

<u>Chronological presentation</u>	TubalCain, Jubal and Pythagoras: development of the theme of discovery of scales	<u>tabular presentation</u>
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1. Compilation

4464 pdf.
VERDUIN, K.
2003
8p.

2. Tabular presentation

3. Texts fragment

This compilation is based mainly on more or less ready available texts that are relevant to this theme, therefore less well known sources like *The book of the cave of treasures* have been omitted. I will make comments on peculiarities and errors in the various text fragments as far as I am able to do so and whenever this seems relevant.

Only after acquiring a very elementary skill in reading Hebrew, I have added the Hebrew text, in an attempt to visualize the roots of the story. I used an extract from a masoretic mid 16th century text *Quinque libri legis* and removed all the vowel codes (or at least most of them), in order to approximate the original text. The names (with vowels) of Jabal (יָבֵל), Jubal (יֻבָל) and Tubalcain (תּוּבַלְכַּיִן) are relatively easy to spot.

The two versions of genesis 4: 19-22 ([KJV](#) & [LXX](#)) are without doubt the origin of the Tubalcain & Jubal story. Notice the absence of any relation between Tubalcain and music in these two texts.

[Philo](#) approaches the two brothers from a linguistic angle and introduces several new elements in the story of Tubalcain.

Both Philo and LXX seem to be the source for [Josephus'](#) text. Notice the shortening of Tubalcain to Thobel in the LXX. Notice also the correction of Jubel as is written by [Josephus](#) to Tubal in the translation by Whiston. Josephus copies from Philo the martial aspect of Tubalcain, that later is copied again by Petrus Comestor. For the origin of this feature of Tubalcain, see [personal communication of professor L. Feldman](#).

It was only after some time that I realized that the Greek version of Josephus text would have been unusable because of lack of knowledge of the Greek language in the middle ages or perhaps even unavailable. I learned that there was a Latin translation of the work of Josephus (the [Old Latin Josephus](#)), that was ascribed to Rufinus of Aquileia (AD 345-410) until the 16th century. The modern convention assumes that translators directed by Cassiodorus are the authors of the *Old Latin Josephus*. I therefor also add the Latin translation to present a clearer picture of what was probably read in the middle ages.

Notice that Jubal is now called Tubal. Notice the toned down description in the *Old Latin Josephus* of Tubalcain's experience in warfare (decenter) in contrast to the Greek text. This description of Tubalcain is repeated in [the Vulgate glossa Ordinaria](#). Also the reference to Noemma is more like a paraphrase of [LXX](#) than a translation of the Greek Josephus text.

[Hieronymus](#) (347-420) wrote several books on names and places that were mentioned in the Bible. These books also served as commentaries on the texts in the OT. Notice that Hieronymus uses the name Tubal in stead of Jubal seemingly following the *Old Latin Josephus*

To bring order in the chaos of various bible translation in Latin [Hieronymus](#) (347-420) produced the Editio Vulgata, a compilation of both new translations from the Hebrew (OT) and old Latin translations (NT) checked against the LXX. For the next three centuries both the Vetus Latina and the Vulgate were used, with the Vulgate steadily gaining in influence until it was the only accepted text.

The version of the text that [Augustinus](#) (354-430) uses in his *De Civitate Dei* seems a translation of the LXX. He notes that it exists in writing ('Sic enim legitur'). It probably is a quote from an existing Vetus Latina version.

[Boethius](#) presents in his Graeco Roman view on the origin of musical scales the story of

Pythagoras and the forge. He either used as source Iamblichus's *Life of Pythagoras* or Nicomachus' book on Music.

Although the 'outsider' [Pseudo-Methodius](#) text dates from the same period as [Isidore's](#) *Ethymologiae*, it probably became famous only after it was translated into latin. [Comestor](#) was the first to quote from this apocalyptic work (the 'Jonitus' story). Notice the negative way the invention of music (by both brothers) is treated. The invention of forging by Tubalcain is not mentioned at all.

The Pythagoras story is retold by [Isidore](#) together with the biblical story. Here we notice that an error is introduced in Isidore's text by substituting Tubal for Jubal. It is probably caused by inferior copying of the original correct text.

This error is copied by e.g. [Rabanus Maurus](#), who might seem somewhat redundant in this compilation, but can be considered a fine example of how medieval compilers worked or perhaps better put: how they copied.

The [glosses on gen 4:20-22](#) by Walafrid Strabo (?-846) were an authoritative commentary on the text of the Vulgate. They show several things:

- they mention Tubal (following Hieronymus) as well as Jubal (following Josephus).
- they mention Josephus as the source of a story that makes Jubal the inventor of music and the one who wrote this knowledge down on two pillars, one of white marble and one of bricks. [Josephus](#) however tells this story about the children of Seth who do this to save their knowledge from the two judgements by fire and water that were prophesied by Adam (as described in the Latin *Vita Adae et Evae* in the Ethiopian *Testament of Adam*). [Professor Feldman's](#) reference points to the source of this story: the Chronicles of Jerahmeel. From Orlov who provides the text of the story of Jubal and the pillars (2001; page 153) I learned that it appears twice with small variations (chapter 24:6-9, 26:15-20).
- they mention Tubalcain as being 'decenter' in warfare as can be read in the [Old Latin Josephus](#).

The fragment of the *Micrologus* of [Guido of Arrezo](#) shows how the Pythagoras story by Boetius is repeated in a condensed form.

