

REV. MICHAŁ OLEJARCZYK

THE ORIGIN OF SQUARE NOTATION

Abstract. In this article the evolution of two French notations is presented: North-French and Aquitaine notations. On the basis of selected sources in a chronological order investigation of selected neumatic elements of these notations was conducted and at the final stage conclusions how evolved of the particular neumes was drawn. The evolutionary process of the musical scripture proved to be more distinct in the northern French notation. Step after step, the formation of the classic shapes of the square notation, can be observed with the characteristic junctures of elements (ligature). In the case of Aquitaine notation, one can speak only in a very limited manner of the graphical form evolution, because the important elements of this notation were modified only slightly in the course of three hundred years. Thereby it is proven that the contemporary choral notation stems from the northern French form.

Key words: Aquitaine notation, *clivis*, gradual, Graduale, neumatic elements, neumes, notation, northern French notation, *pes*, *porrectus*, *punctum*, *torculus*, *tractulus*, *virga*.

This article presents the evolution of two French notations: North-French and Aquitaine notations.¹ Based on selected sources we shall review chosen neumatic elements of these notations will be made, to conclude- at the end-how particular neumes evolved. This phenomenon will be very helpful to develop the so-called classical square notation, which was later applied in polyphonic music. In this article will present the origin of the selected elements of chorale musical notation, which found its application at the final stage of its evolution in polyphonic mensural music.

In the contemporary subject-related literature two concepts concerning the development of square notation may be distinguished. The first can be

Rev. MICHAŁ OLEJARCZYK, PhD student—The John Paul II Catholic University of Lublin WSD Kielce, Institute of Musicology; address for correspondence—e-mail: molej@wp.pl

¹ In this study author uses the results of the research published in 2008 in his master's thesis entitled: *The manner of singing gregorian chant according to Jerome of Moravia in the context of the evolution of notation and musical forms*.

found in works of B. Stäblein² and W. Apel.³ According to them square notation originates from Aquitaine notation. The other concept, more commonly found in literature (for instance, in the works of Hourlier⁴), the square letter originates from North-French notation. Therefore, during analysis the evolution of the two notation families: Aquitaine and North-French will be explored.

In the beginning the selected elements of chorale notation were mentioned, as it is not important to analyze the notation comprehensively to show the process of evolution. The selected items include: *punctum*, *virga*, *clivis*, *pes*, *porrectus* and *torculus*. In the 13th century these neumes were applied in mensural music. It is exceptionally vital, in the light of the musical notation, to learn the meaning of particular neumatic elements and see its change at the moment of applying chorale notation in polyphonic music.

The examples with the notation sections shall be presented in chronological order, which means from 10th to mid-13th century. Examples taken from manuscript sources, from contemporary facsimile liturgical books, as well as examples quoted in publications of other authors will be used.

In the first place the manuscripts using the North-French notation, then Aquitaine notation will be reviewed.

1. NORTH-FRENCH NOTATION

In the areas of northern Gaul in the 10th century the notation was used, referred to in literature as French, North-French, of Laon, Norman, Breton and Aquitaine. The area of North-French notation encompasses Normandy, areas of Paris, Noyon, Le Mans, Rouen and Corbie. The map below (Figure 1) illustrates the distribution of various French notations and allows to localize the area of the North-French notation influence.

² See Bruno STÄBLEIN, "Schriftbild der einstimmigen Music," in *Musikgeschichte in Bildern, Begründet von Heinrich Besseler und Max Schneider*, vol. 2 *Music des Mittelalters und der Renaissance* (Leipzig, 1975), 160–161.

³ Apel claims that in the end of the 12th century the Aquitaine neumes took more specific shapes, more squared forms. These shapes changed, were finally called notes and ligatures. See Willi APEL, *The notation of polyphonic music 900-1600* (Cambridge-Massachusetts: The Mediaeval Academy of America, 1953), 218.

⁴ See Dom J. HOURLIER, *La notation musicale des chants liturgiques latins* (Solesmes, 1996), 40–47.



Figure 1

Influence of North-French notation is visible in the whole Western and Northern Gaul. In case of this extensive area and influence it is difficult to point out any universal image of this notation to be representative for all manuscripts in that neumatic tradition.⁵ However, be highlighted certain constant features, characteristic for North-French notation can.

⁵ See Robert BERNAGIEWICZ, *Recepcja tradycji neumatycznych w notacji Graduału Wiślickiego w świetle neum liquescentes* (Ząbki, 1999), 114.

Tractulus and *punctum* graphics is not well-developed, so in numerous places it is difficult to distinguish between them, for instance *tractulus* (Figure 2, line 3, “longitudinem”, *punctum* (Figure 2, line 2, “eius”).

Virga in its shape resembles a straight line of various length and thickness (Figure 2, line 2, “capite”).

Pes quadrates consists of two elements: vertical and horizontal, which means two lines connected with each other at the right angle. The vertical element is thicker (Figure 2, line 2, “lapide”).

Clivis neuma is in the form of a line bent at the top. The right arm is shorter than the left (Figure 2, line 2, “pretioso”).

Porrectus is formed of three neumatic elements. Two of them are rounded and connected with the third one (*virga*) at the sharp angle, (Figure 2, line 2, “capite”).

In the three-component *torculus*, the first element is connected with the following one almost at the right angle. The upper part of neume is rounded as in *clivis* (Figure 2, line 3, the ending of the melisma “saeculi”).

11TH CENTURY

Code of Montpellier⁸

The next example is the tonary of Eucharistic antiphony from Dijon of 11th century. The manuscript contains double notation: North-French neumatic-type notation at the top and alphabetic at the bottom. This work will focus only on neumatic notation. Musical notation of the tonary (Figure 3) seems to be much more precise than in the Antiphony from Noyon. The copyist draws neumes very carefully. The shape of the drawing instrument and the manner of its use determine the thickness of neumatic elements: the horizontal become thicker and the vertical ones—slightly oblique. The trail of writing does not change in comparison with the Code of Mont-Renaud of 10th century—it is slightly oblique.

