

TEXTS AND STUDIES
IN THE HISTORY OF MEDIAEVAL EDUCATION

EDITED BY A. L. GABRIEL AND J. N. GARVIN

No II

PAUL E. BEICHNER, C. S. C.

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of Music, Jubal or Tubalcain?**

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From the first half of the fifth century when Martianus Capella, the African of Carthage, used verse and prose to compose *De nuptiis Philologiae et Mercurii* (The Wedding of Learning and Eloquence), generations of schoolboys in Western Europe, as well as his own son, were inflicted with this bizarre treatise on the Seven Liberal Arts. His captive audience, having been exposed to his encyclopedia of much curious and useless information loosely put together on an allegorical framework, sometimes returned to it as adults. While the allegory or fable did not make the work more palatable to schoolboys, it did enable Martianus to lead his readers, according to C. S. Lewis, « through a chaos beside which the work of Rabelais has unity and that of Mandeville probability »¹). In Chaucer's time, at the end of the fourteenth century, Martianus was still a name to conjure with — at least in a humorous vein. Apropos of the marriage of old January and young May in the « Merchant's Tale », Chaucer writes :

Hoold thou thy pees, thou poete Marcian,
That writest us that ilke weddyng murie
Of hire Philologie and hym Mercurie,
And of the songes that the Muses songe !
To smal is bothe thy penne, and eek thy tonge,
For to descryven of this mariage.
Whan tendre youthe hath wedded stoupyng age,
Ther is swich myrthe that it may nat be writen²).

In *De nuptiis* for the first time the Seven Liberal Arts were personified as seven noble maidens, and Martianus decked them out with the overloaded splendor of an African chief and he gave them the instruments of their arts. Some of the instruments are curious

1) C. S. LEWIS, *The Allegory of Love* (London, 1938 : reprint with corrections) p. 79.

2) *Canterbury Tales*, IV (E), 1732-1739 : ed. F. N. ROBINSON, *The Complete Works of Geoffrey Chaucer* (Boston and New York, 1933).

indeed : for example, besides the usual stationery stuff in Grammar's ivory pencil box or instrument case there are candlesticks (perhaps another way of signifying that she burns the midnight oil) and a sort of scalpel with which she operates on the tongue and teeth to correct speech impediments³). And each of the seven noble maidens has a royal following. In the retinue of Harmonia or Music are goddesses, poets, and musicians; Pleasure and the Graces; Orpheus, Amphion, and Arion — ranking musicians in their day⁴).

Martianus Capella accomplished what greater men had been unable to do : he set the types for representing the Seven Liberal Arts and made it impossible for anyone to get completely away from them. Since his personifications were too ornate for Western taste and too complicated for easy representation, authors and artists had to simplify them. Moreover, the sculptor, the painter, or the illuminator could not give the whole train of one of the Arts, but he sometimes did select a representative.

In choosing his candidate for the honor of discoverer or representative of music the author or the artist of the Middle Ages had to decide upon the tradition he intended to follow — that of the Bible, of classical history, or of classical mythology — and having done this, he might still have several choices. St. Isidore of Seville (c. 560-636) wrote in his *Etymologies* :

Moses says that the discoverer of the art of music was Jubal, who was of the stock of Cain before the flood. The Greeks, however, say that Pythagoras discovered the beginnings of this art from the sound of hammers and from the striking of stretched cords. Others relate that Linus the Theban, and Zethus, and Amphion first acquired fame in the art⁵).

The same names, with occasional new ones, occur again and again down to the close of the Middle Ages. At the end of the fifteenth century Adam of Fulda writes in his treatise *Musica* :

The Greeks relate that Pythagoras was the first to work out the art of music from the sound of hammers... to which opinion Boethius and Macrobius allude. But... there is no poet who does not say that Orpheus was the most skillful

3) MARTIANUS CAPELLA, *De nuptiis Philologiae et Mercurii*, III, 223-226 : ed. Adolfus Dick (Leipzig, 1925), pp. 82-83.

4) *De nuptiis*, IX, 904-906 (ed. Dick, pp. 479-480).

5) *Etymologiae*, III, 16 : *Patrologia Latina*, 82, col. 163 B.

and he preceded him not by years but centuries... Others say that Jubal was indeed the inventor of music, which seems to me more true... Some others believe that Moses was the inventor of the art... Many however call Linus the inventor, many Amphion, many Orpheus⁶⁾.

This paper will concern itself with the tradition about Jubal and will show that the name was copied in some manuscripts as *Tubal*, and thereafter it became possible for the *Tubal* born of poor orthography to be mistaken for a shortened form of *Tubalcain*. As a result of this error, Tubalcain, the Biblical blacksmith, was sometimes credited with the musical abilities which Genesis had bestowed upon his brother Jubal. This is the confusion perpetuated in the music window of the O'Shaughnessy Hall of Liberal and Fine Arts at the University of Notre Dame⁷⁾, although much of the confusion is that of modern historians of medieval art.

The tradition associating music with Jubal began with Genesis (4 : 19-22) :

... Lamech : who took two wives : the name of the one was Ada, and the name of the other Sella. And Ada brought forth Jabel : who was the father of such as dwell in tents and of herdsmen. And his brother's name was Jubal; he was the father of them that play upon the harp and the organ. And Sella brought forth Tubalcain, who was a hammerer and artificer in every work of brass and iron.

In Latin manuscripts of the Middle Ages proper names were seldom capitalized and *i* served as both the vowel *i* and the consonant *j*. A number of manuscripts of the Vulgate itself had the reading *tubal* for *iubal*, and their readers, not being familiar with any other, would not question the spelling. In the critical edition of the Vulgate Dom Quentin notes that three important codices⁸⁾ and

6) *Musica*, pars I, cap. vii : MARTIN GERBERT, *Scriptores ecclesiastici de musica* (3 vols., Typis San-Blasianis 1784 : Milan, 1931), III, 340-341.

7) A building at the University of Notre Dame, dedicated by Samuel Cardinal Stritch, Archbishop of Chicago, May 16, 1953. At the top of the window, above various musical instruments, is the name *Tubal Cain* in colored glass.

8) *Biblia Sacra iuxta latinam vulgatam versionem...* : *Liber Genesis*, ed. DOM HENRICUS QUENTIN (Rome, 1926). See Gen. iv, 21. The manuscripts are the following : Madrid, *Academia de la Historia* 2, X cent.; Milan, *Ambros. B 47 Inf.*, XII cent.; Paris, *Bibl. nat. lat.* 15467, XIII cent.

the *editio princeps* of the Vulgate have this reading. The latter is of course the so-called « Forty-two Line Bible » or Gutenberg Bible (c. 1452). Paleographically the transformation of *iubal* into *tubal* can be readily understood, especially because of the proximity of *tubalcain* in the same passage. The reverse, the transformation of *tubalcain* into *iubalcain* because of the proximity of the word *iubal*, must have occurred but rarely, for I have found but two instances, both in the same work⁹⁾. As one would expect, the error of writing *tubal* for *iubal* is made in some manuscripts of other works dealing with Biblical lore. Thus for the quotation from St. Isidore already given — « Moses says that the discoverer of the art of music was Jubal » — Migne notes that some manuscripts read *Tubal*, Lindsay's edition of the *Etymologies* gives *Tubal* as the reading and no variants, and the collection of excerpts under the title *Sententiae Isidori Episcopi... de Musica* also has *Tubal*¹⁰⁾. So also, two of the twenty copies of the *Aurora* about which I know anything have *tubal* rather than *iubal*¹¹⁾. As a result of this kind of scribal inaccuracy some works have *tubal* evidently as the intended reading of the author, who must have considered it correct because it was in his copy of the Vulgate or other sources. Thus Peter Comestor used the form *Tubal* in the *Historia scholastica* even in his quotation from the Vulgate, if the text in Migne's *Patrologia latina* is accurate; and Chaucer, who indicates that he was following the *Aurora*, called the discoverer of « the art of songe » Tubal¹²⁾ either because he was using one of the rare copies of the *Aurora* with this spelling, or because he changed *iubal* to *tubal*, thinking it was right. The latter, I believe, is more probable because by this time *tubal* was rather common.

