

Constantin Floros

The Origins of Western Notation

Revised and Translated by Neil Moran



PETER LANG

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Modern music notation developed out of the so-called square notation and this out of the Latin neumes. The question of where these neumes came from has long been the subject of scholarly debate. As the author demonstrated in his three-volume *Universale Neumenkunde* published in German in 1970, there is a very close relationship between the Paleo-Byzantine notation and the Latin neumes. Although the study aroused a great deal of dispute, more recent studies have revealed that the relevance of the *Neumenkunde* remains essentially unchallenged after 40 years. Those path-breaking research results on the relationship of the Greek and Latin notational systems are now available for the first time in a completely revised and augmented English translation.

“[Floros’] work, while not giving the last word in the domain of semiology, could today certainly again be the point of departure for productive developments, both in the domain of Byzantine music as well as in the area of Gregorian chant.”

(Luca Basilio Ricossa)

Constantin Floros is a professor emeritus of musicology at the University of Hamburg and a prolific writer on diverse subjects. He was the first researcher who systematically examined, compared and decoded the oldest Byzantine, Slavic and Latin neumatic notations.

Neil K. Moran is the author of numerous studies on European cultural history in Antiquity and the Middle Ages. His books are of fundamental importance for those interested in the Ordinary chants of the Byzantine rite and for the iconography of church singers in the Middle Ages.

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With a Report on „The Reception
of the *Universale Neumenkunde*,
1970–2010“



PETER LANG

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Foreword

It has long been recognized that Byzantine art undoubtedly exerted a significant influence on the West. This has particularly been shown to be the case of art history. The Byzantine dome as well as Byzantine mosaics and panel paintings inspired many artists in the West. One only needs to refer to the architecture of San Marco in Venice, to the mosaics of San Vitale in Ravenna and in the cathedral Santa Maria Nuova in Monreale (Sicily). Extremely significant for the acceptance of the Byzantine heritage is not least the Quadriga from the Hippodrome of Constantinople, which today decorates the San Marco in Venice.¹

The relationship between Byzantine church music and Gregorian chant is not so unambiguous. It is generally believed that both can be traced back to a common root, but each developed totally independently. The very close political, ecclesiastical and music historical relationships between Rome (the capital of the West Roman empire) and Constantinople (the capital of the East Roman empire) in the 6th, 7th and 8th centuries have been thoroughly documented. Until the middle of the 8th century papal Rome belonged to the Byzantine Empire. At least in political terms, the popes were in a dependent relationship with Constantinople. During this period several Syrians and Greeks occupied the apostolic throne. During this time, numerous festivals, procession and chants of the Byzantine rite were introduced in the Roman Church. In many cases, the original Byzantine melodies were also adopted.²

The eminently important question of the relationship of Latin to Byzantine neumatic notation has long been unclear – understandable because systematic comparative studies of the neumatic notations had not been undertaken. My own investigations at the University of Hamburg into this complex date from at least 1957. This first involved an intensive study of the oldest surviving notations. The main difficulty was that the oldest neumatic notations were adiastrumatic (i.e. they did not designate the intervals precisely) and were therefore regarded as being indecipherable. One could formulate it as follows: the notation concealed a secret – an aspect which appealed to me even more so as I imagined myself to be searching for the solution of riddle. After many attempts over many years of research I managed to gradually decipher the mysterious ancient notations. In 1970 I published my three-volume *Universale Neumenkunde* – a work which caused an enormous sensation. Suddenly amazing connections between Byzantine Church music and the notation of Gregorian chant were exposed. Numerous Latin neumes and corresponding

1 Otto Demus, *Byzantine Art and the West* (New York, 1970).

2 Constantin Floros, *Introduction to early Medieval Notation*, Enlarged second edition (Warren, Michigan: Harmonie Park Press, 2005).

Byzantine signs (semata) proved to be neumatically, paleographically and semasiologically (semantically) related and in many cases identical.

This book is also dedicated to the memory of my former mentor and universal scholar in Hamburg, Prof. Dr. Heinrich Husmann. Of the many methodological stimuli that I owe to him, the demand that the music researcher has to continually expand his or her scientific horizons is one of the most important. My heartfelt thanks go to my friend Dr. Neil K. Moran, who has undertaken the task of translating and updating this voluminous book into English.

I wish to extend my thanks as well to Professor Luca Basilio Ricossa for permission to publish an English translation of his article on my *Universale Neumenkunde* in the appendix of this book. Luca Ricossa – a prominent Gregorian specialist – is a professor at the college of music in Geneva and has for many years taught Gregorian chant at the Schola Cantorum Basiliensis and at the Haute École de Musique de Lausanne. He belongs to a small number of specialists including Dr. Moran who are also well grounded in Byzantine music.

The publication of this voluminous book would not have been possible without the assistance of Michael Rücker (of the international Peter Lang Publishing Group) and Michael Bock.

Constantin Floros, autumn of 2010

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Manuscript Sigla

Latin Sources

AH	St. Gall 390/391 (= Antiphony of Hartker)
BD	Oxford, Bodleian Library, Douce 222
BEN	Benevent VI. 34
BG	Bamberg lit. 6 (Ed. III.7)
CH	Chartres 47
EN	Einsiedeln 121
EV	Editio Vaticana des <i>Liber usualis Missae et Officii</i> , Edition Desclée no. 780, Tournai 1962
GL	St. Gall 339
LN	Laon 239
LZ	Leipzig Rep. I 93 (olim 169)
MP	Monpellier, Faculté de Médecine, H. 159
SG	St. Gall 359
VA	Vaticanus lat. 10673
YRX	Paris lat. 903 (Gradual of Yrieix)

Greek Sources

A	Milan, Ambrosianus graecus 44
C1	Grottaferrata, Biblioteca della Badia, Γ.β.35
C2	Grottaferrata, Biblioteca della Badia, Δ.β.10
C3	Grottaferrata, Biblioteca della Badia, E.α.3
C4	Grottaferrata, Biblioteca della Badia, E.α.5
Cam	Cambridge, Trinity College, 256
D	Vienna, theol. Gr. 181 (Codex Dalassenos)
E	Esphigmenou 54 (Lamb. 2067)
E11	Grottaferrata, Biblioteca della Badia, E.α.11
G	Grottaferrata, Biblioteca della Badia, E. γ. 2
G1	Grottaferrata, Biblioteca della Badia, Γ.γ.1
Ga	Grottaferrata, Biblioteca della Badia, E. γ. 3
H	Ivion 470
K	Kastoria 8
L	Athos, Monē Megistēs Lavras, B 32 (Spir. 152)
L1	Athos, Monē Megistēs Lavras, Γ. 12 (Spir. 252)
L2	Athos, Monē Megistēs Lavras, Γ. 72 (Spir. 312)
L3	Athos, Monē Megistēs Lavras, Γ. 67 (Spir. 307)

L4	Athos, Monē Megistēs Lavras, Γ. 74
L5	Athos, Monē Megistēs Lavras, Δ. 28 (Spyr. 404)
Lg	St. Peterburg, gr. 557
M	Messina, Biblioteca Universitaria, gr. 129
O	Paris, Bibliothèque nationale, fonds Coislin, 220
Och	Ochrid, Biblioteke Sv. Klimenta, 53
P	Patmos, Monē tou Hagiau Iōannou tou Theologou, 55
Pa	Patmos, Monē tou Hagiau Iōannou tou Theologou, 218
S	Saba 83
Si	Sinai 1242
Sin	Sinai 1219
V	Vatican, Biblioteca Apostolica Vaticana, gr. 1606
Va	Athos, Monē Vatopediou, 1488 [MMB 9]
Vi	Vienna, Österreichische Nationalbibliothek, theol. gr. 136 [MMB 10]

Slavic Sources

BK	St. Petersburg, Rossiiskaia Nacionalnaia Biblioteka im M. E. Saltykova-Ščedrina, Q.π.I.32 (Blagoveščenskii Kondakař)
Ch	Athos, Monē Chilantariou (Chilandar), 307 [MMB Va]
Ch1	Athos, Monē Chilantariou (Chilandar), 308
LK	Moscow, Rossiiskaia Gosudarstvennaia Biblioteka, Tr-Serg 23 (Lavrskii Kondakař)
M1	Moscow, Synodal-Typographia (State Central Archives), Triod' postnaya 148
M2	Moscow, Synod Library (Historical Museum), Triod' cvětnaya 27
M3	Moscow, Synod Library (Historical Museum), Triod' postnaya 8
No	Moscow, Synodal-Typographia (State Central Archives), Irmolog 150
Np	Moscow, Synodal-Typographia (State Central Archives), Irmolog 149
UK	Moscow, Gosudarstvennii Istoričeskii Muzei, Usp. 9 (Uspenskii Kondakař) [MMB 6]

Chapter I: The Relationship between Byzantine and Latin Neumes (Introduction to the Problem)

Qui igitur cantum ignorat planum, frustra tendit ad mensuratum. Prius enim in cantu plano se debet quisque fundare; de hinc ad mensurabilem potest accedere. De cantu igitur plano primo prosequamur; infra vero libro septimo aliquid de mensurabili tangemus. Adhuc, antequam agamus de speciebus et modis cantus plani, de notis musicis quibus cantus notantur et de modo dicamus notandi; non enim valet quis in cantuum libris cantus decantare, nisi figuras vel notas quibus claves et voces designantur atque dispositionem illarum sive notandi modum cognoverit, sicut legere non valet qui litteras ignorat.

Jacobus Leodiensis¹

1. Previous theories

HYPOTHESES ON THE ORIGIN OF THE NEUMES

If one were to attempt to determine the current state of knowledge on the neumes with respect to one of its most important problems, namely the question about the origin of the neumes, so it can be stated that only one feature can be regarded as generally commonly agreed upon – and that is that the numerous neumatic notations of the East as well as the West can be traced back to a common root, i.e. Greek accent system devised by Alexandrian grammarians in the 2nd century BC. Soon after Edmond Coussemaker² developed his concept in a publication of 1852 that the Latin neumes developed out of the grammatical accents of the ancient Greeks, older theories over the derivation of the tone signs from Anglo-Saxon runes³ or from the stenographic Tironian symbols⁴ were driven from the field, and this insight, if not without resistance, quickly spread and has attained, with respect to all the families of neumes, almost the value of an official doctrine.

1 *Speculum musicae*, lib. VI, Cap. LXXI (CoussS II, 303 b).

2 *Histoire de l'harmonie au moyen âge* (Paris, 1852): 154-160.

3 F.-J. Fétis, “Résumé philosophique de l’Histoire de la musique” *Biographie universelle des musiciens* I (Brussels, 1837), CLX-CLXVI; *Histoire générale de la musique*, IV (Paris, 1874): 181-195 and 467-469.

4 Th. Nisard, “Études sur les anciennes notations musicales de l’Europe” *Revue archéologique de A. Leleux*, Paris, V (1848): 701-720; VI (1849): 101-114, 461-475, 749-764; VII (1850): 129-143.

Still unexplained and therefore highly disputed, on the other hand, is the eminently important question about the genetic development of the individual neumatic notations and their mutual relationships. That a clarification of this question is dependent on the fulfillment of several prerequisites hardly needs to be emphasized. A detailed investigation of the oldest attainable evidence of Byzantine and Latin semiography is just as necessary as a clarification of the development of the Armenian, Syrian, Georgian and Coptic neumatic notations, areas which even today remain largely *terrae incognitae*. Just as indispensable is a coordination of all the different disciplines dealing with neumatic notation. An overwhelming series of prerequisites still remain to be addressed, so that it is not surprising, that many scholars, in view of the difficult material and in consideration of the precarious research situation, have resigned themselves to the conviction that now is not yet the time to deal with these questions.

It must have been just such deliberations which prompted the learned editors of the *Paléographie Musicale* around the turn of the century to concentrate their investigations on the Latin neumatic notations and to not delve into the relationship of the Western and Eastern families of neumes. At the same time it must be said that there was no lack of early attempts to establish a broader basis for the investigation of the neumes. As an initiator (if not the founder) of a "universalle Neumenforschung", Oskar Fleischer must be named, who examined in the first volume of his *Neumenstudien* the accentuation systems of the Indians, Greeks and Armenians, and defended the thesis of the Oriental origin of "*chironomy and its signs, the neumes*".⁵

Proceeding from Fleischer and the art historical researches of J. Strzygowski, the late Egon Wellesz⁶ expressed the opinion that the notation of the neumes possibly would have already had its roots in a system of signs of Babylonian origin in Pre-Christian times. Thus Mesopotamia and Iran were to be regarded as the original homeland of the neumes (as the notation of the *lectio solemnis*) and from there they found their way to Byzantium and to the West via Armenia. According to Wellesz, the Armenian neumes did not develop out of the Byzantine (as the older research had supposed), but it was rather the reverse, namely that the Byzantine system developed out of the Armenian.

THE THEORIES OF LAMBILLOTTE, RIEMANN AND FLEISCHER

Within the convoluted complex of questions dealing with the 'origin of the neumes' the dispute about the relationship between the Latin and Byzantine neumes naturally took a central position. From our reading of the material, it

5 *Über Ursprung und Enzifferung der Neumen* (Leipzig, 1895): passim, cit. 33.

6 „Probleme der musikalischen Orientforschung“ *Jahrbuch der Musikbibliothek Peters für 1917* (Leipzig, 1918): 1-18; *Aufgaben und Probleme auf dem Gebiete der byzantinischen und orientalischen Kirchenmusik* (Münster in Westf., 1923): 28-39.

seems to have been first raised by Père Louis Lambillotte,⁷ who, confronted with the numerous Greek terms in the Middle Latin music theoretical treatises, developed the hypothesis that the West did not only borrow the liturgical music from the Greeks but apparently the neumatic notation as well:

Ces analogies semblent prouver que les Latins empruntèrent aux Grecs non seulement leur Musique, mais même leur notation neumatique. Comment s'expliquer autrement les noms des neumes, qui sont presque tous d'origine grecque : Podatus, Cephalicus etc., etc.?

Adopting a similar line of argument, Hugo Riemann⁸ came to the conclusion that “*the Roman church probably received the beginnings of tonal notation as so much else*” from the Greek Church. Similarly Oskar Fleischer⁹ expressed the opinion, in consideration of the numerous chants contained in Latin neumatic monuments in Greek as well as in view of the many Greek names in Latin tables of neumes, that Byzantine semiography must have been exercised a strong influence on the neumatic notation of the Latin Church from 9th to the 11th century.

THIBAUT'S THESIS

This question was however first specifically delved into in detail at the beginning of our century by Jean Baptiste Thibaut.¹⁰ With his *Origine Byzantine de la notation neumatique de l'église latine*, Thibaut distinguished himself as one of the best connoisseurs of Byzantine church music, next to Fleischer. Thibaut undertook comparative terminological and etymological examinations of the names of the signs and compared Latin, Byzantine and Armenian neumes according to their forms. Drawing on these comparisons Thibaut defended the bold thesis that the Latin neumatic notation could be directly traced to the ekphonic notation of the Byzantines and it represented nothing else than a simple conversion of the Constantinopolitan notation, that was introduced in all probability into the West around the middle of the 8th century:

La notation neumatique de l'Église latine, comme celle de toutes les confessions chrétiennes primitives, tire indirectement son origine de la sémeiographie ekphonétique des Byzantins; elle n'est en soi qu'une simple modification de la notation Constantinopolitaine, et, selon toute vraisemblance, on doit assigner le milieu du VIII^e siècle comme époque probable de son introduction en Occident.

7 *Antiphonaire de Saint Grégoire – Fac-simile du manuscrit de Saint-Gall*, (Brussels, 1867) : 196 / footnote 1.

8 *Studien zur Geschichte der Notenschrift* (Leipzig, 1878): 112f.

9 *Neumenstudien I* (Leipzig, 1895): 113-115.

10 *Origine Byzantine de la notation neumatique de l'église latine* (Paris, 1907): 16.

Under the term *Constantinopolitan* notation Thibaut understood the Paleo-Byzantine notation, i.e. primarily the Coislin notation, while with the term *hagiopolitan* notation he meant the Middle Byzantine semiography. He imagined the historical development of neumatic notation to have taken the following course: At the end of the 5th century the ekphonic notation, that is the notation of the *lectio solemnis* of the Greek Church, evolved in Byzantium out of the Greek prosodic signs and out of this again, after a period experimentation in the course the 7th century, the Constantinopolitan notation came into existence. This was then the ‘mother script’ of all neumatic writing systems of the East and the West and thus formed the basis not only the Latin family of neumes, but also the Armenian, Georgian and Syrian neumes, as well as the Hebrew (Masoretic) accent writing system. (With respect to relationship between the Byzantine and Armenian neumes the thesis proposed by Wellesz cited above is the reversal of Thibaut’s position).

THE POSITION OF PETER WAGNER

Thibaut’s thesis found a very reserved reception and considerable modification in Peter Wagner’s *Neumenkunde*, whereby a certain embarrassment vis-à-vis the question of the Latin neumes can be detected.¹¹ On the one hand Wagner could not ignore the numerous signs of a vibrant Byzantine influence on the West and there were obvious graphic resemblances between the Latin and Byzantine neumes yet he wanted on the other hand to justify his opinion that there also were dissimilarities between them. Thus he rigorously rejected the hypothesis of a direct acceptance of the Byzantine neumes by Rome and proposed instead the hypothesis “*of a relationship of Roman neumes to one of the notations which historically preceded the Byzantine or perhaps to a contemporary or parallel non-Byzantine notation as for example a Syrian-Greek type of neume*”.

THE VIEWS OF THE SCHOOL OF SOLESMES

It can be said that a special characteristic of the school of Solesmes is the complete exclusion of any question about the relationship of Latin and Byzantine neumes from the research program of the *Paléographie Musicale*. Even if representative volumes of this monumental series include several fundamental studies on problems of Gregorian rhythm as well as on the individual Latin notations, one will search in vain for an indication of possible relations between the families of neumes in the West and the East. Even if this reserve with respect to such a fundamental problem may appear strange, it is the result of the realization, that productive comparisons were not possible at that

11 *Einführung in die gregorianischen Melodien, Zweiter Teil: Neumenkunde* (Leipzig, 1912): 95-114, cit. 113.

time due to the state of research on the Paleo-Byzantine notational systems. To be sure, there was also the (unfounded) conviction that Latin chant notation had developed autonomously.

In his thorough investigation of Aquitanian notation which encompassed the literature on ekphonic and early Byzantine neumes up to the year 1925, Dom Paolo Ferretti came to the conclusion, that the East and the West both used a few fundamental neumes for notating the *lectio solemnis* as well as simple liturgical phrases which were generally derived from the Greco-Roman prosodic signs.¹² As however the chants grew melodically richer and the primitive notational system strove to overcome its inadequacies, the two systems must have gone their separate ways. Independently of each other, East and West multiplied and developed the original signs, endowing them with quite different meanings.

Scepticism with respect to this question is also the keynote in Dom Gregoire Suñol's *Introduction à la paléographie musicale grégorienne*, a manual summarizing the research results of the school of Solesmes.¹³ Suñol warns against premature conclusions and points out that the oldest known Latin and Byzantine neumes most probably date back to the same period, the 9th and 10th century. In addition, he doubts that the Greek names of numerous Latin neumes can be taken as a compelling argument for the dependence of the Latin semiography on the Byzantine. Such names did not necessarily have to have been the original names of these *semata*. They could have very well been introduced within the scope of a Hellenizing movement, possibly in the 7th and 8th century.

THE STANDPOINT OF JAMMERS

A brief, but essential contribution to our problem has recently been formulated by Eward Jammers, who replaced Wagner's hypothesis with his view that all neumatic notations had a common basis in the prosodic signs, i.e., the *προσῳδία* or indications of rhythm, stress, and intonation derived from the acoustical characteristics of speech.¹⁴ As these signs evolved, a split developed in the manner in which the lengthening signs were indicated. While the Gregorian and Byzantine repertoires indicated a lengthening by doubling certain signs rather than using the original prosodic long signs, the metrical prosodic signs were adopted and maintained in the Gallican (Aquitanian) notational system from the beginning. At the same time a series of signs based on the original prosodic markings developed in both Byzantium and Italy, which in the Latin repertoire were all distinguished by Greek names (eg. strophicus, quilisma, liquescents,

12 "Étude sur la notation aquitaine d'après le graduel de Saint-Yrieix" *Pal Mus* XIII (Solesmes, 1925): 61.

13 *Introduction à la paléographie musicale grégorienne* (Paris, 1935): 17f.

14 „Byzantinisches in der karolingischen Musik“ *Berichte zum XI. Internationalen Byzantinischen-Kongreß* (Munich, 1958): V. 2.

basic form of the climacus and oriscus). After that the two lines of development went their separate ways. While the Gregorian system maintained the liquescents, the pressus figures and the quilisma, these signs fell out of use in the East.

PROBLEMS OF THE MATERIAL

Our survey of current theories should have provided an impression of the problematic nature of this material. It should have shown that the enormous difficulties confronting a researcher were intrinsic to the nature of the sources. The transmission history of the sources can in no way be spoken of as ideal. Even the earliest stages of Byzantine and Latin semiography that can be reconstructed from the preserved sources are doubtlessly decades if not centuries removed from their respective 'Urnotation'. Nevertheless, it must be emphasized at the same time, that a systematic investigation of the source material can be expected to lead, to a great extent, to a clarification of the relationships. The fact that researchers have had to be content up to now with more or less illuminating hypotheses, hangs together, as already indicated, not least with the conditions which were inadequately investigated or with prerequisites which could not be fulfilled. In the following section we will consider these aspects more closely.

2. Methodology

Res, non verba

FUNDAMENTALS

At the risk of stating the obvious, it should be pointed out that a fertile comparison of Latin with the Byzantine neumatic notations has to begin with the earliest accessible stages. It makes little or no sense to compare late Coislin and Middle Byzantine neumes from perhaps the 12th century with Latin sources of the same period. By that time Latin as well as Byzantine semiography would have gone through long protracted processes of development from the earliest beginnings up to the 12th century or even later. And it should be clear from our investigations in the first volume of the *Universale Neumenkunde*, that the transformations in the area of Byzantine notation were quite radical and they were executed in rapid succession during the course of several stages.

If one were to adapt the working hypothesis that there was originally a relationship between Latin and Byzantine semiography and one were intent on uncovering supposedly common characteristics, then one naturally would have

to attempt to illuminate the beginnings of these developments. Therefore the oldest recognizable steps of Latin and Byzantine notation would have to be systematically examined at first independently of each other under consideration of all aspects. However, such investigations could not have been carried out up to the present time or could only be sketched. One must take into consideration the situation that the area of Paleo-Byzantine and Old Slavic notation was largely inaccessible due to the lack of research. In general these notational systems were considered to be indecipherable (cf. chapter I of UNkI). A similar situation did not exist of course for Latin adiastrumatic neumes. Today the investigation of these sources can look back at a hundred-year-old history. Recently, however, the study of the earliest notational stages has been taken up more intensely – only at the beginning of the fifties was attention directed to the ‘Paleo-Frankish’ notation by Handschin and Jammers.

CRITICISM OF THIBAUTS ‘PREUVES’

If our research is to concentrate on the oldest notational stages, the question must be raised as to which methodology would be most appropriate. Thibaut believed, as already indicated, that he was able to support his thesis with two “*preuves*”.¹⁵ In his opinion the first “proof” was the “obvious” graphic resemblance of the compared Latin and Constantinopolitan (Early-Byzantine) signs. The second “proof” was to be found in the “suggestive” etymology of the Latin neumes.

Both procedures, examined individually, can be seen to be methodically inadequate. Any proof of the relationship or even identity of the compared neumes is completely dependant on a detailed semiographical and semasiological analysis of the *semata* in question. Only when the tone signs under investigation can be shown to be semiographically the same or – in as far as it involves composite signs – consist of the same “elements” and moreover are equivalent in meaning, can one speak of identicalness and of close dependent relationships.

The mere graphic resemblance between sign of different families of neumes can be purely accidental. One must consider the fact that both the Latin and the early Byzantine neumes frequently exhibit differing forms in the various manuscripts or within various groups of manuscripts. With respect to the Latin neumes, Thibaut took those of St. Gall as the model because they were considered to be the oldest. If one excepts the signs *virga/oxeia*, *strophicus/dyo apostrophoi* and *punctum/kentema*, most of his correspondences have proven to be incorrect. An entire series of neumes which were considered to be parallel

15 *Origine Byzantine*, op. cit.: 71-81.

have in fact nothing to do with one another.¹⁶ Unfortunately Thibaut's incorrect correspondences have found their way into the most recent literature. They were largely tacitly accepted by P. Wagner¹⁷ and Otto Ursprung's comparative table of neumes¹⁸ is essentially a compilation of the deliberations of Thibaut, Aubry and Bonvin to which he added a number of new incorrect attributions.¹⁹

OPINIONS ON THE GREEK NAMES OF LATIN NEUMES

Let's turn now to the question of the Greek names of Latin neumes. This aspect has recently drawn the attention of Dom Michel Huglo and Eward Jammers. Dom Huglo²⁰ represents the view that a Byzantine origin for the Latin semiography can not be concluded merely on the basis of the nomenclature. Furthermore, he maintains that the question of terminology has to be separated from a consideration of the creation (invention) of the signs. In his opinion the tables of neumes transmitted primarily in German manuscripts, the *tabula brevis* and the *tabula prolixior*, only emerged for didactic reasons in the 11th to 12th century in order to facilitate the instruction of the *Ars musica*. Interpreting the tables from this point of view, Huglo considers the Greek labels to be learned word formations invented by theorists so as to round out the nomenclature.

Jammers²¹ also regarded some of the Greek names (and more particularly those in the expanded version of the *tabula brevis*) as Hellenized word formations but he considered that it was possible that a number of the other neumes (cf. above) could have originated in the Greek realm on the basis of their Greek nomenclature.

16 Thus the "epiphonus" (a two-note sign) and the petaste (a single note sign) can not be compared in any way. The same is the case for the (three-tone) porrectus and the (single tone) parakletike; the (two-tone) clivis and the (letter neume) elaphron; the (two-tone) podatus, the ekphonic kremaste and the ison (the Byzantine sign for repetition); the (three-tone) signs scandicus and salicus and the (two-tone) conjunctions dyo or apeso exo; the (three-tone) round torculus and the (several-tone) ekphonic syrmatike; the ancus and the antikenoma.

17 EGM II: p. 25 and 262 (torculus/syrmatike); p. 39 (flexa/elaphron); p. 40 and 117 (podatus/kremaste); p. 41 (porrectus/parakletike); p. 42 (salicus/dyo syndesmoi with oxeia); p. 131f. (ancus/antikenoma).

18 *Die katholische Kirchenmusik*, Handbuch der Musikwissenschaft (Potsdam, 1931): 41.

19 There is no connection between the (several-tone) xeron klasma and the (three-tone) torculus; between the (single tone) apoderma and the (three-tone) climacus; between the (single tone) kratema and the (three-tone) scandicus.

20 "Les noms des neumes et leur origine" *Études grégoriennes* I (1954): 53-67.

21 „Byzantinisches in der karolingischen Musik“ op. cit.

INTRODUCTION TO THE NEW METHODOLOGY: PREREQUISITES FOR THE ONOMATOLOGICAL, SEMIO-GRAPHICAL AND SEMASIOLOGICAL INVESTIGATIONS

With respect to terminological questions, the author would like to note that they could not be answered satisfactorily simply because the prerequisites necessary for a clarification had not yet been created. The most important prerequisite is undoubtedly a systematic intensive investigation of the onomatology of the Paleo-Byzantine neumes. The question of whether or not certain Greek names for Latin signs are Hellenized word formations can only be decided after such an investigation. The same applies to the question of whether or not Latin notational *termini technici* were translated from the Greek. The onomatology of Paleo-Byzantine neumes constitutes, however, an enormously intricate complex of relationships of whose existence previous research has not even had an inkling. It might be mentioned at this point that the investigation of these aspects has led to some genuinely surprising research results (cf. UNkI, chapters XXIII and XXIV).

In the interest of a flawless methodology, we must furthermore insist that the mere equivalence in meaning of these notational *termini technici*, whether Latin or Greek (or Greek or Slavic, or for that matter Latin or Slavic) still can not be taken as a guarantee that the tonal signs are equivalent. The most authoritative gauge for authenticity remains the semiographical and semasiological analysis of the neumes themselves. Two tone signs that belong to different national notational systems can only then be found to be related or even identical when they can be proven to graphically and semasiologically (i.e. melodically and rhythmically) equivalent. The proof of an onomatological relationship alone does not generally suffice as a criterium.²²

After the investigations of the first volume of the UNk, it can be presumed that the most important prerequisites have been fulfilled for an investigation of the relationship between the Byzantine and Latin neumes. It probably has not escaped the attentive reader that the results which have been laid out at this point have already made it clear, that the relationships between the chant notations of the East and West are to be shown in a totally new light. The investigations in this volume will demonstrate that the existing relationships are very close. It can be stated in advance, that all of the Latin 'root' neumes – whether they be fundamental neumes, ornamental neumes or liquescents – as well as the litterae

22 Building on his mistaken interpretation of the *termini* podatus (foot) and stopica (footprint) as equivalent in meaning as well as his comparison of virga and palka (staff), Thibaut (*Origine byzantine*: 76f.) believed that the signs podatus and stopica were related. These are however completely different signs: the podatus is a two-tone sign, the stopica in contrast is a single tone sign. In Latin tables of neumes the virga is called *acutus*; in Slavic lists the name palka is compared with the *gravis*.

significativae – have significant Paleo-Byzantine parallels and that the corresponding signs in each case can be proven to be onomatologically synonymous or related, semiographically the same and semasiologically equivalent. These signs will be dealt with in the following chapters in detail. Before this however we will look into the classification of the Latin inventory of neumes.

Chapter II: Classification of the Latin Neumes

1. The modern systematic typologies

However one might approach any one of the various neumatic notations, any attempt to classify the inventory of signs will always prove to be a difficult task, because it depends on the clarification of the functions of all relevant *semata*. If there are several conflicting classifications for any particular sign, then one may assume right from the start that one is dealing with complicated relationships. This applies in particular to the Latin neumes. The multitude of the typologies which have previously been proposed again and again can only be explained by taking into consideration the inconsistencies with respect to the paleographical derivation and interpretation of many of the basic signs.

As one of the oldest systematic classifications, the typology of Dom Joseph Pothier²³ distinguished four groups of the signs – the *neumes ordinaires*, the *neumes liquescents ou semi-vocaux*, the *neumes particuliers* and the *lettres romaniennes*. With the term “ordinary” signs Pothier highlighted the *semata* derived from the acutus and the gravis as well as the compound neumes consisting of these two signs. Their task was to indicate the rhythm and the essential traits of the melody. Dom Pothier perceived the function of the liquescent neumes in contrast was to indicate modifications of the sound contingent on the text. These *semata* could be viewed semiographically as slightly modified transformations of the ordinary signs. According to Pothier the task of the “special neumes” was to designate various vocal techniques. Finally, he defined the “Romanus” letters and signs as supplementary melodic and rhythmic signs.

Dom August Dechevrens’ division of St. Gall neumes into six groups can be characterized as the attempt to lay the ground work for a greater differentiation of the inventory of neumes.²⁴ These are first the *neumes élémentaires* (punctum, horizontal dash, virga); second the *neumes simples ou rythmiques* (i.e. the six signs podatus, clinis, scandicus, climacus, torculus and porrectus); third the *neumes composées*, which were created by the combination of signs from the first two groups; fourth the *neumes ornées* (quilisma, pressus, ancus, franculus, liquescent neumes etc.); fifth the *neumes associées*, i.e. groups of compound signs; sixth the “Romanus” letters and signs.

Even if this breakdown appears at first to be remarkably nuanced, a closer examination reveals that it is burdened by several weaknesses. The six signs of the second class are called *neumes simples* even if they are composed of several

23 “Étude sur les neumes-accents” *Pal Mus II* (Solesmes, 1891-92): 27-36.

24 *Les vraies mélodies grégoriennes*, III (Paris, 1902): 79f.

elements, i.e. they are *neumes composées*. Placing the liquescent neumes among the ornamental neumes does not take into consideration their special function. The introduction of a separate group of *neumes associées* is not necessary. Dechevrens' classification can therefore be reduced essentially to four classes, i.e. the fundamental neumes, the compound neumes, the ornamental neumes and the *nota romana*.

If we include the name of Dom André Mocquereau, the head of the school of Solesmes and the founder of the *Paléographie musicale*, within the context of the classification question, it is not as an author of any new arrangement but rather as a successor of his teacher Dom Pothier. Mocquereau²⁵ accepted Pothier's four classes of "ordinary neumes", the liquescent neumes, the special neumes and the *nota romana* but he clarified the system to the extent that the *neumes ordinaires* were designed more precisely as *neumes-accents* and he considered the *neumes particuliers* to be derived from the grammatical apostrophe. It is very peculiar that Mocquereau encompassed in this last class not only the "strophici", but also also the pressus, the oriscus and even the salicus. We must however immediately note that this division can not be justified because the apostropha is neither a root sign nor is it a component of the three last-named special neumes. Mocquereau's division can be understood as an attempt to recognize the function of the apostropha as a clear sign of apposition and similarly he interpreted the pressus and oriscus as supplementary neumes (cf. chapters III and V).

