

Hammers, music and scales

Jubal watching Tubalcain

some notes on iconography

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Introduction



At the end of chapter eight of the first book of the *Theorica musice*, published by Franchino Gaffurio in 1492, there is group of four pictures representing the origin of musical scales. Three of these show Pythagoras creating sounds by using bells, glasses, strings and pipes. Only after close inspection you can see that all these different tools are labeled with numbers (4, 6, 8, 9, 12, 16). These numbers are the crux of these pictures as together they represent the Pythagorean scale.

The picture in the left upper corner however represents Jubal watching 6 men beating with hammers (labeled in the same way as the others tools) on a piece of metal.

The labels on the hammers indicate their different weights which is the cause for the difference in sound each hammer produces. Here is another picture about forging and weighing: the two processes which combined together lead to the art of music

Although I knew this picture for quite a few years from books on mathematics, music and even alchemy, I only

recently noticed the labels on the hammers and therefore failed for a long time to see a possible connection with the Cluny tapestry.

The Mirror of Human Salvation



Netherlands, 1475 from Timmers (1947)

In the summer of 2000, I came across a picture from a 1475 edition of the *Speculum Humanae Salvationis* (Catherijne convent in Utrecht), in Goosen (1999, p.156) and later on in Timmers (1947, fig 20).

This early 14th century book is ascribed to Ludolphus of Saxon and belonged together with the *Biblia Pauperum* and the *Ars Bene Moriendi* to the three most famous mediaeval spiritual tracts (Timmers, 1947, p.33-35).

The picture shows two men beating with hammers of different size on a piece of metal, while a third, bearded man in a robe watches them. It has the text *Inventores artis ferarie et melodiarii(?)* at the bottom. The symmetrical composition with one central figure and two figures, one at each side, can be observed in many of the pictures in this edition

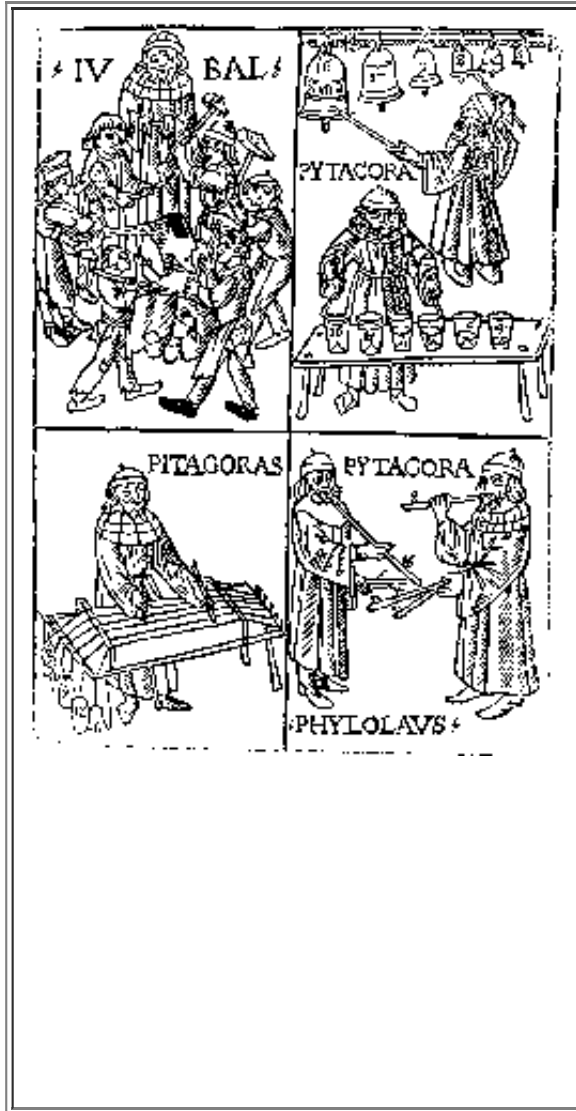
Goosen describes it as Tubalcain and Jubal forging (p.155) and also as Jubal and Tubalcain as the inventors of the art of music and of forging (p.156). Timmers calls Tubalcain the inventor of music (fig. 19) and describes the picture as Jubal and Tubalcain forging nails (p.261).