In the works considered thus far, *Tubal* always means Jubal the musician, but on the other hand, in those writings which take their names from *The Antiquities of the Jews* of Flavius Josephus *Tubal*

9) JOANNES GALLICUS, *Ritus canendi vetustissimus et novus*, I, cap. i and x : E. DE COUSSEMAKER, *Scriptorum de musica medii aevi nova series* (4 vols., Paris, 1864-1876 : reprint, Milan, 1931), IV, 299 and 310.

10) *P. L.*, 82, 775 B. *Isidori Hispalensis Episcopi Etymologiarum sive originum libri XX*, ed. W. M. LINDSAY (2 vols., Oxford, 1911); see lib. III, 16. *Sententiae Isidori*, cap. ii (GERBERT, *Scriptores*, I, 20); the form *Thubal* is used in cap. viii (GERBERT, *Script.*, I, 23).

11) Both manuscripts are at Cambridge; Univ. Library, *Ms. Ll. v. 15* (2213), fol. 26, and Gonville and Caius Lib., *Ms. 363. 569* (CMA 1068), fol. 11^v.

12) *The Book of the Duchess*, ll. 1162-1169.

will always mean Tubalcain the Biblical smith, for while retaining the names *Jabel* and *Jubal* for the first two brothers Josephus called their half brother, the smith, *Tubal*¹³). Because he amplified the Biblical narrative and emphasized the discoveries or inventions, Josephus is often referred to in writings of the Middle Ages as an authority on this matter. The passage which corresponds to that from Genesis already quoted is as follows :

... Lamech, who had seventy-seven children by two wives, Silla and Ada. Of those children by Ada, one was Jabel; he erected tents, and loved the life of a shepherd. But Jubal, who was born of the same mother with him, exercised himself in music and invented the psaltery and the harp. But Tubal, one of his children by the other wife, exceeded all men in strength, and was very expert and famous in martial performances. He procured what tended to pleasures of the body by that method; and first of all invented the art of making brass.

After speaking further of the descendants of Cain, Josephus then considers those of Seth and says that they discovered astronomy.

They also were the inventors of that peculiar sort of wisdom which is concerned with the heavenly bodies and their order. And that their inventions might not be lost before they were sufficiently known, upon Adam's prediction that the world was to be destroyed at one time by the force of fire, and at another time by the violence and quantity of water, they made two pillars; the one of brick, the other of stone; they inscribed their discoveries on them both, that in case the pillar of brick would be destroyed by the flood, the pillar of stone might remain and exhibit those discoveries to mankind; and also inform them that there was another pillar of brick erected by them. Now this remains in the land of Siriad to this day¹⁴).

13) The three names in the Greek of Josephus are Ἰὼβηλος, Ἰούβαλος and Θόβελος (*A. I.*, 64). See *Flavii Iosephi Opera Omnia*, post Immanuel Bekkerum recognovit Samuel Adrianus Naber (Leipzig, 1888), I, 14. The names in Pseudo-Philo, *Liber antiquitatum biblicarum*, II, 7 and 9, are Iobab, Iobal, and Tobel. See GUIDO KISCH, ed. (Notre Dame, 1949), p. 114.

14) WILLIAM WHISTON, trans., *The Works of Flavius Josephus, Antiquities of the Jews*, bk. I, chap. ii.

The particular bit of lore concerning the two pillars was eagerly seized upon by medieval writers and applied to the manner of preservation of the discoveries of the sons of Lamech and often to the preservation of music alone. Thus Rabanus Maurus (786-856) transferred this matter to Jubal to augment his Scriptural account, and with an orthographical metamorphosis of *Siriada* into *Syria* he moved the geographical location of the remaining pillar from a town probably in Egypt to another country. References are so made that Josephus is given full credit for the result¹⁵). Others followed Rabanus or made the same word change independently.

For several hundred years after the last quarter of the twelfth century the most influential Bible history was the *Historia scholastica* of Peter Comestor. Peter the Eater had evidently devoured a good many books to be able to write his work. Besides the Vulgate he employed matter from Josephus in a Latin translation or at second hand and he was familiar with the Greek tradition ascribing the discovery of music to Pythagoras's interest in the sound of metals, for he stoutly maintains that Tubal (i. e. Jubal) discovered the art after hearing his brother Tubalcain pounding upon metals. The Greek tradition, spoken of by St. Isidore, crediting the discovery of music to Pythagoras with his hammers is thus transferred and grafted to the Biblical. This graft flourished luxuriantly, for what could be more plausible than that Jubal the musician, often hearing his brother Tubalcain pounding metals on his anvil with hammers of different weights, should have noted the differences of pitch and worked out a scale? He did not need to chance upon a smithy as Pythagoras did; there was one in the family. My translation from the *Historia scholastica* begins after the comments about Jabel.

The name of his (Jabel's) brother was Tubal, the father of players on the harp and the organ. He was the inventor of music, that is, of harmonies, so that pastoral labor might be turned into delights, but not indeed of instruments which were invented long afterwards. And because he heard that Adam had prophesied about two judgments, lest the art invented be lost he wrote it on two columns, on each com-

15) RABANUS MAURUS, *Comment. in Genesim*, II, 2 (P. L., 107, 508 CD) : « quae lapidea permanet hactenus in terra Syria ». JOSEPHUS (A. I, 71) : Κατὰ γῆν τῆν Σιριάδα. The *Glossa ordinaria* (P. L., 113, 101 B) refers the reader to Rabanus.

plete, as Josephus says, one of marble, the other of brick, that the one might not be destroyed by the flood and that the other might not be dissolved by the fire. The marble, says Josephus, still exists in the land of Syriaca. Sella begot Tubalcain, who first invented the art of iron, prudently exercised things of war, and made works of sculpture in metals for the delight of the eyes. While he was making these things, the above mentioned Tubal, pleased with the sound of the metals, from their weights thought out their proportions (intervals) and their harmonies which were born of them, which discovery the Greeks erroneously attribute to Pythagoras ¹⁶).

Before the close of the twelfth century Peter Riga used the *Historia scholastica* as one of his sources for writing his very popular verse Bible in Latin, the *Aurora*. He paraphrased the passage above — even the references to Josephus and Pythagoras — very concisely and clearly. The discovery of music becomes more vivid : Jubal notes with his ear the different hammer strokes, proportions the weights of the hammers, and makes every harmony. The inference is that Jubal experimented with hammers of different weights to produce sounds of proper pitch — that is, that he actually beat upon an anvil himself. This is important to remember because visual representations to be discussed later will show a man with head cocked to one side or looking off into space to indicate that he is listening intently while he strikes a bare anvil with either one or two hammers. The following is Peter Riga's paraphrase of the last part of the passage in the *Historia scholastica* translated above :

Sella parit Tubalcain, qui primitus artem
 Inuenit ferri, bellica multa docens;
 Sculpturis operum laudem dedit iste metallis,
 Delicias oculis arte metalla nouans.
 Aure Iubal uarios ferramenti notat ictus,
 Pondera librat in his, consona queque facit.
 Hoc inuenta modo prius est ars musica, quamuis
 Pitagoram dicant hanc docuisse prius ¹⁷).