P. Wagner's typology of the inventory of neumes must unfortunately be seen as an over-simplification of the Mocquereau's division.²⁶ Wagner proposes a class of "*Strich-oder Akzentneumen*" in opposition to the family of "*Hakenneumen*", which he derives from the apostropha. It is astonishing just how far Wagner extends the group of "*Hakenneumen*". He classifies not only the strophici in this group but also the liquescent neumes and the ornamental neumes. Thereby Wagner conflates Pothier's (or Mocquereau's) *neumes liquescent* and *neumes particuliers* with a family of "*Hakenneumen*" and adopts the weakness of the older classification in that he derives the ornamental neumes from the apostropha and introduces a further error in as much as he also derives the liquescent neumes without further explanation from the apostropha.

Whatever value Sünol's classification has in avoiding questionable derivations, it loses through its meaninglessness (the fate of the over-anxious).²⁷ It simply divides the inventory into *neumes élémentaires* and *neumes spéciales*. In the first group Sünol includes the virga, the punctum and signs built out of these elements and he assigns all the remaining neumes to the second group, i.e.

25 *Le nombre musical grégorien*, original edition in French (Tournai, 1908 and 1927); English edition - used for citations in this study (Tournai, 1932 and 1951): 146-186.

26 EGM II, 115-164.

27 *Introduction*, op. cit.: 480-509.

the strophici, the pressus, the trigon, the oriscus, the “neumi strati”, the salicus, the quilisma, the liquescent neumes. If this typology clearly takes Wagner’s division as a model it nevertheless reflects Sünol’s hesitation in deriving all the *neumes spéciaux* from a root sign. Despite the best of intentions, Sünol’s typology remains vulnerable. Our main criticism is that several elementary neumes are included under the *neumes spéciaux*.

Dom Ferretti’s classification avoids a similar predicament to the extent that it distinguishes between *neumes radicaux* and *neumes dérivés*.²⁸ Ferretti recognizes five *semata* as root signs: virga, punctum (= gravis), apostropha, oriscus and quilisma. All the other signs are considered to be “derived”. In comparison to the previously discussed typologies Ferretti’s classification at first appears to be sound. He dispenses with some of the problems in that he does not separate the signs with respect to their functions. Questions must however be raised with respect to his interpretation of some of the St. Gall neumes (cf. below).

It is clear that Dom Huglo’s classification is an attempt to take into account the functions of the various neumes.²⁹ It distinguishes between four classes of signs: the *neumes premiers* (virga and punctum), the *neumes dérivés* (signs derived from virga and punctum), the *neumes d’ornement* (apostropha, oriscus, quilisma, trigon and signs derived from the first two mentioned signs) and the *neumes liquescents*. Essentially he presents a three-part division of the inventory of neumes: primary neumes, ornamental neumes and liquescent neumes.

Jammers’ classification can be essentially characterized as the attempt to derive all the root neumes from the prosodic markings.³⁰ The division of the Alexandrian prosodic signs into four classes of tonoi (*toni*), chronoi (*tempora*), pneumata (*spiritus*) and pathe (*variationes*) serves as the model for the classification of the inventory of neumes. Thus the virga, punctum, tractulus and compound neumes based on the first two neumes are designated as tonoi. The virga is derived from the acutus while punctum and tractulus are derived from the gravis. The punctum and tractulus are interpreted by Jammers in addition as chronoi, and respectively as brevis and as longa. The oriscus is viewed as a representative of the prosodic pneumata, which Jammers derives from the *spiritus asper* and he interprets it as a breath sign. Even the three pathe of antique prosody find their neumatic parallels. The connection between the apostropha with the prosodic apostrophos was already recognized in the earliest investigations of the neumes. New however, is the derivation of the liquescent

28 Pal Mus XIII: 66-68.

29 *Études grégoriennes*, I (1954): 62-66.

30 *Tafeln zur Neumenschrift* (Tutzing, 1965): 21-25 and 30-40. Jammers is of the opinion that the chronoi were not used in “Gregorian” notation but they formed the foundation of the Gallican chironomy and were preserved in the Aquitanian notation.

symbols from the hyphen (*conjunctio*) and the quilisma from the diastole (*separatio*).

2. Classification of the medieval theorists

If one considers that the modern research on the neumes was primarily driven by the aspirations of the school of Solesmes to restore Gregorian chant and was considered to be a historic discipline, then one has to be legitimately surprized that none of the discussed systematic typologies of the Latin inventory of neumes rely directly on any historic classification. Such a division of the repertoire can be reconstructed from the writings of the medieval music theorists without any great difficulty.

THE INDIVIDUAL CLASSES OF NEUMES

One should mention first of all that Guido³¹, his commentator Aribo³² as well as Johannes Affligemensis (= Cotto)³³ speak of the *neumes simplices* and the *neumes repercussae*. All three writers note specifically that signs of both categories indicate respectively a single *sonus*. The *neumes repercussae* only differ from the *neumes simplices* in that the former repeat the same *sonus* two or three times. Fortunately the theorists do not end their discussions at this point but give examples of both classes. According to Aribo the *neumes simplices* were the *virgula* and *jacens*, Johannes mentions the *virgula* and *punctum*. Referring to Berno, Johannes lists the *distropha* and *tristropha* as examples of *neumes repercussae*. Aribo calls them *duplices aut triplices*.

All three theorists separate the class of single tone signs from those indicating combination of two, three or several *soni* of different intervals values. Guido calls the combination of unequal tones *conjunctio*, Aribo *connexio*, and Johannes *junctio*. Within the same context, Guido and Johannes speak of *voces conjunctae*. There can be no doubt that the technical notational symbols employed to designate such *voces* were combined neumes. This is confirmed by the scholia to the *Micrologus* in the Codex Ambrosianus M 17 sup. fol. 8r/v published by Coussemaker.³⁴

The third class of the neumes consisted then – from the point of view of the Middle Ages – of compound signs. It appears justified to classify them as "*neumes compositae*" although this term, as far as we see, is not used by the three theorists mentioned above. However it appears that a comparable distinction was made between *notae (figurae) simplices* and *notae (figurae)*

31 *Micrologus*, Cap. XVI, GerbertSII, 17f. = CSM 4, 178-185.

32 *De Musica*, Cap. XXI, GerbertS II, 226f. = CSM 2, 49.

33 *De Musica*, Cap. XXIII, GerbertS II, 263f. = CSM 1, 157f.

34 *Histoire*, op. cit., 175-177.

compositae by mensural theorists discussing musical terminology in the 12th and 13th century.³⁵

If we shift through medieval treatises looking for further criteria for a typology of the tone signs, then we will automatically be led to the *voces liquescentes*, the special effects of which are discussed in detail by Guido.³⁶ One would be justified in assuming that the neumes that indicated such *voces* were considered to be a separate group in the Middle Ages. Guido however does not specify exactly the term which was originally used to designate this category of neumes. They could have been commonly known as the *neumae* (or *notae*) *liquescentes*. The term *neumae* (or *notae*) *semivocales* could have been used as well. This is clearly indicated in the *tabula prolixior*. Not only is this term used to distinguish the so-called epiphonus as equivalent to the term *semivocalis* (also *emivocalis* or *hemivocalis*)³⁷ but it is also used as an adjective to identify more closely the liquescent neumes (*pes semivocales*, *quilisma semivocale*).

In medieval treatises a separate class of tone symbols on its own is accorded to those Latin letters and abbreviations that are attached to neumes as supplementary melodic, rhythmic or performance instructions. At St. Gall they were called *litterae significativae*, as Ekkehard IV (+ 1036), the chronicler of St. Gall, attests.³⁸ About a hundred years after Ekkehard, Johannes Affligemensis³⁹ introduced the technical term *notae suprascriptae*.

THE RELATIONSHIP OF THE LATIN CLASSIFICATION TO THE BYZANTINE

The statements of the medieval theorists cited above together with the data we have collected makes possible a well-grounded reconstruction of the historical classification of the inventory of Latin neumes which is free of hypotheses and conjectures. If we now compare this typology with the systematic classification of the Paleo-Byzantine and old Slavic neumes presented in chapter V of UNKI, then a remarkable correspondence between the two systems emerges, which is illustrated in the following chart:

35 Cf. G. Jacobsthal, *Die Mensuralnotenschrift des zwölften und dreizehnten Jahrhunderts* (Berlin, 1871): 13-16 and 75ff.

36 *Micrologus*, Cap. XV, GerbertS II, 17 = CSM 4, 57f.: *Regulae musicae de ignoto cantu*, GerbertS II, 37.

37 Cf. chapter VI. The term “epiphonus” is a misnomer.

38 *Monumenta Germaniae historica, Scriptorum* (ed. G. H. Pertz), vol. II (Hannover, 1829): 103 and see citation below in the discussion on “Previous Hypotheses about the Origins”.

39 *De Musica*, Cap. XXI, GerbertS II, 259 = CSM 1, 138.

Neumae simplices
Neumae repercussae
Neumae compositae
Notae semivocales
Litterae significativae

Tonoi haploi
Tonoi synthetoi
Hemiphona or *hemitona*
“Grammata” (letter neumes)
Themata
Martyria and *Phthorai*

Thus there are exact Greek parallels for four of the five Latin categories, whereby the *termini technici* with which the individual classes in the West and in Byzantium were designated possess exactly the same meaning.⁴⁰ Only for the class of the *neumes repercussae* is a Byzantine counterpart lacking. On the other hand there are no Latin analogues for the *themata* and *phthorai* in the Greek system. Otherwise the opposition of *termini technici* makes it clear that we are dealing with the same classification system in both realms. This first research result of our comparative investigations has wide-ranging implications.

3. The New Classification

If we were placed before the choice of choosing one of the systematic typologies discussed at the beginning of this chapter or the reconstruction of the arrangement of Latin neumes in medieval sources, then there probably would be no hesitation in selecting the latter. It is authentic, it agrees with the Greek classification extensively and in addition it takes into account the functions of the signs as well as paleographical aspects which have been shown to be important for assessing the material data.

At the same time, it would be rash to accept this same “authentic” classification in its entirety without commentary. Even this arrangement raises some questions which need to be clarified.

First of all – how far is the class of the *neumae simplices* to be extended? Should it consist of only the three signs *virgula*, *punctum* and *jacens*, that are expressively cited by Aribo and Johannes or should it encompass other signs. Under the term *neumae simplices* the theorists distinguished single tone signs which to all appearances could not be further divided semiographically. Besides the *virgula*, the *punctum* and the *jacens* there are other signs that have these characteristics. In which class do such neumes belong?

40 There does not seem to be a medieval *terminus technicus* for this class of Paleo-Byzantine letter neumes (the expression *pneumata*, as has been shown, is a later name referring to a few signs). However, the *semata* could be called “grammata” as an analogue to the Latin term *litterae significativae* and we use the expression in our text.

This raises the question about the “root” neumes of Latin chant notation. Dom Ferretti included among the *neumes radicaux* not only the virga and the punctum but also the apostropha, the quilisma and the oriscus. If one considers the three last named neumes to be single tone signs and “elementary”, then one would have to consequently deem them worthy of inclusion in the class of *neumes simplices*.

Moreover, if one interprets the term *neumes radicaux* as equivalent to “elementary neumes”, then Ferretti’s list must rightfully be expanded to include two further signs as well, namely the (Paleo-Frankish) gravis and tractulus (the “virga jacens”). At this point we should mention that, in contrast to current notational theory, we do not believe that the punctum and the tractulus were derived from the gravis but rather they are independent tone signs (cf. chapter III).

No less than seven semata could therefore be called *neumes radicaux* - the virga, the gravis, the punctum, the tractulus, the apostropha, the quilisma and the oriscus. All deserve to be evaluated as “elementary” inasmuch as they all represent graphically a single unit which can not be further divided. On the other hand they do not all designate a single tone. Thus the (Paleo-Frankish) gravis can indicate two notes (cf. Chapter III) and the oriscus has been shown to be a neume sui generis semasiologically (cf. Chapter V). It fulfills special stenographic functions that most of the remaining root neumes do not have. Only the quilisma can be compared to it in this regard.

If one wants the special functions of the two last named semata to be taken into account, then it is necessary to divide the *neumes radicaux* into two groups. The oriscus and the quilisma must form a separate category. We will therefore designate both semata as well as the numerous combinations employing the oriscus as a component as ornamental neumes.

The five other *neumes radicaux* – virga, gravis, punctum, tractulus and apostropha – will comprise on the other hand the *neumae simplices*. If we proceed in this manner we are conscious that we have exceeded the boundaries drawn by Guido, Aribio and “Cotto” of this class with respect to the gravis because this sign, as already mentioned, indicates two tones. However it would be impossible to assign the Paleo-Frankish gravis, an “elementary neume” par excellence, into any other class than that of the *neumae simplices*.

Also in a further point we diverge from the medieval classification – we cannot accept the class of the *neumae repercussae*. We must first of all consider that the distropha and the tristropha are semiographically not “simple” but are compound neumes (conjunctures). Furthermore we are dubious of the accepted conception of “strophici” as special vocal repercussive effects. For these reasons, we have assigned the “strophici” to the compound neumes (cf. Chapter IV).

Our classification of the Latin Neumen stands accordingly as follows:

a. <i>Neumae simplices</i>	<i>Tonoi haploi</i>
b. <i>Neumae compositae</i>	<i>Tonoi synthetoi</i>
c. “Ornamental neumes”	“Ornamental neumes”
d. <i>Notae semivocales</i>	<i>Hemiphona</i>
e. <i>Litterae significativae</i>	“Grammata”

These Latin neumes will be discussed in this order together with their Paleo-Byzantine parallels in the next chapters of this book.

4. Latin Sources

The author based his investigations in this book mainly on the chants of the *Gradual*. This decision hardly needs a detailed explanation. It is generally recognized that the chants of the Mass offer a wider spectrum with respect to notational techniques than the chants of the Antiphonary. Furthermore the Graduals are much more strongly represented among the oldest transmitted neumatic sources than the Antiphonaries. The Graduals considered here belong in any case to the most venerable monuments of the Latin chant notation. While representing the neumatic semiography of west Europe, they also encompass the most important “regional notations”. Specifically the following codices formed the basis of the investigation:

1. SG = *St. Gallen Stiftsbibliothek 359*

Cantatorium from St. Gall, beginning of the 10th century

Facsimile Edition: Pal Mus, 2. Série II (1924)

Literature: L. Lambillotte, *Antiphonaire de Saint Grégoire – Fac-similé du manuscrit de Saint-Gall* (Brussels, ¹/1851, ²/1867); P. Wagner, EGM II, 6, 238-241; further bibliographical data in J. Smits van Waesberghe, *Muziekgeschiedenis der middeleeuwen* II (Tilburg, 1939-1942): 320f.

In the interests of compiling all the strands of research, a previously unnoticed article in the *Allgemeine Musikalische Zeitung* of 1828 (col. 401-406, 417-423, 433-440) should not go unmentioned. It appears without the name of the author with the title *Berichtigung eines in den Geschichten der Musik fortgepflanzten Irrthumes, die Tonschrift des Papstes Gregors des Grossen betreffend* (the author is R. G. Kiesewetter).

Notation: St. Gall neumes with letterae significativae.

2. GL = *St. Gall, Stiftsbibliothek 339*

Gradual with breviary and sacramentary, 2nd half of the 10th century

Facsimile Edition: Pal Mus, I (1889).

Literature, P. Wagner, EGM I, 319-343; II, 246 f.; E. Jammers, *Tafeln zur Neumenschrift* (Tutzing, 1965): 74f.

Notation: St. Gall neumes without litterae significativae

3. BG = Bamberg, Staatsbibliothek lit. 6 (Ed. III.7)

Gradual (with sequentiary) from the St. Emmeram abbey in Regensburg, 2nd half of the 10th century

Literature: W. von den Steinen, *Notker der Dichter und seine geistige Welt. Editionsband* (Bern, 1948): 210f.

Specimina: Pal Mus III, pl. 120 (fol. 9); *La notation musicale des chants liturgiques latins, présentée par les Moines de Solesmes* (Paris, 1963): pl. 4 (fol. 6v).

Notation: St. Gall neumes with litterae significativae.

4. EN = Einsiedeln, Stiftsbibliothek 121

Gradual and Sequentiary, circa 1000.

Facsimile Edition: Pal Mus, IV (1894).

Literature: W. von den Steinen, *Notker der Dichter und seine geistige Welt. Editionsband* (Bern, 1948): 204-206; E. Jammers, *Tafeln zur Neumenschrift*, 76f.

Notation: St. Gall neumes with litterae significativae.

5. LZ = Leipzig, Stadtbibliothek, Rep. I 93 (olim 169)

circa 900.

Literature: P. Wagner, EGM I, 251; II, 201-205; O. Fleischer, *Die germanischen Neumen* (Frankfurt a.M., 1923): 143-145 and Taf. XVIII (55-60); P. Wagner, *Zur mittelalterlichen Tonartenlehre*, Festschrift G. Adler (Vienna, 1930): 29-32; P. Hauschild, „Leipziger Musikhandschriften“ MGG VIII (1960): 574; H. Hüschen, „Regino von Prüm, Historiker, Kirchenrechtler und Musiktheoretiker“ *Festschrift Karl Gustav Fellerer* (Regensburg, 1962): 205-223; Jammers, *Tafeln*, 110f.

Specimina: P. Wagner, EGM II, 202 and 204 (fol. 37 and fol. 52); MGG I, 879 (fol. 36v); Fr. Tack, *Der gregorianische Choral* (Cologne, 1960): 23 (fol. 48); MGG VIII, 571f. (fol. 43).

Contents: The ms contains miscellanea on fol. 1-3v followed by the music treatise of Regino von Prüm (fol. 4-33v), a treatise on the modes (fol. 33v-36v), an Alleluia cycle (fol. 36v-44), some tractus, antiphons and responsories (fol. 44-51v), a “*Breviarium nocturnale*” (fol. 51v-147v) and additions from a later hand (fol. 148r)

Notation: German neumes with French influence.

6. MP = *Montpellier, Faculté de Médecine, H. 159*
 Torary from the abbey of St. Bénigne in Dijon, 11th c.
 Facsimile-Edition: Pal Mus VII/VIII (1901-1905).
 Literature: Bibliographical information in MGG IX, 533f and in Jammers, *Tafeln zur Neumenschrift*, 112f.
 Notation: Northern French neumes with letter notes.
7. LN = *Laon, Bibliothèque Municipale 239*
 Gradual from Laon, beginning of the 10th century
 Facsimile-Edition: Pal Mus X (1909).
 Literature: Bibliographical information in Jammers, *Tafeln zur Neumenschrift*, 134f.; and in J. Hourlier, "Le domaine de la notation messine" *Revue grégorienne* 30 (1951): 96ff and 150ff.
 Notation: Metz neumes with letterae significativae.
8. CH = *Chartes, Bibliothèque, 47*
 Gradual from Brittany, 10th c.
 Facsimile-Edition: Pal Mus XI (1912).
 Literature: Jammers, *Tafeln zur Neumenschrift*, 143-145.
 Notation: Breton neumes with letterae significativae.
9. YRX = *Paris, Bibliothèque Nationale, lat. 903*
 Gradual from St. Yrieix, 11th c.
 Facsimile-Edition: Pal Mus XIII (1925).
 Literature: Jammers, *Tafeln zur Neumenschrift*, 118f.
 Notation: Aquitanian neumes.
10. VA = *Rome, Biblioteca Vaticana, lat. 10673*
 Gradual from Apulia, beginning of 11th c.
 Facsimile-Edition: Pal Mus XIV (1931-1936).
 Literature: Jammers, *Tafeln zur Neumenschrift*, 88f.
 Notation: Beneventan neumes in diastematic arrangement.
11. BEN = *Benevento, Biblioteca Capitolare VI. 34*
 Gradual (with Troparium and Sequentiarium) from Benevento, 11th/12th c.
 Facsimile-Edition: Pal Mus XV (1937-1939, 1951).
 Literature: Jammers, *Tafeln zur Neumenschrift*, 90f.
 Notation: Beneventan neumes with lines.

12. BD = Oxford, Bodleian Library, Douce 222

Troparium and "Offertoriale" from Novalesa, 11th c.

Literature and specimina: Gr. Suñol, *Introduction à la paléographie musicale grégorienne* (Tournai, 1935): 188f. ; and *La notation musicale des chants liturgiques latins, présentée par les Moines de Solesmes* (Paris, 1963): pl. 31.

Notation: Neumes from Novalesa.

13. London, British Museum, add. 30845

Breviary and Missale from the cloister of San Domingo in Silos, 10th c.

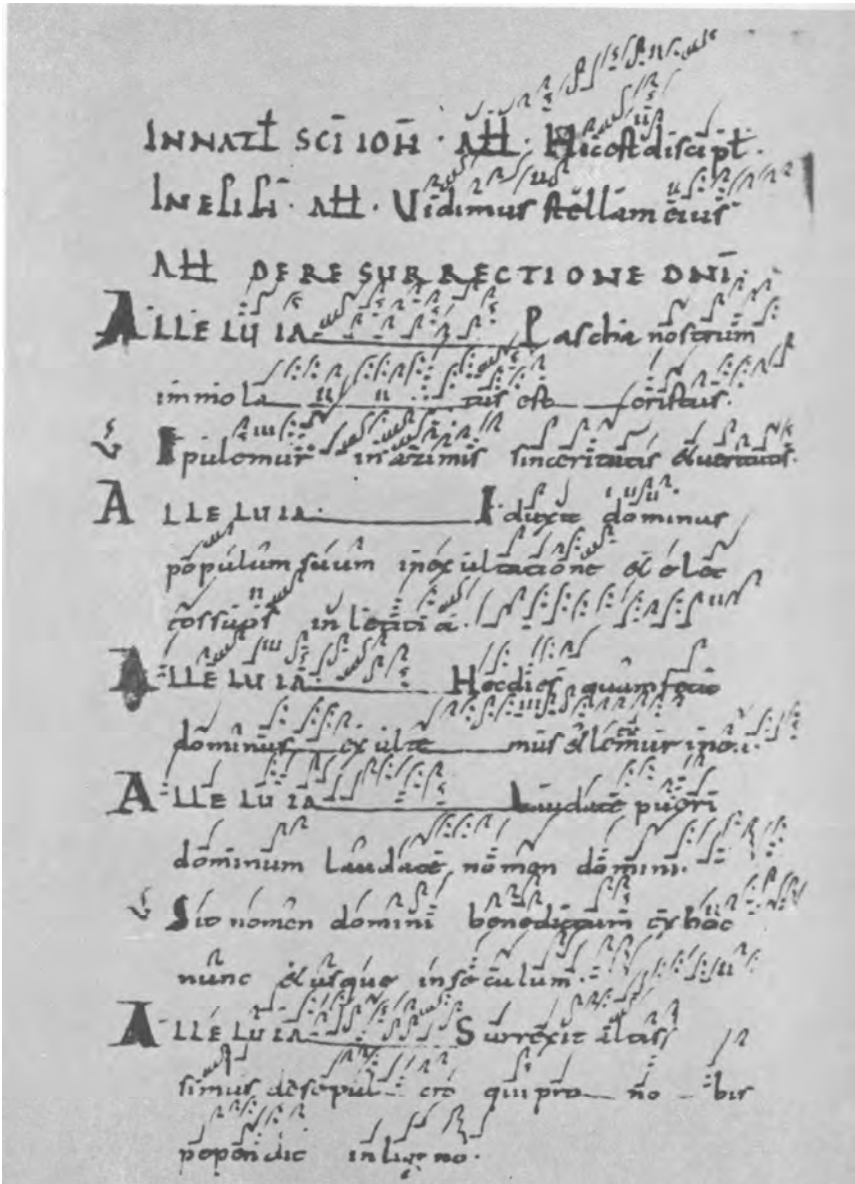
Literature and specimina: Suñol, *Introduction*, 323 and 328f. (table 96A and B) ; Pal Mus XIII, 107f. ; *La notation musicale*, op. cit., pl. 13: Br. Stäblein, article "Brevier" MGG II, 313-317.

Notation: Mozarabic neumes.

In the course of this study we will refer to other important manuscripts. We cite the codices MP, LN, CH and YRX in accordance with the pagination of the facsimile editions, not with the folio numbers of the originals. In citations of the Editio Vaticana (Siglum: EV) of the *Liber usualis Missae et Officii*, we used the edition Desclée nr. 780 (Tournai, 1962). The corresponding pagination in the musical examples, tables and charts always refer to this edition.

We have drawn on most of the surviving tables of Latin neumes in our investigations.⁴¹ Several of these tables are published here for the first time. Their importance has been generally very much underestimated in previous research – yet erroneously. We can already remark at this point that essential information could be obtained by a detailed comparative study of these lists of neumes.

41 A list of the most important tabulae neumarum (with bibliography) has been prepared by Dom M. Huglo (*Études grégorienne* I (1954): 54-56 and 59). Other tabulae are to be found in the following manuscripts: Munich, cgm. 9921, cgm. 4387, Cod. mus. m. 1573, Univ.-Bibl. 375; Berlin, lat. quart. 106, mus. ms. Oct. 79, mus. ms. in folio 1; Erfurt, Amplon. 44; Leipzig, Stadtbibl. 1609. Cf. J. Wolf, *Handbuch der Notationskunde* I, (Leipzig, 1913): 106; Wagner, EGM II, 376; O. Fleischer, *Die germanischen Neumen als Schlüssel zum altchristlichen und gregorianischen Gesang* (Frankfurt a.M., 1923): 49.



From the Alleluia-Cycle (German neumes)

ALLELUIA: Loquebantur unusquisque apertis labiis magnalium de adulatione.

ALLELUIA: Post partum uirgo in uolam spernitista di genetriz increpabilem.

ALLELUIA: Assumpta est maria in celo gaudet et exultat angelorum.

ALLELUIA: Benedixit dominus in nupta uirgo gloriosa di genetriz maria.

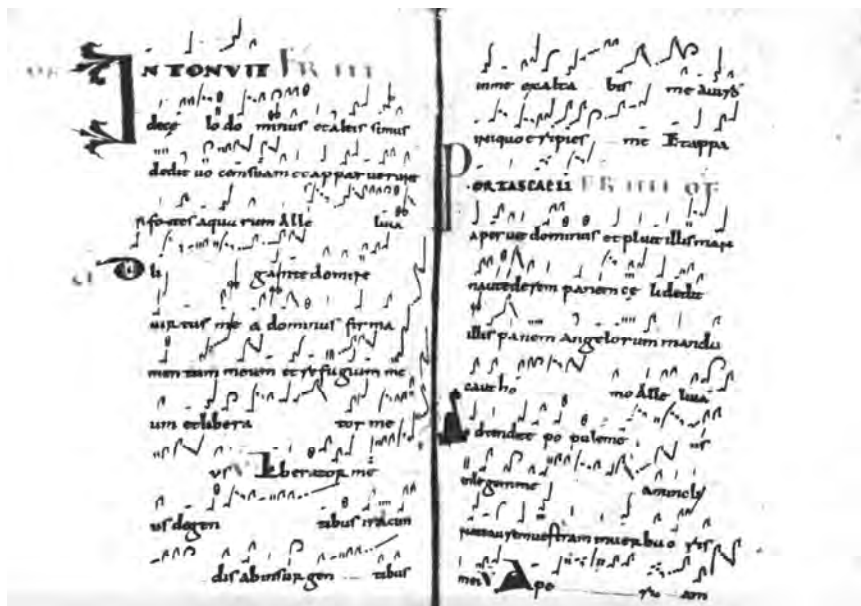
ALLELUIA: Adducunt eam rege uirginis postquam proxime eunt ad forem uirgini arabii in leuam.

DEA POSTO LIS. Nimi benedicta sunt.

ALLELUIA: Dinumero eos et superare non multiplici buntur.

ALLELUIA: Uolens lux huius mundi qui in patientia possit debuit animas ueteris.

From the Alleluia-Cycle (German neumes)



Offertories for Easter Week (Novalesa neumatic notation)

Chapter III: The Neumae Simplices and the Tonoï Haploï

*Simplicem autem neuman dicimus virgulam
vel punctum, reperiensam vero quam Berno
distropham vel tristropham vocat.
Johannes Affligemensis⁴²*

VIRGA (recta) and OXEIA /

With good reason it can be said that the Latin *virga*⁴³ and the Paleo-Byzantine *oxeia* are ultimately to be derived from the *accentus acutus*. It would not be proper however to draw any conclusions from this deduction with regard to the historical relationship of the notations to which the signs belong. Just as illogical would it be to conclude a priori that the semiographical equivalence of the signs also meant that the signs were semasiologically equivalent. Yet it can be said that this was the unambiguous conclusion of our comparative investigations. Once the relations between these two signs had been clarified, it became clear that previous semasiological explanations of the *virga* needed to be corrected.

With regard to the *melodic meaning* of the *virga*, there are no differences of opinion in the research. The *sema* is explained generally as a label indicating a high or higher tone. Even scholars with diametrically opposed views such as Dom Mocquereau⁴⁴ and P. Wagner⁴⁵ are of one mind on this point. Dom Mocquereau⁴⁶ places special importance on the statement that the *virga* would always indicate an elevation of the voice.

Quant à sa signification, la *virga* seule ou en composition dans les groupes, est *toujours*, dans les manuscrits régulièrement écrits, la marque d'une élévation de la voix, comme l'accent aigu lui-même.

With respect to the *rhythmic meaning* of the *virga*, however the views diverge. While Dom Mocquereau interprets the *virga* and the *punctum* as rhythmically equivalent, Wagner assigns opposing metrical meanings to them. Without further ado he links both neumes to the prosodic *chronoi*, the *longa* and the *brevis*.

42 *De Musica*, Cap. XXIII

43 The *Tabula prolixior* calls this sign “*virga*”. The *Tabulae brevis* in contrast uses the diminutive form “*virgula*” (cf. chapter VIII).

44 NMG, 144-146, 225-244.

45 EGM II, 115f.

46 Pal Mus I, 101.

Table 1: Equivalent Latin and Paleo-Byzantine Neumes

a. NEUMAE SIMPLICES and TONOI HAPLOI













Virga (recta)	/	Oxeia
Clivis I	\	Bareia
Punctum	.	Kentema
Virga jacens ("Tractulus")	-	straight Ison or Oligon
Apostropha	>	Apostrophos

b. NEUMAE COMPOSITAE and TONOI SYNTHETOI


1. Conjunctures


Bivirga	//	Diple
Distropha	>>	Dyo Apostrophoi
Bipunctum	..	Dyo Kentemata
Tripunctum (Trigon)	...	Tria Kentemata (Seximata)

2. Ligatures

angular Podatus		angular Lygisma
Clivis II (Fleca)		Kondeuma
Porrectus (Clivis resupina)		upright Tinagma
Paleo-Frankish Porrectus		conjunction of bareia und oxeia
Loop-like Torculus		inverted Tinagma
"round" Torculus		Strepton
angular Scandicus		Tria (Anabasma)
Flexa + Podatus		Tessara
Porrectus flexus		Strangismata
"bound" Climacus		Kataba-Tromikon
Climacus resupinus		Kataba-Tromikon + Oxeia
Climacus + Flexa		Kataba-Tromikon + Kondeuma

3. Ornamental Neumes

Quilisma ascendens  Anatrichisma (Kylisma)


Quilisma descendens  Tromikon I (Katabasma)


Oriscus  Hyporrhoe (Syrma)

Pes quassus  Seisma I


Salicus I 

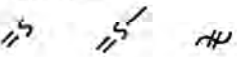
Salicus II 


Gutturalis 

Pressus minor 

Pressus maior 

Seisma I 

Choreuma 

(Xeron Klasma) 

Piasma 

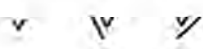
Piasma 

d. NOTAE SEMIVOCALIS and HEMIPHONA

Hemivocalis 
Semitonus
Franculus

Hemiphonon
Hemitonion
Klasma

Cephalicus 

Klasma and combinations 

Taking these interpretations under the microscope, we must notice first of all that Dom Mocquereau's categorical determination of the virga as an ascending sign does not do justice of the actual meaning of the neume. Even though it is clear that the virga – like the Paleo-Byzantine *oxeia* – is mostly *ascendens*, it should not be overlooked that the *sema* – like the *oxeia* – frequently possesses the meaning of a tone repetition sign.⁴⁷ For instance it is noteworthy within this context that the virga “repetens” in St. Gall notation is sometimes indicated by the addition of the litterae *e* (*equaliter*) or *lm* (*leva mediocriter*) (cf. chapter VII). In addition the virga – in contrast to the *oxeia* – can also occasionally designate a deeper tone.⁴⁸

As for Wagner's rigorous metric interpretation of the basic signs *virga* and *punctum*, we must conclude that it rests on an unsteady foundation. The equation of the *virga* (*recta*) with the *longa* and the *punctum* with the *brevis* is in any case arbitrary. It will be demonstrated that the derivation of the *punctum* from the *brevis* is untenable. The frequent substitutions of the *virga* by the *punctum*, as well as its relationship to Paleo-Byzantine notation, speak against Wagner's theory. Thereby we do not want to challenge the concept that the *virga* frequently, especially in compound neumes, indicates longer tones than the *punctum*. Rather it should be emphasized that Wagner's rigorous rhythmic interpretation of Gregorian chants as a system based on short and long units does not hold up under closer examination.