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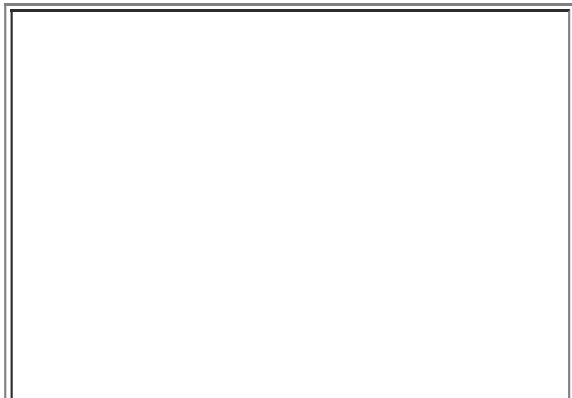


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This picture is a companion piece of the picture on the opposite page of the book which represents the crucifixion scene. It reminded me of the Gaffurio picture and I realized that this second picture again had similarities with the Cluny tapestry. I decided to follow this 'Speculum trail' for a while...

More Mirrors



Gl. Kgl. Saml. 79 2o, 55 recto, Germany ca. 1430
(detail)



Gl. Kgl. Saml. 80 2o, 47 verso, Germany 1400-50
(detail)

A search on the Internet early december 2000, directed my attention to the site of the Danish Royal Library in Copenhagen that has scanned a number of their manuscripts and put them on line. In the old royal collection there are two beautifully illustrated editions of the *Speculum Humanae Salvationis* that both are different from the edition I already knew. The pictures from these two editions are of a simpler design, are more explicit and the lower one even uses name tags which together makes them a lot easier to read than the first two Jubal pictures. On the right side of both pictures you can see Jubal actively writing music

(compared to the first two pictures where Jubal is just 'observing'), while Tubalcain is forging (upper picture on the left, lower picture in the middle) with one or two assistants. The upper picture shows a clear difference in the size of the various hammers being used, while in the lower picture the size of both hammers seems to be equal. This might indicate that the artisan who made the lower picture was not aware of the relevance of the size of the hammers.

Another feature of the lower picture that strikes me as odd is the royal crown and robe of Jubal. There is no record as far as I know of Jubal being a king. There is however another royal figure looming in the background: Pheidon king of Argos. All this of course is still tentative at most:)



Cod. Nr. S.N. 2612, 25 verso, Austria 1350-1400
(detail)

After a second sweep along the internet, february 26, 2001, I discovered a picture from a late 14th century Speculum edition that belongs to the Österreichische Nationalbibliothek. This one is even easier to interpret than the Danish pictures: It has two explanatory texts at the top (*Tubalcain inventor artis ferrarie; Jubal melodiarum(?) inventor* which agrees with the later Utrecht edition) and Jubal carries (plays?) a cythara. Furthermore at the left a fire for heating the (red hot) iron is visible, which is missing from the later Danish pictures (they only show a

piece of red hot metal). Again there is little evidence that the weight of the hammers is of importance. Notice however the two assistants using both hands, whereas the bearded Tubalcain only uses his right hand. This might indicate a difference either in weight (of the hammers) or in strength (of the men).

My guess is that all these pictures are based on [Petrus Comestor's](#) story of Jubal listening to the beating (by Tubalcain and others) with hammers on an anvil.



The Hague, MMW, 10 B34, 23v. 1450 (detail)

A visit march 7, 2002 to the recently opened mediaeval manuscript website of the National Library of the Netherlands & the Meermanno Westranum museum, resulted in the next two Speculum images. Both of these images follow the Austrian image closely with Jubal holding a cythara while watching Tubalcain (and assistant) pounding the hot iron. The presence of a fiery furnace is a new detail. The first picture (*filii Lamech melodia(m) malleis inveneru(n)t*) seems to suggest a difference in the size of the hammers, the left being larger and being held with two hands. Notice the realistic details in the second, more sketch like picture (*Isti sunt inventores artis ferra ?? ??? melodias*) like the horseshoes next to the anvil and the bellows. Also notice that the right arm of TubalCain was somewhat reduced. An erased hammer



The Hague, MMW, 10 C23, 26v. 1400-1500 (detail)

is visible between the actual hammer and the names **Jubal** and **Tubalkain**

Finally scales



October 24 2001 I found a description and on the same day a picture of a woodcut from the *Flores musicae omnis cantus Gregoriani* of Hugo Spechtshart of Reutlingen (c. 1285-c. 1360). This edition stems from 1492

In the back of the picture you can see the biblical patriarch Jubal chiseling musical notes onto two columns. In the foreground, two men in a blacksmith's shop beat on iron producing notes by striking an anvil with hammers of different weights, while Pythagoras stands behind them weighing (or perhaps comparing the weight of) two hammers on a scale. This picture agrees in every detail, even the smallest, with a [15th century text from a commonplace book](#), even to the number of hammers. There are also some striking similarities with the [Typus Musicae picture](#) from Reisch Margarita Philosophica.

1. The combination of both mechanical and manual driven hammers
2. The prominent purse of Jubal and Pythagoras. This may be interpreted as an attribute of melancholy (indicating greed or wealth). This character type is also associated with measuring.

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