16) *Hist. schol.*, « Genesis », cap. 28 (P. L., 198, 1079 AB).

17) *Aurora*, « Genesis », ll. 557-564 (from my edition in preparation). The Old French verse Bible of Macé de la Charité, a free translation of the *Aurora*, has of course the story of the discovery of music. *Jubal* is the form used for the name of the discoverer. (See *Ms. Bibl. nat. fr.* 401, fol. 4^r).

Biblical poems in the vernacular languages helped spread the ideas contained in the *Historia scholastica* and the *Aurora*. The Middle English *Story of Genesis and Exodus*, from the middle of the thirteenth century, seems to follow the *Historia*, although the name *Tubal* is used for *Tubalcain* as in Josephus. Furthermore, the same name *Iobal* is used for both Jabel the herdsman and Jubal the musician; and the two columns have now become two tablets, one of tile and the other of brass, on which Jubal wrote his discovery of music. This account of the family of Lamech was the first of a few choice passages for which the editor gave a literal translation « in order to excite the reader's curiosity », when one started with his introduction¹⁸⁾. Below, the Middle English is preserved with modern letters substituted for several early characters.

Lamech him two wifes nam,
 On adda, an other wif sellam.
 Adda bar him sune Iobal,
 He was hirde wittere and wal;
 Of merke, and kinde, and helde, and ble,
 Sundring and sameni[n]g tagte he;
 Iobal is brother song and glew,
 Wit of musike, wel he knew;
 On two tables of tigel and bras
 Wrot he that wistom, wis he was,
 That it ne sulde ben undon
 If fier or water com thor-on.
 Sella wuneth oc lamech with,
 She bar tubal, a sellic smith;
 Of irin, of golde, siluer, and bras
 To sundren and mengen wis he was.
 453-468.

The corresponding matter in the encyclopedic Middle English *Cursor Mundi*¹⁹⁾, composed in the north of England in the last part of the thirteenth century or first quarter of the fourteenth, tells briefly about the discoveries or inventions of the sons of Lamech

18) *The Story of Genesis and Exodus*, ed. Rev. RICHARD MORRIS (E. E. T. S., 7; London, reprinted 1895 from the second and revised edition of 1873), p. viii.

19) *Cursor Mundi*, ll. 1516-1522, 1530-1540 : ed. Rev. RICHARD MORRIS (E. E. T. S., 57, 59, 62, 66, 68, 99, 101; London, 1874-1893).

but uses eleven lines to inform us about the two pillars, one of tile and the other of « merbul stan », on which they wrote their crafts. The four parallel texts of the edition do not agree, of course, in the spellings of names : the discover of music is called both Tobal and Cubal, and the blacksmith Tubaltaine and Cubaltain.

Chaucer's only demonstrable use of the *Aurora* was for the passage on Jubal's discovery of music. Although he calls him Tubal and does not mention the name of his brother the smith, there is no confusion of the two.

In the *Book of the Duchess* the Black Knight says that when he was falling in love with his lady, the Good Fair White, he used to compose songs a great deal,

Although I koude not make so wel
Songes, ne knewe the art al,
As koude Lamekes sone Tubal,
That found out first the art of songe;
For as hys brothres hamers ronge
Upon hys anvelt up and down,
Therof he took the firste soun, —
But Grekes seyn Pictagoras,
That he the firste fynder was
Of the art, Aurora telleth so.

1160-1169

There is no need to seek examples in Biblical poems in other vernacular languages, for, like the English, they will go back to Latin sources.

Another important body of literature, however, should be recognized for its contribution to the spread of the Biblical story of the origin of music — the English chronicles and histories written after the Norman Conquest. In sheer bulk and numbers no continental country rivaled the production in England; one needs only to look at the Rolls Series to be impressed. While some begin with the coming of the Angles and Saxons or with a later period, some of the more prodigious ones go back to Adam to get a start, and having done this they give an account of the inventions of the great-grandchildren of Adam before the Flood. The passage in the *Chronica majora* of Matthew Paris, a thirteenth-century chronicler who wrote at the monastery of St. Albans, is deeply indebted to the *Historia scholastica*. Giving the names of the three brothers as Jabaal, Jubal, and Tubalchaym, Matthew writes :

Jubal, the father of players on the harp and the organ, that is, the inventor of the art of music, engraved the same art on a column of brick and another of marble against the conflagration and the deluge. Tubalcain, the inventor of the art of iron, was a maker of works of sculpture in metals, the sound of whose hammers pleasing Jubal, this latter was the first to examine the intervals (*proportiones*) of sounds from them²⁰).

The *Flores historiarum* excerpts the passage accurately²¹).

In the first half of the fourteenth century Ranulf Higden, a monk of Chester abbey, compiled his very popular *Polychronicon*; in 1387 John Trevisa completed his translation of it into English; and in the fifteenth century an unknown author made a second translation. Higden used a number of works in compiling his chapter on the posterity of Lamech. For the origin of music he cites Peter Comestor, but disagreeing with him he prefers the Greek tradition that Pythagoras invented music from the sound of hammers. It comes out thus in Trevisa's translation :

Petrus. Tubalcain fonde first smythes craft and grauyng, and whan Tubalcain wroughte in his smethes craft, Tubal hadde grete likyng to hire the hameres sowne, and he fonde proporciouns and acorde of melodye by wyghte in the hameres, and so they vsed hym moche in the acorde of melodye, but he was nought fyndere of the instrumentis of musik, ffor they were i-founde longe afterward. *R.* Here wise men telleth that they Tubal vsede first musyk for to releue hym self while he was an herde, and kepte bestes, ffor all that he was nought the firste that fonde the resoun of acorde in musyk by wightes, but Pittagoras fonde that; therof loke with ynne, in the thridde book, of Pittagoras²²).

I did look within, « libro tertio, de Pytagora, capitulo undecimo »,

20) MATTHEW PARIS, *Chronica majora*, ed. Henry Richards Luard (Rolls Series, 57; 7 vols., London, 1872-1883), I, 3-4.

21) *Flores historiarum*, ed. HENRY RICHARDS LUARD (Rolls Series, 95; 3 vols., London, 1890), I, 4.

22) RANULPH HIGDEN, *Polychronicon, together with the English Translations of John Trevisa and of an Unknown Writer of the Fifteenth Century*, ed. Rev. JOSEPH LUMBY... (Rolls Series, 41; 9 vols., London, 1865-1886), II, 229. In the quotations modern letters have been substituted for several Middle English characters.

and there I found Higden referring to St. Isidore, to Macrobius and to others, in support of the Greek tradition over the Biblical. From Macrobius he tells the following (again in Trevisa's English) :

Mac. libro 2^o. Hit happede that Pictagoras passede forth openliche and herde smethes bete with hameres on hoot iren, and euerich hamer to other accordeth in certeyn ordre of soun [for the scharpe soun] acorded to the grete; and he made the smethes change hameres, but the same acorde of sownynge folowed alwey. Thanne he took heede that the hameres were of dyuers weightes, and hete hem make grettere hameres : and from hameres he tornede hym to examyne strenges, and streyned guttes and senewes of schepe and of retheren i-fastned to dyuers wightes, suche wightes as he hadde i-founde in the hamer; and hadde suche song and acorde as the rather acordinge of hameres, made with swetnesse of kyndeliche soun of strenges. Than whan he was konnyng of so grete priuete, he gan to fynde noumbres by the whiche sownes accordeth, and so he spedde to make the craft of musyk ²³).

Higden then goes on to explain how Pythagoras worked out a music scale according to the weights of the hammers and according to the positions of a movable bridge placed beneath a stretched string or gut, the monochord. It might be of interest to note that in the chapter on the posterity of Lamech, Higden referred to Josephus for the matter concerning the two pillars on which the antediluvians recorded their discoveries. In translating, Trevisa gave it his own twist by having them enclose in the two pillars the books they had made with great labor and study recording their discoveries ²⁴).