The previous comments should have served to support our interpretation of the semiological equivalence of the *virga* and the Paleo-Byzantine *oxeia*. One small difference in the use of the signs should however be mentioned – while the *oxeia*

47 Dom Mocquereau did not neglect to see this relationship but it was not always interpreted interpreted by him in an appropriate manner. While noticing that the oldest sources indicated tonal repetition in “recitative” sections partly with the *virga* and partly with the *tractulus* (“*punctum planum*”, NMG, 228-233), he stated that the choice of the *virga* or the *tractulus* depended on whether the preceding tone was lower or higher. Even if this observation is instructive, Mocquereau was not able to explain, why the notation of one and the same chant was shown by one writer with the *virga* and by another with the *tractulus*. The presumption that the choice of the sign to be used was a question of the notator's point of view, i.e. it depended upon whether the writer considered the tone to be repeated in relation to the preceding higher tone or to the following lower tone (NMG, 234-236) leads ad absurdum and serves ultimately to the rejection of a theory which has been shown to be flawed (cf. below).

48 For the study of the *virga repetens* one can consult the musical examples 529, 531, 533, 543, 544, 553, 567-69, 575, 578-580, 587, 592, 596, 605, 609, 612, 613, 615, 616 and 624. For *virgae descendentes* see the examples 525, 529, 530, 541, 571, 607, 609, 614, 622, 630, 638, 643, 644, 646, 658 and 664. It should be mentioned that the examples 448, 563, 573, 599, 651 and 661 show the *virga descendens* with a tone or a fourth downwards.

is an “accenting” neume and generally appears on accented syllables, the virga is often attached to unstressed syllables.

Although secondary in importance, there is yet another fundamental difference between the notational systems. The more economical system of the Latin chant notation makes do with a single symbol for a higher tone. For the same purpose the more differentiated Paleo-Byzantine system employs in contrast three semata, namely the oxeia, the petaste and the oligon.

In conclusion we must note that the virga belongs to the neume inventory of all Latin notations. It not only is one of the principal signs of the ‘accent neumes’ but also has a firm place within the family of the ‘point neumes’.⁴⁹ It takes on an exceptional character only in the Paleo-Frankish notation⁵⁰ inasmuch as it possesses the meaning of the podatus in this system.

CLIVIS I and BAREIA ↘

Both signs are ultimately derived from the *accentus gravis*.

Regarding the distribution of these signs in the various notational systems, attention must be drawn to a notable difference – while the bareia is found in the neume inventories of all Paleo-Byzantine and Old Slavic notations, the clivis I can be found only in the Paleo-Frankish system. In its stead the remaining Latin systems either use the clivis II (see below) or compound neumes.

Semasiologically the clivis I and the bareia are completely equivalent. Both indicate a sequence of two tones, of which the second lies deeper than the first.

PUNCTUM and KENTEMA •

“VIRGA JACENS” or “TRACTULUS” and OLIGON or straight ISON —

Previous Interpretations of the Punctum and the “Virga jacens”

With respect to the melodic meaning of these signs, there is general agreement. On the other hand the opinions over the paleographical derivation of the neumes and their rhythmic interpretation diverge widely.⁵¹ Essentially two theories can be distinguished.

49 Cf. chapter III for ‘accent’ and ‘point’ neumes.

50 Cf. J. Handschin, „Eine alte Neumenschrift“ AML (1950): 69-97; E. Jammers, *Die Essener Neumenhandschriften der Landes- und Stadt-Bibliothek Düsseldorf* (Ratingen, 1952); E. Jammers, *Die paläofränkische Neumenschrift*, Scriptorium VII (1953): 235-259.

51 There is a lack of a specific term for the horizontal dash, one of the most frequently employed neumes. In the tabulae neumarum the sign often appears in combinations but it is not listed alone. In the music theoretical literature of the Middle Ages (in *Musica*

The first theory, initiated by Coussemaker⁵² and expanded by the school of Solesmes, derives both signs from the *accentus gravis* and interprets them as symbols for the indication of a deeper tone. Accordingly the punctum was nothing else than a transformed *gravis* reduced to a simple point⁵³, while the “*virga jacens*” was a special form of the punctum contingent on the manner in which it was written. Dom Mocquereau⁵⁴ believed that the writers of the musical symbols did not always lift their pens when quickly writing several puncta but rather frequently drew their pens over the parchment, resulting in “stroke-like” forms, i.e. “lengthened” puncta. Punctum and “*virga jacens*” were therefore generally melodically and rhythmically equivalent. Only in exceptional cases did the “*jacens*” acquire its own rhythmic meaning. Melodically the neume always indicated a sinking of the voice according to Dom Mocquereau⁵⁵ and it did not matter whether it appeared alone or in combinations.

Au reste, le *punctum* est si bien un dérivé de l’accent grave, que *partout et toujours*, seul ou en composition, il représente, dans la notation traditionnelle, un abaissement de la voix.

In connection with the “*jacens*” Dom Mocquereau came to a remarkable terminological conclusion, namely that he considered the term “*virga jacens*” as a label of the horizontal stroke to be not correct. He justified his opinion by stating that the proper *virga* would always indicate a high tone sign, while the “*virga jacens*” served as a sign for a lower tone. Therefore he preferred the label punctum “*planum*” (“lengthened” punctum). In light of Mocquereau’s derivation and interpretation of the sign, this expression seems to be appropriate.

The second theory – probably first proposed by P. Wagner⁵⁶ with reference to the tables of neumes from Montecassino and Florence – derives our signs from the *chronoi* of the prosodic system, namely the “*virga jacens*” from the *longa* and the punctum from the *brevis*. As a consequence Wagner attributed different rhythmic values to the neumes, the “*virga jacens*” as a long and the punctum as a short sign. At the same time he drew a connection between the “*virga jacens*” and the *virga recta*. He not only declared that the two signs were identical from a purely semiographical point of view (the “*jacens*” was

encheiriadis and in Aribo) it is called the “*virga jacens*” (the horizontal *virga*) – a term that Wagner uses. In contrast the school of Solesmes invented the term “*punctum planum*” (“lengthened punctum”). In current research the term “*tractulus*” is generally used. The lack of a unified terminology reflects ultimately the questions about the derivation and interpretation of the sign.

52 *Histoire de l’harmonie au moyen âge*, op. cit., 159f., 171.

53 Dom J. Pothier, “Études sur les neumes-accents” *Pal Mus II*, 27-36, esp. 38.

54 NMG, 144-146, 171, 225-228.

55 *Pal Mus I*, 101.

56 EGM II, 116f., 356f., 369.

apostrophized as “*a virga on its side*”) but he considered the two signs to also be rhythmically equivalent. With respect to the melody, he attributed on the other hand opposing functions to the two *virgae*. The *virga recta* meant a higher tone, while the *jacens* indicated a deeper tone or the lingering on the reached pitch. Consequently the *jacens* could just as well be *descendens* or *repetens*. Wagner believed that the *punctum* in contrast had only one meaning – the deeper tone.

Response

First of all, the central importance of the theories represented here must be emphasized. When one considers that the *virga recta*, the “*virga jacens*” and the *punctum* belong among the most frequently used signs and appear as elements in numerous compound neumes (conjunctions and ligatures), it becomes clear that their interpretation also determines the interpretation of the combined signs to a great degree. Wagner’s entire system of “*Neumenrhythmik*” is based on the distinction of the rhythmic values of the neumes.

Therefore we must emphasize the decisive role that paleographic derivations have for the semasiological interpretation of the relevant signs. Dom Mocquereau’s interpretation of the melodic function of the *tractulus* and the *punctum* as neumes signifying a deep tone arises from the derivation of the *semata* from the *gravis* that is seen to be a symbol of a deep tone. Wagner in contrast insisted on the establishment of rhythmical values because he derived the signs from the prosodic *chronoi*. It is worthy of note in this context that Wagner’s theory is open to criticism with respect to the “*virga jacens*” from several sides. On the one hand the *sema* is derived from the *longa*, on the other hand a (presumed) relationship to the *virga recta* is considered. It is also strange that Wagner took into consideration – in the contradiction to his teachings – the possibility of the derivation from the *acentus gravis*.⁵⁷

There are however several paleographical and semasiological features which mitigate against the theories represented above.

1. The *gravis*, the *brevis* and the *punctum* are graphically entirely different signs – the *gravis* is an oblique stroke, the *brevis* a half circular sign, the *punctum*, as name already says, is a point. Is it paleographically probable that the *punctum* was originally a stroke or a v-shaped *sema* which was so disfigured in the course of its development that it became a point?

Paleographically the derivation of the *tractulus* from the *gravis* or from the *longa* is nevertheless possible. However semasiological evidence speaks decidedly against such an interpretation.

57 EGM II, 180.

2. Wagner's theory over the identity of the punctum and the virga jacens with the prosodic chronoi relies, as already indicated, to a considerable degree on the table of neumes of the Codex Montecassino 318 (11th century)⁵⁸, which includes a *percussionalis brevis* and a *percussionalis longa*. Comparing both neumes with the two "percussionales" is however entirely arbitrary. One can not overlook the fact that the first seven semata, which the table lists under the heading *De accentis vel nomina notae*, are primarily prosodic signs. Already Fleischer⁵⁹ correctly recognized that both the names and the (in part stylized) forms of the signs correspond to the first seven prosodic signs. Also the order in which the signs are grouped corresponds – with one exception – to the grouping of the prosodic signs into the classes *accentus* (acutus, gravis, circumflexa), *tempora* (*percussionalis brevis*, *percussionalis longa*) and *spiritus* ("inflatis" = spiritus asper, "muta" = spiritus lenis). It is therefore very questionable whether the two "percussionales" of the table are identical with the neumes punctum and "jacens". Moreover it should be noted that the *percussionalis brevis* of the table does not have a dot shape but rather is similar to a gravis.

3. It cannot be disputed that the tractulus and the punctum, in as far as they stand alone, frequently serve to indicate deep tones. However these neumes often also serve as signs for repetition or ascent. One only needs to be reminded of the virga praebipuntis and tripunctis etc. or the scandici, which consists of several tractuli lying one above the other. Also the first punctum of a scandicus or a trigon can indicate a higher tone than the preceding neume. If the punctum and the tractulus developed out of the gravis, the symbol of the depth, how would one be able to explain these functions of the signs?

4. Paleo-Frankish neumatic notation makes use of the gravis (our clivis I), the punctum and the tractulus. As already has been shown the gravis indicates two tones, the punctum however – like the tractulus – a single tone. If this notational system differentiates between the signs semiographically and semasiologically, then any theory about the derivation from the gravis is null and void. One notes that in this notational system the punctum standing alone and the solitary tractulus can also be used to indicate higher tones.⁶⁰

58 Facsimile in Coussemaker, *Histoire de l'harmonie au moyen âge*, op. cit., pl. XXXVII. Discussed in F.-J. Fétis, *Histoire générale de la musique* IV (Paris, 1874): 254-263 ; H. Riemann, *Studien zur Geschichte der Notenschrift* (Leipzig, 1878): 114f.; Wagner EGM II, 105f., 365f.; O. Fleischer, *Die germanischen Neumen*, op. cit., 51; Bibliography on the ms is listed in Pal Mus XV, 56.

59 *Neumenstudien* I (Leipzig, 1895): 80f.

60 With reference to these relationships, Wagner's statement (EGM II, 116f.) that the punctum was not a *neuma simplex* because it stood "ursprünglich niemals auf einer Silbe für sich allein" must be viewed at a contradiction.

The new interpretation of the punctum and the tractulus
The relationship of the signs to the kentema and to the straight ison and to the oligon

Our discussion of the theories of Mocquereau and Wagner should have made it clear that their explanations of the semasiology of the punctum and the tractulus are much too narrow and do not do justice to all functions of the semata. The neumes do not always indicate a deeper tone, but rather they can also designate an equally high, or even a higher tone. At the same time we have shown that the virga (recta) is not always ascendens, but it can also be repetens or descendens. Dom Mocquereau's axiom that the virga and the punctum or the tractulus by their very natures always indicate a high and/or a deep tone can be said to have been refuted. Our investigations have shown the meanings of the signs are ambiguous.

Further criteria for the derivation and semasiological determination of the punctum and the tractulus⁶¹ can be drawn by considering their Paleo-Byzantine analogies.

We begin with the statement that there is a very close relationship between the punctum and the Paleo-Byzantine kentema both on the onomatological as well on the semasiological level

First of all it should be noted that the term *punctum* or *punctus*⁶² not only means "point" but also "prick" or "stab" and the latter is also the meaning of the Middle Greek expression kentema. It is strange that this onomatological relationship between the two signs has previously been ignored. Only Père Thibaut⁶³ came to the conclusion that the Latin expression punctus was the translation of the term kentema, a term which meant "*piqûre, pointe, point grammatical ou point mathématique, c'est-à-dire un espace infiniment petit*". However, we should note that kentema means only "prick".

It should also be taken into consideration that both the punctum and the kentema can be doubled or even tripled. The *bipunctum* corresponds to the *dyo kentemata* – the *tripunctum* (trigon) corresponds to the *tria kentemata* of the

61 We should mention at this point, that the tractulus sometimes appears in the manuscripts as a long horizontal dash and sometimes as a very short little dash. The first form predominates in codex SG, the second form however in codex EN. In the majority of the codices two forms are equally represented (for example in BG, LZ, in Rome, Angelica 123 and in Oxford, Douce 22). As a "rule" it can probably be said that a single tractulus over a syllable is longer, while a "stretched out" punctum is used in compound neumes. Technical aspects of writing the signs as well as considerations of space clearly also played a role in this. One should however separate the two forms. For the "short" form one could use Dom Mocquereau's term *punctum planum*.

62 The reading punctum is used in all versions of the tabula prolixior. Manuscripts with the tabula brevis in contrast usually have the reading punctus (cf. chapter 10).

63 *Origine Byzantine*, 75.

ekphonetic notation and the seximata of Chartres notation, as it is represented in the table of neumes in Codex Lavra Γ. 67. In Chartres sources it is used together with the lygisma or with the ligature of tromikon II and lygisma to indicate three tones (cf. UNkI, chap. IX).

The punctum and kentema are also semasiologically closely related. We have demonstrated that the kentema in the Paleo-Byzantine notational system does not indicate the rising third, but rather it serves as a label for a (high) tone. Furthermore the dyo kentemata (the doubling of the point) indicates two tones. Perhaps one will object that the kentema and the dyo kentemata designate higher tones, while the punctum also indicates deeper tones.

This can be answered with the example of the dyo kentemata in conjunctions with the apostrophos where the first of the two kentemata indicates a “deep” tone. Even more illustrative is the observation that the seximata merely designates a group of three tones, without at the same time determining their height or depth. Also the five strokes of the Kondakarian notation similar to the kentemata simply indicate a group of five tones. Their interval values are not fixed.⁶⁴

Given these conditions it can be inferred that the meaning of the Byzantine kentema – like the Latin punctum – was originally ambiguous and could designate both high as well as deep tones.

Thus a comparative investigation leads to the conclusion that punctum and kentema are related both onomatologically and semasiologically. If we consider that in the Paleo-Byzantine system the kentemata was a “dynamically” weaker sign in comparison to the oxeia, then it is legitimate to assume that a similar relationship also existed between the punctum and the virga.

The relation between the tractulus and the Byzantine straight ison or the oligon is unmistakable.

Diastematically the tractulus is completely equivalent to the Byzantine sema in that it possesses the meaning of a tonal repetition or of an ascending sign. Exactly the same function is fulfilled by the straight ison and the tractulus repetens when they appear at the end of a colon.⁶⁵

The semasiological evidence equating certain *scandicus* and *anabasma* figures is obvious. In Paleo-Frankish sources *scandicus* conjunctions frequently

64 Cf. Floros, *The Origins of Russian Music: Introduction to the Kondakarian Notation* (Frankfurt/Main, 2009): 70-72, Tables 1.1 and 1.2.

65 Cf. examples in UNk III: 30, 36, 82, 90, 95, 103, 110, 135, 136, 163, 165, 166, 180, 225, 237, 375, 387 as well as the examples in this volume: 444-446, 460, 470, 480, 492, 493, 559-561, 579, 580, 595, 596, 599, 601, 617, 624, 626, 628, 630, 632, 634, 639, 648, 651, 652, 653, 658 and 659. Examples 639 and 640 are especially instructive because the tractulus repetens and the straight ison (from codex Sinai 1219) stand at the end of corresponding cadential phrases on *d'*.

are met that consist of four obliquely placed tractuli, one above the other.⁶⁶ Similar scandicus conjunctions consisting of three, four or five tractuli obliquely written above one another are to be also found in St. Gall sources⁶⁷ – for example the St. Gall conjunction of two tractuli and a quilisma⁶⁸ or a clivis⁶⁹ or a torculus⁷⁰. These symbols can best be compared to the anabasma figures in the teaching song of the Koukouzeles which consist of a gradually rising four-note figure that is indicated with the ison and three oligon signs.⁷¹ It is worthy of note that the conjunctions — or $\text{—}^{\text{—}}$ or $\text{—}^{\text{—}^{\text{—}}}$ also occur very frequently in the “diastematic” notation of Middle Byzantine sources of the psaltikon. They also often occur in Middle Byzantine asmatika, as illustrated by examples 623 and 625. Here they appear within stereotypical phrases cadencing on e , a formula that is also met in a similar shape in Gregorian chants, whereby it is especially noticeable that the scandici quite frequently correspond to the Byzantine anabasma figures composed of tractuli ascendentes (cf. Example 622).

At the same time we should point out that the terms scandicus (from scandere) and anabasma (from ἀναβαίνω) are synonymous.

Although the semasiological connection between the tractulus repetens or ascendens and the straight ison and the oligon should be obvious, one difference should be noted, i.e. that the Byzantine signs never are used for descending figures – this in contrast to the tractulus, that can also be descendens.

Let us now look at the rhythmic meanings of these signs. The interpretation of the tractulus is, as mentioned above, disputed. On the other hand the meaning of the Paleo-Byzantine signs can be determined quite precisely. The Coislin oligon never functions as a long sign, rather it denotes a standard value.⁷² The straight ison can on the other hand be short or long. A comparison of Coislin

66 Cf. AML (1950): 76.

67 Cf. examples 580, 597, 622 as well as SG pp. 25/11, 27/7, 48/2, 58/13, 49/15, 51/8 and 84/4.

68 Cf. examples 478 and 612 as well as SG pp. 26/7 and 44/16.

69 Cf. examples 472 and 473 as well as SG p. 47/lines 2, 7, 13.

70 Cf. examples 646 and 651 as well as SG p. 43/14.

71 Cf. Floros, *The Origins of Russian Music*, op. cit., 58-69, Teaching Song of Kukuzeles, no. 12.

72 It is stated in the treatise in codex Lavra 1656 (cf. Tardo, *Melurgia*, 219) with respect to the oligon, that it is also called makron: ... ὀλίγον ὃ καὶ μακρὸν (λέγεται)... From this one can not conclude that the sign has the meaning of a longa. It only shared its form with the prosodia makra. In this connection it should be noted, that P. Wagner had previously connected the oligon to the “virga jacens”. However the comparison is not convincing. Wagner was so fixated on treating the tractulus as a symbol of a low note and as a “long” sign that he believed the oligon also had the meaning of a descending second and indicated a long value.

Table 2: The Strophici

(The forms of this table occur most in St. Gall.)

APOSTROPHA + (higher situated) APOSTROPHA	›ʹ	Ex. 653
APOSTROPHA + DISTROPHA	›ʹʹ	Ex. 610, 612
APOSTROPHA + TRISTROPHA	›ʹʹʹ	Ex. 571
FLEXA STROPHICA (= Plexa + Apostropha) Ex. 450, 472, 573, 607, 611 (This conjunction appears predominantly in versions of Codex Bamberg lit. 6.)	Λ›	
PES PLEXUS STROPHICUS (= Torculus + Apostropha) Ex. 450, 507, 555, 617, 622, 638 (This conjunction too most appears in versions of Codex Bamberg lit. 6.)	↷ʹ	
APOSTROPHA as constituent of CLIMACUS Ex. 444, 456, 478, 485, 488, 493, 501, 513, 522, 523, 654, 655, 656 (These conjunctions occur most in the Codices Montpellier H. 159 and Bodleianus Douce 222.)	↗ or ↘	
APOSTROPHA as constituent of TRIGON Ex. 647 (Notation of Novalesa)	ʹ or ʹʹ	
DISTROPHA Ex. 456, 462, 464, 465, 473, 507, 530, 533, 567, 576, 598, 612, 666	››	
DISTROPHA mit Episem Ex. 456, 464, 465, 567, 598	››	
TRISTROPHA Ex. 450, 477, 524, 527, 544, 575, 638, 639, 644	››› or ›››	
TRISTROPHA LIQUESCENS Ex. 477, 617	›››	
TRISTROPHA + APOSTROPHA LIQUESCENS Ex. 589	››››	

and Middle Byzantine sources reveals that it is long with respect to what follows only when it appears at the end of a colon.

Finally the above mentioned semasiological correspondences between the straight ison and the tractulus do not allow one to draw the conclusion that the tractulus always functions as a long sign, as Wagner believes, but rather that it has this meaning only in certain positions if it appears at the end of a colon. This insight will prove to be of value for the interpretation of an important passage in the *Commemoratio brevis* (cf. chapter IV).

APOSTROPHA and APOSTROPHOS ➤

Terminological Considerations

Our sign in the tabula prolixior is designated with the name apostropha. It is followed by the distropha and the tristropha. On the other hand, only the term strophicus occurs in the tabula brevis, and it is “illustrated” with the signs of the distropha or the tristropha. In the expanded (interpolated) version of the tabula brevis⁷³ the name strophicus paradoxically accompanies the sign torculus resupinus. The labels *strophica* or *strophicus* are met in the tabula prolixior, specifically as adjectives in the compound neumes flexa strophica and pes flexus strophicus.⁷⁴

In the following discussion the term “strophici” is understood to be the apostropha as well as the distropha and the tristropha. A systematic investigation of these signs necessitates assembling of all their graphic permutations and positions. Our compilation in table 2 – with respect to the graphic forms in St. Gall manuscripts – can claim to be comprehensive.

The strophici in the individual Latin neumatic notations

Since the intervention of Dom Paolo Ferretti⁷⁵ into questions surrounding lineless Latin neumatic notation, modern research had divided the field into three large families: the accent neumes, the point neumes and the mixed neumes (*neumes-accents*, *neumes-points* and *neumes-mixtes*). This arrangement has been able to prevail even if it is rather more makeshift than precise. No Latin notation has forsaken either the accents or on the points. So the distinguishing feature of Ferretti’s classification is not the absence of the accents or the points, but rather their predominance (frequency) in the respective neumatic notations. The label *neumes-points* was used by Ferretti only for the Aquitanian notation,

73 Codex Wolfenbüttel Gud. lat. 334 (4641) and codex St. Blasien (cf. p. 82).

74 Cf. below p. 104, footnote 224.

75 Pal Mus XII, 62 f.

while the class of the *neumes-mixtes* was applied to Metzger and the Breton⁷⁶ notational systems.

Even if Ferretti's criteria appear to be "relative", they can serve as a basis for a more "absolute" classification. By this we mean that the relationship of the notations to the apostropha or more generally to the strophici. The criterion possesses an absolute value to this extent that the strophici – in contrast to the virga, to the punctum and to the tractulus – are employed in only some of the neumatic notations. They are to be found in the inventories of the accent neumes and stand out due to their absence in the inventory of the point and mixed neumes. This distinction can be clarified more specifically.

The strophici appear most frequently in Alemannian-German and especially in St. Gall sources. They also often are used in Northern French, English and Italian sources (including those from Nonantola and Novalesa), where the apostropha often appears as a component of the tripunctum (trigon) or the climacus. These neumatic notations are all classified as belonging to the group of accent neumes and form a family, that – to use an expression formulated by J. Handschin⁷⁷ – can be spoken of as the "clan of Gregorian neumes" ("*gregorianische Neumensippe*")⁷⁸.

Outside of the "gregorianische Neumensippe" the strophici cannot be found. They are missing in both the Paleo-Frankish and Aquitanian as well as in the Metzger and the Breton sources. The "point" and "mixed" neumes all use the punctum or the tractulus and/or combinations of these signs where "Gregorian" sources have the strophici.

Previous interpretations of the apostropha

Although not always diametrically opposed, the previously expressed views still deviate on the interpretation of apostropha to a considerable degree from one another.

According to Dom Anselm Schubiger⁷⁹ the apostropha usually served as a short appoggiatura of a preceding note.

Dom A. Mocquereau⁸⁰ was of the opinion that the apostropha fulfilled a function similar to that of the grammatical apostrophos that was defined in Latin

76 Regarding the Metz notation cf. Dom A. Ménager, "Aperçu sur la notation du manuscrit 239 de Laon" Pal Mus X, 177-207. For the Breton notation cf. Dom A. Ménager, "Étude sur la notation du manuscrit 47 de Chartres" Pal Mus XI, 41-131; M. Huglo, "Le domaine de la notation bretonne" AMI (1963): 54-84.

77 AMI (1950): 82.

78 It should be noted that the strophici in St. Gall sources exhibit the "classical" form, while the sign is often stylized in the other "Gregorian" sources.

79 *Die Sängerschule St. Gallens vom 8. bis 12. Jahrhundert* (Einsiedeln, 1858): 8.

80 NMG, 157-161.

grammars as a sign of apposition. Therefore the apostropha was a supplementary sign that never stood alone which defined the nature of a specific tone and was used to indicate certain rhythmic peculiarities and vocal effects. It should be mentioned that Dom Mocquereau also derived the oriscus, the pressus and the salicus from the apostropha.

P. Wagner⁸¹ considered the apostropha to be an addition sign that – except for one case – always stood behind another neume. He maintained “*that the apostropha was frequently added to the flexa, thereby becoming a flexa strophica. In this case it probably indicated a short lengthening of the second note of the flexa thus smoothly leading to the following note in the manner of a portamento*”. The apostropha was considered to a “root” sign within Wagner’s broad family of “*Hakenneumen*”.

Dom A. Dechevrens⁸² believed the apostropha certainly shared its name and form with the grammatical apostrophos but it nevertheless had another effect. While the grammatical apostrophos functioned as a sign of elision, the apostropha indicated two tones, i.e. a short main tone and a liquescent second tone.

Dom P. Ferretti⁸³ also recommended that the functions of the apostropha and that of the grammatical apostrophos be strictly separated. In contrast to the grammatical apostrophos that served as a sign of elision and apposition, the apostropha fulfilled a positive function and should not be always viewed as a sign of apposition. This would only be the case if a distropha followed a lower lying apostropha or two other lower apostrophae, of which the one stood over the other.

Response

Dom Ferretti’s tacit criticism of Dom Mocquereau’s interpretation of the apostropha undoubtedly touches upon the crux of the matter. In addition to Ferretti’s objections to a one-sided distinction of the neume as a sign of apposition, the following observations can be made.

1. It can not be disputed that the apostropha in St. Gall sources is never met standing alone, but rather always in conjunctions and most frequently after the flexa or the torculus. At the same time it should be noted that “derivatives” of the apostropha, namely the distropha and tristropha, quite often appear alone or over individual syllables or at the beginning of a longer series of neumes. The apostropha itself also often appears as the first neume before the distropha or tristropha.

81 EGM II, 124f.

82 “Des Ornaments du chant grégorien” SIMG XIV (1912/13): esp. 283f.

83 Pal Mus XIII, 65f.

2. “Strophici” do not always just indicated a repetition of the preceding tone, but can also indicate a higher or lower tone. Apostrophae, distrophae and tristrophae ascendentes are no rarities⁸⁴.

3. “Strophici” figures outside of the realm of “Gregorian” neumatic notation regularly are replaced with puncta, tractuli, combination of these signs, as well as with the bivirga and trivirga. This even occurs in north French and in English sources. This “substitution” would be impossible if the apostropha was merely a sign of apposition.

The relationship of the apostropha to the Byzantine apostrophos

First it should be stated that the apostropha sign is not used exactly in the same manner in the Latin and in the Paleo-Byzantine notations. Even though there are common features, the differences should be noted as well.

In contrast to the apostropha, the apostrophos occurs not only in combinations but also very frequently stands alone.

The apostrophos serves as one of the principal signs for a descending movement. In the Latin notation this task is primarily taken over by the punctum and the tractulus. The apostropha plays a secondary role in this.

The apostrophos and the dyo apostrophoi appear on all steps of the scale, while the “strophici” prefer certain steps, especially the positions on *f* and *c* (cf. examples listed in table 2)⁸⁵.

If we now have grasped the common features, we still must remember that the apostrophos – like the apostropha – can be descendens as well as repetens or ascendens.

One particular position of the apostropha can be cited as a good example of this relationship. This the case when a apostropha precedes a distropha or a tristropha and is positioned lower than the following sign, thereby indicating a lower tone, for example *a (cc)* or *d (ff)* (cf. examples 571, 610, 612).

84 Cf. examples 473, 524, 527, 571, 576, 598, 612 and 666; cf as well in NMG the examples 332, 344, 363, 364, 366, 369 and in SIMG XIV, 301-303.

85 The positions of the tristropha on *b* (cf. example 544) and the distropha on *a* (example 595) are rare. It should be emphasized that the strophici, due to their very stable positions on *f* and *c* function as important guides for transcribing adiastematic notation (especially in the transcription of early organa).

Chapter IV: The Neumae Compositae and the Tonoι Synthetoi

1. Combinations involving doublings or triplings

Πάλιν δὲ [ἢ ὀξεῖα] διπλασιαζομένη
καὶ διπλῆ καλουμένη ἀποτελεῖ κράτημα.
ὁμοίως καὶ ἡ ἀπόστροφος ἐνεργεῖ.
διπλασιαζομένη γὰρ τὸ αὐτὸ ἀποτελεῖ.
Parisinus graecus 360

BIVIRGA and DIPLE //

DISTROPHA and DYO APOSTROPHOI >>

TRIVIRGA /// TRISTROPHA >>>

First of all it has to be stated that the doubling of the acute sign as well as the apostropha/apostrophos has the same functional sense in both the East and West, namely the doubling of the time duration. In this regard, bivirga and diple and similarly distropha and dyo apostrophoi are perfectly equivalent. The pitch values are not affected in any way by the doubling: the second sign of the combination functions as a tone repetition sign.

We must note as well that the Byzantine notational system, in contrast to the Latin, makes no use of the possibility of a tripling of the acute sign or the apostrophos. Nevertheless a Paleo-Byzantine sign can be cited, that can be compared to the trivirga and the tristropha. This is the mega kratema, a combination of diple and petaste – the most important lengthening sign in Byzantine semiography (cf. UNkI, chap. IX).

We have already stated that the distropha and tristropha are only found in "Gregorian" sources and that North French and English neumatic sources usually "substitute" the bivirga and trivirga for these signs. Therefore we must emphasize that both signs are met almost exclusively in "Gregorian" sources. The Paleo-Frankish, the Aquitanian and the Metz repertoires do not know them. Codex Laon 239 reproduces them with two and/or three puncta, which are said to resemble "swallows" or "fly feet"⁸⁶. A kind of middle position between St. Gall and Metz is taken in the Breton neumatic notation of Codex Chartres 47, that includes both the bivirga and the trivirga as well as graphic signs with two and/or three tractuli⁸⁷.

86 Cf. Pal Mus X, 201ff.

87 Cf. Pal Mus XI, 122-125.

For the study of the bvirga and trivirga the following examples can be consulted:

Bivirga: Ex. 456, 464, 465, 470, 473, 488, 492, 493, 500, 595.

Bivirga subbipunctis: Ex. 509, 512, 513, 591, 656, 657.

Bivirga subtripunctis: Ex. 654.

Trivirga: Ex. 450, 477, 489, 544

The graphic forms and positions of the distropha and tristropha are illustrated in the examples of table 2.

