, etc., exclaiming "there exists no composition except from the past forty years which is considered by the learned as worth hearing."⁴³ A series of subsequent theorists and other authors single out their immediate forebears for similar admiration: Glareanus, for example, eulogizes Josquin,⁴⁴ Zarlino speaks with reverence of his teacher, Willaert,⁴⁵ and Cosimo Bartoli compares Josquin to Michelangelo.⁴⁶

There are any number of such references. They all have subtle, and at times not so subtle, differences of intention and context, but do, nevertheless, as Kahl and Kümmel maintain, share two important traits: a new appreciation of the composer's individuality and a

⁴² Making the reference to Leonardo are Herbert Birtner, "Johann Joseph Fux und der Musikalische Historismus," *Deutsche Musikkultur*, VII (1942-43), 3; Willi Kahl, "Das Geschichtsbewusstsein in der Musikanschauung der italienischen Renaissance und der deutschen Humanismus," *Hans Albrecht in Memoriam*, ed. Wilfried Brennecke and Hans Hasse (Kassel, 1962), p. 40; and Werner F. Kümmel, *Geschichte und Musikgeschichte*, Marburger Beiträge zur Musikforschung, Bd. 1 (Marburg, 1967), 16. Each cites the other in turn, a symptom of their more general mutual dependence: the Kümmel book especially relies upon Kahl for its view of Renaissance musical historiography. The three are ostensibly the most serious discussions of the subject in print. Unfortunately they are all hampered by an extreme nineteenth-century conception of the Renaissance with its corollary disdain for the Middle Ages, unrelieved by acquaintance with the sort of literature alluded to in n. 28 above, much of which, although written by German-born scholars, appeared first in English.

⁴³ Coussemaker, IV, 77.

⁴⁴ Heinrich Glareanus, *Dodecachordon*, Lib. III, cap. 24 (Basel, 1547), p. 362.

⁴⁵ *Le Istitutioni harmoniche*, Proemio, p. 2.

⁴⁶ Cited in Gustave Reese, *Music in the Renaissance* (New York, 1954), p. 259.

heightened aesthetic reaction to his work.⁴⁷ It seems fair to label these genuine Renaissance impulses, but do they constitute historical consciousness? Considering them in the abstract the answer must be No: the three are by definition distinct insights, having in common only that exercise of the imaginative intelligence we term insight. Indeed, there is something antihistorical about an attitude which denies validity to the entire musical past other than one's immediately preceding generations.

But this is answering simplistic argument with simplistic refutation. Quite possibly there is some relationship to dawning historical consciousness in many of these passages, and ultimately each merits a thorough examination in its full context. This is a task beyond the scope of the present essay, but one broad suggestion is very much in order: a number of northern theorists incorporate such passages into their *inventores musicae* sections, thus enriching and bringing up to date the traditional medieval framework. Tinctoris is the first to do so: in the oft-quoted prologue to the *Proportionale musices* (ca. 1476), he begins with the *protomusicus* Jubal and other ancients from David to Pythagoras, follows with a paragraph of praise for the musicians of the church from Ambrose to Johannes de Muris, and concludes with an enthusiastic reference to the *moderni*, Ockeghem, Busnois, Regis, and Caron, whose immediate *fons et origo* is among the English of whom Dunstable is the chief.⁴⁸

Adam of Fulda, the German scholar-musician, in chapter 7 of his *De musica* (1490), presents essentially the same material as Tinctoris. It is, however, altogether more medieval in tone, lacking especially the intense sense of special worth Tinctoris attaches to the *moderni*. The most interesting portion of the chapter is its conclusion:

How many there are who follow him [Boethius]: Gregory, Isidore, Guido, Odo, Berno, Johannes de Muris; and near my own time, the most learned William Dufay and Anthonius de Busna, whom we wish to follow in both word and deed. If we enquire, however, who among all was the first, I think, it is that very Jubal, because he preceded all chronologically (*tempore*); for the holy scripture mentions him as inventor and no other.⁴⁹

⁴⁷ The concepts are set forth in Kahl, *op. cit.*, p. 39, and Kümmel, *op. cit.*, pp. 11-13; the passages are referred to in Kahl, pp. 41-42, and Kümmel, pp. 17-20. Birtner, *op. cit.*, p. 5, cites many of the passages, but not the concepts, and indeed backs off from attaching too much historiographic significance to the passages, p. 6.