⁸ The famous 11th century Code H. 159 from the library in Montpellier was published in French series PalMus: “Antiphonarium tonale missarum (XI^e siècle): Codex H. 159 de la Bibliothèque de l’École de Médecine de Montpellier,” in PalMus 8 (Solesmes, 1901–1905). Its source is Saint-Benigne from Dijon.

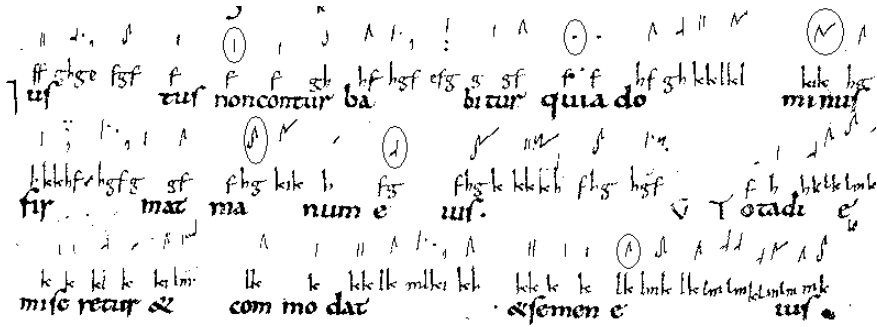


Figure 3. PalMus 8, folio 93r

Only *punctum* and *virga* mark the single-element neume (*tractulus* does not exist).

Punctum occurs very rarely (Figure 3, line 1, “quia”).

Virga (Figure 3, line 1m “non”) takes the form of almost vertical line. There are no evolutionary alterations within the neume.

The horizontal element *pes*, marked with a thicker line, is connected with the vertical element at the angle greater than 90 degrees (Figure 3, line 2, “eius”). While forming the *pes* neume there are two separate movements of the drawing instrument are visible.

However, one can see a certain alteration in comparison with the 10th century in case of *clivis*. Its upper part does not have rounding, but rather a sharp angle in connecting slightly thicker.

In case of *torculus* (Figure 3, line 2, “manum”) one can observe, however not distinctly, three elements. The first two items contain a rounded line; the third element, descending in an oblique manner, is connected with the preceding elements, as it was observed in *clivis* neume.

In *porrectus* there are no detectible changes. As in the Antiphonary from Noyon, the last element forms the sharp angle with the preceding element. The second element is thicker (Figure 3, line 1, “dominus”). It is drawn very gently and lightly.

Gospel Book from Le Mans

Norman notation evolved from the French one. It is shown in the section of the sheet “Gospel Book from Le Mans” from 11th century.⁹ The notation of the Gospel Book does not generally differ in letter from North-French notation.¹⁰ The trail of writing is vertical, whereas the neumatic elements are placed closer to one another. Slightly thickened line makes the impression of more primitive notation in comparison with the Code of Montpellier. Top neumatic elements are thickened. The thickening of the left side of vertical line has the shape of a small triangle, which resembles the Sankt Gallen episema, however it is not actually the episema. In Sankt Gallen notation, episema was applied as rhythmic sign and added to certain neumes, whereas in Norman notation it occurs always and has no rhythmic significance. These thickened endings of neumatic elements shall indicate the pitch of sounds in the future.

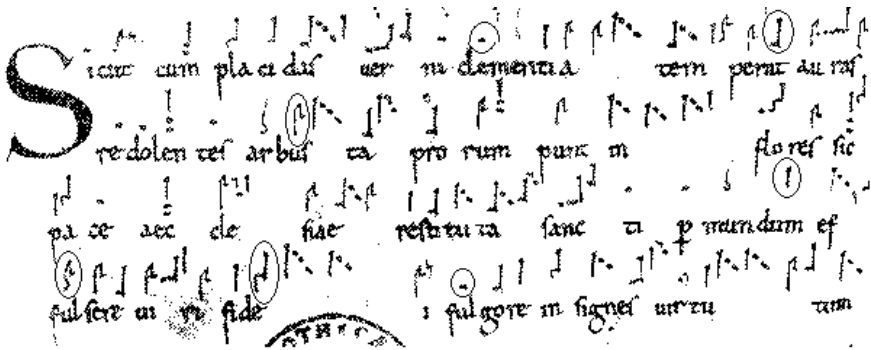


Figure 4

One can observe certain inaccuracy of the scriptor in drawing *punctum* and *tractulus* neumes, but they are not always distinguishable with certainty (Figure 4, line 1, “clementia”—*punctum*?; line 4, “fulgore”—*tractulus*?).

In case of *virga* neume (Figure 4, line 3, “mundum”), any evolutionary changes, apart from the thickening on the left side of the line, mentioned above can be detected.

⁹ Paris, Bibliotheque Nationale, Lat. 261, Folio 149v. quoted after Dom J. HOURLIER, *La notation*, 40. This is the beginning of the Little Hours on St. Julien, the bishop of Mans, added to the 11th century manuscript, called the “Gospel Book from Mans.”

¹⁰ HOURLIER, *La notation*, 40–41.

In *pes* the horizontal element, slightly thickened, is connected with the vertical element at the right angle, above its lower ending (Figure 4, line 1, “temperat”).

In *clivis* neume (Figure 4, line 2, “arbusta”), the first element is connected with the other at the sharp angle, as it was visible in the Code of Montpellier. The second element ends with a small hook facing right. In the future this element will be used for indication of the lower *clivis* sound.

Torculus (Figure 4, line 4, “sulfereviri”) is composed of three elements. Its shape resembles the one of the Code from Montpellier, though in the Norman notation it is more thick. The second and the third element are connected at the sharp angle, the ending of the neume (small hook) is similar to the one in *clivis*.