NEUMAE REPERCUSSAE

According to the statement of the Johannes Affligemenis⁸⁸ which we placed at the beginning of the previous chapter as an axiom, the distropha and tristropha were known as *neumae repercussae* in the 11th century. The terms *percussio* and *repercussio* were also used by other theorists. Aurelian⁸⁹ employed the expression *terna vocis percussio* for explaining the manner in what appears to be the tristropha, trivirga or a three-part compound neume is to be executed and the term *repercussio* is met within the context of compound neumes with the distropha and/or the tristropha in writings of Guido⁹⁰ and his commentator Aribo⁹¹.

The term *repercussio* is generally interpreted as a tremolo-like vocal effect in the literature. According to Dom Mocquereau⁹² the actual vocal effect of the strophici resembled two or three light and quick tapings of a tone. P. Wagner⁹³ believed that the distropha and the tristropha were “*executed with two or three quick staccato-like tapings of the same tone accompanied by a vibrato*”.

However it appears questionable whether we must understand the term *repercussio* in this sense.

First of all is to be noted that the bvirga or the trivirga, puncta, tractuli or combinations of puncta and tractuli fequently were “substituted” for the “strophici”. Does the supposed tremolo effect also apply to these signs or is it reserved only for the “strophici”?

Then again it should be remembered that it has not yet been clarified exactly which neumes Aurelian refers to with the expression *terna vocis percussio*.

As a third factor we must state that Aurelian’s “*trinum, ad instar manus verberantis, facias celerem ictum*”, on which modern research relies on for the interpretation of the strophici, is ambiguous and Dom Mocquereau’s interpretation of this passage with “*the voice must emit three sounds in*

88 GerbertS II, 263 = CSM 1, 158.

89 GerbertS I, 56-58.

90 GerbertS II, 15 b, 17 b = CSM 4, 164f., 180.

91 GerbertS II, 215 b, 226b = CSM2, 49, 66.

92 NMG, 351-386.

93 EGM II, 125-130.

succession, quick, light and delicate, like three taps of the hand" appears doubtful as well.⁹⁴ Especially problematic is the translation of *ictus* as "sound" and *trinus celer ictus* as "three quick taps of the tone". This interpretation appears to be flawed, especially when one takes into account that the terms *ictus* and *percussio* were occasionally considered to be synonymous in the Middle Ages and were also used within the context of tone production and mathematics.⁹⁵ In any case, it should be emphasized that Aurelian's text does not offer any criterion for an interpretation of the strophici as a tremolo effect.

As a fourth aspect, it should be remembered Guido and Aribio do not speak of special vocal effects when discussing *repercussio* but rather use the expression exclusively within the context of repetitions of a tone.

Fifth, we note Jacobus of Liege mentions the *voces repercussae* simply as *unisonantes* or *aequisonantes*.⁹⁶ He makes not say anything about special vocal effects.

Finally it should be mentioned as well that Byzantine treatises make no references at all to a tremolo manner of presentation for the dyo apostrophoi, a compound neume thoroughly analogous with the distropha.

Therefore it has the appearance that the expression *neumae repercussae* is simply to be understood as signs indicating the lengthening of a tone, i.e. as an indication that certain tones are supposed to be held two or three times longer than normal.

BIPUNCTUM and DY0 KENTEMATA ••

TRIPUNCTUM (TRIGON) and TRIA KENTEMATA (SEXIMATA) •••

The doubling and tripling of the acute sign and the apostropha has been shown to be a means of indicating an extension of tone duration in the Paleo-Byzantine and Latin semiography. The pitch values are not affected. The doubling and tripling of these signs serves exclusively a metrical purpose. On the other hand the doubling and tripling of the point has partly a metrical and partly a melodic meaning. Therefore the two notational systems must be differentiated very clearly.

In the Paleo-Byzantine semiography, the dyo or tria kentemata never designate a corresponding lengthening of the tone duration, but rather show two and/or three tones of differing heights.

94 NMG, 352.

95 Cf. C. Vivell, „Musikterminologisches“ *Gregorius-Blatt* 38 (1913): 82-84.

96 *Speculum musicae*, lib. VI, cap. LXXIII: *Dicuntur autem illae repercussae vel acquisonantes quae in eadem sunt linea vel in spatio eodem, nisi mutantur litterae vel tacti colores* (CoussS II, 311a).

On the other hand pairs or triads of puncta are assigned partly melodic and partly metric functions in the Latin semiography. Which function the puncta fulfill in each individual case can be determined in general by the diastematic arrangement. If the puncta stand obliquely above one another, then they indicate two and/or three tones of different heights. If they are arranged in a line, they serve as indications of tonal repetition, or more exactly of tonal lengthening. This rule can be applied not only to the ‘point neumes’ but also to the ‘accent neumes’.

An exception among the neumes involving doublings and triplings is offered by the St. Gall *tripunctum* (trigon). Its three puncta are drawn in such a way that the outline of an equilateral triangle arises with the tip above and the base below. If one were to begin with the tone figure which reproduces the trigon in diastematic sources, one would have expected exactly the opposite graphic arrangement of the puncta. Diastematic sources usually transmit the trigon as a three-tone figure on two interval values. The first two tones stand in the harmony, the third tone is lower.

It was exactly this remarkable St. Gall graphic arrangement that led P. Wagner⁹⁷ to the thesis that the trigon was originally a three-note figure with the first tone positioned somewhat lower than the second, perhaps even a quarter-tone lower.

If one takes into consideration the function of the *tria kentemata* (seximata) in the Paleo-Byzantine notation, one should probably not immediately reject Wagner’s assumption as unacceptable. On the other hand there are hardly any secure criteria for Wagner’s thesis of the existence of non-diatonic intervals in the older hymn practice (cf. chapter V).

In addition we should mention that several sources appear to speak against this interpretation of the graphic arrangement of the trigon. For example the trigon in the North French notation (for example in the Codex Montpellier) and in the Novalesse codex (Codex Bodleianus Douce 222) are written so that the two puncta are placed next to one another with an apostropha underneath. Codex Laon 239⁹⁸ indicates the graphic arrangement of the trigon with the punctum and a right-angled clivis, whereby the horizontal “up stroke” of the clivis is on the same level as the punctum. The trigon figure in Codex Chartres 47 consists of two puncta lying next to one another with a tractulus written under the second punctum.⁹⁹ The Aquitanian graphic arrangement of the trigon figure in the Gradual of Yrieix consists of a tractulus and a punctum next to it with a tractulus underneath.¹⁰⁰ It should be noted as well that the graphic

97 CGM II, 152-155.

98 Cf. Pal Mus X, 203f.

99 Cf. Pal Mus XI, 125-127.

100 Cf. Pal Mus XIII, 155.

arrangement of the trigon in St. Gall manuscripts is not reproduced in all Alemannian German sources. The arrangement of the trigon in Codex Bamberg lit. 6, for example, does not resemble the St. Gall examples. Here we find two puncta next to one another forming a sort of roof for a third punctum underneath.

For the study of the individual trigon arrangements we refer to the examples 462, 533, 537, 538, 571, 632-648, 651 and 652.

It remains to be mentioned that in the *tabula prolixior*, whose inventory of neumes reflects the repertoire of St. Gall, indicates under the term *bipunctum* a pair of puncta with the second placed higher than the first. For the name *tripunctum*, the *tabula* has the regular St. Gall arrangement of the trigon. The name *trigon* for our sign is found in the expanded version of the *tabula brevis*. Since this table is younger than the *tabula prolixior* (cf. chapter VIII), the expression *tripunctum* was probably the original or in any case the older name of the neume.

REGARDING THE ADMONITION OF THE COMMEMORATIO BREVIS THAT THE MELODY IS TO BE STRETCHED OUT BEFORE THE DISTINCTIONES AND AT THE END OF THE CHANTS

There is no doubt that the *Commemoratio brevis de tonis et psalmis modulandis*¹⁰¹ holds a central position among the surviving theoretical sources on choral singing in the high Middle Ages. The anonymous author of this scholarly treatise not only proclaims that the *aequalitas*, i.e. uniformity in singing, to be the first commandment for choral performance but he also gives numerous detailed instructions on performance and technical problems which should help the singers to achieve this goal. Thus he admonishes the singers to strictly preserve the same tempo once it is selected and to carefully maintain the time durations of longs and shorts in the ratio 2 : 1. Deviations from the tempo relationships were only allowed in the *distinctiones* and at the beginning or at the end of chants.¹⁰² Moreover it depended on the selected fast or slow tempo whether the conclusions were to be sung slower or faster. The law of the *aequalitas* was not to be disturbed however by this in the slightest. The author specifies very directly that lengthenings and/or accelerations were to be always carried out in accordance with the values of the longs and shorts. The mathematical ratio 2 : 1 had always to be preserved.

101 Gerbert S I, 213-229, esp. 226-228.

102 Medieval music theorists understood the term *distinctiones* primarily as passages between the cola of a chant. Cf. the compilation of definitions and explanations in H. Riemann, *Studien zur Geschichte der Notenschrift* (Leipzig, 1878): 190-201.

As is well known, these directions of the *Commemoratio brevis* together with similar directions in the scholia of the *Musica encheiriades* were taken by P. Wagner¹⁰³ as undisputable proof of his thesis that the rhythm of Gregorian chant was based on the strict differentiation of longs and shorts. Wagner believed that the “Neumenrhythmik” was derived from the chronoi of the prosodic system and he identified the virga (recta and jacens) with the longa and the punctum with the brevis.

There are however several reasons to cast doubt on Wagner’s conclusions. As has already been explained, there are both paleographical and semasiological factors which speak against his rhythmic interpretations of the neumes. In addition, his reading of the *Commemoratio brevis* should not be unconditionally accepted as correct. Several passages of the treatise allow for interpretations which deviate from Wagner’s. It would be rash to maintain that all the concepts expressed in the treatise are completely clear. But apart from this – even if one agrees with Wagner’s interpretation, it is more than questionable whether the stipulations of the anonymous author possessed validity for the entire distribution area of Gregorian chant. Wagner himself had to admit that “*the demand so vigorously promoted by the Musica encheiriadis and the Commemoratio brevis for absolute tempo consistency once the beat had been established was the opposite of the rhythmic and dynamic flexibility implicit in the St. Gall litterae significativae*”.¹⁰⁴

As necessary as a new interpretation of the *Commemoratio* is, this cannot be undertaken for obvious reasons within the framework of this study. Yet the thesis should at least be put forward here, that the directions of the anonymous author regarding the lengthenings at the end of the chants could be grounded in the actual physical techniques employed in notating the chants.

This perspective immediately springs to mind as a result of comparing the manner in which chants were recorded in Latin and Paleo-Byzantine sources.

1. While in Paleo-Byzantine sources the arrangement of the chants in cola is immediately obvious from the the punctuation marks that regularly appear in the text line, most of the older Latin neumatic sources lack punctuation. Only a few codices introduce *positurae* which the punctuation marks are called.¹⁰⁵ That is above all the case in the famous tonary of Montpellier, a manuscript whose didactic intention can already be recognized in its double notation.

2. The musical necessity of stretching out the last tone or the last tones of the various cola is expressed in Paleo-Byzantine notation in that the concluding neumes of the cola are indicated as a rule by neumes of longer tone values. Thus the apoderma, the dipole, the dyo apostrophoi, the mega kratema,

103 EGM II, 358-365.

104 EGM II, 379/ Anm. 2.

105 Cf. Wagner, EGM II, 83f.

combinations with the *klasma* as a final neume or *themata* frequently appear at the end of the *cola*. A longer metric value can also be designated by the straight or the hook-shaped *ison* if it stands at the end of a *cola*. This process is especially rigorously carried out in the Russian sematic notation that often uses the *statiya* as a concluding sign of a text line at those points where corresponding Paleo-Byzantine versions have the *ison* or the simple apostrophos for example.

On the other hand the means available for indicating the “natural” drawing out of the final tones of the various *distinctiones* are limited in the Latin system. Frequently the *virga recta*, the *tractulus*, the *punctum* or other combined signs, i.e. signs that are not necessarily metrically long by their natures, have to be interpreted as long by their positions at the end of the *cola*.¹⁰⁶ It is remarkable as well that the specific “long” signs of Latin notation, such as *bivirga*, *trivirga*, *distropha* and *tristropha*, appear very frequently at the beginning of the *cola* or in the middle of the *cola*, yet are very rare at the end of a text line. Thus *trivirga* and *tristropha* are met only one single time in our musical examples at the end of a *cola* (cf. example 544). It should be emphasized on the other hand that *virgae rectae* with the *episem* and *flexae* are to be usually found at the end of a *cola*.¹⁰⁷

Three deductions can be drawn from this body of evidence:

1. The admonition of the *Commemoratio brevis* regarding the lengthenings before the *distinctiones* and at the end of the chants can probably be attributed to special conditions intrinsic to Latin semiography in that the usual lengthenings carried out in the musical execution of the chants could not be precisely expressed with the notation techniques available to the scribes.
2. With respect to the “Gregorian” rhythm it is important to realize that neumes that indicate regular short values become long by position if they appear at the end of a *cola*.
3. If the *Commemoratio brevis* states that the lengthenings are to be interpreted as long values, in accordance with the short/long ratio of 1 : 2, then it must be assumed that neumes which are long by position have exactly double the time duration of the regular neumes. Therefore Latin neumes which are long

106 Cf. examples 444-446, 457, 460, 470, 480, 492, 493, 504, 525, 533, 536, 547, 555, 559, 561, 563, 565, 571, 572, 579, 580, 591, 595, 596, 599, 601, 603, 605, 607, 611, 613, 615, 616, 617, 624, 625, 628, 630, 632, 634, 635, 639, 648, 650, 652, 632, 658, 663-667.

107 For *virga (recta)* with *episem* at end of a *cola* cf. ex. 446, 493, 496, 525, 529, 531, 541, 553, 554, 578, 610, 614, 651. For *clivis* at the end of a *cola* cf. ex. 442, 450, 452, 462, 464, 465, 468, 472-474, 524, 549, 577, 585, 597, 607, 615, 617, 622, 631, 643, 645, 654, 656, 657, 660.

by position according to the metric scheme are exactly equivalent to the Byzantine dipole (= the doubled).

2. Ligatures

Angular PODATUS and angular LYGISMA ✓

These two signs not only resemble each other but they are also semasiologically very closely related.

Semiographical Analysis

The relationships of the angular lygisma to the round lygisma, to the tinagma and to the conjunction of bareia and oxeia make it clear, as already explained, that the sign is a ligature of bareia and oxeia (cf. UNKI, chap. IX).

Of the various forms that the angular podatus takes in Latin notation, the St. Gall form leaning to the right probably most closely resembles the angular lygisma. As for the semiographical composition of the St. Gall podatus quadratus, opinions of the researchers differ. The second element is doubtlessly a virga, the first part however has been interpreted in three ways: as a gravis (Dom Mocquereau¹⁰⁸) as an episem (likewise Dom Mocquereau¹⁰⁹) and as a virga jacens (P. Wagner¹¹⁰). The semasiological equivalence of the podatus quadratus with the angular lygisma would lead one to assume that the first interpretation is likely the most probable.

In the Metz notation of codex Laon 239 and in the Breton notation of codex Chartres 47, the angular podatus appears to be written, to a certain extent, in an upright position.¹¹¹ In these instances the sign could be interpreted as a ligature of tractulus and virga recta.

Semasiological Analysis

The angular lygisma and the podatus quadratus are semasiologically related in those cases when they designate two-tone figures, whose second tone is higher than the first. As we have explained, the angular lygisma represents a rising second. However the podatus can also indicate the leap of a third, fourth or even the fifth upward, as is demonstrated in the following examples in our documentation:

108 Pal Mus I, 101.

109 NMG, 172f.

110 EGM II, 117f.

111 Cf. Pal Mus X, 188-192; XI, 68 f.

Small interval of a second: Ex. 526, 561, 563, 565, 580, 592, 611, 647, 654, 662, 663, 666, 668.

Large interval of a second: Ex. 473, 476, 501, 521, 527, 555, 572, 578, 579, 580, 589, 596, 609, 610, 635, 643, 646, 647, 651, 654, 655, 660, 661.

Small interval of a third: Ex. 456, 460, 577, 617, 631, 639, 644, 656.

Large interval of a third: Ex. 506, 655.

Interval of a fourth: Ex. 477, 522, 541, 543, 544, 557, 576, 660.

Interval of a fifth: Ex. 585, 587, 631, 632.

From this compilation it becomes clear that the podatus far more frequently indicates a second rather than a larger interval. This is also confirmed by the statistical investigations which were conducted by Walther Lipphardt¹¹² on the “connected” pes of the codex Laon 239. It deserves to be mentioned as well that the Metz “connected” pes does not correspond to the St. Gall pes quadratus, but rather to the pes rotundus.

Regarding the rhythmic meaning of the signs, we should notice that the angular lygisma consists of a long and a short tone, as a comparison with Paleo-Byzantine neumatic sources unambiguously reveals.

On the other hand the rhythmic meaning of the podatus quadratus is not certain. According to Dom Mocquereau, the first tone is slightly lengthened; P. Wagner¹¹³ and Jammers¹¹⁴ interpret both tones as longs. Lipphardt¹¹⁵ transcribes the “resolved” Metz pes, that corresponds to the St. Gall angular podatus, with a half note and a quarter note.

The semasiological relationship of the angular lygisma with the pes quadratus would lead one to assume that the former neume also consists of a longer and a shorter tone. This interpretation would appear to be supported by the frequent substitution of the pes quadratus by a conjunction of virga with episem and the simple virga (cf. ex. 555 and 609), with the conjunction of two virgae (cf. ex. 473 and 639) or with the pes quassus (cf. table 8 under b). That the first main tone of the last sign is longer than the second will be illustrated in chapter V.

Finally we refer to the examples 527-528 in our documentation. The are taken from a Gradual and a Sticheron, yet they nevertheless both indicate a similar series of tones: *fagf ga* and/or *agf ga* . The St. Gall Cantatorium indicates this series of tones with the climacus praepunctis and a pes quadratus, over which an oriscus is notated. The Paleo-Byzantine version in codex L3 shows the corresponding passage with a conjunction of piasma and klasma and the angular lygisma. It is certainly remarkable that the same figure (*ga*)

112 „Punctum und Pes in Cod. Laon 239” *KmJb Jg.* 39 (1955): 10-40.

113 EGM II, 395.

114 *Der gregorianische Rhythmus – Antiphonale Studien* (Straßburg, 1937): 58-61.

115 „Studien zur Rhythmik der Antiphonen“ *Mf III* (1950): 47-60 and 224-236.

appears in both neumatic sources with the same sign – the pes quadratus and/or the angular lygisma.

CLIVIS (= CLINIS) II or FLEXA¹¹⁶ and KONDEUMA \wedge $\acute{\circ}$

Semiographical Aspects

The graphic equivalence of both signs is evident. They represent ligatures of the acute sign with the gravis which can be compared without any hesitation to the prosodic circumflex.

In St. Gall neumatic sources the flexa appears with some graphic variations, yet all of them resemble the circumflex-like neume. On the other hand several different clivis signs appear in Metz and Breton manuscripts.¹¹⁷ The second form of the sign given above is typical for Breton sources. Another right-angled form with a short horizontal stroke and a longer dash appears both in Breton as well as in Metz sources. A third “resolved” special form found in Aquitanina and Breton sources consists of a tractulus or an acute sign with a dash underneath resembling a gravis. Other “resolved” clivis graphic arrangements will be set aside for the moment.

Semasiological Aspects

Viewed from a *diastematic perspective*, clivis II and the kondeuma are completely equivalent. Both can indicate a falling second, third, fourth or even the fifth.

With respect to the *rhythmic meaning* of the signs it should be remembered first of all that the kondeuma designates a longer and a shorter tone, as our semasiological comparisons have shown. While the rhythmic proportions of the konduma are clear, there is in contrast much uncertainty about the rhythmic value of the “connected” flexa.

116 For this Latin sign, the term clivis is generally used in the modern scientific literature. In the *Tabula prolixior* it is called flexa, in the *Tabula brevis* on the other hand clinis and clivis appear, whereby however the first form decidedly predominates. It has the appearance as if clivis is a corrupted reading for clinis. In medieval music treatises both spellings can be found. Among earlier authors, the term clinis is found (Johannes Affligemensis, CSM 1, 134) while among later writers the term clivis is used (Johannes de Muris, GerbertS III, 202a). The word clinis is probably derived etymologically from κλίειν (bend, tend, sink), the word clivis from clivus (hill). The etymology which Johannes de Muris (ibid) proposes is strange: *clivis dicitur a cleo, quod est melum, et componitur ex nota et seminota, et signat quod vox debet inflecti*. Does cleo stand in this case for κλέος?

117 Cf. Pal Mus X, 186f.; XI, 55 (list of neumes, no. 12 and 12), 63-68; AMI (1963): 74 and 78.

Dom Beyssac¹¹⁸ considered the rhythmic value of the clivis to be relative. A clivis without episem or without the littera t (*tenerē*) could be short or long. Its meaning depended on the context. P. Wagner¹¹⁹ believed on the other hand – not without some reservations – that the flexa perhaps corresponded to the trochee metrical unit – the first tone long, the second short. Jammers¹²⁰ was of the opinion that the simple flexa (i.e. a flexa without litterae significativae or without episem) designated in the codex Hartker either two short or two standard values. Lipphardt¹²¹ transcribed the “connected” (right-angled) Metz flexa that corresponds to the simple St. Gall flexa with two short notes (quavers).

When one considers the question about the rhythmic meaning of the flexa and draws on Paleo-Byzantine analogues of the sign, namely the bareia and the kondeuma, then two possibilities for an interpretation appear to be especially worthy of consideration. Either the simple flexa – similar to the bareia – indicates two short tones or – similar to the kondeuma – a longer and a short tone. If one considers that the flexa II is more closely related semasiologically (but not semiographically) to the bareia than to the kondeuma (the kondeuma is in comparison to the bareia a rarer sign), one would like to attribute a higher probability to the first possibility. There is no doubt in any case that a flexa with the littera c (*celeriter*) does not correspond to the kondeuma rhythmically.

The close semasiological relationship that exist between the flexa on the one hand and the bareia and the kondeuma on the other hand can be illustrated most impressively with similar or note-for-note melodic phrases which exhibit corresponding figures with exactly these signs in Latin and Byzantine sources.

A striking proof of the equivalence of the clivis with episem and the kondeuma with κ (κράτημα) is offered by examples 442-443. Both neumes indicate the fall of a fifth *d'g* and the accompanying signs indicate that both tones are long. The Middle Byzantine version of the example 443 precisely fixes the rhythmic values and therefore also offers the key for the rhythmic transcription of the clivis with episem (more about this in chap. VII).

In examples 444-447 one can then observe Latin and Byzantine phrases cadenzing on *f* with the clivis and/or the bareia figure on the penultimate syllable.

In examples 537-540 the clivis, the kondakarian bareia and the Byzantine bareia can be compared within similar phrases which includes the fall of a fourth *eb* .

118 *Revue grégorienne* (1911): 18 (from Pal Mus X, 186).

119 EGM II, 118f., 395f.

120 *Der gregorianische Rhythmus*, 61f.



121 „Flexa und Torculus in Cod. Laon 239” *KmJb Jg. 41* (1957): 9-15.


Within corresponding phrases in chants of the Tetartos mode, the clivis and the bareia are compared in examples 587-588. Here they designate the fall of a third *ec* .



One can compare furthermore the flexa as a component of the porrectus over (*plo*) *ra-(bunt)* in example 557 with the kondeuma in example 558 over $\pi\rho\omicron$ ($\sigma\omega\pi\omicron\nu$). Also in these examples the signs are found within similar melodic phrases.

Finally the correspondence of the clivis and the kondeuma can be studied in examples 583-584

PORRECTUS or CLIVIS RESUPINA

 (“Gregorian” standard form)  (Paleo-Frankisch)

 (Mozarabic notation)  (Rouen 368)

TINAGMA as well as conjunction of BAREIA and OXEIA  

Semiographical Aspects

After identifying the Paleo-Byzantine tinagma as a ligature of bareia and oxeia, the connection between the above Latin and Paleo-Byzantine signs should be obvious.

The three-part “Gregorian” standard form of the porrectus resembling the “N” differs from the Byzantine compound neumes to the extent that the porrectus is composed of a two-part flexa (clivis II) and virga.

On the other hand, the V-shaped Paleo-Frankish porrectus (clivis I – virga) proves to be the same as the Paleo-Byzantine combined neume.

Furthermore the first of the two Mozarabic porrectus forms¹²² and the tinagma and/or the kondakarian (Old Slavic) pauk are semiographically the same. In all cases the gravis and the acute ligature are drawn in such a way that it forms a loop.

122 Among Mozarabic sources to be considered with respect to the porrectus the following sources should be mentioned in addition to the codex London, British Museum, add. 30845 (cf. chapter II): especially the *Liber ordium* of Silos (literature and specimina in P. Wagner, EGM II, 174-177; G. Prado, “Mozarabic Melodics” *Speculum* III (1928): 218-239; E. Jammers, *Tafeln zur Neumenschrift*, 149-151) and the facsimile edition of the Antiphony of Leon (10th century), published in *Monumenta Hispaniae Sacra, Serie liturgica*, vol. V, 1-2 (Barcelona/Madrid, 1953 and 1959).

The second of the two Mozarabic porrectus forms and the porrectus of the codex Rouen 368¹²³ are three-part, yet they preserve the loop-shaped ductus.

Semasiological Aspects

Viewed from a *diastematic perspective*, the porrectus and the corresponding Paleo-Byzantine compound neumes are completely equivalent. They all firmly preserve three-tone figures with the interval ratio – high-low-high. (It should be noted that the first tone of the figure, compared to the preceding tone, does not always have to be higher). We should recall that the preferred positions of the conjunctions are of bareia and oxeia is *bga*, *gef* and *dbc*. The Chartres tinagma is usually found on the steps *ba b* and *ede*.¹²⁴

It appears that the porrectus is not tied to certain intervals. The preferred positions can however be studied in the following examples:

jef: Ex. 484, 505, 589, 611, 661; *gfg*: Ex. 446, 464, 473, 557; *aga*: Ex. 477, 486, 508, 532, 614, 660; *cbc*: Ex. 465; *dcd*: Ex. 505, 523; *fdf*: Ex. 638; *gdg*: Ex. 554; *afa*: Ex. 478; *bga*: Ex. 490; *cbd*: Ex. 500.

The correspondence between the clivis resupina and the conjunction of bareia and oligon with diplex in examples 450-451 needs to be emphasized, not because the signs represent the same figure, namely the tone series *gef*, but rather because the phrases within which they appear are very similar.

With respect to the *rhythmic* values, we note that all three tones of the conjunction of bareia and oxeia are short – the bareia indicates however that the first tone was to be stressed. If the third tone is supposed to be stretched out, the scribes frequently indicated this by adding a klasma under the oxeia (cf. ex. 239, 241).

That there is no consensus on the rhythmic value of the porrectus is not surprising given the lack of agreement about its interpretation. Wagner¹²⁵ believed the ratio of the three tones to be long-short-long. Jammers¹²⁶ transcribed the “round” porrectus with two quavers and a quarter note and the “angular” porrectus with three quarter notes.

123 Facsimile in Pal Mus III, pl. 178 A and in Suñol, *Introduction*, 287. Cf. the same for the collation of the communion chant *Cum invocarem te* in planche C.

124 In UNKI, chapter IX, it was shown that the conjunction of bareia and oxeia as well as the tinagma in certain cases indicated the four-tone figures *daba* and *gded* (Examples 137, 237, 238). They can be compared to the porrectus resupinus but will not be discussed here.

125 EGM II, 395.

126 *Der gregorianische Rhythmus*, 65f.

Previous explanations for the etymology of the term porrectus

The term *porrectus* as a label of the flexa resupina, appears in both versions of the Tabula brevis.¹²⁷ The sign is called *flexa resupina* in the Tabula prolixior.

Researchers are generally unanimous in their interpretations of the term *porrectus*.¹²⁸ Because *porrectus* is the participle of *porrigo* (extend, expand, stretch out), most researchers relate the name to the form of the sign, that is characterized as “longly stretched out”, “extended” or even “out-reaching”.

On the other hand Thibaut¹²⁹ tried to interpret the term as a translation of the ekphonic expression *paraklitike* (the “tending toward” or “turning sideways toward” from παρακλίνω)¹³⁰ and he believed that he had found support for this interpretation in the perfect equivalence of the two signs *porrectus* and *parakletike* (“*la parfait configuration*”).

After considering this possibility we came to the conclusion however that the comparison is unfortunate. For one, the graphic resemblance of the signs, if indeed existent, is purely accidental. (In the oldest Byzantine sources the *parakletike* exhibits a form entirely different from the *porrectus*). In addition one can not overlook the fact that the *parakletike* is a single tone sign, while in contrast the *porrectus* consists of three tones.¹³¹

Jammers¹³² interpreted the term *porrectus* differently. He saw the neume as an ascending sign (“*Zeichen des ‘Wiederaufsteigens’*”) and therefore derived the name from the tone figure of the *sema*.

Relationship with the epergerma

If one searches within the Byzantine onomatology for a neume with a name of that synonymous with *porrectus*, one is drawn to the word *epergerma* (from ἐπεγείρω), that so means approximately “wake up again” or “re-erect”. (As a technical term in notation the word clearly possesses the latter meaning). To be sure the verb *porrigo* usually has the meaning of extend, stretch out, expand, lengthen, offer – but it is sometimes also used in the sense of “straighten out”.

127 It should be mentioned that the table in codex Wolfenbüttel places in error the virga with episem beside the name *porrectus*.

128 Cf. Dom Pothier in Pal Mus II, 28; Dom Mocquereau in NMG, 146; Fleischer in *Die germanischen Neumen*, 62; Suñol, *Introduction*, 2, etc.

129 *Origine Byzantine*, 75.

130 Cf. as well the comments in chapter IX of this volume.

131 Thibaut’s misunderstanding of the sign led Wagner (EGM II, 41) to the erroneous assumption that the *parakletike*, analogous to the *porrectus*, perhaps indicated a three-tone figure “*deren mittlerer Ton in der Tiefe liegt*”.

132 *Musik in Byzanz, im päpstlichen Rom und im Frankenreich* (Heidelberg, 1962): 18.

Therefore the terms porrectus and epegerma can be legitimately compared with respect to their meanings.

The context of the terms becomes obvious if one considers that *arrectus* (from *arrigo*) and *erectus* (from *erigo*) would be the exact Latin translations of epegerma. Therefore a comparative investigation of the neumes porrectus and epegerma (or more exactly their figures) allows us to recognize that the semasiological relationship existing between them is very close.

First of all we must emphasize that semiographically the porrectus and the Coislin epegerma, that is called *apothema* in the list of neumes in codex Lavra Γ. 67 and *Dva v čelnu* in Slavic lists, are not related in any way. On the other hand, the Paleo-Byzantine conjunction of bareia and oxeia has been shown to be analogous to and semasiologically equivalent to the porrectus. Especially important to our investigation is the observation that the conjunction of bareia and oxeia is often indicated with the epegerma-figure A (*fgef* or *cdbc*) in Coislin sources. Among the examples in UNkI 51, 138, 313, 339, 340 and 381, it appears in the codices Va, Vi, L5 and/or Och, Sinai 1242 and Grottaferrata E. α. 7 at places where the Chartres sources have the apothema. Also in example 184 the Coislin conjunction of the Vatopedensis manuscript corresponds to the *Dva v čelnu* of the Slavic version.

The above mentioned substitutions of the epegerma for the conjunction of bareia and oxeia leads one to the conclusion that this conjunction, for which no special Greek label has been transmitted (in Slavic lists of neumes it carries the name *Mečik*), also could be called epegerma when it is used for a reproduction of the epegerma-figure. Within this context, we must note that the designation of these signs with the same name in Byzantine sources is not unusual. It can be shown that there are numerous synonymous signs and that the synonymous terminology is based in no way upon confusion. Often the terms were not related to the neumes, but rather to the figures that they designated. Frequently the same figure was represented by different signs, resulting in heterogeneous semata having the same name (cf. chap. IX).

Since it is very probably that the conjunction of bareia and oxeia was also called epegerma, then it is clear that the terms porrectus and epegerma are related.

Loop-like TORCULUS and inverted TINAGMA

Theta-like TORCULUS (Novalesa)

The loop-shaped torculus forms the correlative to the tinagma-like porrectus and both appear predominantly in Mozarabic sources.¹³³ Occasionally the sign has been known to turn up as well in French manuscripts as for example in the codex Montpellier (cf. p. 48).

Not only graphically, but also semasiologically this torculus can be shown to be closely related to the inverted tinagma of the kondakarian notation.¹³⁴ Both semata designate three-tone figures with the interval ratio: low – high – low.

The theta-like torculus belongs among the characteristic signs of the notation of Novalesa. It is found in both Bodleianus, Douce 22 and in the Missale Vercelli 124, as well as in the fragments discovered by Suñol¹³⁵ in Barcelona, Bibliothèque de la Généralité no. 895.