The Jubal/Tubal error also crept into [Petrus Comestor's](#) *Historia Scholastica*, where we see how the Pythagoras story is grafted unto the Tubalcain & Jubal story by letting Tubal (=Jubal) reenact the role of Pythagoras. [This 'Pythagoras graft' is also visible in [pictures of Jubal watching Tubalcain hammering iron on an anvil](#), that can be found in various editions of the *Speculum Humanae Salvationis*]. Comestor then ridicules the Greek claim to this invention. Petrus Comestor appears to copy the glosses by seemingly quoting from Josephus when he tells how Tubal (=Jubal) constructed two pillars of marble and brick, in which he describes his newly invented art. He mentions the marble pillar that is not mentioned in the glosses. This would imply that Comestor's story is influenced by both the glosses and the chronicles of Jerahmeel. He calls Tubalcain 'prudenter' in warfare instead of 'decenter' as one should expect. About a hundred years later [Vincent de Beauvais](#) compiles his *Speculum Historiale* in which he correctly names Jubal as the inventor of music or more precisely of musical tones, in which he follows [Comestor's](#) story. He does not mention Pythagoras, the blacksmith story or a possible relation between Jubal's discovery and Tubalcain's forging.

The *Flores Musice* of [Hugo Spechtshart von Reutlingen](#) is not only important as an

educational text but also (in print in 1488 and later) as the source of [an early picture of the Pythagoras story](#).

An [anonymous compiler](#) of an early 15th century commonplace book of music theory, must have heard some of the stories about Pythagoras, Jubal and Tubalcain and welded them into one story in which a blacksmith named Tubal was visited by Pictagoras. In this story it is Tubal who writes the science of music on two columns, one made of bronze and one made of bricks.

The second oldest Masonic text known as the [Cooke Manuscript](#), has the Comestor story which it attributes to Isidore. It adds nothing new to the story but seems to hesitate between Tubal and Jubal as the name of the inventor of music.

The second last text fragment by [Franchino Gaffurio](#) shows a shift in interest: Pythagoras gets full attention after a short note on the biblical view on the origin of music that seems to be copied from Isidore with an addition related to the sound of the hammers that is (probably) based on Comestor. The last part of this chapter refers to the story of the two pillars made by Jubal as told in the chronicles of Jerahmeel, from which we can infer that Gaffurio probably used Comestor as his source.

The final text fragment is by [Gregor Reisch](#) from his Margarita Philosophica, which helped me to identify the figure in the Typus Musice picture. Reisch' dialogue between the master and his pupil starts with the reference to Genesis 4, continues with a didactic version of the Pythagoras' story and also mentions Petrus Comestor by name as he concludes his story with the version that is found in the Historia Scholastica

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Century	Influences by	Judeo / Biblical tradition	Integration of traditions	Graeco / Roman tradition	Influences on
< 5C BC		Old Testament			
5C					
4C					
3C		LXX			
2C					
1C BC					
1C AD	Tradition about the martial aspect of TubalCain	Philo 45/50 Josephus 93		Nicomachus 100	
2C					
3C				Iamblichus 300	
4C					
5C		Old Latin Josephus			
6C				Boethius 525	
7C			Isidore of Seville 615		
8C					
9C		Glossa Ordinaria on Vulg Gen 4:22	Rabanus Maurus 846		
10C				Guido of Arrezo 1050	
11C					
12C	Tradition about melting iron ore by fire.& replacing Pythagoras by Jubal		Petrus Comestor 1160		
13C			Petrus Riga 1200		Chaucer Gower
14C			Vincent de Beauvais 1260		
15C			Hugo Spechtshart von Reutlingen 1350 anonymous compiler < 1450		

[Cooke 1450](#)

[Franchino](#)

[Gaffurio 1492](#)

[Gregor Reisch](#)
[1517](#)

16C

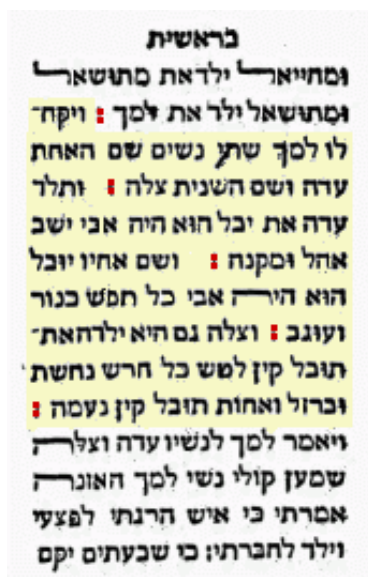
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The text fragments

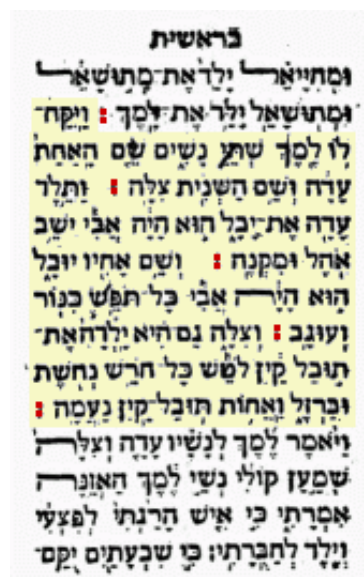
Berasjit 4: 19-22

Reading from right to left, the verses 19-22 can be found between the five red colons in the yellow text area.



'original' text

(reconstructed by removing vowels from masoretic text; 5th-2nd century BCE)



masoretic text

(with vowels; 6th-10th century CE)

Genesis 4: 19-22 KJV

19. And Lamech took unto him two wives: the name of the one [was] Adah, and the name of the other Zillah.
20. And Adah bare Jabal: he was the father of such as dwell in tents, and [of such as have] cattle.
21. And his brother's name [was] Jubal: he was the father of all such as handle the harp and organ.
22. And Zillah, she also bare Tubalcain, an instructor of every artificer in brass and iron: and the sister of Tubalcain [was] Naamah.