Porrectus consists of three neumatic elements (Figure 4, line 4, “fidei”), the sharp angle is between the second and third element.

Psalmbook from Rouen

Norman notation can also be talked about with reference to *Psalmbook of Rouen* from 11th century.¹¹

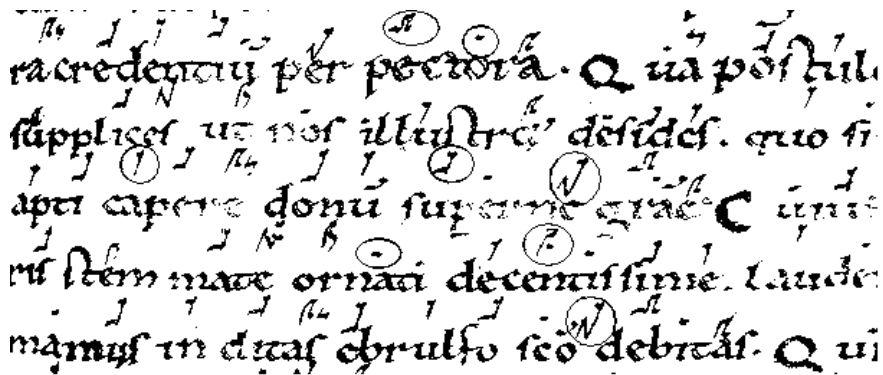


Figure 5

The trail of writing bends slightly to the right.¹²

It is not always possible to differentiate between *punctum* and *tractulus* (Figure 5, line 1, “pectora”—*punctum*?; line 4, “ornate”—*tractulus*?),

¹¹ Evreux, Bibliotheque Municipale, 70, Folio 149. quoted after HOURLIER, *La notation*, 42.

¹² See BEGUERMONT, *La première écriture*, 178.

similarly as it was in: Gospel Book of Le Mans.” Different shapes and sizes of these neumes can be observed.

Top endings of vertical lines increase in size and take the form of small squares on the left. This can be observed in *virga* neume (Figure 5, line 3, “capere”).

The increase of the top ending of the neume can be seen in *pes* already (Figure 5, line 3, “supreme”). Bottom element becomes thicker and more distinct. In the future this element will indicate the pitch of the lower sound in the neume. There is no right angle in the joining point of the elements as it was visible in previous examples (Figure 2, 3, 4).

One new item occurs in *clivis* neume (Figure 5, line 4, “decentimisse”). Two neumatic elements are connected not at the sharp angle, but using a horizontal line which- due to the specific features of the sriptor’s pen- seems to be thicker than usual. This phenomenon is also visible at the bottom of the neume (small hook already known from “Gospel Book from Le Mans”).

The first element of *torculus* has the shape of thickened vertical line and is visibly prolonged (Figure 5, line 1, “pectora”). The second and third element are drawn the same way as in *clivis* neume.

In *porrectus* (Figure 5, line 3, “superne”) distinct and sharp shapes in the connection point of its three elements can be seen. The middle element *porrectus* is sometimes slightly thicker than the remaining ones.

Graduale from Canterbury¹³

The sriptor of *Graduale from Canterbury*, dated approx. 1080,¹⁴ uses Norman notation.¹⁵

¹³ Durham, University Library, Cosin V,V,6. The Graduale is in the University Library in Durham. It originates from Canterbury and Durham.

¹⁴ *The Dom Mocquereau Foundation Microfilm Collection*, <http://libraries.cua.edu/musicoll/dommocq.html>

¹⁵ In the context of the notation of the Graduale from Canterbury, we can talk about relative diasthematia. The location of neumatic elements indicate the approximate size of intervals in the scope of small neumatic groups. See Robert BERNAGIEWICZ, “*Communiones*” “*Graduału*” *rzymskiego in statu nascedi i w obliczu rodzącej się diastematii* (Lublin, 2004), 42.

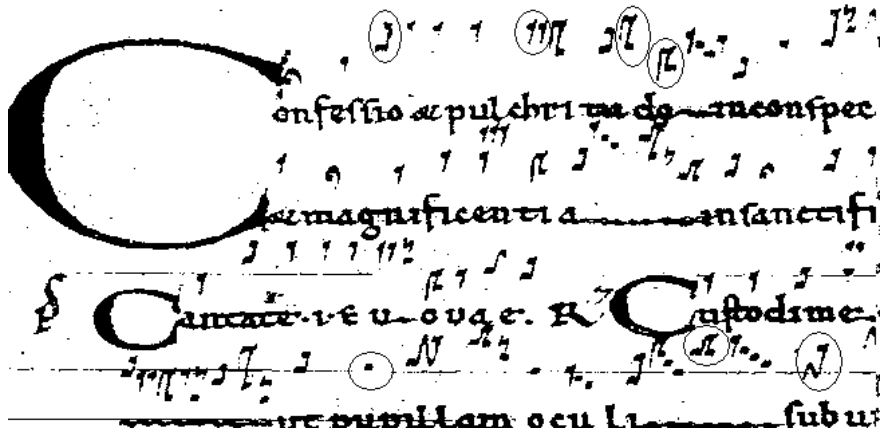


Figure 6

The notation of the Graduale from Canterbury is an example of a very early squaring of graphic forms of neumes. It is worth mentioning that the document from late 11th century has a full range of signs at its disposal to evolve into the future square notation. Square and rectangular graphic forms emerge as a result of vertical pen movement, whether it is shorter or longer. The form of a square is visible in *virga* neume (Figure 6, line 3, “pulchritudo”), in the top ending of the *pes* neume (Figure 6, line 1, “confessio”), in the bottom ending of the *clivis* neume (Figure 6, line 3, “pulchritudo”), the final element *torculus* (Figure 6, line 4, melismate of the word “oculi”) and the upper element *porrectus* (Figure 6, line 4, “sub”). The form of rectangles is visible in the lower *pes* element (Figure 6, line 1, “confessio”) and, for instance, in upper element of *clivis* (Figure 6, line 3, “pulchritudo”). *Porrectus* neume deserves particular attention as its central element takes the form of a thickened line (Figure 6, line 4, “sub”) which in square notation shall indicate the pitch of first two sounds.