Examples 448-451 show that the theta-shaped torculus and the kondakarian inverted tinagma sometimes can indicate exactly the same figures (*cdc* and/or *gag*) and both are to be found moreover within melodically similar Gregorian and Byzantine-Slavic phrases at corresponding places.

TORCULUS and STREPTON

Previous etymological derivation of the term torculus

With the name *torculus*, the first of the above semata in both versions of the Tabula brevis is indicated. The Tabula prolixior transmits it on the other hand with the name *pes flexus*.

In the modern literature the name torculus is generally derived from the verb *torqueo* (twist, wind, turn) or from the noun *torculum* (wine press) and it is attributed to the resemblance of the sign to a press device.¹³⁶

Thibaut¹³⁷ deviated from this view in that he considered the name to be a translation of the Greek term *syrmatike* or *syrma* and its derivation was based on the “perfect graphic resemblance” of the signs. Thibaut’s statement however, as so often is the case, is completely without foundation. The word *syrma* means “anything trailed or dragged” and shows no relation in a literal sense to the term

133 Cf. Suñol, *Introduction*, 320f., 338.

134 Floros, *The Origins of Russian Music*, 115, tables 1.10 (3-5) and 1.22.

135 Suñol, *Introduction*, 186-197.

136 Cf. Dom Pothier (Pal Mus II, 28); Wagner (EGM II, 119); Fleischer (*Die germanischen Neumen*, 62f.); Suñol (*Introduction*, 2); Huglo (*Études grégoriennes* I, 62).

137 *Origine byzantine*, 78f.

torculus. Moreover the signs are not even related semasiologically. The torculus is a three-tone sign while the syrma represented, as has been explained, sine-like figures. The graphic resemblance of the figures is therefore purely accidental.

It remains to be mentioned that Jammers¹³⁸ apostrophized the torculus as a “*sign of rotation*”. Thus we should relate the name not to the form, but rather to the figure or vocal realization of the sign.

The relationship to the strepton

A new etymological derivation for the term torculus results from a consideration of a technical expression in Byzantine notation known as the strepton. If one considers that *strepton* (from στρέφω, rotate, turn) has a meaning similar to twisted or turned, then the onomatological connection to the term torculus becomes clear.

A comparative investigation of these neumes leads us to the conclusion that further relations also exist between them. First of all it can be stated that the neumes *strepton* or *ekstrepton* are not included in the table of neumes of the codex Lavra Γ. 67, but only appear in Late Byzantine lists of neumes. Yet the sign frequently occurs in the Middle Byzantine psalika and can be identified as such among the kondakarian neumes. In kondakarian sources, it is drawn in the shape indicated above that resembles the torculus of the Tabula brevis or the pes flexus of the Tabula prolixior. The kondakarian strepton resembles to a certain extent a torculus turned to the right. Thereby it is not being said that the signs are built out of exactly the same “elements”. While the composition of the torculus as a ligature of pes and gravis is obvious, the kondakarian strepton can not be pinned down to such a precise semiographical analysis.¹³⁹

Also regarded semasiologically, many features appear to be common between the signs even if one can not speak of close relationships or even equivalence. The torculus is known to indicate a three-tone figure with the interval value of ‘low-high-low’ while the strepton in Middle Byzantine sources of the psaltikon as a rule indicate four-tone figures. It is transmitted in the teaching song of the Kukuzeles¹⁴⁰ with the tone series *gagf* (*g*). It deserves to be pointed out nevertheless that the strepton in kondakarian manuscripts sometimes is placed in those places, where parallel Middle Byzantine asmatic versions give three tone- figures such as *gaf*, *abg* and *efd*.¹⁴¹

138 *Musik in Byzanz*, 18.

139 The Middle Byzantine strepton can be conceived as the mirror image of the tromikon.

140 Cf. Floros, *The Origins of Russian Music*, 64, Teaching Song of Kukuzeles, no. 3.

141 ebenda, table 1,45.

Summarizing the results of our investigation and connecting them to other observations, we can propose the hypothesis that the term *torculus* is the borrowed translation of the Middle Greek term *strepton*.

Angular SCANDICUS ✓ and TRIA ↵

Semiographical Aspects

The angular scandicus is a strikingly characteristic neume above all in Beneventan notation.¹⁴² The ligature tria is a characteristic sign of the Paleo-Byzantine Chartres notation.

The angular scandicus consists of three “straight dashes” for which several interpretations are possible. One could interpret the sign as a ligature of three virgae, as a ligature of podatus and virga or also inversely as a ligature of “tractulus” and podatus. A further possible interpretation is suggested by the composition of the sign tria, which has been interpreted as a shortened form of the tessara-ligature, which to all appearances seems to consist of bareia and the angular lygisma. In analogy to this, the angular scandicus could be perhaps viewed as a composition of gravis and podatus.

Naturally one could abandon as well every attempt to interpret the two signs as “accents” and instead simply interpret them as a ligature of three strokes.

Semasiological Aspects

Viewed from the diastematic point of view, both *semata* are completely equivalent. They designate gradually rising three-tone series and can even be found occasionally in the notation of similar Latin and Byzantine melodic phrases, as can be illustrated by examples 452-455.

Example 452 is very interesting, first of all because the three-tone figure *abc*, which appears twice in sequence, is only documented in the Beneventan version of the codex Montecassino 339¹⁴³ with the angular scandicus. The St. Gall notation of the codices SG, EN and BG and the “German” notation of the Leipzig codex, the Metz version of the codex LN and the Breton notation of the gradual of CH all show in contrast a graphic arrangement with *quilisma* at the corresponding place.

The Byzantine formula in example 453 is taken from the fourth Antiphonon of the *Tetartos plagios* mode, and therefore belongs to the same mode as the *Alleluia Confitemini domini*, taken from example 452. That the Byzantine

142 Cf. the neumatic notation of codices Benevento VI, 34 (Pal Mus XV with “Étude sur la notation bénéventaine” 71-156 and reference to the scandicus on 131f.) and Vaticanus lat. 10673 (Pal Mus XIV, with specimina of numerous other Beneventan manuscripts).

143 Facsimile and literature in E. Jammers, *Tafeln zur Neumenschrift* (Tutzing, 1965): 92f.

formula *c dcb c abc* is only an “expanded” version of the series of tones in Latin sources, namely *c c abc*, is quite clear.

Notice should be made of the symbols with which the Paleo-Byzantine versions preserve this formula. The codex L3 has the Chartres signs *laimos* and *tria*; Vatopedi 1488 has the Chartres signs *kondeuma* and *tria*; in the Coislin version of the Cryptensis E. α. 11 we find the conjunction of *diple*, *kylisma* and *dyo kentemata* and the conjunction of *diple* and two *oxeiai*, a combination thoroughly analogous to the *anatrichisma Ia*; finally Patmos 218 has the conjunction of *diple* and *kylisma* and the three-tone *anabasma*.

By comparing these examples, it becomes quite evident that the *abc* figure in the Beneventan source and in the above cited Paleo-Byzantine Chartres versions are written with the same sign, namely the angular *scandicus* and/or the *tria*.

Ligature of FLEXA and PODATUS – TESSARA Λ

The above Latin ligature is met mainly in the codex Laon 239 and in Beneventan sources. The similar looking Paleo-Byzantine tessara ligature is found in Chartres notation.

That the Latin ligature is composed of the *flexa* and the angular *podatus*, can be confirmed by a comparison with corresponding St. Gall (or generally “Gregorian”) notations, which replace it with a conjunction of *flexa* and - usually round - *podatus*. The Paleo-Byzantine ligature consists of the *kondeuma* and angular *lygisma* and therefore it has the same “components” as the Metz and Breton ligatures.

Our ligatures can consequently be shown to be not only semiographically the same, but also completely equivalent with respect to their diastematic interpretation. The sign indicates a four-tone series with the interval ratio: high-low-high-higher that is frequently even expressed with exactly the same melodic figure (*c abc*). This is illustrated by the neumatic passages compiled in examples 456-459.

Further documentation for the Metz ligature of *flexa* and *podatus* or *torculus* is presented in examples 605 and 653.

PORRECTUS FLEXUS (= ligature of two flexae) and STRANGISMATA Λ

While the angular *scandicus* and the ligature of *flexa* and *podatus* presented above are special signs which only appear in a few Latin sources, hardly any geographical boundaries are imposed on the ligature of two *flexae*. It can be found in Metz and Beneventan manuscripts as well as very frequently in St. Gall and Breton sources. Its Paleo-Byzantine analogue, the ligature of two *kondeumata*, appears in Coislin notation (cf. examples 329-331).

Both ligatures indicate a four-tone series with the interval ratio: high-low-high-low. If the ligature of two kondeumata designate the descent of a third such as *db ca* , *cb cg* and *bg af* , the same or similar figures are frequently indicated in Latin sources with the porrectus flexus. This is exemplified in examples 460-463, comparing corresponding signs within similar Gregorian and Byzantine phrases. Further documentation is offered in examples 446, 472, 484, 532, 615, 616, 630, 634 and 646.

Even if the ligatures are equivalent with respect to their diastematic arrangement, a small difference can be detected between them with respect to their rhythmic interpretation. Flexae in ligatures are as a rule "short" (metrically "long" flexae are not written in St. Gall and Metz sources as ligatures)¹⁴⁴ but in contrast the first tone of every kondeuma appears to have been somewhat lengthened.

CLIMACUS and KATABA-TROMIKON 

CLIMACUS RESUPINUS  and KATABA-TROMIKON + OXEIA 

CLIMACUS – FLEXA  and KATABA-TROMIKON + KONDEUMA 

Evidence of the signs in various neumatic notations

Of the climacus it can be said that it belongs among those neumes that exhibit a notable wealth of permutations. Next to the "regular" climacus composed of the virga and puncta or tractuli, other forms can be found that consist only of puncta and tractuli, as in the Paleo-Frankish, Aquitanian and Breton sources.

Especially important for comparative neumatic studies is the "connected" climacus, which is the name given the ligature of a longer, slightly oblique upwards stroke and a downward meandering snake-like line. It seems that this form as well as the ligatures of the "connected" climacus with the virga or the flexa are not be found in St. Gall or in Metz, Breton or Aquitanian sources. On the other hand they appear in early Italian, north French, English, Mozarabic and Catalan neumatic sources¹⁴⁵ and are met as well in German sources. One

144 Cf. Pal Mus XI, 86-89.

145 Cf. the table of neumes in E. M. Bannister, *Monumenti vaticani de paleografia musicale latina* (Leipzig, 1913): tav. VII, A 1-2, and Suñol, *Introduction*, 178, 187, 233, 320f., 358. With respect to the Italian sources cf. Vaticanus lat. 4770 (10th/11th c.) and the following references (Wagner, EGM II, 178-180; Pal Mus XIII, 90-93; Suñol, *Introduction*, 181; Jammers, *Tafeln zur Neumenschrift*, 104f). Special attention deserves to be paid to the neumatic notation of two North French sources, namely Orléans, Bibliothèque municipale, no. 14, 10th century (from Fleury) and Vaticanus Reginensis 1709, 11th c. (perhaps from Fleury). For specimina cf. Pal Mus III, pl. 182 B and in Suñol, *Introduction*, 234 and 237.

especially impressive source is the 10th century codex Rep. I 93 (olim 169) of the Leipzig Stadtbibliothek, which has been considered to be an autograph of Regino of Prüm (+ 915).¹⁴⁶

The Paleo-Byzantine kataba-tromikon recurs on the other hand in Chartres as well as in the Coislin and in kondakarian notations. In contrast the ligatures of the sign with the oxeia or with the kondeuma can be found only in Chartres codices.

Semiographical Aspects

Of the two “elements”, out of which the kataba-tromikon is composed, the second can definitely be addressed as a kataba, namely as a ligature of two or three apostrophoi placed one above the other. The interpretation of the first element, the horizontal stroke, is problematic on the other hand.

With the semiographical interpretation of the “connected” climacus, the arrangement seems to be reversed to a certain extent in that it can clearly be stated that the first element is a virga. On the other hand the first impression of the second element as a meandering snake-like line is open to several interpretations.

Dom Mocquereau¹⁴⁷ and – following his lead – Dom Ferretti¹⁴⁸ apostrophize the sign as a ligature of two accentus graves. Even if this interpretation is consistent with their theory that the punctum was a disfigured gravis and that the three-tone climacus consisted of acute, gravis and gravis, it can not be maintained now that this theory has been refuted.

One has to ask whether the meandering snake-like line could not be explained as two puncta written as dashes as if they were ligatures. Such an interpretation does not seem to make sense paleographically however, especially as in some manuscripts, such as for example the codex 123 of the Biblioteca Angelica¹⁴⁹ in Rome, the “connected” climacus appears next to the “resolved” climacus.

A far more plausible explanation would be to view the “connected” climacus as a ligature of virga and two or three apostrophae. This interpretation would seem to be supported not only by the composition of the kataba-tromikon, but also by the observation that in sources from Nonantola the climacus can be written as a conjunction of a virga and three apostrophae. Furthermore the clivis

146 Cf. the literature mentioned on page 22.

147 Pal Mus I, 128 and 136f.

148 Pal Mus XIII, 77.

149 Specimina in Wagner, EGM II, 180-184; Pal Mus XIII, 86-90; Suñol, *Introduction*, 202; Fr. Tack, *Der gregorianische Choral* (Cologne, 1960): 27; Jammers, *Tafeln zur Neumenschrift*, 100f.

occasionally appears as a conjunction of virga and apostropha in Mozarabic sources.¹⁵⁰

Semasiological Aspects

If the results from the semiographical analysis of the kataba-tromikon and the “connected” climacus reveal that the signs are related then a semasiological investigation leads to the conclusion that the neumes are at least perfectly equivalent with respect to the arrangement of the intervals. It will be recalled that the kataba-tromikon designated two different figures. The one uses the figure of the four-step xeron klasma, the other begins with a higher (or equally high) tone and gradually descends. The “typical” climacus figure is identical to this second series of tones.

Given that the semasiological equivalence of the signs could be established simply by separate investigations of their functions, then a comparative investigation of homogeneous Latin and Byzantine chants reveals that the signs which appear within series of neumes in these chants indicate very similar melismas.

Documentation for this observation is offered by the neumatic notation in examples 464-467. They are taken from a tractus and two stichera. It can easily be recognized that the ten and/or thirteen tone melisma, that is recorded in Middle Byzantine neumes in examples 466-467 is only an embellished version of the nine-tone Latin cadencial melisma in examples 464-465 as it is transcribed from diastematic sources in the Editio Vaticana.

If one then compares the adiastrumatic Latin and Paleo-Byzantine melodic phrases, it becomes immediately clear that the kataba-tromikon designates exactly the same figure as the first of the two “connected” climaci in the version of the Codex Barcelona 895 (notation of Novalesa). St. Gall sources indicate at corresponding places two “resolved” climaci with virgae distinguished by episems.

If these neumatic passages offer striking proof of the semasiological equivalence of the kataba-tromikon and the “connected” climacus, then it certainly is not surprising if one comes to the conclusion that ligatures which substitute other neumes for these signs have the same meaning. The ligature of kataba-tromikon and oxeia corresponds therefore to the “connected” climacus resupinus. Likewise the ligature of kataba-tromikon and kondeuma must be the equivalent of the ligature of “connected” climacus and flexa.

The examples 468-471 illustrate that the ligature of kataba-tromikon and oxeia and the climacus resupinus sometimes designate the same tonal figures. Example 471 is instructive because the Middle Byzantine transcription of the

150 Cf. the list of neumes in Suñol, *Introduction*, 198 and 320.

ligature of kataba-tromikon and oxeia reveals that the first and last tones of the figure are long. A similar ratio can probably also be assumed for the climacus resupinus – at least in example 470.

In conclusion reference should be made to the examples 472-475, which illustrate the correspondence between the ligature of climacus and flexa (notation of Novalesa) and the ligature of kataba-tromikon and kondeuma.

Chapter V: Byzantine Parellels to the Latin Ornamental Neumes

1. Introduction

THE LOSS OF THE ORNAMENTAL NEUMES

If one is somewhat aware of the extremely problematic nature of all questions connected with the Latin “ornamental neumes”, then one would first tend to regard any attempt to further the research in this area as destined for failure. The ornamental neumes have long been considered to be the mysterious signs of the Latin chant notation. Scientifically valid knowledge about these *semata* is astonishingly limited, their original meanings assumed to be lost or unclear. No other area of neumatic research, except perhaps the controversy surrounding questions of chant rhythm, has been burdened with so many hypotheses as the subject of Latin ornamental neumes.

The main reason for this situation lies in the deeply rooted changes that neumatic notation underwent in the course of the time. While the older manuscripts of the 10th and 11th century, especially the St. Gall sources, are unusually rich in ornamental neumes, it is clear that these signs were already so circumscribed in the oldest French, English and Italian sources on lines of the 12th, 13th and 14th centuries that they were either suppressed and/or replaced with more usual signs. Therefore reliable information about the original meanings and performance of expressions such as *voces tremulae*, *vinnolae*, *collisibiles* or *secabiles*, as the ornamental neumes were described in early testimonies and writings, is obtainable only to a limited degree.¹⁵¹

Thus the *quilisma* and the *oriscus* were as a rule either rewritten with usual notes or simply omitted. In place of the *pes quassus*, the scribes wrote a simple *pes* or three notes of which the first two stood at the same pitch levels. The three-tone *salicus* was replaced by the *scandicus*, the two-step *salicus* became a *podatus* or even a *bistropha* or *tristropha*. The *gutturalis* (also known also as a *virga strata* or *franculus*) was converted into a *pes*, *bistropha* or some more usual

151 These expressions are to be found in the report of Ademar of Engoulême (born circa 988), which is very informative about the reception of Roman chant by the Franks, *Historiarum libri III*, lib. II. This is the wording of the relevant passage: *Correcti sunt ergo antiphonarii Francorum, quos unusquisque pro arbitrio suo viciaverat vel addens vel minuens; et omnes Franciae cantores didicerunt notam Romanam, quam nunc vocant notam Franciscam, excepto quod tremulas vel vinnolas sive collisibiles vel secabiles voces in cantu non poterant perfecte exprimere Franci, naturali voce barbarica frangentes in gutture voces potius quam exprimentes* (Monumenta Germaniae historica, Scriptores IV, Hannover 1841, 118). The expression *vinnola vox* is explained by Isidor (*Etymologiae sive origines* III, 19) as follows: *Vinnolata vox est lenis et mollis atque flexibilis, et vinnolata dicta a vinno, hoc est cincinno molliter flexo.*

note. In place of the pressus the scribes substituted the bistropha flexa, the tri-stropha flexa or the clivis.

The ornamental neumes remained in use the longest in the German lined notation from the 12th until the 14th century, in sources therefore, that have been shown to be especially faithful to tradition. Yet even these sources do not reveal the original manner of execution for the “ornamental signs”.

PREVIOUS INTERPRETATIONS OF THE ORNAMENTAL NEUMES

The loss of the ornamental neumes, the fact that they were eliminated in lined notation or were transformed into usual notes, is a strange phenomenon that poses numerous questions and has given rise to various explanations.

Thus P. Wagner, in the course of his discussion of the “Hakenneumen”, proposed two explanations, which might not contradict each other yet do not exactly correspond. His theory that the ornamental notes were left out in part, because they were not considered to be essential components¹⁵² of the melody, points one in quite a different direction than the supposition, they had been eliminated or circumscribed because they indicated “*fluctuating tonal relationships*”, chromatic variations or even rhythmic subtleties, that could not or could only with difficulty be indicated with the system of lined notation.¹⁵³

The second interpretation originated in Wagner’s favorite idea of the existence of smaller, non-diatonic tonal intervals in the older chant practice – an idea that was closely linked to Wagner’s classification of the Latin neumes.¹⁵⁴ The distinction between a family of the accent and point neumes and a family of “*Hakenneumen*” was namely based on the conception that the second group of neumes – in contrast to the first – indicated neither the direction of the melody nor another given pitch, but rather denoted nondiatonic steps and “*lithesome ornamental figures*”. Accordingly the strophici, the salicus and the trigon signified small intervals that did not exceed the half tone. But since such intervals could not be accommodated within a scale system tailored by theorists of 9th century to diatonic ratios, a “*battle*” broke out according to Wagner with the transmitted version of the liturgical chants, a battle that lasted two centuries and ended with the acceptance of the system of lined notation. This system was based on the diatonic scale and did not have the means, “*to indicate the subtleties of the original tonality*”. Esthetically and historically the loss of these shadings was a necessity – “*then therewith Latin Church music was freed from*

152 Cf. EGM II, 122f. and page 141 with respect to the oriscus.

153 Cf. idem, page 145 with respect to the salicus and with the pes quassus on page 151.

154 Cf. the article „Die Diatonisierung des gregorianischen Gesanges durch das Linien-system” *Rassegna Gregoriana* III (1904): col. 245-254 (including the citation) as well as EGM II, 162-164, 292-299.

certain oriental superfluities and was assimilated into the art of the Latin West. This process was characteristic of the history of all forms which the West borrows from the Orient – the Latins remodeled the borrowed forms and thus secured its own future”.

It would seem that P. Coelestin Vivell was stimulated by Wagners idea’s in developing his own conception of the ornamental neumes. His theory about “*the enharmonic and chromatic ornamental forms of Antique and Gregorian melody*”¹⁵⁵ in any case is based on a rationale very similar to Wagner’s. In Vivell’s view the Christian religious service of Greek antiquity borrowed not only the “*worthiest*” cult songs but also the quarter tones of the enharmonic series and the half tones of the chromatic scale. In the West these “*ornamental tones*” encountered to all appearances “*no difficulties from the side of the church authorities*”. In the East however these nondiatonic ornamental tones were rejected, according to the testimony of the Clemens of Alexandria, “*because of their unnerving softness*”.

Vivell found support for his concept of these “*ornamental tones*” above all in a passage in the *Alia musica* on the Latin ornamental neumes. He was of the opinion that numerous neumes, above all those that are designated by the theorists with the name *tremula*, originally represented chromatic and enharmonic values. “*Because of their difficult execution and unnerving effects*” these ornamental tones began, even in this early period, to be converted into “*the diatonic tonality*” – and in such a way that they acquired “*the effect of stretched out voice vibrations on the listener*”. In this way Vivell interpreted Aurelian’s and Berno’s explanations about the repercussive effects of the distropha and tristropha. The same reasoning was also applied to the quilisma, the synkope, the pes quassus and the salicus, which retained a tremolo manner of execution as a relic of older enharmonic and chromatic ornamental tones.

Dom Antoine Dechevrens¹⁵⁶ interpreted the ornamental neumes from another standpoint. He explained the loss of the signs with the thesis that the execution of the ornamental neumes had been left from time immemorial to the discretion of the singers. It rested with them as to whether or not a chant was to be sung with or without ornamentation. He found support for this view in the observation that even in the best manuscripts the same melodies are noted with ornamental signs as well as with more usual signs. Generally the ornamentation was not subject to strict regulation. For this reason the same neumes were interpreted in different manners. They were simplified and were more or less suppressed depending on the place or time period.

155 *Gregorius-Blatt, Organ für katholische Kirchenmusik* 38. (1913): 4-8 and 19-22.

156 “Des ornements du chant grégorien” *SIMG* XIV (1912/13): 279-349, esp. 280, 344f.

Dechevrens' ideas formed the basis of Dom Lucien Jeannin's interpretation.¹⁵⁷ With the assumption of an optional execution of the ornamentation Jeannin believed that he could explain why in one and the same manuscript the same figure could frequently be written in one passage with a ornamental neume or in other place with more usual notes.

Irrespective of which of these interpretations one might prefer, it does not change the fact that undoubtedly the original wealth of ornamentation available in the older hymn practice and the different manner of presentation in the late Middle Ages probably must be seen within the context of the technical development of notation. The distribution of square notation brought about a simplification everywhere in the Western Church and a leveling of the manner or execution. It had to do with a process that apparently went hand in hand with the renunciation of the liquescents and with the leveling of the original rhythmic differentiation of the Gregorian chants. This development was interpreted, as is well known, by the school of Solesmes¹⁵⁸ as a lamentable destructive development – a decadence that led in the end to the loss of the original beauty and perfection of the art of Gregorian chant.

METHODICAL CONSIDERATIONS

Our introductory remarks should have sufficed to make it clear that we must abandon any hope of uncovering the original meaning and manner of execution of the ornamental neumes by exclusively relying on manuscripts with lined notation. Thereby the question has to be raised at the same time about the methods which can be called upon to assist with this investigation.

It is true that many theorists occasionally offer various explanations. They are however mostly so general that one can hardly gain an insight into the meaning of the figures. Furthermore not all the *semata* are commented upon. Explanations for the *oriscus* and *salicus* for example are missing entirely.

The investigation of the “equivalences” has proved to be far more productive — that is the study of “exchanged” signs in corresponding neumatic passages — a procedure that has withstood the test of time. On the basis of these analyses Mocquereau and Dechevrens were able to obtain many important results. Yet limits have to be set even on this procedure. One cannot expect to be able to reconstruct the original method of ornamentation by this method.

Even Dechevrens seemed to be aware of this when he set his sights on a study of the graphic forms of the ornamental neumes. His investigations were based on the expectation that the forms of the neumes could be interpreted as symbols for their ornamental movement. Proceeding from the hypothesis that

157 *Mémoires liturgiques syriennes et chaldéennes*, Band I, (Paris, n.d. [1925]): 211; *Études sur le rythme grégorien* (Lyon, 1926): 95.

158 Cf. Mocquereau, NMG, 393.

the creators of neumatic notation gave every ornamental neume a shape that could be related to the vocal effect that it designated, Dechevrens tried to read the signification of the figures from their graphic forms – an imaginative idea yet unvalid as a procedure as it far exceeded the boundaries of scientifically provable evidence.

Nevertheless we should emphasize that Dechevrens was led by the correct instinct, because some of his proposals for the transcription of the ornamental neumes did not fall far from the mark. His investigations deliberately concentrated on St. Gall manuscripts because its notation (the *notation romanienne*, as he called it) – in his opinion – was the only one which seemed to have been conceived and notated in accordance with the idea of the graphic forms as symbols of vocal effects.

One last way to extract a semasiological clarification of the Latin ornamental neumes would be to attempt to obtain criteria from the study of the Byzantine ornamental signs. Such a procedure naturally has to be based on whether or not a relationship between the *semata* can be proven. This proof can indeed be provided and it can be demonstrated as well that comparative investigations open an unexpected window into the examination of the semasiological explanations of the Latin ornamental neumes.

The reasons why this procedure could not previously be carried out have already been outlined. Only Dechevrens – under the influence of Thibaut – assumed that most Latin ornamental neumes had their origins and parallels in oriental music, especially in the Constantinopolitan notation. However neither Thibaut nor Dechevrens were able to furnish a proof for this hypothesis.

It remains to be mentioned that Dechevrens had a very broad conception of the ornamental neumes (*signes d'ornements*) which encompassed both the *strophici* and the *liquescents* as well as ornamental signs in a narrower sense. His classification of the *Ornements grégoriens* therefore comprised three classes of signs, the *notae liquescentes*, the *notae repercussae* and the *notae volubiles*.

We already explained why we include the *strophici* in the class of the principal neumes. In our investigation we will examine the ornamental neumes in the narrower sense, i.e. – in Dechevrens' terminology – the *notae volubiles*. These are the neumes which Dechevrens apostrophized as “*l'ornement par excellence du chant grégorien*”.

2. Quilisma (Tremula), Tromikon and Antrichisma

*Quilisma dicitur curvatio, et continet notulas
tres vel plures quandoque ascendens, et iterum
descendens, quandoque e contrario*

Johannes de Muris

Summa musicae, cap. VI.

Forms

Quilisma ascendens and Anatrachisma 

Quilisma descendens and Tromikon I (Katabasma) 

THE PREVIOUS INTERPRETATIONS AND DERIVATIONS OF THE QUILISMA

As paradoxically as it might sound researchers are in agreement with respect to the quilisma on only one point, namely the Greek origin of the name. On the other hand, the question of the musical meaning of the sign remains very much in dispute up to the present. At least four main theories have been proposed which sharply contradict each other: the quilisma has been interpreted as an “ornamental sign” (trill, tremolo, mordent, turn or gruppetto), then as a gliding tone (glissando, portamento), then as a special performance neume signifying a “throat and nasally compressed tone”, and finally as a light transitional tone. The most important of these views have been already assembled by Franz Tack¹⁵⁹ and more recently and completely by Walter Wiesli¹⁶⁰ so that we can forgo a research report at this point.¹⁶¹

First of all we should briefly summarize the various paleographical derivations of the sign. They are as different as can only be possible. Dom Ferretti¹⁶² regarded the quilisma as one of the five basic signs (*neumes radicaux*). P.

159 *Der gregorianische Choral*, Das Musikwerk (Cologne, 1960): 9f.

160 *Das Quilisma im Codex 359 der Stiftsbibliothek St. Gallen* (Immensee, 1966): 1-19.

161 As an addition of Wiesli's bibliography it should be mentioned that E. de Coussemaker (*Histoire de l'harmonie au moyen âge*, Paris 1852, 180) was probably the first researcher who interpreted the quilisma as a trill. Dom. L. Lambillotte (*Antiphonaire*, op. cit., 205-207) interpreted it as a vibrato; Dom A. Dechevrens (SIMG XIV, 339-343) transcribed it as a mordent or as a four-note slide. O. Fleischer (*Die germanischen Neumen*, 57f.) concluded that it was “ein hochtöniges, steigendes Zeichen wie der Podatus, nur daß sich die Stimme eine längere Zeit auf dem Hochtone tremulierend aufhält, ehe sie zum Überhochton aufsteigt”.

162 Pal Mus XII, 67.

Wagner¹⁶³ classified them on the other hand with the family of that “Hakenneumen” and derived the sign thereby from the apostropha. Luigi Agustoni¹⁶⁴ – together with other researchers – believed the derivation of the sign from the punctus interrogativus, the question mark of the Carolingian script, to be “very probable”. E. Jammers¹⁶⁵ connected the sign to the antique diastole (separatio). Finally Dom Mocquereau¹⁶⁶ dispensed with any derivation and simply called the quilisma a “*mysterious sign*”.

QUILISMA AND KYLISMA

Mocquereau’s opinion is shared today by several other researchers. The theories cited above, that are based almost exclusively only on hypotheses, have hardly contributed to a semasiological clarification of the quilisma. Also repeated comparisons of the quilisma with the Byzantine kylisma have not until now led to any satisfying results. The expectation that information about the function and the manner of execution of the quilisma could be won by this method, proved to be fallacious. This is not surprising if one is aware of the profound differences that exist between the neumes quilisma and kylisma.

One has to consider the fact that the forms of the two signs do not have the faintest resemblance to one another. They are so different that, even if one considers that the forms of the neumes change in the course of the time particularly as a result of the distribution in diverse zones, the supposition of a descent from a common original neume appears to be entirely out of the question.¹⁶⁷

If one analyses then the Middle Byzantine kylisma, its functions among the interval signs as a great hypostase that designates a figure of several tones (six or seven), while the quilisma indicates essentially only a single tone – a fact that even Dom Mocquereau was aware of.

The situation hardly improves if one takes the Coislin kylisma into consideration. Every attempt to clarify the question through a direct comparison between the signs quilisma and kylisma appears to be doomed to failure. Only by bringing a third neume into the picture, the Chartres anatrachisma, does a

163 EGM II, 124, 148-152.

164 *Gregorianischer Choral* (Freiburg, 1963): 132f.

165 *Tafeln zur Neumenschrift*, op. cit., 39f.

166 NMG, 165f., 412-426; cf. as well Mocquereau’s article “La tradition rythmique grégorienne à propos du “quilisma” in : *Rassegna Gregoriana* V (1906): col. 225-252.

167 Thibaut’s (*Origine byzantine*, 71 and 77) parallel comparisons of the neumes are based on the erroneous paleographical conception of the Byzantine kylisma as a sign of two curves. The Coislin kylisma however is, as has been demonstrated, a descendant of the Chartres lygisma and/or tinagma and differs therefore fundamentally from the quilisma of two curves. But apart from that, the supposedly synonymous signs quilisma and kylisma do not resemble each other.

possible connection make itself visible. The Chartres anatríchisma is the tertium comparationis.

RELATIONSHIP BETWEEN THE QUILISMA ASCENDENS AND THE ANATRICHISMA EQUIVALENCE OF FORMS AND THE SEMASIOLOGICAL EQUIVALENCE

Our comparative investigations led to the result that the quilisma ascendens and the Chartres anatríchisma could be shown to be equivalent with respect to the form and the same with respect to the meaning. The relationship existing between the two neumes is not merely relative, but rather the signs appear to be perfectly identical.