Whereas Higden and his two translators used the name *Tubal* for *Jubal* just as Peter Comestor did, John Capgrave in his *Chronicle of England* (1464) used the name *Jubal* for the inventor of music. Although his account adds no new matter, it does offer an example of the use of *Tubal* as a short form of *Tubal-Cayn* which precedes it.

The othir man, Tubal-Cayn, that fond first smythis craft, he mad first wepenes of batayle, both invasif, and defensif;

23) *Ibid.*, III, 203-205.

24) *Ibid.*, II, 233.

and he began first graving in metallis, to plesauns of the sith. And, as it is seid, the forseid Jubal proporcioned his musik aftir the soun of Tubal hamberes; for he ded make hem of dyvers proporciones, sum hevvyere, sum liter, aftir his delectation²⁵).

Vincent of Beauvais must have used not a few of his fellow thirteenth-century Dominicans to read and excerpt or abstract all books available for his colossal project of producing an encyclopedia of all knowledge, the *Speculum maius*. It would be difficult to guess how many later historians, poets, and even musicians thumbed his pages. At any rate the *Speculum doctrinale* has a good many chapters on music. Our quotation from St. Isidore is given in book XVII, chapter x, and that from Peter Comestor's *Historia scholastica* in chapter xxv, and in both the form *Tubal* is used for *Jubal*²⁶).

When one turns to an examination of the medieval treatises on music in the collections of Gerbert and Coussemaker, he finds that their authors, like other medieval writers, often went back to the same authorities for a running start before coming to the more limited topic of their work. The introductions or early chapters are likely to treat, briefly or at length, the meaning of the word *music* from supposed etymologies, the discovery of music, and important contributors to the art down to the author's own day. Early treatises like those of Aurelian Reomensis, Frater Ieronimus of Moravia, a certain Aristotle, and John [Cotton ?] the Englishman repeat St. Isidore's list of discoverers with little change²⁷). Jubal, or Tubal as they most frequently called him, is mentioned as the discoverer of music according to Genesis; but Pythagoras is given higher honors as the inventor of music from the sound of hammers, for he was scientific about his investigations of harmony, whereas Jubal, the natural musician, was not. After the *Historia scholastica* Jubal fares

25) JOHN CAPGRAVE, *The Chronicle of England*, ed. Rev. FRANCIS CHARLES HINGESTON (Rolls Series, 1 : London, 1858), p. 8.

26) VINCENT OF BEAUVAIS, *Speculum doctrinale* [ADOLF RUSCH : Strassburg, c. 1480]. For the story of Pythagoras see cap. xxiii : « Qualiter pitagoras consonantiarum proportionones inuestigavit ».

27) AURELIANUS REOMENSIS, *Musica disciplina* (GERBERT, *Script.*, I, 31); FRATER IERONIMUS DE MORAVIA, *Tractatus de musica* (COUSSEMAKER, *Script.*, I, 6); QUIDAM ARISTOTELES, *Tractatus de musica* (COUSSEMAKER, *Script.*, I, 253); IOANNES COTTONIS, *Tractatus de musica* (GERBERT, *Script.*, II, 233-234) or JOHN OF AFFLIGEM, *De musica cum tonario*, ed. J. SMITS VAN WAESBERGHE (Corpus script. de musica, 1 : Rome, 1950), p. 55 f.

better, and the story of his discovery of music from the sound of the hammers of his brother Tubalcain is accepted by some authors of treatises on music. Thus in the second half of the thirteenth century, John Aegidius Zamorensis, recognizing the various opinions concerning the discovery of music, states that some say that Pythagoras passing a workshop and hearing the sound of five hammers of workmen striking on one anvil discovered the secret of music; yet he was not the first inventor or author of the art, but Tubal (or Jubal). His argument is one from authorities — the Bible, the *Glossa ordinaria*, Rabanus Maurus, Josephus, and the *Historia scholastica*²⁸). While giving the account of Jubal's discovery of music from the sound of Tubalcain's hammers and the story of the two pillars from the *Historia*, he makes it perfectly clear that the forms *Tubal* and *Jubal* are interchangeable : « Eo [Tubalcain] fabricante Tubal sive Jubal, de quo superius fuit dictum, sono malleorum delectatus, ut in historiis scholasticis continetur... » And he concludes his chapter by saying that it must be agreed because of the credibility of the Bible that Tubal (i. e. Jubal) was the first inventor of music; nevertheless very many others after him down to the present time through new considerations and experiences added to earlier knowledge, as is sufficiently clear in other sciences. This attitude becomes rather prevalent as time goes on²⁹).

Joannes Gallicus (called John the Carthusian or John of Mantua), who died in 1473, devotes a good deal of attention to the origins of music in *Ritus canendi vetustissimus et novus*. He is amazed that learned men of his time, especially ecclesiastics, can believe those

28) IOANNES AEGIDIUS ZAMORENSIS, *Ars musica*, cap. i (GERBERT, *Script.*, II, 371) : « Sicut enim habetur ex chronicis divinitus inspiratis per Hebraicam veritatem, Genesis IV. capitulo, & ex glossa super eundem locum, & ex Rhabano, & ex Iosepho historiographorum eximio, & ex historiis scholasticis, Tubal filius Lamech ex Ada uxore sua pater fuit canentium in cithara & organo; sed non instrumentorum, quae longius (postea) inventa fuerunt. Hic primus & primo musicae proportiones & consonantias adinvenit ». *Idem* (II, 373) : « Verumtamen assentiendum est Hebraicae veritati, quod primus inventor fuit Tubalis : sed alii & alii postmodum Tubali secundum sui gradum & ordinem succedentes usque ad praesens tempus, ut infra dicitur, novas considerationes & novas experientias habuerunt, & prioribus addiderunt, sicut in aliis scientiis satis patet ».

29) IOANNES DE MURIS, *Summa musicae*, cap. i (GERBERT, *Script.*, III, 194) :

Iubal, Mathusalem cum Pythagora docuerunt,
Orpheus, Amphion illam, primique fuerunt.
Unus erat primus, non primi tempore cuncti,
Prima sed augendo poterant omnes fore iuncti.

who ascribe a later origin for music than that indicated in the Bible in the story of Jubal. He thinks that Jubal sang or made music first and later worked out his theory of music. « If anyone wishes to know how, let him read first the *Musica* of the illustrious doctor Boethius and afterwards, if he pleases, the tenth chapter of this book, although Boethius copying the fables and the boasts of the Greeks ascribes the whole glory of this to the philosopher Pythagoras »³⁰). The title of chapter x summarizes its contents : « At the sound of Tubalcain's hammers Jubal conceived the whole of music to consist in numbers ». Having practiced music as a natural musician for some time and having wondered why certain mixtures of sound produced harmony and others discord, « one day he heard his brother Tubalcain [here written *Jubal Chayn*], who was a smith, sound on his anvil simultaneously *tonus diatesseron*, *diapente*, and *diapason*, and he said : „ Exchange your hammers, I beg you, and strike again, for I feel that not a small secret of nature lies hidden either in your arms or in the very hammers ” ». The rest becomes rather technical and the chapter concludes with a diagram showing four hammers numbered VI, VIII, VIII, and XII striking an anvil, while around the frame runs the inscription : « Tradunt Graeci Pythagoram hanc invenisse fabricam. Sed magis puto consonum opinari dictum Iubal... »³¹). The next chapter, « By what proportions of numbers Jubal wished to adapt the harmonies of voices and sounds », also concludes with a diagram of the proportions, around the border of which is the inscription : « Hic Iubal prior cecinit, ac primus artem reperit. Omnem sumens judicium, ut hic patet in numeris, quam demum in marmoribus. Sculpsit ac in lateribus, nec percat [percat] in diluvio vel solvatur in incendio »³²).