12TH CENTURY

The Graduale from Saint-Alban

The Graduale from Saint-Alban from the 12th century (written approx. 1140 AD)¹⁶ represents the same type of notation as the Graduale from

¹⁶ London, British Museum, Roy. 2 B IV Folio 54 v.

Canterbury, with the only difference that the notation is based on lines, which means it is fully diasthematic (Figure 7).¹⁷ Squaring of graphic forms of the notation in the Graduale of Saint-Alban does not generally change in comparison with the Code of Canterbury. However, the *climacus* neume is worth paying attention to, as the beginning of the diamond shape in the descending elements can be detected, obtained due to the slanting movement of the pen (Figure 7). The graphic shape of the diamond shall be applied in the square notation.

The remaining part of the former accent notation in the notation of the Code of Saint-Alban is the continual differentiation between *punctum* (Figure 7, line 1, “humana”). Both neumes have the form of the square, whereas *virga* maintains the vertical line on the right side of the square.

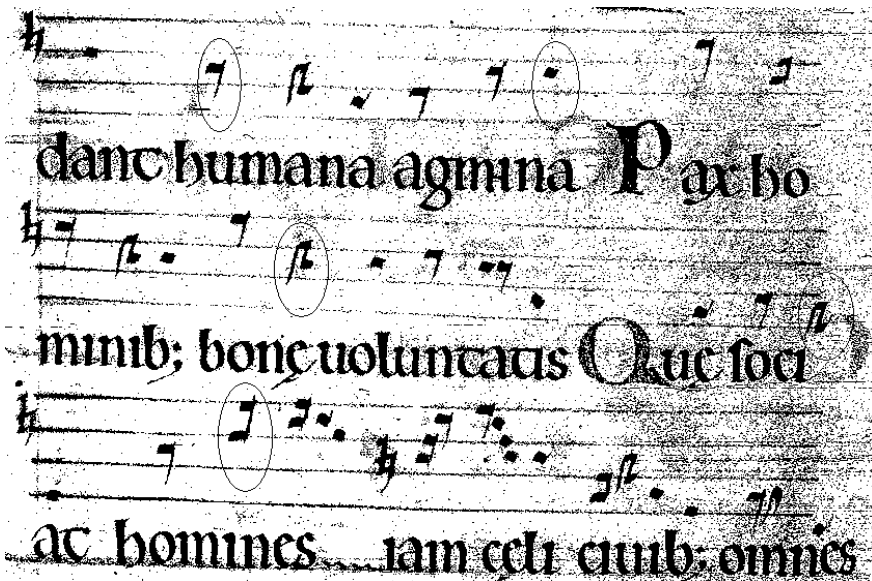


Figure 7

¹⁷ Some call this notation a notation of “binding points” pr “binding square,” and in the face of the presented evolution of the notation this name does not seem right. This sort of terminology suggests the point is the primary element and complex neumes emerged via point binding. See HOURLIER, *La notation*, 45.

13TH CENTURY**The Graduale from Senlis**

The Graduale from Senlis of the beginning of 13th century reflects the final evolution stage of the North-French notation – it can already be called a square notation.¹⁸

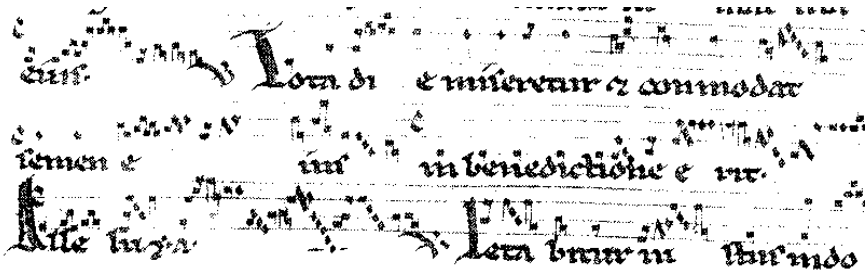


Figure 8

All the neumatic elements obtain the same form of a small square. For the first time the classic shape of the *porrectus* occurs (Figure 8, line 2, “eius”—melismate on the “e” syllable) with visibly thickened line which indicates the pitch of the first two sounds. The perfect form is achieved by the descending neumatic elements in *climacus* (Figure 8, line 1, “commodat”). The diamond shape sometimes occurs as the independent form as well to indicate the single sound (Figure 8, line 1, “miseretur”).

In the presentation of the evolution of North-French notation the author started with a classical accent notation, which—in its original shape—differed from Sankt Gallen notation with the trail of writing only (less or more upright) and the lack of episema. In the original stage of its evolution this notation was deprived of possibility to indicate the pitch of sounds. Later, different other graphic elements occurred within it, and in the end they served as the indicators of the pitch of sounds. In 11th century, as the first one, evolved the crowning element of neumes (*pes*, *virga*, *porrectus*). It

¹⁸ Paris, Bibliotheque Sainte-Genevieve, 99, Folio 145v. quoted after HOURLIER, *La notation*, 46.

was build of thickened sections of irregular shapes, located on the left of the vertical lines. The hook-like thickened parts ending *clivis* and *torculus* appeared at the same time. At the end of the 11th century the aforementioned elements were subject to squaring. The same form was taken by the middle (second) element *torculus* and the first element *clivis* (Graduale from Canterbury). It was possible to use notion of the prototype of the square notation, though the notation was still without staff lines. 12th century brought the diasthematic record on staff lines. The Norman notation— „ready” to the diasthematic record—was then transferred to the lines (for example the Graduale from Saint-Alban). It was in the same century that the practice of slanting notation of descending elements *climacus* emerged, leading to the development of the graphic form of a diamond., in the history of the evolution of notation, 13th century was the period of improvement of graphic forms of squares and diamonds. Also, the shape *porrectus* crystalized at the time.