Let's observe first of all the forms of the signs. If one sets the St. Gall quilisma beside the anatríchisma, the amazing resemblance of the forms cannot be ignored. Of an absolute equivalence, one will not be able to speak however. The anatríchisma shows namely as a rule four or five curves, the St. Gall quilisma on the other hand only three. Moreover the anatríchisma is drawn obliquely with an upwards striving shape, while the St. Gall quilisma exhibits a slight barely perceptible inclination.

These differences disappear however if one compares the anatríchisma to the quilisma form that is met in the oldest Mozarabic, English, North French, Beneventan, as well as German manuscripts (including the above mentioned Leipzig codex).¹⁶⁸ Here the graphic equivalence is perfectly clear.

If we compare now the results of our semasiological investigations of the anatríchisma to the results of the youngest quilisma research, we are at once confronted with some remarkable analogies. In chapter X of the UNkI we dealt with ligatures of the anatríchisma with the ouranisma. Our analysis showed that the anatríchisma functioned in this combination as an embellishment of the thematismos figure, primarily as the embellishment of the leap of a third with passing notes. By adding the anatríchisma, the "head" of the thematismos figure *fgb (ag)* was changed into a diatonic four tone series *fgab (ag)* (cf. UNkI examples 243-245 and 309-312).

But the St. Gall quilisma also has already been interpreted by Dom Mocquereau and more recently by Wiesli¹⁶⁹ as "*a light passing note*". According to Wiesli, the sign can be compared with the salicus and fulfilled "*a function appropriate to its nature of striving toward the following note. This note is the musical goal of the entire quilisma group, which the quilisma indicates and leads up to*".

168 See the quilisma graphic arrangements in the codices LZ in examples 452, 484, 541, BD in examples 448, 472, 474, MP in examples 476-478, 501, 513, 543.

169 op. cit., 316-329.

If we consider that the quilisma (ascendens) is met in climbing tone series, furthermore that the tones it outlines usually stand at the interval of a third (rarely a fourth), then the close relation between anatríchisma and quilisma is clear.

DOCUMENTATION FOR THE QUILISMA ASCENDENS AND ANATRICHISMA IN PARALLEL LATIN AND BYZANTINE FIGURES

Once we have recognized the close semasiological relationship between the two signs in the above examples, it is necessary to provide stringent proof of the equivalence of the two signs using the comparative method.

First we must mention that we were able to discover Latin parallels for all figures that designate the Chartres anatríchisma standing alone. It can be demonstrated that figures recur in Latin chants that are absolutely the same as our Byzantine anatríchisma figures. It is astonishing thereby that the “characteristic” neume of the relevant Latin figures is the quilisma.

This equivalence should be accorded all due emphasis. Not only has it been proven that parallel Byzantine and Latin figures have exactly the same series of tones, but also that the “characteristic” neumes, which set up the figures are the same: the quilisma in the Latin neumatic sources, the Chartres anatríchisma in the Byzantine sources. In all parallel cases, we are dealing graphically and semasiologically with the same signs. Only the names with which they are designated in the Latin and Byzantine tables of neumes are different.

This can be demonstrated first of all with examples 476-478. In all three cases the codex Montpellier has a six tone figure with the quilisma as a characteristic neume. The graphic arrangement consists of a small angular podatus, quilisma + pes and quilisma descendens (about this cf. further below). The tone letters *ghikih* under the neumes represent the tone series *gabcha*. The small curved strokes over the letter *i* designate in addition the quilisma-like tones. The Editio Vaticana evidently followed the version of the codex Montpellier – except for a variant in example 477 over *Pa(tris)*.

The St. Gall notation of the codices SG, EN and BG agree with the Montpellier codex only in example 478 where they record our figure with the quilisma praebipuncte¹⁷⁰ and the pes subbipunctis. In example 476-477 on the other hand the manuscripts apparently indicate a five tone figure. The graphic arrangement of virga with *equaliter* and quilisma + pes subbipunctis in example 476 should probably be transcribed with *abcba*.

170 The designations quilisma praepuncte, praebipuncte, praetriipuncte, praediatessere (sic) etc. are to be found in the Tabula prolixior (cf. the table in the codex Wolfenbüttel), yet they are not exactly correct because the added “puncta” could also be tractuli.

Our six tone quilisma figure appears as well in the Middle Byzantine version of the example 479, here embellished with two tones: *gab c (ac) ba*. At the corresponding place, our Chartres sources L2 and L3 write the conjunction of dipole and anatrachisma, that indicates either the six or the eight tone figure. The anatrachisma figure proves therefore to be identical to the quilisma figure.

From the comparison of the neumatic passages a further important observation can be won: the Chartres presentation of our figure appears to be more “archaic” than the corresponding Latin figure. The Chartres graphic arrangement shows merely two signs, namely dipole and anatrachisma; the French graphic arrangement of the codex MP consists on the other hand of three elements and the St. Gall arrangement in example 478 even of five.

Let's now turn to example 480. Here a *second quilisma figure* is presented that is frequently met above all in the responsories of the “second” mode (= plagios protos). The nine tone figure gradually “rolls” sinus-like up and down twice from *d* to *f*- *defe defed* .

The St. Gall graphic arrangement of our figure consists of the tractulus and two ligatures of quilisma and pes subbipunctis. A similar graphic arrangement can also be found in Metz and Breton sources. They attract however special interest because of the peculiar nature of their quilisma signs. They do not show any resemblance with the form of the St. Gall quilisma. The codex Chartres 47 introduces the oriscus-sema in order to indicate the quilisma. The Breton notation does not possess a special quilisma symbol. The quilisma sign of the codex Laon 239 then can be interpreted as a ligature of oriscus and virga.¹⁷¹ Note that the quilisma symbol designates two tones.

Let's turn again to our nine tone figure. It is surprising that we find it in the Middle Byzantine versions in examples 481-482 almost tone for tone again. The deviations are minimal: in example 481 the first tone is missing, in example 482 the second. Otherwise the Byzantine tone series totally agrees with the Latin.

Of greater import however is the semiographical agreement: the Chartres neumatic notation of codex L3 indicates the figure with the conjunction of theta and petaste and with the anatrachisma that is perfectly equivalent to the two Latin quilismata. Also here it becomes clear through a comparison of the neumatic notation that the Chartres source is substantially more archaic than the Latin.

Finally examples 484-486 show a *third quilisma figure* that is very frequently to be found in melismatic chants of the “first”, “second” and “sixth” mode (= protos, plagios protos and plagios tritos) at the end of a colon or right at the end

171 Cf. Pal Mus X, 199f.; XI, 108-116; XII, 85/1; as well as Wiesli, op. cit., 52-58.

of a chant. It comprises five or six tones, namely *fdefd* and/or *fedefd*, of which the three last tones are always recorded with a graphic arrangement including the quilisma in St. Gall sources, namely the ligature of quilisma and torculus with episem. The Metz and Breton graphic arrangements consist of a two-step quilisma with a punctum and/or tractulus underneath. Montpellier has in example 485 the simple torculus, but the “significant” letter *e* with the quilisma has been appended to it as an additional sign.

Decorated with an additional tone this third quilisma figure occurs again in the Middle Byzantine version in the example 487, here transposed into the upper fifth as *cbab cba*. The Chartres version of codex L shows at the corresponding place the ligature of kratema and theta as well as the anastrichisma, that has the same meaning as the Latin quilisma. Also here the Latin record of the figure is more “analytic” than the Byzantine Chartres graphic arrangement.

QUILISMA DESCENDENS AND TROMIKON (KATABASMA)

At the beginning of this section, we have drawn a sign under the name “quilisma descendens” – a snake-shaped three notched sema. In its obliquely lying shape, it can very frequently be found in the codex Montpellier where it generally follows the virga, the podatus, the clivis, the torculus, the quilisma ascendens or the oriscus. The tone letters assigned to it indicate that it usually consists of two, more rarely three tones. If one compares it to the sign in St. Gall neumatic manuscripts, two or three puncta appear at the corresponding places as components of the climacus (examples 476-478, 485, 490, 501, 523, 654 and 656).

In spite of this “equivalence” our sign does not represent a special form of the climacus as one would like to suppose, but rather it should be addressed as a quilisma descendens. This is indicated by the alphabetical notation. Both Raillard and P. Wagner¹⁷² have drawn attention to the fact that one of the two or three signs accompanying the tone letters is regularly embellished with a quilisma-like additional sign which the codex also notates without exception with the quilisma ascendens.

Our snake-shaped sign is found extremely frequently in sources which represent the notation of Novalesa, particularly in codex Bodleianus Douce 222 and in the fragments Barcelona, Bibliothèque la Généralité 895: Here it appears not only in conjunctions, as after the virga, the clivis and the quilisma ascendens/torculus, but also in ligatures with the virga (“connected” climacus) or with the quilisma ascendens, as the examples 488-489 demonstrate.

172 EGM II, 150.

The worm-like sema is however extremely rare in the codex Laon 239. Nevertheless the appearance of the sign on page 12/line 11 (cf. example 656) deserves special attention, because first of all the sema is drawn here in an "upright" position (exactly like the Coislin katabasma), and secondly because it fulfills here a stenographic function. It stands next to the conjunction of a four tone climacus that consists of two signs resembling "fly feet" and two usual puncta. Written as an additional stenographic symbol, it indicates a descending climacus-figure.

Whether our sema in the above named sources from Novalesa and in the codex of Laon serves only as the indication of certain climacus-figures or whether or not it also indicates a quilisma-like manner of presentation similar to that prescribed in the codex Montpellier, can hardly be determined with certainty. In any case it is certain that it represents the Latin analogue of the Chartres tromikon and/or the Coislin katabasma. Both neumes are not only semiographically the same, but they are also semasiologically equivalent.

CLARIFICATION OF THE TERMINOLOGICAL CONFUSION

Our investigation has furnished the proof of the equivalence of the quilisma ascendens and anastrichisma, likewise of the quilisma descendens and tromikon. Quilisma and kylisma are on the other hand different signs. Here, we must anticipate a further result of our research, the proof namely that the West received the quilismata directly from Byzantium (cf. chap. X).

Terminological objections might be raised however against this evidence. If the quilisma is not the kylisma, how did it receive this name, and why was the term anatrachisma not borrowed or translated?

To this we must note first of all that the quilisma ascendens is indicated with just the name *quilisma* in all traditional German lists of neumes such as the Tabula brevis and the Tabula prolixior. In Middle Latin treatises the sign is also cited, but with the names *tremula* and *gradata* (cf. further below). It can be taken as certain that the expression *tremula* is the older label of the neume. It was already used by Aurelian.¹⁷³

Tremula would seem to be the Latin translation of the Greek term *tromikon* ("trembling"), the name of the sign therefore, that has been proven to be the equivalent of the quilisma descendens. We should remember that the term tromikon already occurs in the list of neumes of the codex Lavra Γ. 67 and also take into consideration that the expression *tremulikon* is used as a synonym for tromikon in the treatise of the codex 332 of the Patriarchal Library in

173 Gerbert I, 44b and 47a. Aurelian's statement is discussed by Wagner EGM II, 1 49, Dom Mocquereau, *Rassegna Gregoriana* V (1906): col. 249 and Jeannin, *Mémoires liturgiques*, 211.

Jerusalem.¹⁷⁴ The Latin expression *tremula* and the Greek words *tremulikon* and *tromikon* have exactly the same meaning.¹⁷⁵ But also the expressions *tremula* and *anatrichisma* ("shudder") are semasiologically very close.

The common term *tremula* consequently appears to be the translation of the Greek expressions *anatrichisma* and *tromikon* (*tremulikon*).

As for the question of the double names *tremula/quilisma* two hypotheses offer themselves as an explanation. We can either suppose that the term *quilisma* was already in use in the 9th century beside Aurelian's term *tremula* (although it was not recorded in surviving manuscripts) or the expression *quilisma* is a late added label that succeeded in prevailing and in the end displaced the original expression.

This would explain why the name *quilisma* was assigned to another neume than the Byzantine term *kylisma*. In order to investigate this problem we must take another look at the examples 480-482. If our nine tone *quilisma* figure is indicated in example 480 with two *quilismata* as characteristic neumes and if it appears in the Chartres version of the examples 481-482 with the conjunction of theta and dipole and with the *anatrichisma*, then it can be said to turn up again note for note in the Middle Byzantine version of the example 483. It is very instructive to see that the codices Grottaferrata Δ. α. 14 and Vatopedi 1488, two of our oldest sticheraria (notational stage Coislin IV and V), notate the figure with a theta-group and with the *kylisma*. Also in examples 481 and 482, the codex Patmos 218 (notational stage Coislin VI) does not indicate the *anatrichisma*-figure (= *quilisma*) with the *anatrichisma* sign (as Chartres codex L3) but rather with a theta group and with the *kylisma*.

The same figure is indicated in the Chartres version of the examples 481-482 with the theta and *anatrichisma*; in the Coislin versions it is indicated in examples 481-483 on the other hand with a theta group and the *kylisma*. From this one can conclude that our figure was sometimes called *anatrichisma* and at other times *kylisma*.

Thereby is clarified why the Latin equivalent for the Greek *anatrichisma* ended up being designated with the name *quilisma*.

174 Cf. Tardo, *Melurgia*, 195/6.

175 A neume with the name *hemargon tremulikon* appears in several Late Byzantine treatises such as the codex Lavra 1656 (Tardo, *Melurgia*, 22) and the codex graecus 147 of the library of the Romanian Academy (cf. Petresco, *Les idiomèles et le canon de l'office de Noël*, Paris 1932, 54f.) among the aphona. The table of neumes in Parisinus 261, fol. 139v/line 9, includes a barely legible name *hemargon* or *hemiargon* (?) accompanied with the graphic arrangement of the xeron klasma (cf. UNKIII, facsimile no. 2).

CONCLUSIONS

1. The name quilisma, we can now infer, did not originally refer to the sign itself, but rather to the "rolling" figure that it indicated together with other neumes. At this point we should note that a similar process also applies to other Latin *nomina notarum*. In the same vein we have demonstrated in chapter XXIII of UNkII that a similar phenomenon occurs as well in the field of the Byzantine onomatology of the neumes. If different Byzantine signs are cited in the tables respectively under the same name, then a semasiological analysis reveals that the synonyms are not based upon confusions, but rather that heterogeneous *semata* that designate the same figure could be called by the same name (cf. chapter X).

This conclusion is of fundamental importance for understanding the monophonic music of the Middle Ages. It offers an insight into the perception that Gregorian chant – as well as Byzantine and Old Slavic Church music – was based on a strictly regulated schooling in the execution of the figures and formulas. The interest of the singers was primarily these principles involving the figures and formulas and only secondarily their “representation”, the semiology. If one understands this *modus operandi* then many of the supposedly confused explanations in theoretical treatises on the Latin neumes can be clarified (cf. further on this below).

2. A comparison of corresponding quilisma and anatrachisma graphic arrangements makes it clear that latter are more "archaic", that is, they belong to an older semiographical stage of development. While the anatrachismata in examples 479 and 481-483 represent shorthand symbols indicating seven to nine tone figures rather than specifying the individual tones, all the tones of the quilismata are in contrast recorded with single signs. This discrepancy in the manner of notation leads us to the assumption that in the oldest (today no longer reachable) stages of Latin semiography the stenographic principle was at work. It is therefore possible that the quilismata figures were originally notated with the simple quilisma sign and that these graphic arrangements were at a later time “expanded” with the addition of *puncta* and/or *tractuli* in order to achieve greater precision.

After comparing a larger number of Byzantine and Latin neumatic passages it becomes clear the quilisma was employed far more frequently than the Chartres anatrachisma. One might be prone to conclude that the West had a greater predilection for the quilismata than the East for the anatrachismata. In order to create a fair basis of comparison however we should add that the East did not use a single label but in addition to the Chartres anatrachismata III, it had at its disposal synonymous signs such as anatrachismata I and II as well as the conjunction of theta and kylisma.

THE QUILISMA DEFINITION OF THE JOHANNES DE MURIS

*Quilisma dicitur curvatio, et continet notulas tres vel plures,
quandoque ascendens et iterum descendens, quandoque e contrario.*¹⁷⁶

According to A. Dechevrens this definition is "*l'explication la plus claire*" of all the explanations given by theorists of the Middle Ages about the quilisma. It would seem to attest that the *vox tremula*, which the other Latin authors perceived as being the essence of the quilisma, was an ornament of several tones such as the three tone mordent or a four tone slide.

Dechevrens consequently assumed that the definition of the Johannes de Muris did not refer to the quilisma figure, but rather to the quilisma sign, or more specifically only to the first component of the sign. As an illustration he cited among other combinations the quilisma praepuncte cum pede. If the diastematic realization of this graphic arrangements indicated for example *efg*, then Dechevrens believed that the middle note was executed as a mordent-like ornament, namely as: *e fefg*.

C'est ainsi du moins que je comprends l'explication de J. des Murs, et il me paraît difficile de lui donner un autre sens; car il s'agit dans son texte, non pas de la neume quilisma tout entière, mais de la note médiane seulement, celle qui est tremblée et qui est proprement l'ornement du quilisma.

Dechevrens' interpretation however is not convincing.¹⁷⁷ Several reasons speak against it.

1. The quilisma semiographically is a neuma composita that usually consists of a simple or double curve and a pes. This ligature is indicated with the name

¹⁷⁶ *Summa musicae*, cap. VI (GerbertS III, 202). Short description of the treatise in H. Riemann, *Geschichte der Musiktheorie im IX.-XIX. Jahrhundert* (Berlin, 1920): 237-241. Riemann considered the *Summa musicae* and the *Speculum musicae* to be the work of Johannes de Muris „Normannus“, on the basis in part of the numerous remarkable Hellenistic terms in both writings. This conclusion is however contrary to Riemann's opinion, that the author of the *Summa* lacked “*the comprehensive learning and erudition displayed by the author of the Speculum*”. In the meantime H. Bessler (*Studien zur Musik des Mittelalters I*, AfMw VII, 1925, 180f.) has succeeded in proving that Jacobus von Liège was the author of *Speculum musicae*. Bessler (*Studien zur Musik des Mittelalters II*, AfMw VIII, 1927, 207, and in his article “Johannes de Muris” in MGG VII, col. 105) defends the opinion that the *Summa musicae* could not have been written by Johannes de Muris. The “*lyrische Redseligkeit*” of the treatise stood “*in schroffem Kontrast zur wissenschaftlichen Präzision des Mathematikers Johannes de Muris*”. The authorship of the *Summa musicae* seems to still be in question. It might be remarked the M. Gerbert edited the treatise from an unknown Paris manuscript which had been sent to St. Blasien (cf. GerbertS III, 189).

¹⁷⁷ SIMG XIV, 339f.

quilisma in all German lists of neumes. If we assume that de Muris actually related the expression quilisma to the sign, then he certainly referred to the *neuma composita*. If the quilisma curve was to be sung as a three tone mordent, then if the pes was included, a four tone figure would result. De Muris says however that the quilisma consists of three or more tones.

2. The statement "*quandoque ascendens et iterum descendens*" implies that the melodic movement first rose than then fell. Such a movement does not correspond however in any way to the ductus of a three tone warble.

3. If one is basically prepared to follow Dechevrens in his interpretation of the quilisma note as an ornament, then it is strange that in the 14th century, in a time namely when ornamentation was generally being abandoned in chant notation, that de Muris could describe the structure of the quilisma ornament with such precision

4. Engelbert of Admont (+ 1331) illustrated the character of the "unison" with the example of the quilisma, that he called a *vox tremula*.¹⁷⁸

Unisonus vero non est aliqua conjunctio vocum, quia non habet arsim et thesim, nec per consequens intervallum vel distantiam, sed est vox tremula, sicut est sonus flatus tubae vel cornu, et designatur in libris per neumam, quae vocatur quilisma.

From these statements we can conclude that the trembling of the voice in a quilisma passage was similar to the vibrato. The *vox tremula* can not be tied to mathematically exactly regulated tone ratios yet the ornament made use of certain fixed intervals, a principle that Dechevrens also understood.

Therefore Dechevrens' interpretation of the quilisma can be said to have been refuted as a definition. The explanation of de Muris can only make sense if one relates it to the *quilisma-figure*. If the figure comprises three tones, then we have the quilisma praepuncte cum pede. If it comprises more tones, then the *podatus* is *subbipunctis* or it is changed into a *torculus*. Some sources supplement the graphic arrangement of quilisma + pes not with two puncta, but rather with the quilisma descendens. This explanation consequently offers an additional confirmation that there was a quilisma descendens as well as the quilisma ascendens. The best illustrations of the quilisma definition are however to be found in the "rolling around" figures compiled in examples 476-478 and 480.

GRADATUS or GRADATA


In the music theoretical writings of the Middle Ages, these terms are given as a third label for the neumes called *tremula/quilisma*. The first theorist who uses

178 GerbertS II, 319v.

the term *gradatus* as a synonym for the two others is Aribo (11th century). In his commentary to the 15th chapter of Guido's *Micrologus* he states: "*Tremula est neuma quam gradatum vel quilisma dicimus...*".¹⁷⁹ Berno of Reichenau (+1048) used the expression *gradata neuma* as a synonym for *quilisma*.¹⁸⁰

Hae antiphonae licet a finali incipient, tamen quia per *quilismata*, quae nos *gradatas neumas* dicimus, magis gutturis, quam chordarum vel alicuius instrumenti officio modulantur, potius huius differentiae sono, quam principali ipsius authentici promantur modo.

The terms *gradatus*, *agradatus* and *gradata* appear in four tables of neumes and more specifically in those four that have been placed to one side of the main line of transmission because of the abundance of unusual names of neumes. The first two are the expanded (interpolated) versions of the *Tabula brevis*: the tables in the codex *Wolfenbüttel Gud. lat. 334 (4641)*¹⁸¹ and the lost codex of the cloister *St. Blasien*.¹⁸² They each list 40 names of neumes. Under *gradatus* or *agradatus*, they indicate the graphic arrangement *tractulus* and/or *punctum* and *quilisma* + *torculus resupinus*. They also contain the *quilisma* that they notate as a ligature of two curves and a *podatus*.

The two other tables that illustrate the in part fanciful names with Langobardic (Beneventan) neumes are to be found in the codex *Montecassino 318 (11th century)*¹⁸³ and in the codex *F. 3. 565 of the Magliabecchiana in Florence (12th century)*¹⁸⁴. The table of *Montecassino* illustrates the *gradata* with this two-part sign: . As an independent neume the first part of this *sema* is occasionally met in Beneventan manuscripts, and generally in an expanded form with several jags. The author of a thorough study of the Beneventan notation in the *Paleographie musicale XV*¹⁸⁵ identified this rising step or stairway-shaped sign as a special form of the *scandicus* and concluded that it indicated a gradually rising progression.¹⁸⁶

179 GerbertS II, 215b = CSM 2, 66.

180 GerbertS II, 80a. Regarding the music theory of Berno von Reichenau cf. H. Oesch, *Berno und Hermann von Reichenau als Musiktheoretiker* (Bern, 1961): 84-116.

181 Published for the first time in our documentation, facsimiles 8-11.


182 Facsimile in M. Gerbert, *De cantu et musica sacra* II (St. Blasien, 1774): Tf. X Nr. 2. Reproduced in F.-J. Fétis, *Historie générale de la musique*, IV (Paris, 1874): 202 and Thibaut, *Origine byzantine*, 84.

183 Cf. above page 33, fn. 58.

184 Cf. Wagner, *EGM* II, 106, 369; *Pal Mus XV*, 113. This source was unavailable to the author.

185 *Pal Mus XV*, 132 and 158.

186 The five step *gradata* appears in *Benevento VI/34*, fol. 96/10 and *Vaticanus lat. 10.673*, page 33/11 in the neumatic notation for the gradual *Tibi Domine* above *pau(per)*. SG

His paleographical interpretation of the sign that appears as a ligature of two inflatiles is on the other hand problematic. (*Inflatilis* is the name that the table of Montecassino gives the sign , one of the eight „fundamental signs“). Also the author of the study seems to have overlooked the fact that the gradata in the table is a two-part sign. Its second part is nothing other as the *muta*, which the table likewise cites under the fundamental signs. If the podatus is actually concealed behind the label *muta*, then one should be able to interpret the gradata in the table as a conjunction of two-step scandicus and podatus.¹⁸⁷

It is quite remarkable that the table connects another term with the two-part gradata, namely the "poetic" expression *sirenimpha in supra facta est sic*. There is no doubt that *sirenimpha* is a "compositum" made up of *siren* and *nymph*.

The above deliberations allow us to come to the following conclusions:

1. The term gradata used as synonymous for quilisma and tremula would seem to be younger than the other two terms. Aribo and Berno speak in any case about gradatus and/or about the gradata as well known familiar neumes which they explain with the expressions tremula and/or quilisma.

2. The term gradatus and/or gradata was understood in Germany in the 11th/12th century to be the quilisma while in Italy it was understood on the other hand to be a special form of the scandicus.


3. The term gradata seems generally to have become a synonym for the quilisma at a time when the quilisma graphic arrangements had already begun to be replaced by scandici.

DEFINITION OF THE TREMULA BY ANONYMUS VATICANUS

If one tries to classify the traditional explanations of the vox tremula and the quilisma in accordance with their meanings and their usefulness, one would certainly immediately draw on the tremula definition of Anonymus Vaticanus as a complement to Aurelians' explanation. It belongs namely among the oldest statements about the tremula and offers moreover the opportunity for the researcher to verify its statement thanks to a cited example.

The anonymous treatise of which we here speak is contained in the codex lat. Palat. 235, fol. 38v-39 (11th century).¹⁸⁸ The treatise, that has become well

page 84/4 has at the corresponding place a scandicus with five slanted tractuli (cf. example 597).

187 This table indicates the quilisma-like two part sign with the name *crodula* as . It is apparently composed of two hooks and a muta. Codex Benevento VI/40 has a quilisma which has a closer resemblance to this sign (cf. specimina in Jammers, *Tafeln zur Neumenschrift*, 96f.).

188 Facsimile in E. M. Bannister, *Monumenti vaticani de paleografia musicale Latina* (Leipzig, 1913): tav. 1a.

known with the name *Quid est cantus ?*, was mentioned first by Dom Mocquereau¹⁸⁹ and then it was published in its entirety by P. Wagner.¹⁹⁰ The definition of the tremula reads: “*Nota, quae dicitur tremula, ex tribus gradibus componitur, id est, ex duabus brevibus et acuto, ut est Ex ore infantium*”. Wagner translated the passage literally as “*Das Zeichen, das Tremula heißt, besteht aus drei Stufen, aus zwei Breves und einem Akut, wie in Ex ore infantium*”. A freer translation would be: “*the tremula (the quilisma) consists of three tones, of which the first two are short, the third a long, as in Ex ore infantium*”.

What is the meaning of this definition? R. Baralli¹⁹¹ wrote in a commentary to the treatise that the Anonymus repeatedly expressed himself cryptically and clarified his statement by citing the introit *Ex ore infantium* of which the first syllable is the three tone group *def* whereby the *e* is transcribed in the Editio Vaticana as a quilisma-like tone. In Baralli’s interpretation, the definition of the Anonymus referred to the quilisma sign, more exactly to the graphic arrangement of a two curved quilisma + podatus. Accordingly the two curves were the *duae breves* of the treatise while the appended podatus was the *acutum*. It is unclear from Baralli’s description how the two tones of the podatus (in our example the tones *ef*) were executed metrically. The treatise does not specify whether they are short or long.

Baralli’s interpretation does not do justice to the sense of the passage. Let us look first of all at several neumatic realizations of the introitus. Einsiedeln 121, pages 41-12 and Bamberg lit. 6, fol. 9v-13 notate the syllable *Ex* with the graphic arrangement of tractulus and quilisma + “epiphonus”. The so-called “epiphonus” represents here the podatus and is placed there because of the liquiscent *x* (Latin grammarians included the consonant *x* among the semivowels). Chartres 47, pages 10/12 has above the *Ex* the conjunction of tractulus and quilisma (oriscus), likewise Yrieix, pages 25/10. The Beneventan fragment from Chieti,¹⁹² fol. recto/line 7 shows a small virga and the ligature of two curved quilisma and podatus. Benevento VI, 34, fol. 26/5 writes a three part angular scandicus.

Which graphic signs are referred to in the statements of the Anonymus? Most likely he refers to a quilisma graphic sign. Most of the older sources have namely a graphic arrangement with quilisma over *Ex*. The Beneventan scandicus graphic arrangements would appear to be of a younger date. If one

189 Pal Mus I, 102/ fn. 1

190 “Un piccolo trattato sul canto ecclesiastico in un manoscritto del secolo X-XI,” *Rassegna Gregoriana* III (1904): col. 481-484; cf. also EGM II, 355-358.

191 “A proposito di un piccolo trattato sul canto ecclesiastico in un manoscritto del sec. X-XI” *Rassegna Gregoriana* IV (1905): col. 59-66.

192 Pal Mus XIV, 251, table XLIV.

considers that the neumes written on the margins of the treatise exhibit Alemannic or German forms, then one would suppose that the Anonymus was thinking of an Alemannic or German graphic arrangement of the quilisma. His tremula is in all probability nothing other than the quilisma.

What does the *tres gradus* of the tremula relate to? Barrali connected the expression to the quilisma sign itself. Also Wagner¹⁹³ seems to have thought similarly. From the standpoint of the older research, this way of thinking is understandable. One related all quilisma definitions to the sema itself, not to the figures that it indicated. Both the results of our comparative paleographical investigations as well as our reading of Muris' definition leave no doubt that the Anonymus, when speaking of the three step of the tremula, was not referring to the quilisma sign itself but rather to the entire quilisma graphic arrangement, i.e. the quilisma praepuncte or specifically the three-tone quilisma figure.¹⁹⁴

NOTA and NEUMA

The *nota tremula* of the Anonymus is consequently also the *neuma (figura) tremula*. It is well known that the expression *neuma* is used in the Middle Latin literature with two meanings, i.e. as a technical term involving the musical figures and as a semiographical term, in other words in the sense of tone-figure and in the sense of tone-sign.¹⁹⁵ Thus some tables have the title *nomina notarum* and others use the expression *nomina neumarum* (s. chap. VIII). But the expression *nota* also seems to have had a technical meaning involving figures in some cases. When Anonymus Vaticanus speaks of the *nota tremula*, it does not mean in any way that he is referring only to the tremula graphic arrangements. In this context one can refer to a “scholia” regarding a central sentence of our treatise: *De accentibus toni oritur nota, quae dicitur neuma*. Over the word *nota*, a later hand has written *figura*. The addition seems to show that the “commentator” was making a reference to the double meaning of the term *neuma*.


193 EGM II, 149f., 382.

194 The statements of the Anonymus are vague and contradictory with respect to the metrical values (that is, if his references are really to be taken in the sense of referring to the metrics). It is well known that P. Wagner placed a great emphasis on this small treatise for his rhythmic interpretation of the neumes and he regarded it as the leading testimony for his view that the rhythm of the neumes was based on two values, that of the brevis and longa. Wagner interpreted the statement of the Anonymus as giving the punctum a short value, and the virga and jacens on the other hand as long values. His interpretation has not remained without contradiction. Cf. Jeannin's reply in *Mémoires liturgiques*, 171-175; G. Gietmann, “Alte Erklärung des Choralrhythmus” *KmJb XIX* (1905): 69-79; E. Jammers, *Der gregorianische Rhythmus*, 20.

195 Cf. Wagner, EGM II, 14-16, 96f and Huglo, *Études grégoriennes I* (1954): 98f.

Modern research on the neumes, at least in as far as it involved the interpretation of the quilisma, has mainly understood the concept of neuma in a semiographical sense. The explanations of the theorist were usually related to the quilisma sign, not on the quilisma figure. As a result some fanciful interpretations have arisen. The theorists however always referred to the tones of the quilisma *figure* when they wrote about a certain number of the tones in the quilisma. The “curves” of the quilisma sign were not being considered.

3. Oriscus and Hyporrhoe

Principal forms: 

(cf. Table 3)

Within the family of the Latin ornamental neumes, the oriscus takes a key position inasmuch as it is a root neume. It forms namely the characteristic component of several neumae compositae whose original meanings remain totally in the dark. Therefore the question about the semasiological interpretation of the oriscus is of great importance. With a clarification of its meaning, one may legitimately expect to win essential information for deciphering these notae compositae. These considerations would seem to justify a detailed treatment of the problems connected with the oriscus.

To a remarkable degree, the previous oriscus research is marked by an abundance of conflicting theories, hypotheses and opinions. There is probably hardly a single aspect where the varying views are in agreement. Both the etymological as well as the paleographical and semasiological questions have up to now eluded a clarification.