There is no need to cite other tracts, for the musicians did not confuse Jubal and Tubalcain. The exception to prove the rule turns out to be probably a modern error and not even an exception. Translating from the prologue to the seventh book of *Speculum musicae* of Jacob of Liège (formerly attributed to John de Muris), Professor Strunk writes : « Long ago venerable men (among them Tubal Cain, before the flood) wrote reasonably on plainsong;... »³³). Now the

30) JOANNES GALLICUS, *Ritus canendi*, lib. I, cap. i (COUSSEMAKER, *Script.*, IV, 299-300).

31) *Ibid.*, cap. x (p. 310).

32) *Ibid.*, cap. xi (p. 311).

33) OLIVER STRUNK, *Source Readings in Music History* (New York, 1950), p. 181.

Latin with Coussemaker's commas is this : « Sane cum dudum venerabiles viri de musica plana tractaverint, ut Tubal, Chayn ante diluvium,... »³⁴). Why did he insert a comma between *Tubal* and *Chayn*, unless he wished to show that two persons were involved ? Was there a printer's omission after the comma, or is the comma all that remains of a medieval caret to indicate that several words were to be inserted from the margin of the manuscript ? Since the phrase of St. Isidore, « Jubal [or Tubal], qui fuit de stirpe Cain ante diluvium », had by this time become a cliché, the missing words are quite probably « qui fuit de stirpe ».

In medieval chronicles, Biblical poems, or tracts on music there is never any difficulty distinguishing between Jubal and Tubalcain by their occupations no matter how their names may be distorted in a particular work or manuscript. When one turns to visual reproductions, where only one person — a man with an anvil and a hammer or hammers — is represented and the name is given as *Tubal*, or no name is given at all, then confusion can occur unless one is quite familiar with the literary tradition. Let us now see some examples of how the literary tradition was followed by the artists.

The family of Lamech is represented in the upper half of folio 2^b of *Ms. Egerton 1894* in the British Museum (plate 1). The work is a picture Bible of the fourteenth century with very fragmentary texts taken from the Bible and especially the *Historia scholastica*; the language is Anglo-French. The names of the persons are written above their heads. From left to right, 1) Jubal, a bearded figure standing to the rear of a seated younger man (as indicated by his short beard) playing upon a harp; 2) Jabel, also bearded, standing to the right of a shepherd's house on wheels, in the doorway of which stands a boy or young man with a shepherd's crook (The artist is evidently interpreting quite literally the phrases « the father of those who dwell in tents and of herdsmen » and « the father of those who play on the harp and the organ »); 3) Oda (i. e. Ada) pointing in the direction of her sons; 4) Lamech in the center of the picture between his two wives; 5) Sella pointing towards her children; 6) Tubalcayn with hammer and tongs working at an anvil and 7) Noema working at a loom. The picture does not indicate the way Jubal discovered music, but the text does : « And Jubal his brother was the first master of music on the harp and

34) *Speculum musicae*, lib. VII, cap. i (COUSSEMAKER, *Script.*, II, 384).

the organ, which music he discovered from the proportion of strokes which his brother Tubalcaym made at the forge »³⁵). Jubal beating a bare anvil usually with two hammers is the common way of portraying his discovery of music, and in frescoes or miniatures of the Liberal Arts he is seated below Music, a maiden with a musical instrument or two, as in the fifteenth-century fresco in the Salle Capitulaire at Le Puy (plate 2) or in the miniature in a manuscript of Bartolus of Sassoferrato, *Commentaria super codices*, at Madrid (plate 3).

On the fourteenth-century bell tower of the Cathedral of Florence — Giotto's Campanile — there are two bands of reliefs. In the lower row on the west side, along with others representing early scenes from Genesis, there are three reliefs, one each for Jabel, Jubal, and Tubalcain. They represent the pure Biblical story without accretions and there is no mistaking them : Jabel is a shepherd with sheep and a tent, Jubal a musician with a horn or trumpet, and Tubalcain a blacksmith in a very realistic smithy. But a relief in the upper band on the north side shows a man seated to the right of his bare anvil on which he is striking with two hammers, and since his head is tilted he appears to be concentrating on the sound while he listens with his left ear. This relief interprets, of course, the tradition that Jubal discovered music from the sound of hammers. Although I am indebted to the article of Julius von Schlosser, « Giusto's Fresken in Padua und die Vorläufer der Stanza della Segnatura »³⁶), for reproductions and descriptions of these reliefs as well as for some other representations of the Arts in the Middle Ages, nevertheless I must point out that he considers *Tubal* synonymous with *Tubalcain* wherever he meets the name in his source material, calls the man with the hammers *Tubalcain* when a name is not given, and places Tubalcain in the medieval canon of representatives of the Seven Liberal Arts along with Priscian, Aristotle, Cicero, and so on. He has been trapped by the very ambiguity of the word *Tubal*. To identify the relief just mentioned he says :

35) M. R. JAMES, *Illustrations of the Book of Genesis : Being a Complete Reproduction in Facsimile of the Manuscript, British Museum, Egerton 1894* (Roxburghe Club : Oxford, 1921), p. 11 : « et iubal son frere/ <f> u le primere mestre de musyke en harpe et en orgens. quel mu/syk il controua de la proporcioun des coups queux son frere tubal/caym dona a la forge ».

36) JULIUS VON SCHLOSSER, « Giusto's Fresken in Padua und die Vorläufer der Stanza della Segnatura, » *Jahrbuch der Kunsthistorischen Sammlungen des Allerhöchsten Kaiserhauses*, XVII (Vienna, 1896), 13-100.

« 7. Tubalcain, the discoverer and standing representative of music, here appearing for the second time, listening attentively to the strokes of the hammers (as in the *Ambraser Codex*) »³⁷⁾. He should have said : « Here Jubal appears for the second time ». Now in the photographic reproduction of the miniature in the *Ambraser Manuscript*, which Schlosser himself gave, the word beneath the figure at the anvil is *Tubal* (plate 4), and he accurately records this fact³⁸⁾. Furthermore, in the text accompanying the picture there are six Latin hexameters on music, the last of which is, « Quam Tubal ut repetat sic pariterque pagina pandit ». In an appendix of documents Schlosser collated this text of the *Ambraser Ms.*, as well as a Florentine manuscript of the same work³⁹⁾, with the passage on music which Hartmann Schedel, who studied at the University of Padua in 1466, had recorded in his notebook. The first two manuscripts read *Tubal* but Schedel's notebook reads *Jubal* : « Quam Iubal ut reperit scripsitque pagina pandit ». Moreover, Schedel began his notes on Giusto's frescoes in the Chapel of St. Augustine of the Hermits of Padua by giving the names of the figures in the fresco, first the personification and then the representative :

Subscripta in capella beati Augustini apud Heremitanos
Padua continentur : Et primo in parte dextra.

Primo pictura,
deinde nomina ista :

.....
Musica
Jubal⁴⁰⁾

37) *Ibid.*, p. 73 : « 7. Tubalcain, der Erfinder und ständige Repräsentant der Musik, hier zum zweiten Male auftretend, auf den Schlag seiner Hämmer horchend (wie im *Ambraser Codex*) ». See the drawing, p. 57.