⁴⁸ Coussemaker, IV, 153-54.

⁴⁹ Gerbert, III, 341.

Possibly the most remarkable of the northern *inventores musicae* discussions is the opening chapter of the *Practica musica* (Bern, 1556) by the German Lutheran, Hermann Finck; it is compositionally more coherent than Adam of Fulda's and more complete in its categorization of moderns than Tinctoris'. There are, moreover, a number of significant details: among them the first date in the literature — "circa 1480 and a little thereafter were others far superior to their predecessors";⁵⁰ and an explicit attribution of the moderns to the same historical sequence as Jubal and Pythagoras — "in our time there are new inventors (*novi inventores*), among them Nicolas Gombert. . . ."⁵¹ There is, however, a curious omission; Finck fails to mention the prominent medieval musicians. This could very well result from Protestant motivation, but subsequent Lutheran authors, like Calvisius and Printz, nevertheless tend to pay full respect to medieval musicians.

There is no wish here to exaggerate the accomplishment of the northerners; their history of music remains embryonic, even primitive, and they display little indeed of the historical virtues proposed by Burke. A sense of anachronism, for example, is belied by one of the very points singled out in Finck as significant: his classification of Jubal, Pythagoras, and Gombert, as *inventores* in the same sense. There are at best traces of the awareness of evidence,⁵² and historical explanation is virtually nonexistent. The one historical virtue they practice is the proto-virtue, a respect for chronology. It may well be that a thorough study of their seemingly more sophisticated Italian contemporaries would reveal instances of superior historical insight.⁵³ However, the concern here is not with isolated flashes of intelligence, but with the establishment of something upon which the

⁵⁰ P. A ij.

⁵¹ *Ibid.* A similar concept appears in Adrian Codico's curious classification of musicians into four types, *Compendium musices* (Nuremberg, 1552); the first type consists of the *inventores* or *theorici*, including Jubal, Amphion, Boetius, Ockeghem, Obrecht, and *alii multi*.

⁵² For example, Finck on the claims of various Greek authors for certain *inventores musicae*: "What authors aver on the other inventors does not merit credence." *Op. cit.*, A [verso].

⁵³ For example, Henry W. Kaufman, *The Life and Works of Nicola Vicentino, 1511-c. 1576*, Musicological Studies and Documents, 11 (1966), 111-15, makes a good case for the historical tendency in Vicentino's thinking. And one can hardly pass over in silence the intense and prolonged historical argumentation of Vincenzo Galilei, but how can others build on a historical scheme which dismisses the polyphony of the past 150 years as barbaric and sees the beginnings of musical rebirth in Gafforio?

future can build; and at this point the future seems to lie with the benighted conservatives of the north, especially the Germans.⁵⁴

* * *

Music history as we know it today develops in the seventeenth and eighteenth centuries, reaching its first maturity in Gerbert, Hawkins, and Burney. The earliest work from that period, and what is generally acknowledged to be the first history of music, is the *De initio et progressu musices* (Leipzig, 1600) of J. S. Bach's learned predecessor at the Thomasschule, Seth Calvisius.⁵⁵ But surely his little book is as much a culmination as a beginning; it gives every appearance of being an expansion of the standard *inventores musicae* chapter into a self-contained work of approximately sixty-five pages. Whether or not Calvisius actually knew Adam of Fulda and Hermann Finck, he must have been acquainted with the tradition of German university music which inspired them: their works are too similar in outline and subject matter to be coincidental.⁵⁶ But even more significant, perhaps, is that he partakes fully of that same tradition of medieval universal history which influenced Aegidius in the first place. It was more vigorous than ever in northern Europe during the latter half of the sixteenth century, a condition hinted at in Pasquier's Gallican remark which traces the revival of letters to French scholars like Peter Comestor rather than to the Italian humanists.⁵⁷ Chronology remains the central concern, and this period brings its sharpened critical skills to bear upon the patristic and medieval works. The outstanding figure of that time is Joseph Scaliger, whose *Thesaurus temporum* (1583) is a reconstruction of Eusebius' *Chronikoi canones*.⁵⁸ Calvisius cites both Eusebius and Scaliger

⁵⁴ On the "mittelalterlich-theologischen" character of German sixteenth-century history and its "so niedern Stufe," see the standard work of Eduard Fueter, *Geschichte der neuern Historiographie*, 3rd ed. (Munich and Berlin, 1936), p. 181.