2. AQUITAINE NOTATION

Aquitaine notation, just as the North-French one, is the representative of French notations. It has a very wide range: includes the whole south-west region of ancient Gaul (Aquitaine) up to Valencia on the east and to the north part of Iberian Peninsula, which is one-third area of contemporary France and the north of Spain. The notation had a common application in these areas, on which North-French notation¹⁹ (Figure 9). I appears in the centres such as Limoges, regarded as a centre of this notation,²⁰ also in Saint-Yrieux²¹ and Albi, Moissac, in Toulouse (from 6th century, it was the capital of Aquitaine) and Narbonne.

¹⁹ Compare BEGUERMONT, *La première écriture*, 160.

²⁰ In the famous abbey Saint-Martial in Limoges, established in 848 AD, there was a scribes' centre, where the style called Aquitaine commenced and spread to the south and west of Europe. Limoges was one of the most important centres of musical and literary activity. Compare BEGUERMONT, *La première écriture*, 161.

²¹ The abbey, founded before 572 AD, located between Limoges and Perigueux. There is a famous Graduale with sequences and sequenced *Kyriale* (Yrx903).



Figure 9

On the Iberian Peninsula, the Aquitaine notation was introduced by the monks from Cluny at the turn of 12th century, during the change of Visigoth liturgy into the Roman one. Mozarabic notation was changed into the Aquitaine at that time in the north, in the centre and in the south of the country.²²

²² Compare BEGUERMONT, *La première écriture*, 161.


The Aquitaine notation belongs to the group of metric notation.²³ All the neumatic elements, starting in the middle of 11th century, are distributed on the parchment in the linear way—this notation is fully diasthematic. Owing to diasthemia, the melodic line is made precise in the 10th century, Neumatic elements are located in the slanting line in ascendant movement and are located vertically in descendant movement. Neumes are drawn in a vertical way and owing to the slanting position of the drawing instrument, take the diamond shape.²⁴ In this place there also are elements of rhythmical record: two forms of *clivis*: the bound form (shorter sound) and point form (longer sounds).


Before presenting chronological order particular fragments of musical manuscripts of this notation, it is worth presenting the graphic forms of Aquitaine neumes. Attention is drawn here to basic neumes: *punctum*, *virga*, *clivis*, *pes*, *porrectus* and *torculus*.



Punctum (*tractulus*), which occurs in complexes as well as individually, may take various forms.

•••• signs are more or less thickened, square or prolonged.



Virga, often found in complex neumes, occur in three forms:

 this graphic form *virga* in Aquitaine notation is the most common. Its characteristic element is a small square in the right top corner.

 *virga* semi-rounded is the neumatic element, which occurs independently. In the manuscript of Saint-Yrieux means the half-tone interval (si-do, mi-fa or la-sib).

 *virga cornuta* has the characteristic ending, protruding up. This graphics is similar to *uncinus*  in the notation of Laon.

Clivis is found in three different forms:

 *punctum* above *tractulus*,  two points- one over the other.

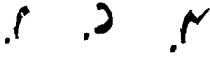
²³ The source of this notation group are metric signs of prosody, applied to indicate short and long value of the syllable: •• Due to the genesis of the sign the general image of the Aquitaine notation, characterizing the advantage of single points and horizontal broken lines. As a result, some call it the “point notation.” Metric notation also includes the Breton and Aquitaine one. Compare BERNAGIEWICZ, *Recepeja*, 148–150. Compare also HOULER, *La notation*, 22.

²⁴ Fulvio RAMPI and Massimo LATTANZI, *Manuale di canto gregoriano* (Cremona, 1998), 638.

▬ two *tractuli* one over the other.

↷ italic-like form-bound elements.

Pes appears in three graphic forms, reflecting three forms of *virga*:



Porrectus

⋮ the most common in the form of *punctum*, *tractulus* and *virga*.

↷ italic-like form-bound elements.

Troculus:

↷ graphic form consisting of *punctum* and *clivis*.

10TH CENTURY

Until now, there have not been found any completely preserved manuscripts with Aquitaine notation. Due to this fact the research of the initial phase of the evolution of this notation is highly impeded. The oldest preserved manuscript existing is the *Graduale-Sequenced* from Saint-Martial de Limoges.

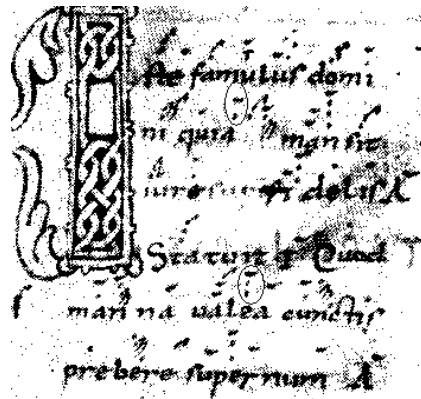


Figure10²⁵

²⁵ The Code is non-homogenous, composed of sections emerging in a successive manner: starting 935 AD until the 12th century, The quoted section comes from 10th century. Compare BEGUERMONT, *La première écriture*, 164.

Aquitaine notation in its original stage presents in general all the above elements. The only significant difference to the classic model of notation is reversed the order in the system *punctum* and *tractulus* in neumes *clivis* and *climacus*. *Tractulus* is higher, and *punctum* below (Figure 10, line 2, “quia”); *climacus* (Figure 10, line 5, “valea”). In the neumes consisting of three elements, at least one note remains separated from the rest.