Genesis 4: 19-22 LXX (285 BCE)

Καὶ ἔλαβεν ἑαυτῷ Λάμεχ δύο γυναῖκας· ὄνομα τῇ μιᾷ, Ἀδὰ· καὶ ὄνομα τῇ δευτέρᾳ, Σελλά. Καὶ ἔτεκεν Ἀδὰ τὸν Ἰωβὴλ· οὗτος ἦν πατὴρ οἰκούντων ἐν σκηναῖς κτηνοτρόφων. Καὶ ὄνομα τῷ ἀδελφῷ αὐτοῦ, Ἰουβάλ· οὗτος ἦν ὁ καταδείξας ψαλτήριον καὶ κιθάραν. Σελλὰ δὲ καὶ αὐτὴ ἔτεκε τὸν Θόβελ· καὶ ἦν σφυροκόπος χαλκοῦ καὶ σιδήρου· ἀδελφὴ δὲ Θόβελ, Νοεμά.

L.C.Lee (1851) trans.

19. And Lamech took to himself two wives; the name of the one was Ada, and the name of the second Sella.

20. And Ada bore Jobel; he was the father of those that dwell in tents, feeding cattle.
21. And the name of his brother was Jubal; he it was who invented the psaltry and harp.
22. And Sella also bore Thobel; he was a smith, a manufacturer both of brass and iron: and the sister of Thobel was Noëma.

Philo (before 45-50 CE) *On the Posterity of Cain and his Exile* 100-111, 114-117.

Yonge trans.

...And Jacob's brother, he says, was Jubal, {43}{*Genesis 4:21*.} and the interpretation of this latter name is "inclining," being symbolically speech according to utterance; for this is naturally the brother of intellect; and it is with extraordinary propriety that he called the conversation of that intellect which changes affairs, "inclining," for it agrees after a fashion and harmonizes with both, as the equivalent weight does in a scale, or as a vessel which is tossed by the sea inclines first to one side and then to the other, from the violence of the waves; for the foolish man has not learnt how to say anything firm or stable. (101) But Moses does not think it right to incline either to the right or to the left, or in short to any part of the earthly Edom; but rather to proceed along the middle way, which he with great propriety calls the royal road, {44}{*Numbers 20:17*.} for since God is the first and only God of the universe, so also the road to him, as being the king's road, is very properly denominated royal; and this royal road you must consider to be philosophy, not that philosophy which the existing sophistical crowd of men pursues (for they, studying the art of words in opposition to truth, have called crafty wickedness, wisdom, assigning a divine name to wicked action), but that which the ancient company of those men who practised virtue studied, rejecting the persuasive juggleries of pleasure, and adopting a virtuous and austere study of the honourable (102) this royal road, which we have stated to be true and genuine philosophy, the law calls the word and reason of God; for it is written, "Thou shalt not turn aside from the word which I command thee this day, to the right hand nor to the left," So that it is shown most manifestly that the word of God is identical with the royal road, since Moses' words are not to depart either from the royal road, or from this word, as if the two were synonymous, but to proceed with an upright mind along the middle and level road, which leads one aright.

XXXI. (103) "Now this Jubal," says Moses, "is the father who showed men the use of the psaltery and of the harp." {45}{*Genesis 4:21*.} He in the strictest consistency with nature calls distinctly uttered language the father of music and of all the instruments used in music; for nature, having given the organ of voice to animals as the first and most perfect of organs, afterwards gave to this organ all the harmonies, and all the different kinds of melodies, in order that it might be a previously made model for those organs which are hereafter to be made by art. (104) And as he made an ear spherical, fashioning lesser circles in their greater ones and framing it as in a lathe, with the object of preventing the sounds of the voice which come from without from being wasted and dissipated, so that the voice when collected together and closely packed within the circle might, by a sort of diffusion of the power of hearing, be poured over the different channels of the principal part. And this immediately served as a model for those theatres which are found in handsome cities; so that the shape of a theatre is skilfully dictated by the mechanism of the ear. So also, nature, which formed animals, stretching the rough artery like a musical canon, and wearing beneath the harmonic and chromatic and diatonic kinds of sounds, according to the innumerable variations of combined and separated melodies, made a model in accordance with which every musical instrument might be made.