38) *Ibid.*, p. 22. *Ambraser Ms.*, f. 4^r. At the time he wrote, Schlosser (p. 19, fn. 1) gave its location in Vienna, Kunsthistorisches Museum, Sammlung der kunstindustriellen Gegenstände, Saal XXIII, Vitrine I, No. 10. Now it is Oesterr. Nationalbibliothek, ser. no. 2639, f. 36^r.

39) Florence, Biblioteca Nazionale, *Ms. Megliabecchiana*, CI. vii, cod. 17. The copy in the British Museum, *Ms. Royal*, 6E. IX, made about 1335-1340, is probably the original presented to Robert of Anjou, King of Naples (See the *British Museum Catalogue of Western Manuscripts in the Old Royal and Kings Collections* by Sir GEORGE F. WARNER and JULIUS P. GILSON [4 v., London, 1921], I, 159-160). In this manuscript, however, the Seven Liberal Arts are portrayed as seven kneeling who are not accompanied by representatives of the Arts (f. 29^r).

40) SCHLOSSER, *op. cit.*, 91-92 (appendix of documents). He discusses Schedel pp. 19-22.

One of the capitals of the Doge's Palace at Venice represented Wisdom (with the name *Solomon* inscribed) and probably the Seven Liberal Arts. The impression which Schlosser gives that the names of the representatives of all of the Liberal Arts, among them Tubalcain, can still be read⁴¹⁾ is certainly contradicted by Ruskin's earlier descriptions of what remained in his day of the figures and inscriptions on the sides of the octagonal capital after centuries of erosion by sea wind. The side where one would hope to find the name of the representative of music has suffered severe damage; Ruskin wrote : « *Seventh side*. Nothing is left but a guitar with its handle wrought into a lion's head »⁴²⁾.

The great French historian of art of the Middle Ages, Emile Mâle, discusses the representation of the Liberal Arts in *Religious Art in France of the Thirteenth Century*. In his treatment of Music and her representative he safely keeps the word *Tubal*, perhaps presuming that his readers would recognize the word as a variant of *Jubal*, although the presumption is certainly unfounded. At any rate, he refers to Peter Comestor, who as we have seen uses the form *Tubal* even in his quotation from the Vulgate, and to the compiler, Vincent of Beauvais, who followed the *Historia scholastica*, as exponents of the popular tradition attributing the discovery of music to Tubal (i. e., Jubal) from the sound of hammers. In trying to identify the figure beneath Music who is represented as a maiden striking bells in the relief on the old west porch of Chartres, Mâle argues that the little man at her feet who is busily writing cannot be taken for Tubal, who would have been shown striking on an anvil with two hammers as in the fourteenth-century fresco in the Spanish Chapel of Santa Maria Novella at Florence and the fifteenth-century fresco in the Salle Capitulaire at Le Puy. « He is most probably Pythagoras, and the sculptor at Chartres has followed the tradition of Cassiodorus and Isidore of Seville which attributed to him the discovery of the laws of music »⁴³⁾.

41) *Ibid.*, 78, fn. 1 : « Sie sind inschriftlich bezeichnet : Priscian, Aristoteles, Cicero, Pythagoras (der eine Tafel mit der Jahreszahl 1344 hält), Euklid, Tubalkain, Ptolemäus, der gewöhnliche Canon ».

42) JOHN RUSKIN, *The Stones of Venice*, II, chap. viii, « The Ducal Palace », § cv. This is the seventeenth capital according to Ruskin's method of counting, and the twentieth according to Schlosser's.

43) EMILE MÂLE, *Religious Art in France of the Thirteenth Century*, trans., DORA NUSSEY (London and New York, 1913), p. 88. See also figure 44 on page 87.

The frescoes of the Seven Liberal Arts in the Spanish Chapel of Santa Maria Novella are well known and there is no need to pause longer than to state that when Mâle uses the name *Tubal* for the representative of music he is the exception, for others besides Schlosser identify this figure as Tubalcain, no doubt repeating what was found in earlier descriptions — thus Pietro Toesca in *Die florentinische Malerei des vierzehnten Jahrhunderts* ⁴⁴), Dr. Heinrich Bessler in *Die Musik des Mittelalters und der Renaissance* ⁴⁵), and the article on the Seven Liberal Arts by Otto Willmann in the *Catholic Encyclopedia* (I, 762). A miniature of Music in an Italian manuscript in the Bibliothèque Nationale (plate 5) is much like the representation of this Art in the Spanish Chapel. As in the fresco, the man who sits in front of Music with her small organ and who beats upon an anvil with his two hammers is not identified by the artist. Marsand, who described the manuscript, however says : « The painter perhaps wished to indicate in this old man the Tubalcain of Sacred Scripture » ⁴⁶).

The fifteenth-century frescoes of the Salle Capitulaire at Le Puy, discovered little more than a century ago, portray four of the Liberal Arts — Grammar, Logic, Rhetoric, and Music — as beautiful ladies dressed in rich costume, with their names inscribed above their heads, and with the representative of each Art sitting to the front and side of each lady. Music is playing a delicate little organ which she holds in her lap, while the representative of music with two light hammers drums on an anvil on the support of which is written the name *Tubal* (plate 2). He reminds one more of a courtier playing

44) PIETRO TOESCA, *Die florentinische Malerei des vierzehnten Jahrhunderts* (Florence and Munich, 1929), plate 102.

45) HEINRICH BESSELER, *Die Musik des Mittelalters und der Renaissance* (Handbuch der Musikwissenschaft, 2 : New York, 1931), plate 1, p. 1 : « Die Sieben Freien Künste, Fresko von Andrea Bonaiuti in der Spanischen Kapelle von S. Maria Novella (Florenz). In der Mitte die Musik (mit Organetto), vor ihr Tubalcain mit Amboss und Hämmern... » OTTO URSPRUNG, *Die Katholische Kirchenmusik* (Handbuch der Musikwissenschaft, 9 : New York, 1931), plate 13, p. 53 : Die Sieben Freien Künste. Truhnenbild in der Art des Franc. Pessellino. Wien, Sammlung Wittgenstein ». Although the portrayal of Music and her representative is quite similar to that in the Spanish Chapel, Ursprung identifies the man beating the anvil with two hammers as Pythagoras.

46) ANTONIO MARSAND, *I Manoscritti Italiani della Regia Biblioteca Parigina* (Paris, 1835), pp. 579-582. The hexachord is written on the right column from bottom to top — « ut, re, mi, fa, sol, la ».

on a kettledrum than a blacksmith pounding on an anvil. Identification of the Tubal here as Jubal was hindered right from the beginning. P. Mérimée, Inspector General of Historical Monuments, sent a communication dated September 27, 1850, to the Minister of the Interior concerning his discovery at Le Puy. The communication, prefaced by some remarks of the editor, was printed in *Annales Archéologiques* but without a reproduction of the fresco⁴⁷). After describing Music and Tubal, Mérimée said : « I believe that the invention of wind instruments is attributed to Tubal-Cain »⁴⁸). This opinion the editor tried to correct, but he succeeded only in compounding the confusion : « The smith Tubalcain invented percussion instruments or rather the rhythm which Pythagoras heard from the anvil in Greece; it is to Jubal his brother that the Bible attributes the invention of the harp and the organ »⁴⁹). Thus he makes both brothers musicians and inventors of instruments. Wilson printed a photograph of the fresco in *Cathedrals of France* and depended heavily upon Mérimée's description. He accepted the identification of Tubal as Tubal Cain and even missed the fact that Tubal in the fresco has two hammers, not one. « Music is young and fair and has flowers in her hair; she smiles as she plays her instrument, while Tubal Cain, the first „harmonious blacksmith”, strikes the anvil with his hammer »⁵⁰).