11TH CENTURY

The earliest and at the same time most valuable 11th century graduals come from Albi²⁶ and St. Yrieix.²⁷ In this notation there are all the singular forms of sounds present: namely *punctum*, *tractulus* and all types of *virga*. The notation here reaches the classic form, in which the descending neumes (*clivis* and *climacus*) end with the *tractulus* element (Figure 11, line 2, “facta est”), which is the contrary to what was observed in case of the Code of Limoges. When observing the graphic form of this notation the pen was held in a slanting manner by the scribe; all the elements are drawn in a horizontal way and take the diamond shape.²⁸

Below is the element of the Graduale from Albi, originating from the beginning of the 11th century.²⁹

²⁶ This Graduale was written for the St. Michael’s Monastery in Gaillac, situated close to Albi. Compare BEGUERMONT, *La première écriture*, 166.

²⁷ The Graduale of the former Benedictine abbey in Saint-Yrieix in the diocese Limoges, was published in the 13th volume PalMus of 1924. This manuscript was imported to the Saint-Martial Church in Limoges in the 11th or in the beginning of 12th century. Compare BEGUERMONT, *La première écriture*, 166.

²⁸ Compare BERNAGIEWICZ, *Recepcja*, 148–149.

²⁹ *Gaillac. il cod. Paris. Bibliothèque Nationale de France. lat. 776. sec. XI. Graduale*, eds. Nino ALBAROSA, Heinrich RUMPHORTS, and Alberto TURCO, in *Codices Gregoriani*, ed. Nino ALBAROSA and Alberto TURCO (Verona, 2001), Folio 71v.

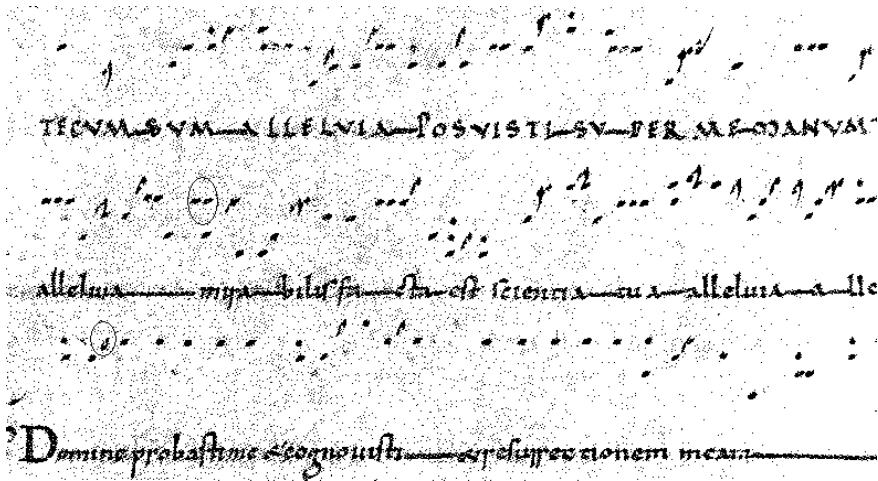


Figure 11

It is worth paying attention to the characteristic neumatic elements. *Virga* appears in three different forms, for example, it indicates the semi-circular *virga* meaning the half-tone interval (Figure 11, line 3, “Domine”). Also, the *tractulus* neuma is worth mentioning (Figure 11, line 2, melisma “alleluja”), which has different lengths and takes diamond shapes.

The second of the mentioned musical artifacts of the early 11th century is the Graduale of Saint Yrieix.³⁰

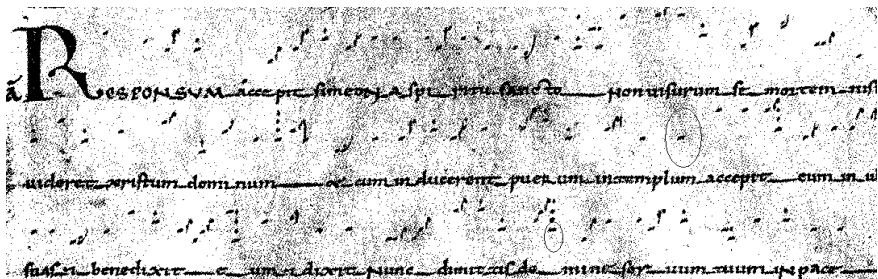


Figure 12

³⁰ *Le Codex 903 de la Bibliothèque Nationale de Paris (XI siècle) Graduel de Saint-Yrieix*, in PalMus 13 (Solesmes, 1925), Folio 47.

Like in the previous example attention is drawn to *tractulus*, which is slightly longer than in case fo Albi (Figure 12, line 2, “templum”). The neume is prolonged particularly when it is single and when the melodic movement ends down (Figure 12, line 2, “domine”). The image of this notation generally differs from the Code of Albi.

The next example is the Graduale and the Sequence of Toulouse, originating from the 11th century.³¹

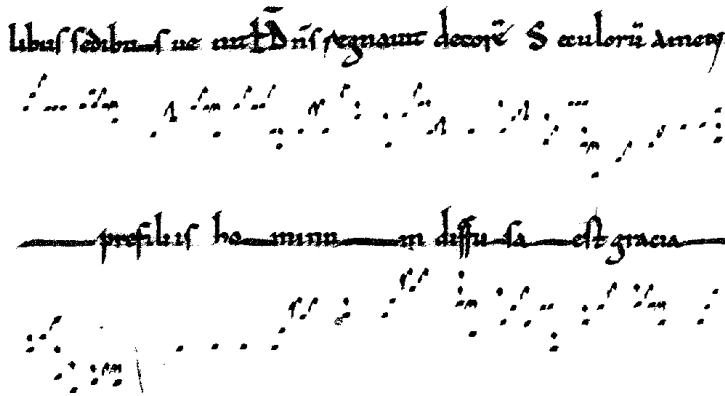


Figure 13

Tractulus, which appears in complex forms, particularly in descending neumatic elements, is short. We can indicate the similarity to the Code of Albi. The same neumatic items occur.

The next example dates back to the second half of the 11th century (after 1081 AD). This is the Graduale and Sequences of the St. Justus and Pastor Cathedral in Narbonne.³² There are the characteristic shapes of neumatic elements, characteristic for Aquitaine notation.