⁵⁵ Calvisius' work forms the second portion, pp. 74-139, of a work entitled *Exercitationes Musicae Duae. Quarum prior est, de modis musicis, quos vulgo Tonos vocant, recte cognoscendis, et dijudicandis. Posterior de initio et Progressu Musices, aliisque rebus eo spectantibus* (Leipzig, 1600).

⁵⁶ Precisely determining Calvisius' sources is a subject for an eminently worthwhile historiographic study.

⁵⁷ See D. R. Kelley, *op. cit.*, p. 299.

⁵⁸ Scaliger goes so far as to refer to it as "my Eusebius" in his "Testament of Joseph Scaliger," on p. 67 of the translation appearing in the *Autobiography of Joseph Scaliger*, trans. George W. Robinson (Cambridge, Mass., 1927). He would have been surprised to read the claim of Warren Dwight Allen that "Scaliger

in the *De initio et progressu musices*,⁵⁹ and a few years later composes his own *Opus chronologicum* (1605). His chronological concern is consistently evident in the *De initio* where he sometimes cites precise dates, for example the capture of Troy in 2769 *a condito Mundo*, or more often uses the Eusebian comparative method, as when he begins his discussion of Pythagoras:

Meanwhile Pythagoras, who flourished in the age of king Cambyses of Persia, 70 years after the Babylonian captivity, while Superbus the last of the Tarquinian kings managed affairs among the Romans, more than 600 years after the capture of Troy, 500 years before the birth of Christ, perceived that the consonant musical intervals are comprised of certain proportions, and he wished to subject them not only to hearing but to settle them according to reason and by the certitude of visual demonstration. The occasion of this demonstration was furnished by blacksmiths, as Boethius describes it. . . .⁶⁰

The expansion evident in Calvisius is a basic trait of seventeenth- and early eighteenth-century history; the period, styled by some as the "Age of Erudition,"⁶¹ is characterized by an immense accumulation of information and an inability to forego citing a single item of it in published works. The historiographic implications of this will be discussed later, but for now it should be clear that we cannot grant to the formidable tomes of this time a treatment proportional to that granted the brief summaries of earlier figures like Aegidius and Finck. Rather, their remarks on Jubal and Pythagoras will be isolated with a view toward illustrating what is old and what is new in their historical thought.

Athanasius Kircher, the remarkable Jesuit polymath, represents the scientific aspect of seventeenth-century learning. He is best known as the founder of modern Egyptology,⁶² but also manifested a considerable interest in music. In the first book of his twelve-hundred-page *Musurgia universalis* (Rome, 1650), he demonstrates the new empirical frame of mind with careful drawings comparing the

opened many minds to the new concept that our world has a continuous history," in "Baroque Histories of Music," *The Musical Quarterly*, XXV (1939), 198.

⁵⁹ The citations appear on pp. 81 and 82, respectively.

⁶⁰ *Op. cit.*, p. 86.

⁶¹ James W. Thompson, *A History of Historical Writing*, borrows it for his pre-Enlightenment chapter, II, 3-57, from J. Franklin Jameson's "The Age of Erudition," an address reprinted in the [Chicago] *University Record*, X (1905), 19-28; see Thompson, II, 8.

⁶² See Erik Iversen, *The Myth of Egypt and its Hieroglyphs in European Tradition* (Copenhagen, 1961), pp. 92-99.

human larynx and lungs to that of various animals, with a similar comparison of the cartilaginous parts of the ear, and with a chart of notated bird calls.⁶³ Something of the same spirit is present when he turns to the subject of Jubal, thoroughly integrated, however, with the Aegidian view that nature plays a part in musical discovery. "Nothing is more obvious than sound in this terrestrial theatre of things," he writes, citing the wind in the trees, the calls of birds, and the music-producing potential of reeds and of objects struck together. To him music is so natural that he maintains it would be rediscovered, through chance, talent, or experiment, even if all mankind were to be removed from earth, with the exception of a small band of innocent children. Therefore it was not the Greeks, the Egyptians, or Chaldeans, who discovered music, but the Hebrews, who preceded these other nations chronologically. He then quotes Genesis 4 on Jubal, utilizing its authority to corroborate his own reasoning and observation.⁶⁴