One medieval miniaturist, Nicolò di Giacomo or Nicholas of Bologna (c. 1330-1402), made the same mistake that moderns have been making, that is, interpreting *Tubal* as *Tubalcain* rather than as *Jubal*. Nicholas painted the Seven Liberal Arts and their representatives in at least two miniatures. One is the frontispiece of the second volume of Bartolus of Sassoferrato's *Commentaria super codices* (D. 1-2) in the Biblioteca Nacional. This miniature is a magnificent apotheosis of St. Augustine and is much like the fresco in the Spanish Chapel of Santa Maria Novella honoring St. Thomas Aquinas. Persons of course are different; and the use of open books, scrolls, or boxes for names or bits of text makes the composition

47) « Les arts libéraux au Puy », *Annales archéologiques*, X (1850), 287-290.

48) *Ibid.*, 289 : « La Musique, avec Tubal, occupe le côté droit du tableau. Elle tient un orgue sur ses genoux, tandis que Tubal est assis devant une enclume, ayant un marteau dans chaque main. Son costume, qui se compose d'une barrette bleue et d'une robe rouge fourrée, ouverte aux manches, est un peu incommode pour un forgeron... Je crois qu'on attribue à Tubal-Cain l'invention des instruments à vent ».

49) *Ibid.* 288.

50) EPIPHANIUS WILSON, *Cathedrals of France* (New York, 1900) p. 22. Plate on p. 23.

cluttered. The left half of the lower panel (plate 3) represents the Seven Virtues and their contrary vices; the Virtues are crowned maidens with various symbols, and famous representatives of the vices are drawn with their heads towards the ground at the feet of each Virtue, thus Arius beneath Faith, Judas beneath Hope, and so on. The right half of the same panel portrays the Seven Liberal Arts as seven maidens with the instruments or the symbols of their art and at their feet are seated the famous representatives. Music is tuning a lute while she sings « ut, re, mi, fa, sol, la »⁵¹), as indicated by the narrow box or balloon containing the hexachord (as also in the *Ambraser Ms.*), while the little man pounds his anvil. Nicholas of Bologna wrote down his name as *Tubalcaym*, J. Dominguez who described the miniature called him *Tubal*⁵²), but we know that the person meant is Jubal. The other miniature of Nicholas, that which appears in a manuscript of the *Decretals* in the Ambrosian Library in Milan (*B. 42. inf.*), is printed in a full color plate in the *Dictionnaire des miniaturistes*⁵³). Here the Seven Virtues and the representatives of the contrary vices form the upper panel and the Seven Liberal Arts and their representatives form the lower. Again on the anvil block Nicholas wrote the name *Tubalcaim* as the name of the representative of music. Doubtless Nicholas had seen portrayals of the Seven Liberal Arts by other artists before he made his own, and either his memory did not serve him too well when he wrote *Tubalcaim* for *Tubal* or he thought he was expanding a short form. At any rate there are striking similarities between his

51) The hexachord corresponds to the scale C D E F G A, and the names for the notes were taken from the initial syllables of the half-lines of a stanza of a hymn to St. John the Baptist which were sung on these notes. The introduction of the names of the notes is attributed to Guido of Arezzo, an eleventh-century musician, whose system of teaching music was extremely influential.

*Ut queant laxis resonare fibris
Mira gestorum famuli tuorum,
Solve polluti labii reatum,
Sancte Joannes.*

The hymn is still used in Vespers of the Office of the Feast of the Nativity of St. John the Baptist in the Roman rite, June 24.

52) J. DOMINGUEZ BORDONA, « Miniaturas boloñesas del siglo XIV : Tres obras desconocidas de Niccolò da Bologna », *Archivo Español de Arte y Arqueología*, I (1925), 184.

53) PAOLO D'ANCONA and ERHARD AESCHLIMANN, *Dictionnaire des miniaturistes du moyen âge et de la renaissance* (2 ed. revised and augmented, Milan, 1949), opposite p. 158.

Music and Tubalcain and the Music and Tubal of the *Ambraser* manuscript, and the same can be said for the pictures of Astronomy (Astrology) and Ptolemy in both⁵⁴).

And finally a woodcut from F. Gafurio's *Theorica musice* of 1492 (plate 6). Rudolf Wittkower reproduced this frontispiece as plate 37b in *Architectural Principles in the Age of Humanism* with the identifications « Tubalcain, Pythagoras, Philolaos ». In his text he wrote as follows :

The top left picture shows Tubalcain, the biblical founder of music, presiding over a forge where six smiths are busy hammering iron on the anvil. In the next picture Pythagoras beats bells and glasses filled with liquid to different heights. In the lower row Pythagoras is shown beating strings to which weights of different size are fixed, and in the last picture Pythagoras and Philolaos appear with flutes. In all these cases the objects through which sound is produced bear the figures 4, 6, 8, 9, 12, 16... The whole page is an illustration of the discovery of the musical consonances by Pythagoras, and the designer followed almost verbally the story as reported in Boethius' *De musica*⁵⁵).

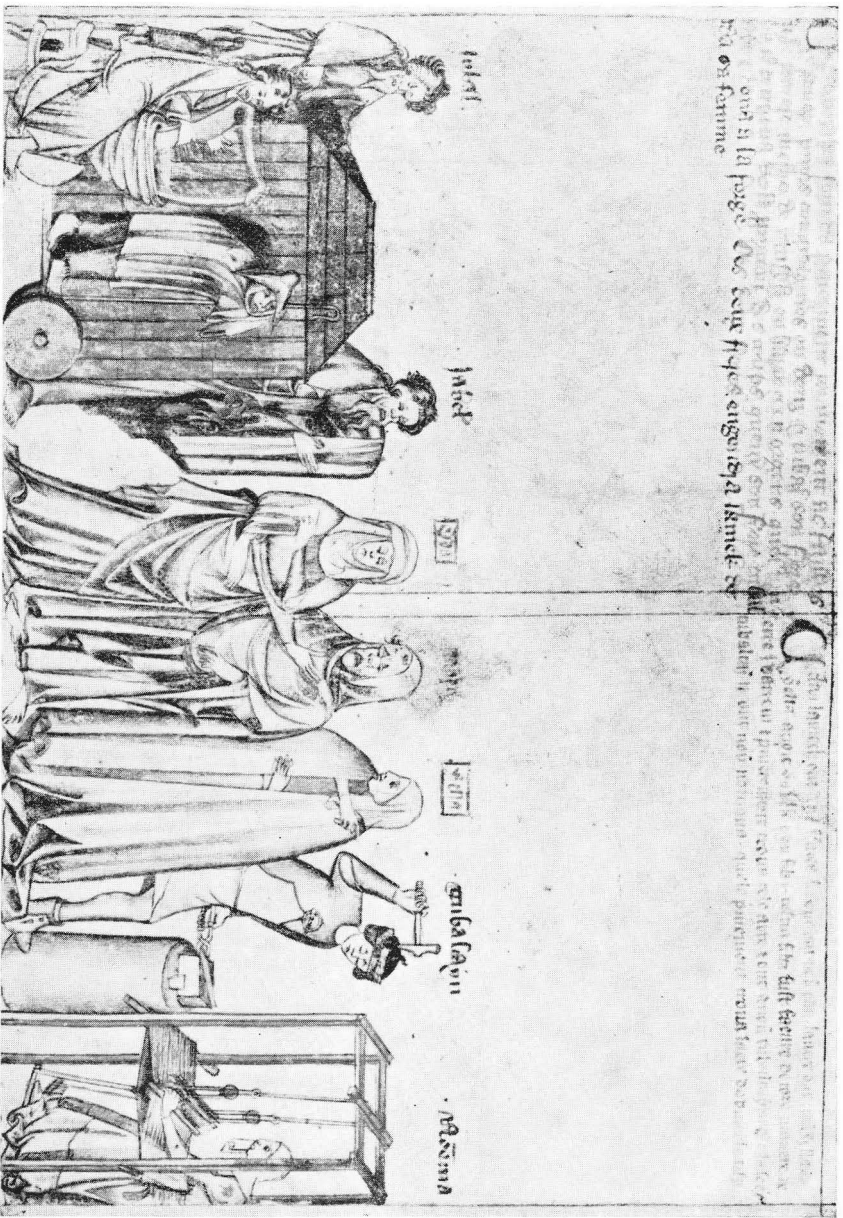
It is true that the whole page is an illustration of the discovery of musical consonances by Pythagoras, and the artist could very appropriately have written PITAGORAS rather than IVBAL in the first picture, but he was following the later medieval tradition concerning Jubal, which as we have seen is a composite from the Bible, the *Antiquities of the Jews*, and the story of Pythagoras and the blacksmiths. We have also seen that the *Historia scholastica* and many other works used the form *Tubal* for *Jubal*, but it is difficult to see why Wittkower should have written « Tubalcain, the Biblical founder of music » instead of following his own correct woodcut, unless he was misled by the modern erroneous assumption that the *Tubal* of medieval writers means *Tubalcain*.