³¹ London, British Library, Harl. 4951, Folio 147v.

³² Paris, Bibliotheque Nationale, Lat. 780, Folio 17v.

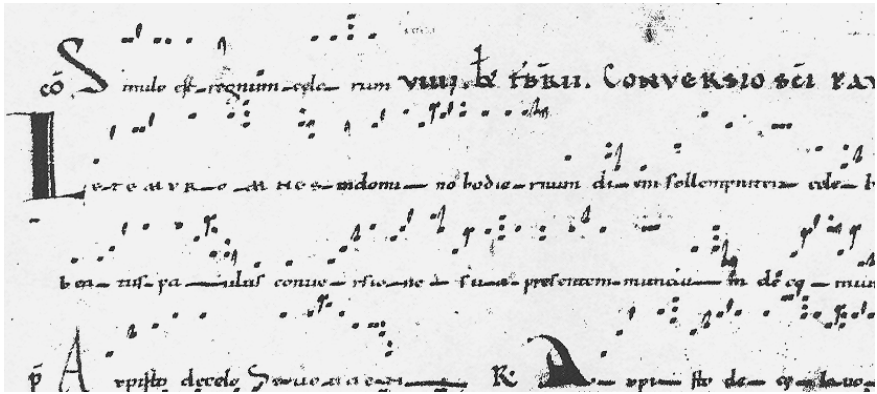


Figure 14

12TH CENTURY

At the turn of 12th century the section of the Graduale of Limoges or Narbonne originates from.³³

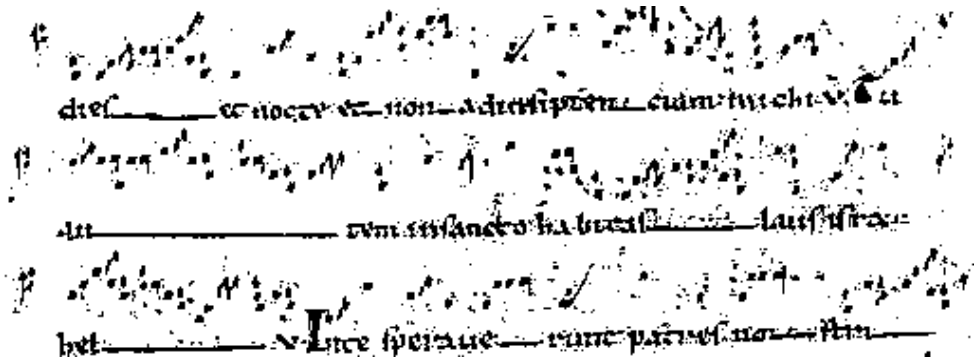


Figure 15

Tractulus is noted in the form of a square. Certain neumatic elements are bound using vertical line (fig. 15, line 1, “non”; line 2, “habitas”). The remaining neumatic forms remain unaltered.

³³ Dartmouth College Library, Gradual Ms. 002499, folio 1r., <http://www.dartmouth.edu/~library/rauner/westmss/002499.html>

13TH CENTURY

The examples of Aquitaine notation on ink-drawn lines originate from the beginning of the 13th century: the Graduale from Grande-Chartreuse, most probably from Valencia (Figure 16).³⁴

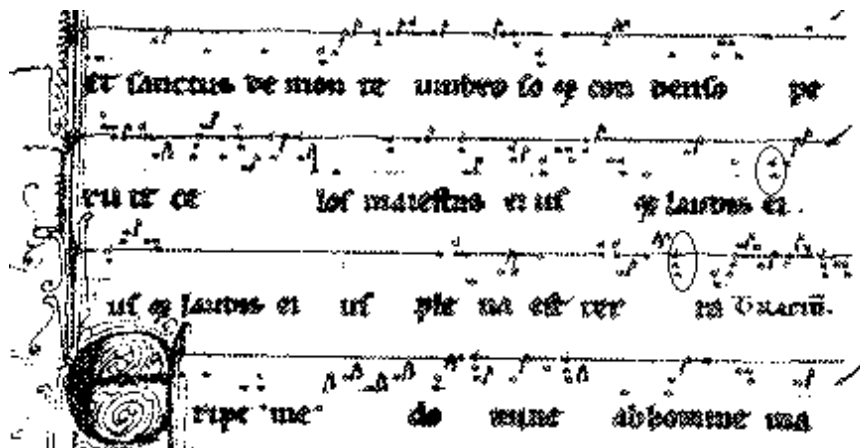


Figure 16

Despite using a thicker pen, the signs of Aquitaine notation are still possible to recognize. However, the dot is in the shape of a square or small rectangle. The top elements of *clivis* (Figure 16, line 2, “ei”) and *climacus* (Figure 16, line 3, “terra”) are noted with the additional small line on the right of *punctum*. The shapes of *torculus* and *porrectus*, despite the two ages that passed, still maintain the classic form (*torculus*: Figure 16, line 4, “me” and *porrectus* line 4, “domine”).

*

The Aquitaine notation belongs to the group of accent notations. The analysis of this notation in the chronological perspective (from 10th to 13th century) allows recognize that alterations in shapes of neumes were not as significant as in the case of the North-French one. It was so due to the ori-

³⁴ MS 801, Folio 54v. quoted after HOUILLIER, *La notation*, 26.

gins of the Aquitaine notation, which was the metric type. Since 10th century, *punctum* and *tractulus* have been the dominant neumatic elements of this notation. *Tractulus* was drawn in the horizontal manner, whereas the scribe's technique—a slanting position of a pen—determined its diamond-like graphic form. Depending on the habits of the scribe, the movement of the pen was shorter or longer, and the neume took the form resembling a square or a rectangle. Until the very end of the period of Aquitaine notation application (14th century), the diamond-like shaped neumatic elements were not connected with each other, apart from the occasional borrowings from the North-French notation (compare the *Graduale* from Grande-Chartreuse, Figure 16).