XXXII. (105) Perhaps, at all events, flutes and lyres, and similar instruments which utter melodies, are as

far inferior to the music of nightingales or swans as a thing made after a model, and an imitation must be from the archetypal model, or a perishable species from an imperishable genus; for it is not fitting to compare the music of man with that of any other animal, since it has an especial privilege with which it is honoured, namely, articulate distinctness of speaking; (106) for all other animals, having a broken utterance in their voice, by this and by an incessant change of tones alone give pleasure to our ears. But man, being furnished by nature with the means not only of speaking but also of singing articulately, charms both the sense of hearing and the mind, soothing the one with his song and influencing the other with ideas; (107) for, as an instrument, if it be given into the hands of a man who has no skill as a musician, is inharmonious, but if given to a musician it becomes harmonious according to the skill that is in him. So in the same manner speech, when put in motion by a worthless mind, is inharmonious; but, when it is put in motion by a virtuous mind, it is found to be very melodious. (108) A lyre, indeed, or any similar instrument, if it be not struck by some one, is silent; and speech, too, if it be not struck by the principal part, that is to say, the mind, is of necessity tranquil. And, again, as musical instruments are transposed and adapted to an infinite number of mixtures of airs, so also speech corresponds to them, becoming an interpreter of things; (109) for who would converse in a similar manner with parents and children, being by nature the slave of the one, and by birth the master of the others? And who, again, would talk in the same manner to brothers or cousins; or, in short, to near and to distant relations? Who, again, could do so to friends and to strangers, to fellow citizens and to foreigners, though there may be no great difference in point of fortune, or nature, or age between them? For one must behave differently while associating with an old man and with a young one; and, again, with a man of high reputation and a humble man, with a servant and a master; and, again, with a woman and a man, and with an illiterate and a clever man. (110) And why need one cite an incredible variety of persons to whom speech varies itself, so as at one time to assume one character and at another time another? For it would not interpret great things and small, numerous things and rare, private and public matters, sacred and profane affairs, or old and new events in the same manner; but would use, in each case, language appropriate to the number, or importance, or magnitude of the affairs under discussion; at one time elevating itself to a lofty style, and at another time, on the contrary, confining and humbling itself. (111) But as circumstances and persons give varieties to speech, so also do the causes of things and the manner in which they are done; and, moreover, those points especially with which everything is concerned, namely, time and place. Very beautifully, therefore, is he who inclines voices, namely Jubal, called "the father of the psaltery and of the harp," from a portion of the whole science of music, as has been shown already.

...a son is born, whom his parents called Tubal (this name being interpreted means "all"). For they with great wisdom laying it down (instead of those things which are accounted good things by the multitude) that competency combined with good health is happiness, consider that in that is united everything great or small, in short everything. (115) But if there were any such thing as an absolutely independent authority added, then becoming full of arrogant domination, and elated with vanity and false opinions, forgetting themselves and the contemptible material of which they are composed, they look upon themselves as composed of a more valuable material than the composition of man admits of; and becoming swollen with pride, they think themselves worthy of even divine honours. At all events, before now some persons have ventured to say, that they "do not know the true God," {47}{Exodus 5:2.} forgetting their own human nature, by reason of the immoderate excess of corporeal and external things [...] and each imagining [...] {48}{Another hiatus occurs here.}

XXXIV. (116) Then Moses says, "He was a hammer-beater and forger of brass and iron:" {49}{Genesis 4:22, where he is called Tubalcain.} for the soul of that man who is intent on corporeal pleasures or

external things is beaten by a hammer, like a piece of iron on an anvil, being drawn out according to the long and thin-drawn extensions of the appetites. Accordingly, you may see men fond of their bodies at every time, and in every place laying lines and nets to catch those objects that they desire; and others, who are lovers of money or covetous of glory, letting loose their desire and eagerness for those things to the furthest boundaries of earth and sea, and dragging in from all quarters by their unlimited desires, as if by so many nets, whatever can gratify them, till the excessive tension, being broken by its great violence, drags back those who are dragging at it, and throws them down headlong. (117) All these men are causes of war, on account of which they are said to be workers in brass and iron, by means of which metals wars are carried on.

Josephus (93 CE) *Antiquities of the Jews* Book I-2:2

σβυτάτου παιδὸς Ἄνωχαν ἐκάλεσεν. Ἀνώχου δὲ Ἰαράδης υἱὸς ἦν, ἐκ δὲ τούτου Μαρούηλος, οὗ γίνεται παῖς Μαθουσάλας, τοῦ δὲ Λάμεχος, ᾧ παῖδες ὑπῆρξαν ἑπτὰ καὶ ἑβδομήκοντα ἐκ δύο γυναικῶν αὐτῷ φύντες Σελλᾶς καὶ Ἄδας. τούτων Ἰώβηλος μὲν ἐξ Ἄδας γεγονώς σκηνὰς ἐπήξατο καὶ προβατεῖαν ἠγάπησεν, Ἰούβαλος δέ, ὁμομήτριος δ' ἦν αὐτῷ, μουσικὴν ἥσκησε καὶ ψαλτήρια καὶ κιθάρας ἐπενόησεν, Ἰουβῆλος¹ δὲ τῶν ἐκ τῆς ἑτέρας γεγονότων ἰσχύι πάντας ὑπερβαλὼν τὰ πολεμικὰ διαπρεπῶς μετήλθεν, ἐκ τούτων καὶ τὰ πρὸς ἡδονὴν τοῦ σώματος ἐκπορίζων, χαλκεῖαν τε πρῶτος ἐπενόησεν. πατὴρ δὲ θυγατρὸς γενόμενος ὁ Λάμεχος Νοεμᾶς ὄνομα.

Whiston trans./Loeb trans.

...Now Jared was the son of Enoch; whose son was Malaliel; whose son was Mathusela; whose son was Lamech; who had seventy-seven children by two wives, Silla and Ada. Of those children by Ada, one was Jabal/**Jobel**: 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/**Jubel**, 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 the pleasures of the body by that method; and first of all invented the art of making brass. Lamech was also the father of a daughter, whose name was Naamah/**Noema**.

Old Latin Josephus

Enoch vero irath filius fuit: ex quo maiuahel: cuius fuit filius matusahel qui habuit filium lamech: cui filii & filiae septem & septuaginta fuerunt ex duabus uxoribus eius nati sella & ada. Horum iobal quidem fuit de ada, tabernacula fixit; & greges amavit: tubal consanguineus eius existens: musicam coluit: & psalterium: citharamque laudavit. Tubalcain qui ex altera natus est: fortitudine cunctos excellens: res bellicas decenter exercuit: ex his etiamque ad libidinem attinent corporis enutriuit: ferrariam artem primus invenit: habuitque sororem nomine noemma.