We have a different feeling in reading the *Sing und Kling Kunst* (Dresden, 1690) of Wolfgang Caspar Printz, the Lutheran church musician, who, curiously enough, is cast in the role of historiographic progressive by Warren Dwight Allen.⁶⁵ Actually Printz not only maintains the medieval tradition, but brings to it the sort of obsessive theologism and argumentativeness we have observed only in exceptional figures like Johannes Gallicus. He borrows Kirchner's above-cited reference to objects accidentally struck together and elevates it to a proof that Jubal discovered percussion instruments in addition to the "harp and pipe" of Genesis 4, thus being responsible for the three medieval genera, string, wind, and percussion.⁶⁶ He is euhemeristic to excess, seeming unable to resist the identification of two ancient families, those of Cain and the Greek Olympians. The brooding Saturn is Cain himself, while Jove is his descendant Lamech, the father of Jubal; Apollo, who according to Greek legend invented both lyre and aulos, is Jubal; and Vulcan, a blacksmith, is with equal appropriateness Tubalcain.⁶⁷ Finally, Printz is unwilling

⁶³ A. Kircher, *Musurgia generalis sive ars magna consoni et dissoni in X libros digesta* (Rome, 1650). The drawings appear opposite pp. 22, 14, and 31, respectively.

⁶⁴ *Ibid.*, pp. 44, 45.

⁶⁵ Not the only curious prejudice of his *Philosophies of Music History* (New York, 1939), pp. 13, 22-26, a work nevertheless admirable for its broad assault upon an important subject generally neglected among English-speaking music historians.

⁶⁶ *Historische Beschreibung der edelen Sing und Kling Kunst*, I, Capitel 20.

⁶⁷ *Ibid.*, II, 21.

to sacrifice any detail of the Pythagoras legend. He is aware that it is the dimensions of the hammers and not their weights which give rise to the basic consonances, but declares that in this instance, by the intervention of Divine Providence, the two must have coincided.⁶⁸

A work of rather different spirit, the 1715 *Histoire* of Bourdelot-Bonnet,⁶⁹ presents an old view with a new twist. It attributes the discovery of musical systems to Jubal, but finds the Hebrews negligent in passing on their learning to other nations, thereby enabling the Greeks, who were ambitious and scornful of all others as barbarians, to claim credit for themselves.

Much as they reflect the views of serious scholars, there is something of the amateur about Printz and Bourdelot-Bonnet, but with the Bolognese Franciscan Giambattista Martini we return to the professionalism of Calvisius and Kircher and witness the full manifestation of their tradition in Italy.⁷⁰ In Volume I of *Storia della musica* (Bologna, 1757) he sets down the most painstaking discussion of Jubal in the entire literature, arguing for Jubal's claim to theoretical discovery and against the view that he was only the inventor of musical instruments. One senses that a degree of religiosity (nothing so blatant as Printz's) deflects his over-all judgment to Jubal's advantage, but one is much more struck by the sophisticated sifting of literary evidence which leads him to discover the erroneousness of the two pillars legend.⁷¹

With Gerbert's *De cantu* of 1774 and Hawkins' *General History* of two years later, we come to scholars who move about as far in the direction of rationalism as one can, while retaining a basic allegiance to the medieval tradition. Gerbert, who represents a "silver age" of Benedictine scholarship after its seventeenth-century "golden age," has little to say about Jubal: he alludes without comment to Mer-

⁶⁸ *Ibid.*, V, 31.

⁶⁹ Pierre Bourdelot and Pierre Bonnet, *Histoire de la Musique et des ses effets depuis son origine jusqu'à présent* (Paris, 1715): the reference appears in the Amsterdam edition (1726), I, 19. Jacques Bonnet published the work begun by his uncle, the Abbé Bourdelot, and carried on by his brother Pierre.

⁷⁰ There is, of course, the earlier work of Giovanni Bontempi, entitled, *Historia musica, nella quale si ha piena cognizione della teorica . . . i quali inventata prima da Iubal avanti il Diluvio . . .* (Perugia, 1695). I cannot claim thorough knowledge of it, but it appears to be a highly learned work within the tradition of Italian Renaissance theory rather than within the historical tradition.