In the light of the paleo-geographic analysis presented in this article, it is possible to show that the classical square notation evolved from the North-French notation, not from Aquitaine notation, as it was indicated by Stäblein and Apel. Their concept of the genesis of the square notation is most probably based on the fact that Aquitaine notation was used for the recording of compositions polyphonic (organum, early motet) in the Saint-Martial Abbey of Provence in Limoges. In 11th century this Abbey lost its dominant position and Paris³⁵ became the main centre of polyphonic music development; therefore the classical square notation was used to record polyphonic music in the place of previously applied Aquitaine notation.

BIBLIOGRAPHY

Liturgical manuscripts

- Graduale from Canterbury and Durham*. Durham. University Library. Cosin V.V.6.
Graduale from Narbonne. Paris. Bibliothèque Nationale. Lat. 780.
Graduale from Saint-Alban. London. British Library. Royal 2.B.IV.
Graduale from Saint-Martial de Limoges. Paris. Bibliothèque Nationale. Lat. 1132.
Graduale from Toulouse. London. British Library. Harl. 4951.

³⁵ In the area of Notre-Dame Cathedral in Paris there was an artistic centre, gathering a group of scholar musicians, mostly clergymen in the years 1150–1250. The school developed the following types of polyphonic music: organum, conductus and liturgical motet; numerous sets of manuscripts were collected in the so-called *Magnus Liber organi de gradali et antiphonario pro servitio divino multiplicando* associated with composers such as Leoninus and Perotinus. Compare: Edward H. ROESNER, “Notre Dame school,” in *The New Grove Dictionary of Music and Musicians*, ed. Stanley SADIE, vol. 18, 202–203. Compare also Józef CHOMIŃSKI and Krystyna WILKOWSKA-CHOMIŃSKA, *History of music*, vol. 1 (Kraków, 1989), 106.

Facsimiles of liturgical manuscripts

- Antiphonarium tonale missarum (XI siècle): Codex H. 159 de la Bibliothèque de l'École de Médecine de Montpellier* In PalMus 8. Solesmes, 1901–1905.
- Gaillac. Il cod. Paris. Bibliothèque Nationale de France. Lat. 776. sec. XI. Graduale*, edited by Nino ALBAROSA, Heinrich RUMPHORTS, and Alberto TURCO. In *Codices Gregoriani*, edited by Nino ALBAROSA and Alberto TURCO. Verona, 2001.
- Le Codex 903 de la Bibliothèque Nationale de Paris (XI siècle) Graduel de Saint-Yrieix*. In PalMus 13. Solesmes, 1925.
- Le Manuscrit du Mont-Renaud (Xe siècle): Graduel et antiphonaire de Noyon*. In PalMus 16. Solesmes, 1955.

Elaborations

- APEL, Willi. *The Notation of Polyphonic Music 900-1600*. Cambridge-Massachusetts: The Mediaeval Academy of America 1953.
- BEGUERMONT, Helene. *La première écriture musicale du monde occidentale*. Bourg-la Reine: Editions Auguste Zurfluh, 2003.
- BERNAGIEWICZ, Robert. “*Communiones*” “*Graduału rzymskiego*” *in statu nascedi i w obliczu rodzącej się diastematii*. Lublin: Wydawnictwo KUL, 2004.
- BERNAGIEWICZ, Robert. *Recepcja tradycji neumatycznych w notacji Graduału Wiślickiego w świetle neum liquescentes*. Ząbki: Wydawnictwo Apostolicum 1999.
- CHOMIŃSKI, Józef and Krystyna WILKOWSKA-CHOMIŃSKA. *Historia muzyki*. Vol. 1. Kraków: Polskie Wydawnictwo Muzyczne, 1989.
- HOURLIER, Dom J. *La notation musicale des chants liturgiques latins*. Solesmes: Abbaye Saint-Pierre, 1996.
- RAMPI, Fulvio and Massimo LATTANZI. *Manuale di canto gregoriano*. Cremona: Turris Editrice, 1998.
- ROESNER, Edward H. “*Notre Dame school*.” In *The New Grove Dictionary of Music and Musicians*, vol. 18, edited by Stanley SADIE, 202–203. Oxford: Oxford University Press, 2001.
- STÄBLEIN, Bruno. *Schriftbild der einstimmigen Musik*. In: *Musikgeschichte in Bildern, Begründet von Heinrich Besselner und Max Schneider*. Vol. III. *Musik des Mittelalters und der Renaissance*. Leipzig: Deutscher Verlag für Musik 1975.

GENEZA NOTACJI KWADRATOWEJ

Streszczenie

W prezentowanym artykule przedstawiliśmy ewolucję dwóch notacji francuskich: północnofrancuskiej i akwitańskiej. Na podstawie wybranych źródeł, w porządku chronologicznym zbadaliśmy wybrane elementy neumatyczne tych notacji i w końcowym etapie zaprezentowaliśmy wnioski, w jakim kierunku ewoluowały poszczególne neумы. Proces ewolucji okazał się wyraźniejszy w notacji północnofrancuskiej. Krok po kroku mogliśmy zaobserwować formowanie się klasycznych kształtów kwadratowego pisma muzycznego, z charakterystycznymi łączeniami poszczególnych elementów (ligatury). W przypadku notacji akwitańskiej o ewolucji form graficznych możemy mówić tylko w niewielkim stopniu, gdyż istotne elementy tej notacji w ciągu trzech wieków zostały zmodyfikowane tylko nieznacznie. Wykazaliśmy, że współczesna notacja chorałowa wywodzi się z notacji północnofrancuskiej.

Słowa kluczowe: notacja akwitańska, clivis, Graduał, elementy neumatyczne, neумы, notacja, notacja północnofrancuska, *pes*, *porrectus*, *punctum*, *torculus*, *tractulus*, *virga*.