Whiston: Book I-2:3

...They (=the children of Seth) 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, (10) the one of brick, the other of stone: they inscribed their discoveries on them both, that in case the pillar of brick should 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 day.

Old Latin Josephus

Disciplinam vero rerum caelestium & ornatum earum primitus invenerunt: & ne dilaberentur: ab hominibus quae ab eis inventa fuerant: aut antequam venirent ad cognitionem depirent: cum praedixisset adam exterminationem rerum omnium: unam ignis virtute: alteram aquarum vi ac multitudine fore venturam: duas facientes columnas: aliam ex lateribus: aliam ex lapidibus ambabus quae invenerant conscripserunt: ut & si constructa lateribus exterminaret ab ymbribus: lapidea permanens praeberet hominibus scripta cognoscere: simul & quia lateralem aliam posuissent: quae tamen lapidea permanet hactenus in terra syria.

Eusebius Hieronymus of Strido (388?) Liber Hebraicarum Quaestionum in Genesim

De bigamia nascitur Jabel habitans in tentoriis, quae mutabilia instabilitatem eorum figurant, qui circumferuntur omni vento doctrinae. Nascitur et Tubal, qui inventor musicae, etc., usque ad sicut Jabel, Tubal et Tubalcain.

*Eusebius Hieronymus of Strido (383-405) Editio Vulgata**Genesis 4*

18. ...Matusahel genuit Lamech
19. qui accepit uxores duas nomen uni Ada et nomen alteri Sella
20. genuitque Ada Iabel qui fuit pater habitantium in tentoriis atque pastorum
21. et nomen fratris eius Iubal ipse fuit pater canentium cithara et organo
22. Sella quoque genuit Thubalcain qui fuit malleator et faber in cuncta opera aeris et ferri soror vero Thubalcain Noemma

Augustinus of Hippo (418) De Civitate Dei Liber XV, caput 17

Sic enim legitur: Mathusael genuit Lamech. et sumpsit sibi Lamech duas uxores, nomen uni Ada et nomen secundae Sella, et peperit Ada Iobel; hic erat pater habitantium in tabernaculis pecuariorum. Et nomen fratris eius Iobal; hic fuit qui ostendit psalterium et citharam. Sella autem peperit et ipsa Tobel; et erat malleator et aerarius aeramenti et ferri. Soror autem Tobel Noemma.

Boethius, Anicius Manlius Severinus (525) De institutione musica, liber I. Caput X, Quemadmodum Pythagoras proportionem consonantiarum investigaverit.

Haec igitur maxima causa fuit cur, relicto aurium iudicio, Pythagoras ad regularum momenta migraverit,

qui nullius humanis auribus credens, quae partim natura, partim etiam extrinsecus accidentibus permutantur, partim ipsis variantur aetatibus, nullis etiam deditus instrumentis, penes quae saepe multa varietas atque inconstantia nasceretur, dum nunc quidem si nervos velis aspicere, vel aer humidior pulsus obtunderet, vel siccior exsiccaret, vel magnitudo chordae graviorem redderet sonum, vel acumen subtilior tenuaret, vel alio quodam modo statum prioris constantiae permutaret. Et cum idem esset in caeteris instrumentis, omnia haec inconsulta minimaeque aestimans fidei, diuque aestuans inquirebat quam ratione firmiter et constanter consonantiarum momenta [-1177-] perdisceret. Cum interea divino quodam motu praeteriens fabrorum officinas, pulsos maleos exaudivit, ex diversis sonis unam quodammodo concinentiam personare. Ita igitur ad id quod diu inquirebat attonitus, accessit ad opus: diuque considerans, arbitratus est diversitatem sonorum ferientium vires efficere. Atque ut id apertius colliqueret, mutarent inter se malleos imperavit. Sed sonorum proprietas non in hominum lacertis haerebat, sed mutatos malleos comitabatur. Ubi igitur id animadvertit, malleorum pondus examinat. Et cum quinque essent forte mallei, dupli reperti sunt pondere qui sibi secundum diapason consonantiam respondebant. Eundem etiam qui duplus esset alio, sesquiertium alterius comprehendit, ad quem scilicet diatessaron sonabat. Ad alium vero quemdam, qui eidem diapente consonantia jungebatur, eundem superioris duplum reperit esse sesquialterum. Duo vero hi, ad quos superior duplex sesquiertius et sesquialter esse probatus [-1178-] est, ad se invicem sesquioctavam proportionem perpensi sunt custodire. Quintus vero est rejectus, qui cunctis erat inconsonans. Cum igitur ante Pythagoram consonantiae musicae, partim diapason, partim diapente, partim diatessaron, quae est consonantia minima, vocarentur primus Pythagoras hoc modo reperit, qua proportionem sibimet haec sonorum chorda jungeretur. Et ut sit clarius quod dictum est, sint, verbi gratia, malleorum quatuor pondera, iquae subterscriptis numeris contineatur, 12, 9, 8, 6. Hi igitur mallei, qui 12 et 6 ponderibus vergebant, diapason in duplo concinentiam personabant. Malleus vero 12 ponderum ad malleum 9, et malleus 8 ponderum ad malleum 6 ponderum, secundum epitritam proportionem diatessaron consonantia jungebatur. Novem vero ponderum ad 6, et 12 ad 8 diapente consonantiam permiscebant. Novem vero ad 8, in sesquioctava proportionem resonabant tonum.