54) For example, in the Madrid miniature and that in the *Ambraser Ms.* Music is facing in the same direction while she plucks her lute and sings the scale indicated in the balloon; a similar but smaller instrument with the handle carved into an animal head lies in her lap. The Milanese miniature, which is probably later, shows the hexachord written down the left arm of Music, since there is no room above for a balloon; and the handle of the second instrument is obscured.

• 55) RUDOLF WITTKOWER, *Architectural Principles in the Age of Humanism* (Studies of the Warburg Institute, 19 : London, 1949). p. 109.

Medieval writers — poets, historians, encyclopedists, musicians — consistently make Jubal (often spelled *Tubal*) the discoverer of music because of the reference in the Bible and not his brother Tubalcain. And with almost the same consistency modern historians of art unfamiliar with the medieval literature interpret the name *Tubal* to mean *Tubalcain* the blacksmith, although it is exceedingly improbable that any medieval artist ever intended to make the Biblical blacksmith a musician or wished to emphasize his contribution of mere sound by excluding his brother who conceived music from it. But even though an historian of art, like Mâle, does not make the mistake of interpreting *Tubal* as *Tubalcain*, the mere retention of the medieval variant *Tubal* for *Jubal* without explanation in accounts of a medieval representation of the origin of music will only confuse the modern reader who knows his names from a modern edition of the Scriptures and not from the Gutenberg Bible or from the *Historia scholastica*. If one doubts that this is so, he need only look again at the music window in O'Shaughnessy Hall.

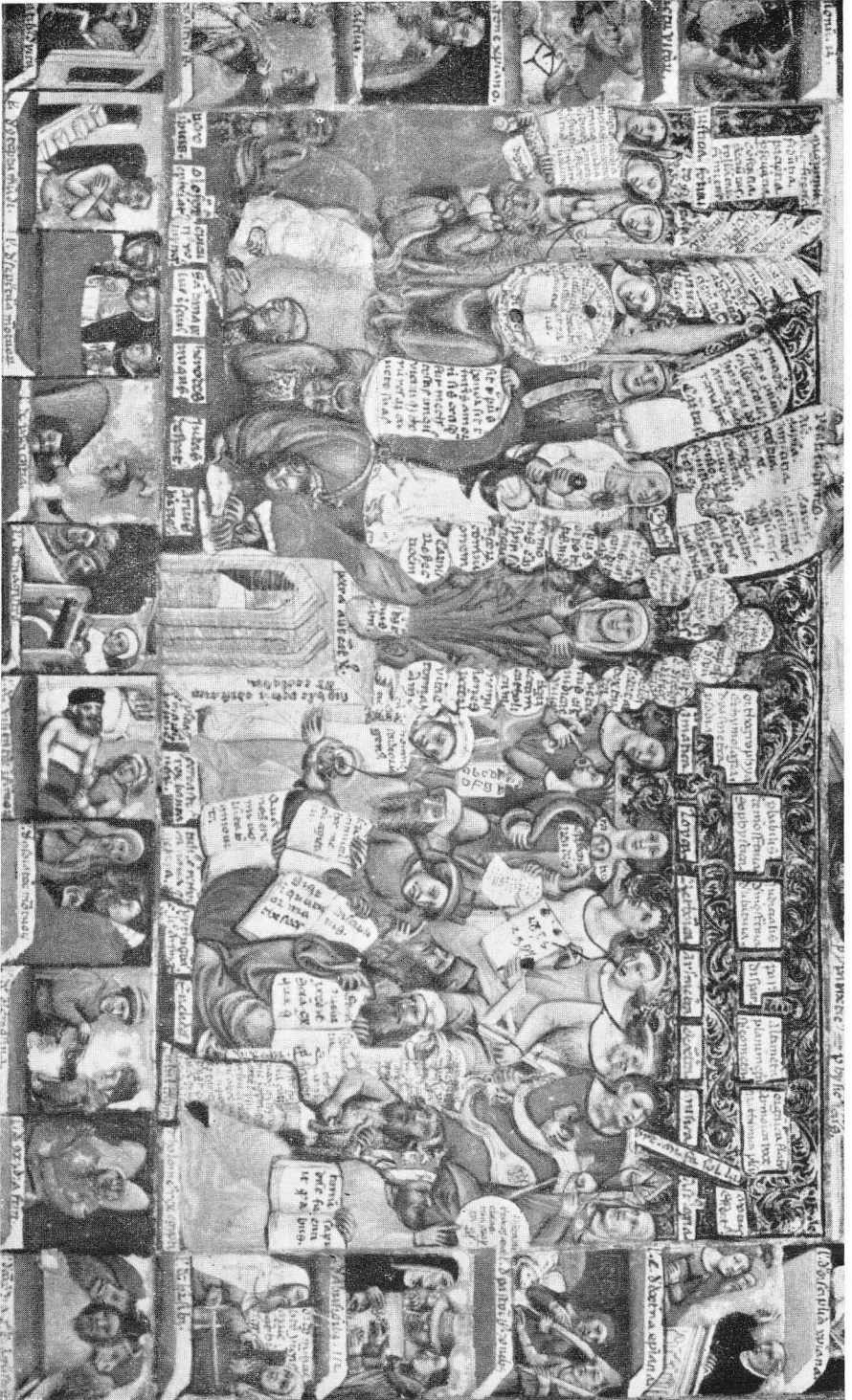




(Plate I) *The Family of Lamech*. British Museum, Ms. Egerton 1894, f. 2v.



(Plate 2) *Rhetoric and Music*. Fresco, Salle Capitulaire at Le Puy, Haute-Loire.



(Plate 3) *The Seven Virtues and the Seven Liberal Arts*. Bartolus of Sassoferrato, *Commentaria super codices*, Madrid, Biblioteca Nacional, Ms. D. 1-2. Lower portion of the frontispiece of vol. 2.



(Plate 4) Music and Astrology (Astronomy).
 Vienna, Oesterr. Nat. Bibl. 2639, f. 36 r. Ambraser Codex.



(Plate 5) *Music*. Paris, B. N. Ms. ital. 568 (Suppl. 535), f. I; late XIV cent.



(Plate 6) *Jubal, Pythagoras, and Philolaos*. F. Gafurio, *Theorica Musica*, Impressum Mediolani per Magistrum Philippum Mantegatum dictum Cassanum opera et impensa Magistri Ioannis Petri de Lomatis anno salutis 1492. Paris, B. N. Rés. V. 525. Folio not numbered [b VII].