⁷¹ *Storia della musica*, I (Bologna, 1757), 23-24.

senne's view that Jubal discovered the overtone series,⁷² and pre-sages the nineteenth-century a cappella ideal when he refers disparagingly to the instrumental inventions of Jubal of "the ungodly race of Cain."⁷³ Of Pythagoras he writes with sober approbation, accepting without demur his discovery of the musical consonances and omitting, significantly, any mention of the legendary hammers;⁷⁴ he invokes the dictum *philosophica succedens poetica* in contrasting the mathematical discoveries of Pythagoras' time to the fables of earlier Greek centuries.⁷⁵ Hawkins shares with Gerbert a fundamentally religious outlook; for him music can be explained ultimately only as an act of God's will.⁷⁶ Yet, like Gerbert, he shows little interest in Jubal, beginning his history with the Greeks and stressing the theoretical achievement of Pythagoras. He has a particularly valuable discussion on the fallacy of the weights, suggesting that Vincenzo Galilei may have first suspected it, and quoting at length the passage from Galileo Galilei's *Discorsi e dimostrazioni matematiche* which definitely exposes it.⁷⁷ He mentions Jubal only in connection with musical instruments, accepting on biblical authority that he invented some, but wisely adding that they could not be those, like the organ, attributed to him in contemporary translations.⁷⁸ On the question of the Jews and theoretical systems, he finds it plausible that a musical culture so highly developed as that of David's time would have a rational theory, but observes that we cannot know for certain because of the absence of proper documents.⁷⁹

Forkel, finally, calls a halt to the search for the inventors of music, proclaiming that it comes from the heart and has always been with us. A Romantic sentiment, to be sure, but one with neo-Gothic resonance, as he alludes, like Aegidius before him, to the

rustling of wind in the trees and the simple reed pipe of an idle shepherd.⁸⁰

Taking the seventeenth- and eighteenth-century music historians as a group, and looking at the over-all character of their individual works rather than simply their views on Jubal and Pythagoras, one is increasingly impressed by their continuity with medieval universal history. If a close reading of Calvisius reveals an expanded *inventores musicae* chapter, a superficial glance at the chapter headings of Printz shows the most explicit acknowledgment of the Augustinian Six Ages; in the pre-Christian portion he devotes a chapter to each of the periods, substituting only the "time of Pythagoras" for the contemporaneous Babylonian captivity. When the chronological framework is to be interrupted by some modern consideration, he inserts an *Erörter der Frage*, as with the discussion in chapter 4 of whether the ancients' music resembled modern polyphonic music. Martini presents a remarkably similar pattern with the obvious linguistic difference that the interrupting discussions are called *disertazioni*, and with the more substantial difference that the Six Ages are broken down into increasingly smaller chronological units as the narration nears the time of Christ and documentary material expands accordingly. Gerbert and Hawkins move beyond any obvious reliance upon the Six Ages, but Hawkins continues to use neo-Eusebian chronology, fixing his pre-Christian events with *anno mundi* dates, for example Ctesibius' reputed invention of the hydraulis in "about the year of the world 3782."⁸¹

Among the more obvious conservative traits of these works is their concentration upon theory at the expense of the repertory; another is their cultivation of the Aegidian notion of progress.⁸² The two come together most clearly in Calvisius, whose work could most accurately be called "Concerning the progress of music theory." And one cannot fail to observe that Guido d'Arezzo is a more commanding figure in any of these books than composers like Josquin and Monteverdi.

⁷² Martin Gerbert, *De cantu et musica sacra a prima ecclesiae aetate usque ad praesens tempus*, 2 vols. (St. Blaise Abbey, 1774), II, 286. The author regrets his inability to consult Mersenne's commentary on Genesis, which deals at some length with Jubal.

⁷³ *Ibid.*, II, 377.

⁷⁴ *Ibid.*, II, 379, 385.

⁷⁵ *Ibid.*, II, 383.

⁷⁶ John Hawkins, *A General History of the Science and Practice of Music*, 2 vols. (London, 1776; 2nd ed. London, 1853; reprinted, New York, 1963), p. xx.

⁷⁷ *Ibid.*, I, 10-12.

⁷⁸ *Ibid.*, I, 4.

⁷⁹ *Ibid.*, I, 93, 97.

⁸⁰ Johann Nikolaus Forkel, *Allgemeine Geschichte der Musik*, 2 vols. (Leipzig, 1788-1801), I, 70-71.

⁸¹ *General History*, I, 69.

⁸² Aegidian in the sense that Aegidius is the first to apply the idea to musical discovery, not in the sense that Calvisius directly derives it from him. The idea functions as a *topos*; see Ernst Robert Curtius, *European Literature and the Latin Middle Ages* (Bern, 1948), trans. Willard R. Trask (New York, 1953), p. 70 and *passim*.