Pseudo-Methodius (600?) *Revelationes* Caput 2

2. Anno autem CCCXL Jared secundo miliario surrexerunt viri malae artis, inventores iniqui et omne nefariae pleni ex filiis Cain, id est Jobeth et Tholucel, filii Lamech, qui fuit caecus, qui et Cain interfecit, quos et dominatus diabolus convertit eos post omnem speciem musicam componendi.

Isidori Hispalensis (615) *De musica* Caput XVI. De inventoribus ejus.

Moyses dicit repertorem musicae artis fuisse Tubal, qui fuit de stirpe Cain ante diluvium. Graeci vero Pythagoram dicunt hujus artis invenisse primordia, ex malleorum sonitu, et cordarum extensione percussa.

Rabanus Maurus (846) *De rerum Natura* Liber 18, De musica et partibus eius

Moyses dicit repertorem musicae artis fuisse Tubal, qui fuit de stirpe Cain ante diluvium. Greci vero Pythagoram dicunt huius artis invenisse primordia ex malleorum sonitu et cordarum extensione percussa.

Walafrid Strabo (9th century) *Biblia Vulgata Glossa Ordinaria Vetus Testamenti*

Genesis 4

20. Genuitque Ada Jabel, etc. HIER. in quaest. Hebr. De bigamia nascitur Jabel habitans in tentoriis, quae mutabilia instabilitatem eorum figurant, qui circumferuntur omni vento doctrinae. Nascitur et Tubal, qui inventor musicae, etc., usque ad sicut Jabel, Tubal et Tubalcain.
21. Et nomen fratris ejus Jubal. RAB. Hunc scribit Josephus musicam scripsisse in duabus columnis, una lapidea, altera latericia, quarum altera non dissolveretur diluvio, altera quae non solveretur incendio: quae duo judicia Adam ventura praedixerat.
22. Tubalcain. RAB. Qui secundum Josephum res bellicas exercuit, et decenter artem ferrariam docuit; quaedam etiam quae ad oculorum pertinent concupiscentiam, invenit.

Guido of Arrezo (995-1050) *Micrologus* Capitulum XX: Quomodo musica ex malleorum sonitu sit inventa

Erant antiquitus instrumenta incerta et canentium multitudo, sed caeca; nullus enim hominum vocum differentias et symphoniae descriptionem poterat aliqua argumentatione colligere, neque posset unquam [-229-] certum aliquid de hac arte cognoscere, nisi divina tandem bonitas, quod sequitur suo nutu disponeret.

Cum Pythagoras quidam magnus philosophus forte iter ageret, ventum est ad fabricam in qua super unam incudem quinque mallei feriebant, quorum suavem concordiam miratus philosophus accessit primumque in manuum varietate sperans vim soni ac modulationis existere, mutavit malleos. Quo facto sua vis quemque secuta est. Subtracto itaque uno qui dissonus erat a caeteris alios ponderavit, mirumque in modum divino [-230-] nutu primus XII, secundus IX, tertius VIII, quartus VI, nescio quibus ponderibus appendebant.

Petrus Comestor (1160) *Historia Scholastica*: Historia Libri Genesis, Caput 28: De generationibus Cain

...Porro Henoch genuit Irad, qui Maviael, qui Mathusael, qui Lamech, qui septimus ab Adam, et pessimus, qui primus bigamiam introduxit, et sic adulterium contra legem naturae, et Dei decretum, commisit. In prima enim creatione unica unico facta est mulier, et Deus per os Adae decreverat: Erunt duo in carne una Gen. II. Accepitque duas uxores Adam et Sellam. Genuitque Ada Jabel, qui adinvenit portatilia pastorum tentoria ad mutanda pascua, et greges ordinavit, et characteribus distinxit, separavitque secundum genera greges ovium a gregibus hoedorum, et secundum qualitatem, ut unicolores a grege sparsi velleris, et secundum aetatem, ut anniculos a maturioribus, et commissuras certis temporibus faciendas intellexit. Nomen fratris ejus Tubal, pater canentium in cithara, et organo. Non instrumentorum quidem, quae longe post inventa fuerunt, sed inventor fuit musicae, id est consonantiarum, ut labor pastoralis quasi in delicias verteretur. Et quia audierat Adam prophetasse de duobus judiciis, ne periret ars inventa, scripsit eam in duabus columnis, in qualibet totam, ut dicit Josephus, una marmorea, altera latericia, quarum altera non diluetur diluvio, altera non solveretur incendio. Marmoream dicit Josephus adhuc esset in terra Syriaca. Sella genuit Tubalcain, qui ferrariam artem primus invenit, res bellicas prudenter exercuit, sculpturas operum in metallis in libidinem oculorum fabricavit. Quo fabricante Tubal, de quo dictum est, sono metallorum delectatus, ex ponderibus eorum proportionem, et consonantias eorum, quae ex eis nascuntur excogitavit, quam inventionem Graeci Pythagorae attribuunt fabulose, sicut et ex opere fructicum excogitavit operari, id est sculperem in metallis. Cum enim fructices incendisset in pascuis, venae metallorum fluxerunt in rivulos, et sublatae laminae figuras locorum in quibus jacuerant, referebant. Soror vero Tubalcain, Noema, quae invenit artem variae texturae...