THE PREVIOUS ETYMOLOGICAL DERIVATIONS OF THE TERM ORISCUS

We wish to place the opinion of Fleischer that the term oriscus is to be numbered among those names of neumes “*that mock each and every attempt at a derivation*” as a singular expression of the dilemma facing researchers at the

Table 3: Neumes derived from the ekphonic Syrmatike

1. Forms of the Hyporrhoe and the Syrma (Choreuma)




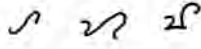
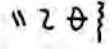
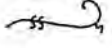



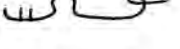


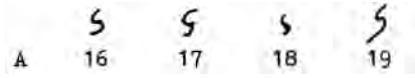
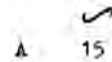
HYPORRHOE (upright S)		Kondakarian, Coislin and Middle Byzantin Notation
SYRMA		
Lying		Coislin Notation
inclined to the left		Coislin Notation
inclined to the right		Kondakarian Notation
FITA ZELNAJA (mirror-like inverted Syrma)		Sematic Notation
SYRMA + SYNAGMA		Chartes Notation
CHOREUMA (Diple + Syrma)		Coislin und late Byzantine Notation
CHOREUMA (lying Syrma)		Kondakarian Notation
CHOREUMA + LYGISMA		Kondakarian Notation
EPEGERMA + CHOREUMA		Kondakarian Notation
EPEGERMA + CHOREUMA + LYGISMA		Kondakarian Notation
SYRMA + KATABA- TROMIKON		Kondakarian Notation

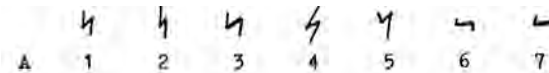
Table 3 continued: Neumes derived from the ekphonic Syrmatike

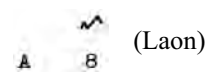
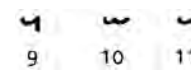
2. Forms of the Oriscus

The terminology of the forms (letters and numbers) is based on Pal Mus XIII, 177.

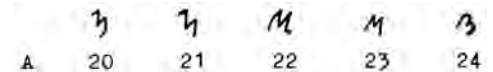
upright, round 
 (German-Alemannian)

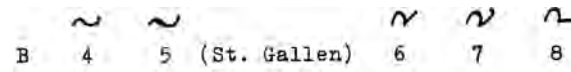
inclined to right, round 

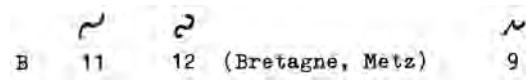
inclined to left, round, stilization 
 (North French)

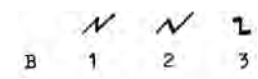
 (Laon)  (Nonantola)

 (Italian)  (French)

M-like 
 (Breton and Aquitanian)

inverted, lying, round 
 (St. Gallen)

inverted, inclined to left, round 
 (Bretagne, Metz)

inverted, inclined to left, angular 

beginning of our survey.¹⁹⁶ The view that the word *oriscus* was borrowed from the Greek is on the other hand generally accepted. Nevertheless there is no agreement about the supposedly Greek etymology of the word. Three hypotheses can be distinguished.

The first is derived from the word from *ὄρος* (mountain) and/or from the diminutive form *ὄρίσκοσ* (hill) and a case was made for this by reference to the graphic form of the sign that was said to resemble a hill. This hypothesis was advanced by Abbé F. Raillard¹⁹⁷ and was adopted by Baralli and Bannister.¹⁹⁸

The second hypothesis derived the word from the verb *ὠραῖζω* (brighten up, decorate, adorn) and/or of the diminutive form *ὠρίσκοσ* (small jewelry) and interpreted the neume as an ornamental sign. Thibaut¹⁹⁹ first suggested this etymology and Dechevrens²⁰⁰ later ascribed to it.

The third hypothesis derived the word from *ὄρος* (boundary, sheath) and/or of *ὀρίζω* (limit) and justified this etymology with the reference to the phenomenon that the *oriscus* usually appears as the final sign of a series of neumes, thus marking to a certain extent a boundary. The explanation was introduced by Dom Mocquereau²⁰¹ and it has been accepted by several researchers.²⁰² Also Wagner²⁰³ seems to consider it to be the most plausible.

Other researchers again did not commit themselves to any specific explanation. Jeannin²⁰⁴ for example found both the first and the second explanations worthy of consideration while Huglo²⁰⁵ only questioned Thibaut's etymology.

THE PREVIOUS INTERPRETATIONS OF THE ORISCUS

Edmond de Coussemaeker, the learned publisher of the Middle Latin theorists, is to all appearances author of the view that the *oriscus* was an ornamental neume. In his *Histoire de l'harmonie au moyen âge*²⁰⁶ he classified the *oriscus* among the “*ornements sémeiologiques*”, interpreting the sign as a “*plique longue descendante*” and equating it with the “*cephalicus*”. The authority of

196 *Die germanischen Neumen*, 51 and 61f.

197 *Explication des neumes ou anciens signes de notation musicale* (Paris, 1859): 51f.

198 *Monumenti vaticani di paleografia musicale latina*, op. cit., XXIII.

199 *Origine byzantine de la notation neumatique de l'église latine*, 75f.

200 SIMG XIV, 294-300.

201 NMG, 158, 163, 387-400.

202 Cf. Dom L. Charpentier in *Revue Grégorienne* 1927, 75; E. Jammers, *Der gregorianische Rhythmus*, 74-76.

203 EGM II, 139-144.

204 *Mélodies liturgiques syriennes et chaldéennes*, 206-213.

205 *Études grégoriennes* I (1954): 64

206 (Paris, 1852), 180

Coussemaker's opinion probably influenced the later oriscus explanations of Dechevrens and P. Wagner (cf. further below).

Also Dom Anselm Schubiger²⁰⁷ perceived the oriscus as an ornamental neume, but at the same time he emphasized the (supposed) relationship of the sign to the apostropha: "*the oriscus, closely related to the apostropha, is a gentle grace note, usually on the tone of the directly preceding note*". This short statement seems to have had a definite influence on the oriscus theory of Dom Mocquereau (cf. further below).

The concept of the oriscus as a distinctly ornamental neume seems however to have first appeared in the interpretation of Georges Houdard.²⁰⁸ He explained the oriscus paleographically as a ligature of the "epiphonus" with the apostropha and consequently interpreted the oriscus as an ornament of three tones, that consisted of a main tone and two neighbouring tones, namely the upper and lower seconds as for example in the series *c db* .

Also Thibaut considers the oriscus to be an ornament or more like a "tiny coiled adornment" ("*un léger motif d'ornementation, une minuscule volute vermiculée*"). As correlatives to the oriscus, Thibaut referred to the ekphonic hypokrisis, the Russian *zmijca* (small snake), the Damascene sign *hyporrhoe* or *skolex* (worm) and the Armenian *Verquach*.

The character of the oriscus as an ornamental neume was challenged on the other hand by Dom Mocquereau's theory. In his interpretation, the oriscus served as an indication of a "light" passing note of normal values, and more specifically as the last and highest tone of a group of neumes. The theory was based specifically on the four following aspects:

1. the oriscus was interpreted as a sign of apposition derived from the apostropha,
2. the oriscus designated a tone, that lies in general higher than the tones around it, or at least is on the same step as the preceding tone,
- 3: the oriscus is very closely connected with the preceding group of neumes and was an integrated component of the group,
4. the sign indicated that the tone or the tones preceding it should be taken at a somewhat quicker pace.

Mocquereau concluded that the oriscus could not be an ornamental neume, because the sign is replaced quite frequently by the virga.

Dechevrens on the other hand again interpreted the oriscus as an ornamental neume. The starting point for his interpretation was a very arbitrary paleographical analysis of the form of the neume. The symbol of the lying oriscus was dissolved into three elements: a hook, a stroke and a "lengthened"

207 *Die Sängerschule St. Gallens vom 8. bis 12. Jahrhundert* (Einsiedeln, 1858): 8.

208 *Le rythme du chant dit grégorien* (Paris, 1898): 103ff.

comma. The stroke was apostrophized as a *virga jacens*. Since Dechevrens generally interpreted “hooks” and the “commas” as indications of liquescence, the oriscus was interpreted as a three tone sign with liquescent functions. The *virga jacens* indicated a main tone, the hook and comma designated on the other hand the liquescent quality, and more specifically – seen from the perspective of the main tone -- the former was the preceding higher tone, the latter the next deeper tone. Consequently he transcribed both liquescents as grace notes.

Dechevrens came to this interpretation of the oriscus thanks to Thibaut’s comments about the relationship of the neume with the Byzantine hyporrhoe. Since Thibaut had recognized the hyporrhoe as a series of two gradually descending seconds and expressed the opinion that the sign appeared generally as a component of a melismatic series of neumes, Dechevrens believed that he could formulate three conclusions with respect to the oriscus:

1. the oriscus was not a “simple sign” (*une note simple*), but rather an ornamental sign; as such it would automatically include several “light” passing tones, consisting, as the hyporrhoe, of at least two tones,
2. the oriscus designated as a rule a gradually falling tone series,
3. the oriscus would appear, although not exclusively, yet very frequently within a series of melismatic neumes.

The prime reason prompting Mocquereau to oppose Dechevrens’ interpretation was that the oriscus did not always appear as the last sign of a group of neumes, but rather it could also be found over a single syllable as a neume standing alone. In that case it could not indicate merely the same or the next higher tone, whether it be the preceding higher note or the next lower.

Wagner’s interpretation shows many similarities to Dechevrens’ view. He began with the observation that the oriscus in sources of the 10th century was quite often replaced by the cephalicus (an “equivalence” that was also recognized by Dechevrens), and it was also related to the liquescent signs. But while Dechevrens declared the oriscus to be a three-tone sign, Wagner considered it to have two tones. Accordingly the oriscus indicated a falling step of two tones, with the first tone short and the second even shorter, because it was liquescent. The oriscus differed however from the cephalicus to the extent that “*the first tone of the cephalicus is a long and the second liquescent tone could indicate not only the second, but also the third, fourth or even the fifth lower tone*”. Wagner also emphasized the relationship of the oriscus to the Byzantine apostrophos, falling thereby into an error which invalidated his interpretation. While the oriscus – in Wagner’s opinion – indicated a descent involving two tones, the apostrophos is actually a falling second (i.e. a single tone).

The oriscus is interpreted again as an ornament of three tones by O. Fleischer. Fleischer's interpretation differs however strongly from Dechevrens' theory. Dechevrens considered the oriscus ornament to be a gradually descending tone series. Fleischer considered the neume to be a mordent with the neighbouring upper note and a "*short movement of the first two tones*". The oriscus was accordingly the opposite of the gutturalis which Fleischer interpreted as a trill on the next lower note.

Also Jeannin's interpretation emphasized the character of the oriscus as an ornamental neume. The oriscus was said to be used as a label for a vocal effect that evoked the trembling of the voice ("*une signe d'effet vocal comportant un certain tremblement de la voix*"). This interpretation was in harmony with Jeannin's view of the relationship or even equivalence of the oriscus with the quilisma – a theory that rested on the following syllogism: the first premise was based on the observation that in certain notations (above all in the notation of codex Chartres 47) the oriscus symbol is used as an indication of the quilisma figure. This use indicated the relationship of the two signs. As a second premise, Jeannin drew on the characterization of the quilisma as a vox tremula in medieval treatises. This observation led to the conclusion that the oriscus was a vox tremula. Consequently Jeannin's transcriptions interpret the oriscus tones as trills.

With respect to this interpretation it needs to be already remarked at this point that it possesses only the value of a hypothesis. Jeannin's observations are based on the supposed close relationship of the oriscus to the quilisma. These two signs, however, are not identical because several neumatic notations keep the two signs apart. It should also be noted that the label vox tremula is not precise enough to form the basis for a reconstruction of a specific "vocal effect" for either the quilisma or the oriscus.

On the other hand we must recognize the value of Jeannin's "derivations" of some of the combined signs with the oriscus. In the Breton and Metz notations, that were first investigated by Dom Ménager²⁰⁹ and which Jeannin considered as his model, the oriscus indeed functions as the "characteristic" component of following signs:

<i>pes quassus</i>	=	oriscus + virga
<i>salicus</i>	=	punctum + oriscus + virga
<i>gutturalis</i>	=	virga + oriscus
<i>pressus minor</i>	=	oriscus + punctum
<i>pressus maior</i>	=	virga + oriscus + punctum

209 Jeannin's derivation is based on the research of Ménager (cf. Pal Mus XI, 69f., 92f., 108f., 127-180).

Independently of his contemporary Jeannin, Ferretti²¹⁰ furnished the proof that the oriscus was a “root neume” on the basis of an analysis of combined signs in the Aquitanian notation. As for the question of the original meaning of the oriscus, Ferretti did not take a position. He limited himself to expanding on Mocquereau’s and Dechevrens’ causistry about the pitch of the oriscus in relation to the neumes surrounding it.

We have already discussed Jammers²¹¹ derivation of the oriscus from the spiritus asper in connection with the question of the classification of the neumes. The following quotation probably contains the key elements of this interpretation:

In music the breath sign has the same task as that assigned to it at the vocal start of a word or of a syllable. After vocal syllables or at the end of a word on the same tone, it marks a new beginning so that this tone is not held onto but that it is again pronounced. Furthermore the sign is used within a melisma on the same tone, so that this tone is not held onto, but a new beginning of the melody or “syllable” is intoned. This happens above all if the syllable is lengthened at the cost of the preceding syllable. The breath sign was then used where the syllable would have begun with the same length of syllable.

At the beginning of these discussions, we established that opinions about the meaning of the oriscus cover a wide range. They will now be summarized as follows: Mocquereau interpreted the neume as a single note sign that indicated a light passing note; Houdard as a three tone ornament consisting of a main tone and two neighbouring tones; Dechevrens as a three tone sign (with liquescent first and third tones); Wagner as an a two tone sign (with a liquescent second tone); Fleischer as a mordent-like ornament with upper neighbouring note; Jeannin as an ornamental neume with the effect of a trill; Jammers as a single tone sign that played a certain role in intonation.

THE NEW ETYMOLOGY: THE WORD ORISCUS AS A LATINIZATION OF THE TERM HYPORRHOE (IPOROI)

With respect to the above mentioned etymological derivations of the term oriscus we have to say that not one of them is probable.

For the first hypothesis, it is true that in some neumatic sources the oriscus sign indeed resembles a hill or a semicircle turned downward. However even Ferretti²¹² correctly noted that this form is neither the usual nor the original. The regular sign is similar to an S or an inverted N. The label “hill” obviously does not apply to this form.

210 Pal Mus XII, 177-186.

211 *Tafeln zur Neumenschrift*, 35f.

212 Pal Mus XIII, 63/3.

Also Mocquereau's derivation is speculative. The objection could be raised against it that the oriscus does not always stand at the end of a colon or a melodic passage, but rather it appears very frequently at the end of a melismatic series of neumes or even alone over single syllables. How can one speak of a boundary in such cases? Which boundary is it supposed to mark? It should be mentioned as well that comparatively long melismatic neumatic series are very frequently concluded with signs that are not related to the oriscus in any way.

But also Thibaut's etymology does not make sense. The word ὠρίσκοϛ (small jewelry) is supposed to be the diminutive form of ὠραῖζω. But a substantive can not be derived from a diminutive form. The expression ὠρίσκοϛ was constructed by Thibaut himself; it can not be found in the linguistic usage of the Byzantine era. It might perhaps be interpreted as a Hellenism but according to what model? It should be noted that the supposed root word ὠραῖζω (brighten up, adorn, decorate) has not been found in any of the Middle Greek musical theoretical treatises. As a terminus technicus indicating the kalophonic procedure, i.e. to adorn a melody with ornamental additions, the Greek used the term καλλωπιζω.²¹³

In addition two things should be considered: if one conceived of the term oriscus as a Hellenism and derived it from ὄρος (boundary) or of ὠραῖζω, then the reading *horiscus* would probably be expected, yet this reading, it seems, does not appear in the tables of neumes.²¹⁴ Moreover we should note that in the Byzantine musical literature there is not a single instance of the existence of a neume with a name that has any relationship to ὄρος, ὄρος or ὠραῖζω.

Our comparative investigations of these Latin and Byzantine neumes led to the result that the oriscus is identical with the Byzantine hyporrhoe both in form and meaning.

Therewith a new etymological explanation emerged. The word formation oriscus evidently represents a Latinization of the Greek term hyporrhoe, a word that was expressed in Byzantine times – as today – as iporoi. To explain this

213 The term can be found for example in codex Sinaiticus graecus 1262, a kontakarion dating from the year 1437 from the cloister Esphigmenu (described in the Habilitationsschrift of the author).

214 The oriscus appears in both versions of the Tabula brevis, but not in the Tabula prolixior. Two singular readings are *orescus* and *arisco*. The first is found in the Toulouse table, the other is mentioned by Johannes Hothby (d. 1487), *La Callioped legale* (cf. Cousse-maker, *Histoire de l'harmonie au moyen âge*, 321f., 324). The reading *horiscus* is supposed to appear in a Vatican manuscript mentioned by Giovanni Battista Doni (1594-1647) in his publication *Progymnastica Musicae* (cf. Fleischer, *Die germanischen Neumen*, 49). There is also the question if a relationship exists between the oriscus and the term *orix* in the expanded versions of the Tabula brevis. In the Wolfenbüttel codex the name orix is accompanied by the torculus resupinus sign, in St. Blasien with a trigon cum virga.

transformation, it should be remarked that in the Byzantine compendiums and tables of neumes both the reading ὑποροή (actually “flow from below”) and the expression ἀποροή (drain, outflow) occur.²¹⁵ The first component of the compound word varies and was therefore perhaps looked upon as insignificant. Corruptions and Latinization of Greek musical terms are incidentally quite frequent in Middle Latin treatises and tables of neumes. One just has to think for example about the texts of the Byzantine intonation formulas²¹⁶ or at the names of the modes (*tetrardus* for tetartos, *plagis* for plagios) and so forth.

If we were then asked about the time period when the term oriscus was first used, we must refer once again to the two versions of the Tabula brevis that indicate the sema under this name. Because the oldest source transmitting the Tabula brevis dates from the beginning of 12th century, Dom Huglo²¹⁷ considered it possible that this list of neumes perhaps emerged already in the course of the 9th century. We must add however that it seems that a sign with the name oriscus is neither clarified nor cited in Middle Latin literature of the 9th to 11th century.

Tracing the term hyporrhoe and/or aporrhoe back to Greek sources we have to first note that the term does not appear in the list of neumes in the codex Lavra Γ. 67. Also the treatises of the hagiopolitanean classification do not include a neume with this name under the tonoi. That can be attributed to several reasons. Let us postulate that the Parisian treatise cites the syrma under the tonoi in place of the hyporrhoe, just as the three other treatises list the seisma among the tonoi. The hyporrhoe was perhaps not included because it would have exceeded the number of 15 tonoi. On the other hand it might have been excluded because it does not appear alone, but rather always in conjunctions, as for example with the seisma.²¹⁸

215 The sign is called aporrhoe for example in the teaching song of Kukuzeles, in codex Barberinus 300 (Tardo, *Melurgia*, 153) and in codex Lavra 610 (Tardo, op. cit., 189 and 191). The codex Paris suppl. grec 815 vacillates between the reading hyporrhoe and aporrhoe.

216 Cf. the compilation of the readings of Pseudo-Hucbald, Regino, Aurelian, Odo and Berno in O. Fleischer, *Die spatgriechische Tonschrift* (Berlin, 1904): 42. Also our chapter X.

217 *Études grégoriennes* I (1954): 58.

218 At this point we should mention that the terms ὑποροή and ἀπόροια appear in the Paris treatise (cf. J.-B. Thibaut, *Monuments de la notation ekphonétique et hagiopolite de l'église grecque* (St. Petersburg, 1913): 58f.) but not, however, as musical termini technici, but rather in the general sense of derivation or effect. In the same sense the treatise in codex Vaticanus graecus 872 uses the expression ὑποροή (cf. Tardo, *Melurgia*, 167). In contrast the Leningrad (St. Petersburg) treatise contains an explanation of the sema aporrhoe as ἔκβλημα τοῦ γουργοῦρου (cf. Thibaut, *Monuments*, 89). The reading is not found however in the section about the tone signs but rather in a

In contrast the treatises of the Middle Byzantine classification, that did not need to take a grammatical *numerus clausus* of the signs into account, regularly include the hyporrhoe among the *emphona*. The oldest manuscripts with these treatises date from the beginning 15th century.

Aside from these treatises, the term *aporrhoe* appears in the teaching song of Kuzuzeles. The oldest source that transmits this song is found in codex Athens 2458 from 1336. Also, among the neumes compiled in codex Parisinus gr. 261, a *sticherarion* dated 1289, the signs *hyporrhoe* and *syrma* appears as neumes but without their names.

Our survey might give the impression that the terms *hyporrhoe* and/or *aporrhoe* do not appear in the Greek sources of the 12th and 13th century. Nevertheless the terms must have been in use. The ultimate proof is the evidence of the existence of the analogous term *oriscus* in Latin sources.

The evidence thus indicates that the expressions *iporoi* and *oriscus* were in use in the Byzantine and Latin semi-graphic onomatology of the 11th century at the latest.

PALEOGRAPHIC ANALYSIS EQUIVALENCE OF THE FORMS OF ORISCUS AND HYPORRHOE AND/OR SYRMA

It has already been shown that the *oriscus* was interpreted not only etymologically and semasiologically, but also paleographically in various ways. We can summarize here the differing opinions: Mocquereaus, Suñol and Wagner derived the sign from the *apostropha*, Thibaut from the ekphonic *hypokrisis*, Jammers from the *spiritus asper*, Houdard interprets it as a combination of “*epiphonus*” and *apostropha*, Dechevrens as a composition consisting of hook, *virga jacens* and comma, Ferretti considered it to be a root sign.

If one compares however the main forms of the *oriscus* to the symbols of the *hyporrhoe* and the *syrma* as they are written in Early Byzantine and Paleo-Slavic neumatic sources, a stunning resemblance becomes evident, namely the common symbol of this neume exhibits a S-like form in all the different transpositions. The proof that the graphic resemblance is not accidental will be furnished in our semasiological analysis. Here we want to first of all examine only the various forms of the signs.

In Table 3 we have compiled the most frequently used forms of the *hyporrhoe*, the *syrma* and the *oriscus*.

later passage in connection with the *parallage*. The expressions *anarrhoai* and *hyporroai* are to be found finally in the treatise in codex Barberinus 300 (cf. Tardo, *Melurgia*, 160). In this case they function as musical termini *tecnici* indicating the step-wise ascent or descent.

If we first look at all the Byzantine and Slavic symbols, the S-like basic form can be clearly recognized throughout the chart despite the occasional very distinct evidence of stylization and very diverse transpositions.

The hyporrhoe as an S-like sign is usually written in a small format and in an upright position, whereas the syrma is drawn as a rule in more horizontal position inclined more to left or to the right, in a mirror image inversion and usually in larger format.

A pronounced stilization is evident in the kondakarian version with the S-like signs inclined to the right. Its identification as a hyporrhoei and/or symmata was only possible after detailed paleographical and semasiological analyses.²¹⁹

The Chartres combinations of syrma and synagma and the kondakarian choreuma (= syrma) symbols stand out in particular through their stilization and larger format. The latter signs could be identified as a symmata thanks to a semiological analysis (cf. UNkI, chap. X). Otherwise one might be inclined to interpret the sign as a minuscule theta.

Also included in the table are the most frequently used Kondakarian ligatures of the choreuma (= syrma) with other “great signs”, the lygisma, the epegerma (apothema) and the kataba-tromikon.

Turning now to the oriscus forms, we should first mention that Dom P. Ferretti assembled 36 of the most frequently used oriscus forms in his thorough study of the Aquitanian notation and arranged them in two categories. As a criterion for his arrangements he referred to the similarity of the forms with an inverted N (and/or the porrectus). In both categories both the angular as well as round forms were represented.

We have based on our grouping in our table 3 on Ferretti’s material, but reorganized it in consideration of the proven equivalence of the oriscus with the hyporrhoe and the syrma.²²⁰ Our criterion for the division resulted from the distinction between the round and angular forms. There is no doubt that that round, S-like oriscus represents the original form, the angular forms on the other hand are secondary.

On the basis of this table it becomes clear that the oriscus – as the hyporrhoe and the syrma – appears both in a more upright position as well as inclined to the right, inclined to the left, horizontal and as an inverted mirror image. The S-like original form of the sign as well as its various deformations or stylizations can be recognizable everywhere. Thus A 7 is to be interpreted as a deformation

219 Cf. Floros, *The Origins of Russian Music*, 146, tables 1.43-44.

220 The terminology of the forms (letters and numbers) is based on Pal Mus XIII, 177. We have only not included the form B 10 in our table, the middle sign of the most frequently used St. Gall salicus graphic arrangement, a clivis-like or apostropha-like sign, because in our opinion it can not necessarily be interpreted as a simplification of a certain oriscus form, as Ferretti believed (cf. more below).

of A 6. A 10 and 11 are derived from A 9, the M-like forms A 20-24 probably developed out of A 1-5 and A 12.

It is to be especially emphasized that the “round” forms are above all characteristic for the German-Alemannian (especially the St. Gall), the Breton, the Metz and the so-called related Como notations. They already appear in some of the oldest scripts and notations of the 9th and 10th century, not only in Laon 239 (B 4-5) and in St. Gall 359 (A 19), but also in Reginensis 215 (dated 877), in the sacramentary of Novare and Corbie as well as in the Leipzig codex.²²¹

THE SEMASIOLOGICAL EQUIVALENCE OF THE ORISCUS WITH THE HYPORRHOE AND THE SYRMA

EVIDENCE OF THE SIGNS IN CORRESPONDING LATIN, BYZANTINE AND SLAVIC FIGURES

It has already been mentioned that the oriscus appears both as a component of a series of neumes consisting of several tones and standing alone over single notes. The “harnessed” or “connected” oriscus is frequently found in Graduals as well as in Antiphoners. The oriscus standing alone can be found on the other hand more frequently in Antiphoners. Since our investigations are based on the chants of the Gradual, we have placed that “connected” oriscus at the center of survey.

We begin by stating that in a large number of cases the series of neumes in which the oriscus is “harnessed” resemble curve-like sinus figures. A main tone is touched upon in the manner of a *gruppetto* from above and from below. Or: The figure ascends from a main tone by step or with a leap to either a second or third, or a third or fourth and then descends to the second note (or respectively to the third note). Similar figures can be also found in Byzantine and Slavic neumatic notation. At the same time it is not surprising that the outline of these figures is primarily fixed with the hyporrhoe or with the syrma.

In the following we will consider the positions of the “connected” oriscus (examples have been assembled in table 3 together with instances of their use), comparing the corresponding Latin, Byzantine and Slavic graphic arrangements and figures.

Climacus cum orisco or pes subbipunctis cum orisco – Seisma II and III

The Latin graphic arrangement designates four or five tone figures such as *cba b* , *fed e* , *cdcb c* , *decb c* , *adcb c* etc. In accordance with the mode, the

221 Cf. Pal Mus XIII, 69f., 74ff., 114.

figures occur in various positions. In all cases, the oriscus designates the last tone.

The graphic arrangement *pes subbipunctis cum orisco* has the figure *cdcb c* in example 493. Reduced to the four last tones, this tone series appears very frequently in Byzantine and Slavic neumatic sources, usually as a seisma-figure. Example 494, taken from an asmatic (kondakarian) hypakoe, exhibits in the Middle Byzantine version the graphic arrangement of seisma III with the hyporrhoe as a characteristic sign. The corresponding kondarkarian graphic arrangement consists of a supported cross, hyporrhoe and parakalesma. Example 495 presents our figure in a sticherarian. In the Middle Byzantine version, it is notated with the kratemohyporrhoon and the combination of oligon and dipole, the Coislin version of the Vatopedensis has the kratemokatabasma. In the Chartres version of codex L2 the conjunction seisma II appears.

If one excludes the two last graphic arrangements, then the same S-like signs, i.e. the oriscus and/or the hyporrhoe, can be recognized as technical symbols in all of the other notations. A distinction with regards to the use of the two signs should be noted – the oriscus indicates the last tone of the figure, the hyporrhoe on the other hand both middle tones.

In this connection three comments need to be made:

1. in the version of the codex Montpellier the oriscus is substituted for the virga,

2. in the “equalized” transcription of the Editio Vaticana all tones are equally long. On the other hand the rhythmic differentiations of the Middle Byzantine version in the examples 494-495 leads one to assume that both Latin puncta before the oriscus should be executed a little faster,

3. in our examples, the oriscus and/or the hyporrhoe figures do not merely correspond to each other, but also the following figures are alike. All the phrases cadence on *a* .

Pes subbipunctis cum orisco – Kondakarian ligature of syrma (hyporrhoe) and kataba-tromikon

Turning now to example 496, it can be seen that the St. Gall graphic arrangement *pes subbipunctis cum orisco* indicates the figure *cedcd* . Embellished with a “passing note”, this figure appears quite frequently in chants of the Byzantine and Old Slavic asmatikon. Examples 497-498 illustrate how this figure was translated into the Middle Byzantine notation with a hyporrhoe group. In the kondarkarian notation it was indicated with a “small sign” and

Table 4: Positions of the ‘connected’ Oriscus and Pes Quassus
(St. Gall forms)

CLIMACUS + Oriscus



(Ex. 530, 643)

CLIMACUS + Pes quassus



(Ex. 526, 527, 531, 532,
534, 598, 614)

CLIMACUS subpunctis + Oriscus



(Ex. 529)

CLIMACUS subpunctis + Pes quassus




(Ex. 654)

PES subbipunctis + Oriscus



(Ex. 493, 496, 525, 533)

PES subbipunctis + Pes quassus



(Ex. 655-657)

CLIVIS + Oriscus



(Ex. 522, 523, 551, 580)

CLIVIS + Pes quassus



(Ex. 537, 538, 587, 605)

TORCULUS + Oriscus



(Ex. 500, 501, 504-509, 589)

TORCULUS + Pes quassus



(Ex. 642-645)

Table 4: Positions of the 'connected' Oriscus and Pes Quassus

(continued)

TORCULUS reaspinus + Oriscus



(Ex. 650)

QUILISMA praepuncte + Oriscus



(Ex. 516, 517, 519, 535,
571, 648)

QUILISMA praepuncte + Pes quassus



(Ex. 536, 541)

QUILISMA praepuncte + CLIVIS
+ Oriscus



(Ex. 512 and 513)

TRIGON + Oriscus



(Ex. 646)

TRIGON + Pes quassus



(Ex. 571, 632, 647, 648, 651)

TRIGON subbipuncte + Pes quassus



(Ex. 652)

DISTROPHA + Pes quassus



(Ex. 653)

PODATUS + Pes quassus



(Ex. 573)

with the ligature of syrma (horizontal S) and katataba-tromikon. The Latin, Byzantine and Old Slavic graphic arrangements of the figure consequently show a common sign, i.e. the oriscus and/or the hyporrhoe (syrma).

Torculus cum orisco – Seisma II and III

This Latin graphic arrangement is met above all in St. Gall neumatic notation. Lined sources transcribe it as a rule with tone series such as *fgff* , *gagg* , *acaa* , *cdcc* , *dedd* (cf. examples 500-501, 504-509, 589). It would seem that the oriscus repeated the last torculus tone. In passages such as these one can not speak of a sinus-like curve or gruppetto-like figures. It should however not remain unmentioned that our passages are also transmitted in “variants” which have the characteristics of sinus-like curves.

The notation of the codex Montpellier is especially remarkable in this respect. In place of the graphic arrangement of torculus cum orisco, this manuscript frequently has the torculus resupinus. See our examples 500-501. At the same time the codex sometimes deviates from the transcriptions of the Editio Vaticana. While the Editio reproduces the graphic arrangement of torculus cum orisco with *fgff* in example 501, MP transmits the torculus resupinus with the tone letters *fgef* .

Equally interesting are the frequent deviations between the neumatic and alphabetical notations in MP. In example 500 for instance the Editio Vaticana, following the lined diastematic versions, again reproduces the St. Gall torculus cum orisco with *cdcc* . Montpellier has the torculus resupinus and transcribes it with the tone letters *klkk* (= *cdcc*) not with *klik* (= *cdbc*) as one would have expected in consideration of the regular tone series of the torculus resupinus (low – high – low – high) and because of the analogy to example 501.

These contradictory notational differences in the codex Montpellier with respect to the process of recording the chants were already noticed by Dom Mocquereau.²²² He interpreted them as variants that emerged as a result of the fluctuating tonal ratios. The last torculus-tone (in the example 500 the tone *c*) is in our opinion the critical tone. Its height had been fluctuating and therefore it did not correspond to a specific step within the diatonic scale, i.e. neither the *c* nor the *b* . The scribes would have perceived the tone however at one time as a *c* , at another time as a *b* and would have notated the passage accordingly. The variations did not affect the oriscus-tone in any way.