Less obvious perhaps, is the consistency and sureness of touch the authors display in the pre-Christian portions of their works as opposed to the rambling, hit-or-miss character of the later portions. One suspects that Martini and Peter Comestor broke off their histories at the end of the pre-Christian era for the same reason: the professionalism that caused them to feel at home within the centuries-old tradition of biblical and ancient studies made them ill at ease in the unsettled historiography of the Sixth Age. Even Burney, for all his hankering after modernity, displays better judgment in his discussion of an ancient like Aristoxenus than of a modern like Byrd.⁸³

Finally, the trait that most decidedly stamps these men as medieval in outlook is one observable beneath the surface of their greatly expanded knowledge. When Aurelius' page or two on Pythagoras and the Greeks become more than ten in Calvisius and more than three hundred in Martini, we are witnessing the progress of history by accumulation rather than by selection. The modern student reading these works for the first time is frustrated by the endless jumble of unpatterned detail, by the seeming inability of the author to discriminate between the essential and the inessential; the modern editor, no doubt, would employ ruthless surgery (if he knew where to start). It is the medieval encyclopedic mentality at work: all knowledge is of equal value and nothing is to be omitted. There are no themes, no issues, no trends, and, above all, no shaping point of view or consistently maintained prejudice; but rather endless accumulation saved from total disorder only by chronology.⁸⁴ There are signs that the eighteenth-century historians begin to chafe under this regime; Burney especially is infected by the critical spirit of the Enlightenment, but he lacks the strength of his convictions and

⁸³ Charles Burney, *A General History of Music*, 4 vols. (London, 1776-89; modern edition in 2 vols. by Frank Mercer, London, 1935; reprinted, New York, 1957), I, 349-52; II, 78. The attentive reader will notice the uncomfortable position Burney occupies in this essay. In the view of the author, he is an exceedingly clever man, genuinely attuned to the intellectual fashions of the Enlightenment, but, unlike Voltaire or Gibbon, lacking the depth to restructure history accordingly. He is, in short, a better journalist than a historian; and, in the latter category, markedly inferior to Hawkins. For a similar appraisal, see Robert Stevenson, "The Rivals'—Hawkins, Burney, and Boswell," *The Musical Quarterly*, XXXVI (1950) 67-82.

⁸⁴ For a similar view of the basic difference between the medieval and modern outlook as applied to aesthetic reaction, see D. W. Robinson, *A Preface to Chaucer: Studies in Medieval Perspectives* (Princeton, 1962), a work to which the present author is much indebted.

writes, among other things, an entire volume on the Greeks that he would rather not have written.⁸⁵

All this is in sharp contrast to genuine Enlightenment historians like Hume, Voltaire, and Gibbon.⁸⁶ The Six Ages with its unilinear chronological premise is replaced by a four-fold cyclical scheme: an initial period of darkness, then one of light in ancient Greece and Rome, followed by a plunge into the darkness of the Middle Ages, and finally the period of the Enlightenment itself which begins with the Italian humanists and has its brilliant climax in eighteenth-century France.⁸⁷ It is essentially a dualistic view which sees the fortunes of history determined by a struggle between the forces of darkness and light, of superstition and reason; it would have found favor with Tertullian but for the circumstance that its protagonists saw darkness where he saw light. They also abandon the attempt to compile universal histories, concentrating instead on individual, nations, monarchs, and topics.⁸⁸ At all times their work is characterized by discrimination and opinion, by lively prejudice and a spirit of criticism. And certainly a related awareness lies beneath their aim to be readily comprehensible and even entertaining to their readers.

But to return to the conservative majority, including our music historians, they do manifest at least one important trait which is distinctly new. From the viewpoint of the historiographic virtues they display no dramatic development in their sense of anachronism, and unlike their opinionated Enlightenment contemporaries are exasperatingly slow to venture much in the way of historical explanation. But their awareness of evidence, that is their ability to deal

⁸⁵ See the Preface to his *General History*, especially p. 16.