Vincent de Beauvais (1260) *Speculum Historiale* (ed. Douai, 1624), Liber II, Caput 57: De ortu ecclesie ab Abel

Lamech enim primus contra naturam et mores bigamiam introduxit et sic adhuc adulterium committit. Cuius etiam progenies artes quasdam mechanicas et curiositates adinvenit, Iabel scilicet portatilia tentoria pastorum, *Iubal vero peritiam sonorum musicorum sive consonantiarum que pertinent ad voluptatem aurium, Tubalcaym artem ferrariam et sculpturas metallorum deservientes concupiscentie et libidini oculorum, Noema quoque soror eius invenit artem varie texture, et omnes pene seculares artes vel scientie, sive mechanice sive liberales vel physice, curiositati vel etiam necessitati sive exercitationi humane deservientes, a filiis huius seculi leguntur invente.

Hugo Spechtshart von Reutlingen (1285-1350) *Flores Musice omnis cantus gregoriani* (ed. 1488), Prooemium

...Primus autem inventor musicæ artis fuit Tubal ante tempus mosaicæ legis et ante deluvium. Unde legitur genesis iv, quod Lamech, qui fuit de stirpe Cain, et septimum post Adam, duos habuit filios, nomen uni Abel, qui fuit pater habitantium in tentoriis atque pastoriis, et nomen fratris ejus Tubal, qui fuit pater canentium in cithara et organo, quæ sunt instrumenta musicalia. Iste Tubal inventor musicæ artis, cognoscens, quod Adam primus homo (a quo ipse Tubal erat octavo in genealogia) prædixerat, mundum periturum et deleturum (?) per aquam et ignem, ne musica periret, scripsit ipsam in duas columnas. quarum una fuit latericia, altera marmorea, ut, si marmorea per ignem periret, latericia permaneret, vel si per aquam latericia periret, marmorea permaneret. Pro maximo enim thesauro habebat illam scientiam, quæ etiam post diluvium (quo omnes homines præter No⁹ et tres filios suos cum suis uxoribus deleti per iram Dei fuerant) in tabula marmorea post egressionem No⁹ de archa fuerat denuo adinventata. Unde de hoc scribit egregius doctor et metrificator, dominus et magister Petrus in libro, qui intitulatur „Aurora”, duo decim versus:

Iste Tubal cantu gaudens pater exstitit horum,
 Qui citharis psallant organicisque modis.
 Musica dulce canens fuit ars inventa per illum,
 Ut pastoralis gaudeat inde labor.
 Et quia novit, Adam primum dixisse parentem
 Iudicium duplex seculis ignis aquæ,
 In geminis artem scripsit posuitque columnis;
 Exstitit hæc laterum, marmoris illa fuit.
 Ut non hæc per aquam pereat, non illa per ignem
 Si sit deficiens una, sit una manens,
 Ut nobis Josephi declarant scripta: columnam
 Marmoream tellus syria servat adhuc.

Et quia scribitur in principio eclesiasticæ historiæ: „Omnis sapientia a domino Deo est et cum illo fuit spiritus et est ante eum”, ipse Deus, qui per spiritum sanctum primo cordi Tubal (de quo supra dictum est), scientiam musicæ artis infudit, qui etiam dividit singulis prout vult (ut ait apostulus Paulus), deinde eandem scientiam cordibus etiam aliorum infudit. Unde scribitur, quod Pythagoras philosophus primus apud Græcos musicæ artis repertor fuit. Translator autem ejusdem artis in latinum Boethius, genere et scientia clarissimus et ejusdem artis secundum numerorum proportionem investigator profundissimus.

Guido vero monachus exstitit vocum indagator diligentissimus et commendator et traditorque certissimus.

Dividitur autem musica in tres species. Alia enim vocator harmonica, alia rigmica (rhythmica), alia metrica. Harmonica est quæ discernit inter sonos, videlicet gravem et acutem, et est idem harmonica et discretio modulationis. Rigmica est, quæ requirit inquisitionem dictionum, utrum bene vel male cohæreant dictiones. Metrica est, quæ mensuram diversorum metrorum ostendit probabili ratione. De prima autem specie (quæ primitus per Pythagoras juxta varios sonos malleorum fabricantium ex varia intentione et remissione cordarum fuit considerata) duabus aliis omissis tractatur in hoc opusculo. Sunt et aliæ variæ divisiones musicæ, quæ hic causa brevitatis sunt omissæ.

Anonymous (early 15th century) *De origine et effectu musicae*, Capitulum 5, Inventores artis musicae aequiformis et mensurabilis

L 56v

Erat Tubal nomine quidam faber, qui per pondera trium malleorum super unam incudem percutiens, consonantias ordinavit. Audiens autem Pictagoras illum sonum, domum ingrediens fabri, fecit proportionaliter quartum malleum qui adinvicem sonum mirabilem reddiderunt. Quod cum Tubal audivit et scivit quod deus voluit mundum periclitari, fecit duas columnas, scilicet unam aeneam, alteram lateram. Et in ambabus scripsit artem musicalem aequiformem, id est planum cantum, ut si destrueretur mundus per ignem, columna latera permaneret, quia later non potest cremari. Si vero per aquam, columna aenea permaneret donec diluvium Noe perimpletum fuisset.

? (1450) *Cooke Manuscript* (British Museum: "Additional M.S. 23,198", line 200-226)

Transcription and translation by Matthew Cooke, 1861.

THe master of stories

[200]

seith and beda de yma
gyna mundi policronicon &
other mo seyn that he was
the first that made deperceson
of lond that every man myght
knowe his owne grounde
and laboure there on as for
his owne. And also he de
partid flockes of schepe that
every man myght know his
owne schepe and so we may
sey that he was the first
founder of that sciens. And his
brother Juball. or tuball
was founder of mysyke &
song as pictogoras seyth
in policronycon and the
same seythe ylodoure in his
ethemologii in the vi boke
there he seythe that he was
the first foundere of mysyke
and song and of organ &

[210]

[Fol. 11 b.]