⁸⁶ The views expressed here on Enlightenment and seventeenth-century historiography are based on, in addition to standard works already cited: J. B. Black, *The Art of History* (Cambridge, 1926); Hugh Trevor-Roper, "The Historical Philosophy of the Enlightenment," *Studies on Voltaire and the Eighteenth Century*, ed. Theodore Besterman, XXVII (Geneva, 1963), 1167-87; R. N. Stromberg, "History in the Eighteenth Century," *Journal of the History of Ideas*, XII (1951), 295-304; and especially Arnaldo Momigliano, "Ancient History and the Antiquarian," *Journal of the Warburg and Courtauld Institutes*, XIII (1950), 285-315, reprinted in *Studies in Historiography* (London, 1966), pp. 1-37. I have been led to most of these readings and to many others cited in this study by the splendid "Bibliographic Essay" in Peter Gay, *The Enlightenment: An Interpretation*, 2 vols. (New York, 1966), I, 423-552.

⁸⁷ It is an implicit periodization; see Gay, *op. cit.*, pp. 32-38.

⁸⁸ Voltaire's *Essai sur les Moeurs* (1745-56) might be looked upon as the rule-proving exception: it is universal in its attempt to explain everything, but omits massive portions of conventional history and subordinates events to interpretation. See J. B. Black, *op. cit.*, pp. 71-75.

with the minutiae of historical verification, is utterly beyond that of the Middle Ages, and indeed substantially like that of our own time. The seventeenth-century antiquarians developed the same techniques used today in dealing with coins, inscriptions, and characters, and made substantial progress in the philological methods initiated by the humanists, even if they left work in this area to be completed in the nineteenth century.⁸⁹

The attitude accompanying these advances was scepticism, or Pyrrhonism, as the savants of the time would have it.⁹⁰ It was not, however, a radical scepticism, rejecting the general values and interests of the past, but one concerned with detail; indeed its foremost exponents were the Maurist Benedictines, men of great piety and pronounced loyalty to the Church, like D'Archery, Montfaucon, and Mabillon, the author of *De re diplomatica*.⁹¹ This combination of general conservatism with scepticism in detail accounts for the gradual evolution of the music historians' position on Jubal. Not for a minute do they doubt the authority of scripture or the legitimacy of the traditional historical concerns, but as critical skill develops and new information becomes available, the significance of Jubal decreases and that of Pythagoras, along with the whole Hellenic theoretical achievement, increases.

In this, too, there is sharp contrast with the men of the Enlightenment. Their scepticism is revolutionary rather than qualificatory; they reflect the institutional Church as the source of social ills and the Middle Ages as a period of monkish superstition and Gothic barbarity. And paradoxically they also reject the meticulous critical apparatus of their contemporaries and immediate predecessors. "*Malheur à detail*,"⁹² cries Voltaire, which might be paraphrased "do not pester me with footnotes." There are degrees of difference in this rejection; Voltaire is the most extreme, and a colleague of his like Robertson expresses disappointment with his cavalier attitude.⁹³ Then, too, Voltaire has his own brand of conscientiousness, and in ref-

⁸⁹ See Momigliano, *op. cit.*, pp. 13, 17.

⁹⁰ *Ibid.*, pp. 10-11.

⁹¹ For the Maurist contribution see David Knowles, "The Maurists," in his *Great Historical Enterprises* (London, 1963), pp. 33-62; Dom M. D. Knowles (same author), "Jean Mabillon," *Journal of Ecclesiastical History*, X (1959), 153-73.

⁹² Letter to Abbé Duhos, Feb., 1738, *Oeuvres complètes, Correspondance III* (Paris, 1880), 30.

⁹³ William Robertson, *History of the Reign of the Emperor Charles V*, 3 vols., 7th ed. (London, 1792), I, 477.

erence to his *Siècle de Louis XIV* claims that he has "labored like a Benedictine."⁹⁴ But all in all there is a profound gulf separating the historians of the Enlightenment who looked upon themselves as the *philosophes* and their old-fashioned counterparts whom they disdainfully labeled the *erudites*. This split is the most conspicuous characteristic of eighteenth-century historiography, and an appreciation of it should dispel some basic misconceptions about the character of seventeenth- and eighteenth-century music history. Is there not present in our profession a tendency, occasionally made all too explicit, to think that (1) chronology is an invention of the seventeenth century,⁹⁵ or even of the Enlightenment,⁹⁶ and (2) to attribute to the Enlightenment the very historical techniques the chief protagonists of the period denigrated?⁹⁷ This tendency, it seems, is of a piece with that which would trace the origins of music history to the Renaissance: thus it would begin in the Renaissance and come to fruition in the Enlightenment, those two noble adventures of the human spirit to which we must attribute all that is good and progressive.

* * *

For better or for worse it seems that we are a profession with conservative origins. The temptation arises, then, to inquire whether this eighteenth-century conservatism is related to what some critics see as our twentieth-century conservatism.⁹⁸ One might suggest, for example, that our marvelous affinity with technical detail and our corresponding uneasiness with interpretation indicate that we have yet to experience the benefits of the Enlightenment. Or one might declare that as punishment for ignoring the contribution of Aegidius to our discipline we are condemned forever to labor in bondage to

⁹⁴ See J. B. Black, *op. cit.*, p. 70.

⁹⁵ See Allen, "Baroque Histories of Music," pp. 195-98.

⁹⁶ See the otherwise thoughtful and valuable contribution to a neglected subject: Vincent Duckles, "Musicology at the Mirror: A Prospectus for the History of Musical Scholarship," *Perspectives in Musicology*, ed. Barry Brook, Edward Downes, and Sherman Van Solkema (New York, 1972) p. 36.

⁹⁷ *Ibid.*, p. 35. The tendency to maintain these and similar views implicitly can be observed, for example, in the perfunctory remarks on early music history of Hans Albrecht, "Musikwissenschaft," "C. Musikgeschichte," *MGG*, IX (Kassel, 1961), col. 1208. An exception to the general tendency is Frank L. Harrison, "American Musicology and the European Tradition," in Frank L. Harrison, Mantle Hood, and Claude V. Palisca, *Musicology* (Englewood Cliffs, N.J., 1963), pp. 15-26; see especially his perceptive remark on Hawkins and the Gothic revival in England, p. 17.

⁹⁸ I have in mind, especially, Joseph Kerman, "A Profile for American Musicology," *Journal of the American Musicological Society*, XVIII (1965), 61-69.

his scholastic premises.⁹⁹ However, there has already been sufficient hypothesis in this essay on the admittedly narrow basis of what our forebears had to say on Jubal and Pythagoras, and therefore a closing retreat from generality to particularity seems in order.

Gibbon, that most remarkable of eighteenth-century historians, who, as Arnaldo Momigliano has shown us, achieved a rare synthesis of the erudite and philosophical historiographic virtues,¹⁰⁰ spiced his sonorous narrative with choice bits of irony, that quality which Peter Gay sees as the ultimate historiographic virtue. There are, for example, footnotes like the following: "M. de Voltaire, unsupported by either fact or probability, has generously bestowed the Canary Islands on the Roman Empire."¹⁰¹ Certainly we can lay claim to no Gibbons among eighteenth-century music historians, but there is the occasional passage that should make us think the better of our musicological ancestors, as when Hawkins quotes the following from a fourteenth-century British manuscript:

There was a certain smith, Thubal by name, who regulated the consonances by the weights of three hammers striking upon one anvil. Pythagoras hearing that sound, and entering the house of the smith, found the proportion of the hammers, and that they rendered to each other a wonderful consonance. When Thubal heard . . . that God would destroy the world, he made two pillars, the one of brick and the other of brass, and wrote on each of them the equiformal musical art, or plain cantus. . . . After the deluge king Cyrus, who was king over the Assyrians, and Enchiridias, and Constantinus, and after these Boethius . . . demonstrated the consonances, as appears by looking into the treatise of the latter, *De Musica*. Afterwards came Guido the monk, who was the inventor of the Gamma, which is called the Monochord. . . . Afterwards Guido de Sancto Mauro, and after these Guido Major and Guido Minor. After these Franco. . . . Then Philippus Vitriaco. . . . Afterward St. Augustine and St. Gregory, who instituted the equiformal cantus throughout all the churches. . . .¹⁰²

We find ourselves sharing an ironic smile with Hawkins who declines comment upon the passage, saying simply that it is "too curious to be given in any other than the author's own words."

⁹⁹ Whatever measure of sober truth these assertions might contain, there can be no doubt of the subsidiary point that Aegidius is neglected. Although published in Gerbert, he is not once mentioned in the most obvious standard works like Reese, *Music of the Middle Ages*, and the Riemann-Haggh *History of Music Theory*; nor is there an article devoted to him in *MGG*.

¹⁰⁰ "Gibbon's Contribution to Historical Method," *Historia*, II (1954), 450-63; reprinted in *Studies in Historiography*, pp. 40-55.

¹⁰¹ *The History of the Decline and Fall of the Roman Empire*, 6 vols. (1776-88), Modern Library ed. (New York, n.d.), I, 24.

¹⁰² *General History*, I, 245.