[220]

The master of stories

saith, and Bede, *De Im-
agine Mundi*, {the} *Policronicon*, and
other more say that he was
the first that made depercession
of land, that every man might
know his own ground,
and labour thereon, as for
his own. And also he de-
parted flocks of sheep, that
every man might know his
own sheep, and so we may
say that he was the first
founder of that science. And his
brother Jubal, or Tubal,
was [the] founder of music and
song, as Pythagoras saith
in [the] *Policronicon* and the
same saith Isodore in his
Ethemologies, in the 6th book,
there he saith that he was
the first founder of music,
and song, and of organ and

trompe and he founde that
sciens by the soun of pon-/deracion
of his brotheris hamers that
was tubalcaym.

[Fol. 12.]

trumpet, and he found that
science by the sound of pon-/deration
of his brother's hammers, that
was Tubal Cain.

Gaffurio, Franchino (1492) *Theorica musice, liber primus, De Exquisitione et Inuentione Musicarum Consonantiarum Capitulum Octauum*

NB From the errors in this text it seems that it is either badly scanned or that the original is of poor quality.

DIuturni studii lectione depræhendi musices disciplinam antiquis temporibus apud uates maximo doctissimorum honore [Iosephus, Iubal in marg.] complecti quippe quam Iosephus. ac sacre littere Iubalem de stripe chaym cythara et organo primum instituisse ferunt ex numeraro maleorum sonitu exquisitam...

... Accidit enim dum tanta Pythagoras ipse uariatione perplexus fabrorum officinas preteriret maleorum sonitus eius auribus insonuisse. quos cum ei mos esset omnium uisilium atque inuisilium et sensilium rationem perquirere: mutari iussit: et cum aduerteret diuersos maleorum sonitus non uiribus hominum immutari: sed diuersis maleorum ipsorum [-f.bvr-] educi ponderibus: pondera ipsa examinare coepit quorum cum quinque essent quintum abiecit: ut Boetius asserit quoniam cunctis erat inconsonans. [Boetius in marg.] At quattuor ipsorum extremos sibi inuicem maleos duplum correspondere pondus percepit diapason consonantiam producentes: ut si maleus primus esset librarum sex: ultimus duodecim pondere premeretur. Secundus ad primum epitritum pondus seruabat diatessaron consonantiam seruans eratque ponderis octo librarum. Sed tertius ad primum emiolium seu sesquialterum pondus nouenario ducebat numero diapentes consonantiam resonando. Idemque tertius ad secundum sexquioctauum pondus seruabat tonum constituens. Quartus uero tertium epitrito numero custodiebat diatessaron consonantiam implens. Rursus Quartus ad secundum sesquialtero numero ductus diapentes consonantiam deferebat ipsorum itaque pondera maleorum hic ordine disponantur. VI . VIII . VIII . XII. [Pythagoras in marg.] Cum uero alta cogitatione tantæ tam que archanae rei diuturna inquisitio Pythagoram ipsum fatigasset mihi ipsi facile persuadeo eum non modo has quatuor sonorum commistiones sed et reliquas inuestigasse quibus musices disciplina perficitur et nutritur.

...[Iosephus in marg.] Iosephus autem hanc Pythagoream inquisitionem Iubali ante diluuium ascripsit: quippe qui ipsum uerens diluuium cum Adam humano generi prænunciasset mundum igne cito aut aqua peritum sonorum artem adeo gratissimam et peculiarem habuit ut ipsas consonantias et proportionem duabus columnis marmorea scilicet et latericia sculptura insigniret: marmorea quidem ne putrefieret influctibus: latericia uero ne solueretur ab igne: quam post diluuium posteritas ipsa repperit usui que mandauit. Harum quidem exquisitarum proportionum eductarumque consonantiarum formas demonstrat hec subiecta figura:

[-f.bvir-] [Gafurius, *Theorica*, f.bvir; text: Ivbal, Pytagora, Pitagoras, Phylolavs, 4, 6, 8, 9, 12, 16]

Reisch, Gregor (1517) *Margarita Philosophica* 4th edition, Liber V: De principiis Musice.

NB In an attempt to recreate the original page layout as faithfully as possible, I decided not to resolve the contracted characters, but mark them in red. A problem in the second line I had with reading the (contracted) text **sc** was solved after I acquired a Manual on Latin and Italian abbreviations in juli 2004.

De Musice primo inventore CAP.III.DI.

Quem arbitrant primu musicu et musice inventore? Ma. Tubal
 Tubale filiu Lamech. scm qd dicit de ipso Geneseos.4.ca.
 Ipse fuit pater canentiu cithara et organo: eo qui primus
 musica invenit:is eam in duabus colunis / latericia sc3 et lapidea
 posteris reliquit. Latericia quidem: ne igne/lapidea vero ne aqua
 periret. Adam naqe mundum igne et aqua pe rituru perdixerat. Pythagoras
 Pythagoras vero philosophus sonorū pportiones ex- perimento
 didicit. Na cum diutius animo estuaret qua na ratione firmiter
 csonantiaru mometa perdisceret Attamen
 Petrus Comestor in historia scholastica id a predicto Tubale
 factitatum / et a grecis Pythagore fabulose attributu autumat:habuit
 enim Tubal fratre qui artem ferraria invenit:quo fabricante Tubal
 ex malleoru pportione dicto mo do csonatias reperit. Sed cu hoc
 pauci videat esse momenti / relinquendu esse censeo.

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