P. Wagner’s interpretation was similar: *Evidently one sang here neither b nor c , but rather a tone lying between the two tones, which could be represented on the lined system only with the next higher or lower diatonic step.*

222 EGM, 391f.

*The letter notation transmitted the usual manner of writing the figure, the neumes indicated the actual manner of execution.*²²³

It can be shown that Mocquereau's and Wagner's interpretations come close to the truth, however do not achieve it. A glance at examples 500-503 and 508-511 suffices in order to recognize that the relevant Latin, Byzantine and Slavic figures, in as far as they include the oriscus and/or the hyporrhoe, are very similar. The graphic arrangement *torculus cum orisco* in examples 500-501 corresponds to the *asmatic* and *kondakarian seisma* in example 502. The same relationship can be distinguished between the Middle Byzantine group *xeron klasma* with hyporrhoe from a *sticherarion* and the *sematic seisma II* in example 503. In addition the *torculus cum orisco* in examples 508-509 corresponds to the *kondarkarian hyporrhoe* groups in examples 510-511.

If one keeps the correspondence of the figures in mind with respect to the above mentioned "variants" in the Latin sources, the meaning of the oriscus becomes clear. The sign, whose equivalence with the hyporrhoe has been demonstrated in our documentation, indicates that the last part of the *torculus*, namely the *gravis*, is to be sung as two steps. The graphic arrangements *torculus cum orisco c d c b c*, *f g f e f* and/or *a c a g a* designate accordingly the figures in examples 500-501 and 508-509. In this way the strange variants in the sources can be completely explained.

INTERPRETATION AND TRANSCRIPTION OF THE ORISCUS

Our investigations furnished the proof that oriscus and hyporrhoe are not only graphically the same and are semasiologically equivalent, but also that they are used in addition in Latin, Byzantine and Slavic neumatic sources for indicating the same figures. In view of this result, it is only a small step to the semasiological determination of the oriscus.

The oriscus possesses – we may infer – an exceptional place within the repertoire of Latin neumes to the extent that it fulfills, as a *sui generis* sign, two functions. First it indicates, like all of the other neumes a certain tone (an "internal" function). On the other hand, it also functions as a stenographic symbol in that it specifies in a certain manner the nature of the preceding *nota composita* ("external" function). In certain cases, only the rhythmic ratios are affected, in other cases again the effect of the oriscus has an influence on the melodic outline.

For instance the external function of the oriscus in example 493 is solely of a rhythmic nature. Because the sinus-like curved figure is written out here with interval signs, the task of the oriscus is to indicate that both preceding puncta are

223 EGM II, 142-144

to be executed quickly. In order to illustrate this, the scribe of codex Einsiedeln provided the preceding pes with an additional *c* (*celeriter*). In examples 500-501 and 504-509 on the other hand the external function of the oriscus was of both a rhythmic and a melodic nature. Here the interval signs do not indicate a typical oriscus figure. The oriscus indicates that the gravis of the torculus consists of two steps. Since both tones were to be sung quickly, the scribe of the Cantatorium notated this in example 501 by the addition of the *celeriter* over the torculus.

OTHER POSITIONS OF THE ORISCUS

If one takes the results of the above discussion into consideration, the interpretations of the oriscus in other positions do not pose any difficulties.

Quilisma praepuncte and Clivis cum orisco – Anatríchisma and Seisma (II and III)

The Latin graphic arrangements in examples 512-513 designate exactly the same figures as the asmatic and kondakarian figures in example 514. The quilisma praepuncte corresponds to the Middle Byzantine anatríchisma (*a bc*), the clivis cum orisco corresponds to the seisma III (*dbc*). Example 515, taken from a sticheron, shows in the Middle Byzantine versions the ligature of kratemohporrhon and oxeia and in the sematic versions the conjunction seisma II.

The oriscus indicates in example 512-513 that the gravis of the clivis has two steps. The graphic arrangements clivis cum orisco²²⁴ is therefore to be

224 We should mention that the graphic arrangements clivis cum orisco and torculus cum orisco in the Tabula prolixior of the Wolfenbüttel codex are accompanied with the names *flexa strophica* and *pes flexus strophicus*. The two terms also appear in the Otto-beuren table. These graphic arrangements (to judge by a reproduction in Lambillotte, *Antiphonaire*, 233) appear to be identical with the graphic arrangements of the corresponding Wolfenbüttel table. A *flexa apostrophis* is found as well in the Trier and in the Leipzig tables (facsimile of Trier in our documentation; reproduction of the Leipzig table in H. Riemann, *Studien zur Geschichte der Notenschrift* (Leipzig, 1878): Taf. XII). As a graphic arrangement the Trier table exhibits the conjunction of clivis and oriscus. (The graphic arrangement in the Leipzig codex is not clearly legible in Riemann's reproduction).

If the transmission of the Tabulae with respect to the flexa strophica and the pes flexus strophicus seems consequently to be uniform, we must nevertheless mention that these nomina neumarum are not appropriate for the graphic arrangements. Strictly speaking, the adjective *strophicus* designates the apostropha. The names are to be related therefore to the conjunctions clivis cum apostropha and torculus cum apostropha (cf. our table 2). In the neumatic notation of the manuscripts the flexa strophica mostly corresponds to the porrectus (cf. examples 450, 472, 573, 607, 611), while the pes flexus strophicus corresponds either with the torculus resupinus (examples 450, 555, 617, 622) or with the

transcribed as *d cbc* – the two tones in the middle are to be executed quickly. Codex Einsiedeln adds *celeriter* above the clivis in example 512.

Quilisma praepuncte cum orisco and Jacens – Corresponding Syrma figures

Examples 516-517 and 519 illustrate first of all that the conjunction of quilisma praepuncte (i. e. tractulus, quilisma + pes) and oriscus is a typical St. Gall graphic arrangement. The corresponding Metz and Breton graphic arrangements consist of a three-part scandicus and oriscus. The virga praetripunctis is the analogous graphic arrangement in the codex Montpellier. The codex Montpellier forgoes the oriscus in this instance but at the same time the quilisma is indicated in special manner, in that a quilisma-like addition sign accompanies the second of the corresponding tone letters.

These Latin graphic arrangements are not found within series of neumes consisting of several elements but rather stand over individual syllables. The respectively next syllable usually is notated with a jacens in St. Gall and in the Breton notations. In Metz notation the next syllable is usually accompanied by a so-called “fly-foot” punctum; Montpellier usually has the virga recta.

The Latin graphic arrangements divided over two syllables indicate five-tone figures, which ascends from the beginning tone by step to the fourth and descends one tone, as for example *efga g*. The figures on various tones can be illustrated with our examples 516-517, 519, 535, 571 and 648. The beginning tone can be on *e, f, g, b* or *c*. The oriscus indicates the highest tone of the figure.

The corresponding tone series *fgab a* (example 518) from a sticherarion forms the first component of the nine tone figure syrma B. It appears written out in the Middle Byzantine version with several interval signs, but in the oldest Coislin sources it is indicated stenographically with the conjunction of diple and syrma. The analogous sematic graphic arrangements consist of the sloytitja, the pelaston and the syrma. The Chartres graphic arrangements combine the synagma with two hyporrhoi, which together indicate the passage composed of the syrma, (cf. also the examples 278, 280, 281).

Kondakarian neumatic sources also notate the corresponding asmatic figure *efggag* in example 520 with a graphic arrangement including the syrma.

Even if the resemblance of the assembled graphic arrangements is evident, a difference in the use of the symbols must be mentioned. The Paleo-Byzantine and sematic syrma functions in example 518 as a stenographic symbol, that indicates several tones. On the other hand the Latin graphic arrangements are analytical. Every tone is indicated with distinct signs. The oriscus also indicates a tone in these graphic arrangements.

torculus cum orisco (example 507, 638). The latter "substitution" offers an explanation for the labels in the Tabulae which are not entirely correct.

It remains to be mentioned that our figure recurs quite frequently starting from the tone *g* in tractus of the eighth mode. In these cases, the Editio Vaticana does not transcribe the figure with *gabc b*, but rather usually with *gabc c*. The fourth is therefore repeated and the gruppetto character of the passage is consequently lost. The phenomenon has to do with the “displacement” of the reciting tone in the eighth mode. In the Editio Vaticana, that adheres to the more recent sources, the recitation tone is *c*. As a result of the study of the adiaستمatic sources, it can be stated with certainty that the original recitation tone was *b*.²²⁵ Originally our figure in the tractus would have therefore read *gabc b*.

Finally it should be noted that the oriscus occasionally appears after the torculus resupinus (cf. Example 650) and after the trigon (cf. Example 646 and SG page 81/12). In addition the oriscus standing alone is occasionally substituted in the neumatic notation of the Gradual for the virga repetens (cf. E 89/7 with SG 62/2, likewise SG 71/2 with MP 301/3).

ORISCUS LIQUESCENS

Of prime importance for Wagner’s²²⁶ and Dechevrens’²²⁷ oriscus interpretations was their observation that in the oldest St. Gall monuments of the 10th/11th century the oriscus also appears there where in later records and in the Editio Vaticana the cephalicus stands. Basing their reasoning on this “substitution” both scholars believed that they could draw the conclusion that the oriscus was a neume with a liquescent function.

This conclusion is however erroneous. Wagner and Dechevrens must have not noticed, that in almost all cases that they drew upon to illustrate their case the oriscus stands over a syllable that has a liquescent quality by its very nature. It is almost exclusively in such instances where a cephalicus is substituted for oriscus. The oriscus therefore fulfills a liquescent function only if the necessary phonetic prerequisites are present. In making these erroneous deductions Wagner and Dechevrens fell into the trap of a pars-pro-toto method of thinking.

As an illustration of the oriscus liquescens, we turn to several cases from the Gradual – in addition to the examples cited by Dechevrens. Example 521-524 illustrate that the Editio Vaticana indicates the cephalicus there, where the St. Gall sources as well as the codex Leon show the oriscus. In all cases, the

225 Cf. Rassegna Gregoriana III (1904), col. 251; Pal Mus X, 186; Revue grégorienne XII (1927): 76-78; Wiesli, op. cit., 224.

226 EGM II, 140.

227 SIMG XIV, 297-299.

liquescent quality is determined by the phonetic nature of the syllable in question.

Since example 521 is especially instructive it will be discussed in more detail. The Editio Vaticana which represents the cephalicus in this case as the fall of a third *fd*, evidently follows the codex Montpellier that has, at the corresponding place, a clivis and the tone letters *fd* with a special sign over them indicative of liquescence, namely a small arch open at the base. St. Gall 339, pp. 65-11 and Bamberg lit. 6, fol. 35v-16 designate the fall of a third with the simple oriscus; Einsiedeln adds an *st* (*statim*) to the left of the oriscus and in the lower right next to it an *i* (*iusum*). Laon has a special form of the horizontal oriscus and to the right beside it an *h* (*humiliter*). By comparing these cases it can be said that the St. Gall sources and the codex Laon specify the liquescent quality, i.e. consisting of two tones, by the addition of the letters *i* and/or *h* to an oriscus. The letters *i* and/or *h* evidently apply to the second, deeper oriscus tone. This additional indication is however not obligatory, but rather optional.

If we now take into consideration the examples 522-524 and 551, then it can be shown that the cephalicus does not just designate the fall of a second, but also a third and even a fourth. The same ambiguity is evidently also characteristic of the oriscus liquescens.²²⁸

Finally a few comments regarding the individual graphic arrangements: in St. Gall neumatic sources, the virga, the clivis or the torculus precede the oriscus liquescens. Montpellier has the clivis or the torculus and the oriscus, to which is added a tone letter as a special sign for the liquescence (cephalicus) and for the oriscus, that does not have its own tone letter (about that cf. further below). Laon has its own sign for the oriscus liquescens that is an adaptation of the regular oriscus form (cf. examples 521 and 524). This special sign appears in example 522, 523 and 551 as a ligature with the clivis and in example 524 with the angular torculus. One remarkable feature is the curve of the up stroke in the Metz ligature of the clivis and oriscus liquescens.²²⁹

The Gradual of Saint Yrieix also uses its own sign for the liquescent oriscus. It frequently appears as the second component of the gutturalis ("franculus").²³⁰

228 Wagner's opinion that the oriscus, in contrast to the cephalicus, was only related to the fall of a second, thus proves to be erroneous.

229 Both the liquescent oriscus as well as its ligature with the clivis and with the torculus is missing in *Aperçu sur la notation du manuscrit 239 de Laon* (Pal Mus X, 179f).

230 Cf. Pal Mux XII, 158 and 180 as well as pp. 87/2, 147/7-8, 164/9-11, 169/3.

CONCLUSIONS

Our etymological, paleographical and semasiological investigation of the oriscus liquescens now comes to an end. It only remains to summarize some of our conclusions that came to light as a result of this research.

1. First it needs to be emphasized that none of the numerous previously proposed interpretations of the oriscus were able to do justice to the actual meaning of the sign. The oriscus is neither a neume with a liquescent function nor is it a “grace note”, nor a “tiny curled ornament”, nor a “light passing note” nor a trill nor a mordent.

The oriscus can rather be apostrophized as an ornamental neume sui generis. The characteristic feature of the sign rests in its “external” stenographical function, i.e. in the capacity to indicate more specifically the rhythmic and melodic character of the preceding neuma composita in a certain manner. The oriscus is therefore an ornamental neume because it is able to enrich the melos in certain cases with ornamental tones.

The oriscus is not innately liquescent but it only takes on this quality if the necessary phonetic prerequisites are present. In this respect the oriscus does not differ from other Latin signs. Apart from the punctum and the tractulus, every Latin neume is capable of taking on a liquescent quality.

2. Oricus and hyporrhoe (syrma) have thus been proven to be graphically the same and semasiologically equivalent. A difference exists however in the manner in which they are used. While the hyporrhoe always has two tones and the syrma has several tones, the oriscus can have, depending on the circumstance, one or two tones. If the tones of a figure concluding with an oriscus are written out with single signs, then the oriscus has one tone. If the tones of the figure are not completely written out, then the oriscus indicates those tones which are not expressly notated.

3. The Paleo-Byzantine and Old Slavic graphic arrangements with the hyporrhoe and the syrma belong to an older semiographical stage of development than the corresponding Latin oriscus graphic arrangements. Conjunctions with the hyporrhoe and the syrma are stenographic; the series of neumes with the oriscus on the other hand are partly stenographic and partly analytical. The existing correspondences allow one to conclude that the oriscus was used in the oldest stadiums of Latin semiography as a stenographic symbol. It is therefore probable that originally entire figures were recorded with the single oriscus sign stenographically and only later did one begin to indicate the single tones with distinct signs.

4. Our interpretation of the oriscus has illuminated some of the special paleographical phenomena that previously have been unconvincing and/or incompletely explained.

It is remarkable for instance that the connected oriscus in the St. Gall sources is very rarely garnished with rhythmic litterae significativae. Father Smits of Waesberghe²³¹, who first notices this characteristic, was of the opinion that the oriscus, along with other neumes, was not embellished with the littera c because it was usually not stretched out. The results of our investigations confirm the correctness of these statements and offer at the same time a clear explanation of the phenomenon: the connected oriscus lacked a rhythmic additional letter sign because it fulfilled a stenographical function and indicated a fluid movement. An additional *celeriter* would have been redundant²³² – a *tene* would be a contradiction.

This principle should be taken into consideration with respect to the notation of the oriscus in codex Montpellier. It has been recognized by other scholars that the oriscus is not accompanied by corresponding tone letters in this codex, but rather they are indicated in the alphabetical notation with a horizontal bow turned upward with two letters written in the middle. The *Paléographie musicale*²³³ interpreted this arch as a sign of the tone repetition. Accordingly it stood in place of the preceding letters, which consequently would have to be read twice.

This explanation is not satisfactory. Its validity fades as soon as one becomes aware of the fact that the scribe of the codex was writing the bivirga, trivirga and the trigon, neumes in other words which indicate the tone repetition. He notated the corresponding respective tone letters two or three times or signified the repetition with dots (eg. k... – kkk). Why should he not have proceeded in the same way in the case of the oriscus? Why did he add a special sign in order to clarify the meaning of the oriscus?

The reason apparently can be attributed to the nature of the oriscus, which could not be circumscribed because it was sui generis a stenographical symbol and ornamental neume.

231 *Muziekgeschiedenis der middeleeuwen, Treede Deel* (Tilburg, 1939-1942): 667. Of the three cases which Smits van Waesberghe mentions as exceptions, two of the examples of the rhythmic litterae probably are not to be linked to the oriscus, but rather to the preceding clivis (cf. EN, page 120/5 with SG, page 72/7 as well as SG, page 54/1 with EN, page 353/1). Smit van Waesberghe's third example (EN, page 390/2) is clearly a printing error. There is no oriscus on page 390 of the manuscript.

232 In this connection it should be mentioned that the oriscus probably could be garnished with rhythmic litterae as elements of combined neumes. This cases are however another problem and can be explained by other means (cf. below).

233 *Note sur l'antiphonaire tonale digrapte Codex H. 159 de Montpellier*, vol. VII, 18.

5. It was exactly due to these characteristics that the oriscus could not be taken up into the system of the lined notation. As a stenographical sign and in peculiar an ornamental sign, it was incompatible with the line system that functioned as an exact, analytical record.

If the oriscus was simply a stenographical sema, one would have been able to write it out with single notes. That however went against its nature as an ornamental sign. The oriscus ornament could not be transcribed with the technical media of the notation of the time without being falsified.

This conclusion confirms an analogous case from Middle Byzantine notation. Our investigations showed that the old stenographical symbols used in the Coislin notation were analytically dissolved in the conversion, except for one sign – the hyporrhoe. It is the only stenographical element in Middle Byzantine notation.

This parallel case permitted a further conclusion: the Paleo-Byzantine hyporrhoe was able to be preserved in the Middle Byzantine system because it was not tied to the lined manner of notation. In the West however the oriscus had to be abandoned with the adoption of the system on lines. The scribes attempted to circumscribe the problem as best as they could. They attempted to approximate the “internal” function of the sign in that the sign was reproduced with regular notes. Its “external” stenographical function on the other hand could not be taken into account. The ornament tones that the oriscus indicated under certain conditions could evidently no longer be specified.

6. Dom Ferretti²³⁴ was the first, as far as we see, to express the hypothesis that the quilisma sign possibly was derived from the oriscus and that both neumes in the practice, or at least in certain schools, might have been executed in a similar manner. This hypothesis was based on three observations: first, that the Metz and Breton notations make use of the oriscus sign to indicate the quilisma; second, that in the notation of Nonantola the oriscus resembles a Greek omega or two connected jags or loops (i.e. the quilisma or pes quassus of other notations); third, that in the codex Rome, Angelica 123, the quilisma sema resembles the oriscus sign.

In the meantime, Ferretti’s hypothesis has advanced into the rank of a widely accepted thesis.²³⁵ It can however be said, in light of our research results, to have been refuted. From their beginnings the quilisma and the oriscus could be distinguished as very different signs. This can be demonstrated by their Byzantine equivalents: the anatrachisma and the hyporrhoe. At the same time it can not be disputed that there are semasiologically many resemblances between the quilisma and the oriscus. If one were to attempt to clarify why the Breton

234 Pal Mus XII, 89 / footnote 3.

235 Cf. Wiesli, op. cit, 299 / footnote and Jammers, *Tafeln zur Neumenschrift*, 40.

notations use the oriscus sema as the label of the quilisma, then these resemblances would have to be taken into account.²³⁶

7. If one ascribes to the thesis that the Byzantine neumatic notation developed out of the signs of the ekphonic notation, which is highly probable, then one must consequently trace the origins of the hyporrhoe, the syrma and the oriscus back to the ekphonic *syrmatike*.

8. The origin of the modern *gruppetto* sign (German: Doppelschlag) has up until now not been explained. From whence the sign comes, how long it has been used for recording instrumental music of the baroque and who introduced it – these questions remain unanswered right up to the present.²³⁷ If we consider however that the sign is semiographically the same as the Byzantine syrma, is equal to the oriscus and semasiologically has exactly the same meaning as the syrma, the choreuma and the oriscus as a component of the pes quassus and salicus, then we are justified in presuming that there is a connection between the oriscus sign and the gruppetto.

4. Pes quassus and Seisma I

*Pes quassus dictus, quia voce tremula
Et multum mota formatur. Quassum enim
violentus motus est.*

Walter Odington
De speculatione musicae, pars V

Forms

Pes quassus:  (St. Gall)  (Metz)  (Breton)

Seisma I:  (ChN, CoN, SeN)  (KonN)

236 It should be mentioned here, in order to not give rise to any misunderstanding, that the same sign for oriscus and the quilisma symbol can be found only in the Breton notation. The more differentiated Metz notation of codex Laon 239 has in contrast several oriscus graphic arrangements. In this source the ligature of oriscus and virga used to indicate the quilisma is clearly distinguishable from the usual oriscus graphic arrangements.

237 Cf. J. Wolf, *Handbuch der Notationskunde* II, 147-157, 260-262, 279-291; G. von Dadelsen, article „Verzierungen“ in MGG XIII, esp. col. 1529ff.

THE PES QUASSUS IN PREVIOUS RESEARCH

Of all the ornamental neumes, the pes quassus has been previously examined the least. While detailed studies exist for the quilisma, the oriscus, the salicus, the gutturalis and the pressus, the pes quassus has only been dealt with to any degree within the context of the podatus or the salicus. The most prominent researchers share the view that the meaning of the pes quassus seems to be totally unexplainable. The following is a summary of what can be deemed to be the scientifically valid knowledge about the sign.

1. Dom A. Ménager²³⁸ was the first to provide the proof that the St. Gall form of the pes quassus represented a ligature of oriscus and virga. The pes quassus is indicated with the conjunction of these two neumes in the codices Laon 239 and Chartres 47 (Metz and Breton notation).

2. In the oldest sources the pes quassus is sometimes replaced with either the angular podatus or the two-tone salicus. The younger diastematic sources replace the pes quassus with the podatus – at the same time it is frequently represented as the first tone of a double note on the same pitch.

3. Dom Ménager probably was the first to observe that St. Gall sources quite frequently garnish the pes quassus with the littera f (according to Notker's interpretation: *ut cum fragore vel frendore feriatur efflagitat*). Then Smits van Waesberghe²³⁹ observed that the pes quassus in St. Gall sources also appeared with the littera p (*pressionem vel prensionem predicat*) in addition to the f. Other than the pes quassus, both litterae occur only in the salicus and pressus, i.e. in “ornamental neumes” that are generally regarded as being derived from the oriscus. In the case of the salicus, the addition letters f, p or g (*ut in gutture garruletur gradatim genuine gratulatur*) apply to the middle note of the sign, which is interpreted as an oriscus.

Father Smits van Waesberghe was of the opinion that the letters f, p and g were to be understood as performance instructions. *Cum fragore* meant something like “with cracking”, *in gutture* “in the throat”, *cum pressione, pressim* “with emphasis”. The sign thus indicated that the “ornamental tone” of the pes quassu or salicus would have to be accented.

4. Dom Mocquereau²⁴⁰ noted that pedes quassi that appear in the neumatic records of the alleluia jubili are frequently divided over three distinct syllables when the proses are divided into their elements during the process of adaptation.

5. In the music theoretical literature only one single explanation of the pes quassus has been found, that of Walter Odington²⁴¹: *Pes quassus dictus, quia voce tremula et multum mota formatur. Quassum enim violentus motus est.* (“It

238 Pal Mus XI, 69f.

239 MdM II, 534-546.

240 NMG, 172.

241 CoussSI, 214a.

is called *pes quassus* because it is sung with a quivering and very emotional voice. The shaking is namely a violent movement”).²⁴²

Let us now turn to the hypotheses mentioned previously about the meaning the *pes quassus*. They are quite diverse.

P. Wagner²⁴³ explained the *pes quassus* as “a two tone ascending figure with its first tone twice struck or it slide into the second longer tone in the manner of a *portamento*”.

A. Dechevrens²⁴⁴ believed that he could distinguish two forms of the *pes quassus* (he called it the *pes volubilis*) in the St. Gall neumatic sources: the *pes volubilis commun* and the *pes volubilis long*. The first form is not to be found in SG, EN and BG. In its place, these sources wrote the usual angular *podatus*. Dechevrens’ *pes volubilis commun* seems to be nothing more than a graphic variant of the *pes quadratus*. Dechevrens’ *pes volubilis long* is the St. Gall *pes quassus* that we are discussing. It was transcribed as a five-tone figure, that consists of two main tones and a connecting three-tone ornament, for example *g afg a* . Dechevrens transcribed the first main tone with a half note, the second with a quarter note.

O. Fleischer presumed the *pes quassus* to be the sign of an “ascending high tone” on which was executed as “a kind of trill”.²⁴⁵ The transcription formula recommended by Fleischer read *abag* and thus was consistent with his transcription of the *oriscus* as a mordent figure such *aba* .

Dom Mocquereau was of the opinion that the first note of the *pes quassus* was longer than that of the *pes quadratus*.

Finally L. Agustoni²⁴⁶ clarified the manner of execution of the *pes quassus* thus: “the first note is emphasized with a light stress, but it draws however the articulation of the neume not onto itself, but strives toward the second note, which was accorded a greater emphasis due to the basis structure of the melody”.

242 In the list of neumes compiled by Walter Odington (CoussS I, 213) the *pes quassus* is mistakenly illustrated with a *porrectus* sign. We should however mention that this list, if one disregards this error, offers correct “illustrations” of the neumes. Odington’s discussion of the listed neumes is noteworthy, because it contributes in a major way to the semasiological clarification of these neumes (cf. below in the discussion of the *gutturalis* and the *notae semivocales*).

243 EGM II, 40.

244 SIMG XIV, 311-313.

245 *Die germanischen Neumen*, 64. Fleischer names our sign *pes semivocalis*. He understood the term *pes quassus* as a special form of the *gutturalis* (cf. op. cit., 66).

246 *Gregorianischer Choral* (Freiburg, 1963): 145f.

THE MEANING OF THE PES QUASSUS

A systematic semasiological investigation of the pes quassus must naturally be preceded by the detection of all positions of the sign. First we perceived that the pes quassus – like the oriscus – is both to be found within melismatic passages as well as standing alone over single syllables. Therefore the “connected” pes quassus is to be distinguished from the pes quassus standing alone.

In table 4 we have assembled all the positions of the *connected* pes quassus together with documentation of the individual cases. In summarizing the results of this table it becomes evident that the connected pes quassus appeared in eight positions, namely after the climacus, the pes subbipunctis, the clivis, the torculus, the quilisma praepuncte, the trigon, the distropha and the podatus.²⁴⁷ At the same time it was noticed, that all these signs except for the last two are neumae compositae which are generally followed by the oriscus. A comparison of the corresponding conjunctions with the oriscus and the pes quassus led to the interesting discovery that they designated strikingly similar figures. The pes quassus figures thus turned out to be oriscus figures, which “a parte post” were expanded by an ascending tone. The virga, the second element of the pes quassus, served as the indication of this additional tone. Because of this, the pes quassus was written instead of the oriscus (cf. the examples cited in table 4).

For the connected pes quassus, the semasiological rules, that we were able to set up for the connected oriscus – mutatis mutandis – apply here as well.

The connected pes quassus does not differ semasiologically from the pes quassus standing alone in as far as it is followed by one syllable whose last neume is one of the notae compositae mentioned above. This can be demonstrated by examples 526-527. In example 526 the graphic arrangement climacus cum pede quasso appears, in example 527 a climacus and a pes quassus. Both graphic arrangements designate exactly the same tone series – *agf ga*. A difference exists solely therein that first graphic arrangement appears on one syllable, while the second is divided over two syllables. Since in both cases the sinus-like curved figure is “written out” with several signs, the oriscus (the first element of the pes quassus) indicates a single tone. The “external” function of the oriscus is limited therefore to its role as a rhythmic indication.

Incidentally, the graphic arrangement from the St. Gall Cantatorium in example 527 deserves to be high-lighted. If in the Bamberg codex the angular podatus and in the Einsiedeln codex the pes quassus follows the climacus, SG

247 One other position for the pes quassus is after the virga. The conjunction of virga and pes quassus is however to be classified as a salicus and therefore is not discussed here (cf. below)

has the angular podatus and adds an oriscus above it. The S-shaped sema is therefore used here as a stenographical additional sign in order to define the nature of the pes quadratus as a pes quassus more exactly.

If it has been established that there exists no semasiological difference between the connected sign and the pes quassus standing alone in the above examples, then we should also mention that the pes quassus standing alone in certain positions, especially at the beginning of a colon, stands out due to its sui generis status. In the course of our research we came to recognize that the sign in these positions possesses a special meaning.

1. It should be noted first of all that the pes quassus is met far more frequently in St. Gall neumatic sources than in Metz, Breton or Aquitanian sources. These sources often have the simple podatus or the virga praepunctis in place of the pes quassus (cf. table 8 under B). It is important of notice that the above named sources each employ two different pes quassus graphic arrangements: the “usual” pes quassus is indicated with the two-part conjunctions mentioned above; the “extraordinary” pes quassus (with this term we mean the pes quassus at the beginning of a colon and in certain other cases) is indicated on the other hand with the three-part conjunction of punctum and/or tractulus, oriscus and virga. The “extraordinary” pes quassus is therefore indicated in Metz, Breton and Aquitanian sources as a two-step salicus (s. examples 541, 543, 544, 633).

2. In the neumatic notation of codex Montpellier the angular podatus or virga praepunctis generally takes the place of the “usual” pes quassus (cf. example 456, 536, 654-656). Also the “exceptional” pes quassus is represented by the angular podatus. The alphabetical notation of the codex, however, characterizes this as a pes quassus in that a oriscus arch is placed as an addition to the pertinent letter tone (see examples 543, 544).

3. Sources using lined notation and the Editio Vaticana indicate the “usual” pes quassus with two notes, the “exceptional” pes quassus in contrast with three notes, of which the first two are in unison.

RELATIONSHIP OF THE PES QUASSUS TO THE SEISMA I

For the further semasiological investigation of the pes quassus at the beginning of a colon it is important to observe that the sign in this position generally appears in chants of the third mode (= deuterus) and it introduces stereotypical melodic phrases cadencing on *b*. It is not without surprise, that we find very similar, or sometimes exactly the same phrases, beginning many Byzantine and Slavic chants of the deuterus mode (cf. Examples 541-546). Diastematic sources prove that the beginnings of the corresponding phrases are the same: *ef dg*.

Let us first take account of all the symbols with which the initial figure *ef* is fixed. The Latin neumatic sources designate it either with the pes quassus or with the two-step salicus. The Paleo-Byzantine and sematic versions of the sticherarion and heirmologion indicate it with the simple bareia or with the combination of bareia and dyo kentemata (*Palka vzdernutaja*). The kondakarian sources have the three-part graphic arrangement palka, zapjataja and mirror image hyporrhoe. A comparison with Middle Byzantine versions reveals however that only two elements serve for designating the asmatic initium: the palka and the mirror image hyporrhoe. The zapjataja indicates the following tone *d*.

At first it would seem that the identical tone series was the single factor that establishes the relationship between the Latin, Byzantine and Slavic initia. A closer examination reveals however two far points of contact.

1. In the Paris treatise the combination of bareia and dyo kentemata, i.e. our figure *ef*, is called seisma. The expression means to shake, to vibrate. The same meaning is also possessed by the word quassus (from quatio = shake, agitate). Pes quassus is the "shaken" pes. Our corresponding Byzantine and Latin figures are therefore synonymous expressions.

2. Semiographically there are no common features between the symbols pes quassus and/or salicus and bareia on the one side and with dyo kentemata on the other unless one saw a connection between the punctum of the salicus with the dyo kentemata. The pes quassus and the kondakarian seisma graphic arrangement are on the other hand related in that both have a comment element, namely the oriscus and/or the mirror image hyporrhoe.

For our investigation it is important to realize that the seisma figure in the Middle Byzantine version of the asmatic prototype is to be found in two forms: in example 545 it indicates the simple rise of a second *ef*; in example 546 on the other hand it indicates a melismatic embellishment, namely *efgfe f*. If the first form could be indicated with the diastematic precise combination of bareia and dyo kentemata, in order to designate the embellished figure it was necessary to introduce several interval signs as well as the hyporrhoe.

A comparative analysis of the Middle Byzantine, asmatic and kondakarian graphic arrangements makes it clear that the last example, which also contains the hyporrhoe, does not designate the simple, but rather the embellished version of the seisma figure.

In this context, we must again mention that the combination of bareia and dyo kentemata, for which the Parisian treatise has the name seisma, appears in the table of neumes in the codex Leningrad 497 under the term syrma (cf. Example 384). The double label may lead one to suspect that we are dealing with a terminological confusion, yet the data assembled here demonstrates that this difference is justified: the expression syrma was evidently originally used to designate the embellished version of the figure seisma I.

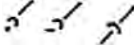
Basing ourselves on the above premises, the following conclusions can be drawn:


The St. Gall pes quassus, the Metz, Breton and Aquitanian two-step salicus as well as the angular podatus with an oriscus arch in codex Montpellier, provided they stand at the beginning of a colon, are graphically related and semasiologically equivalent with the kondararian conjunction of palka (bareia) and hyporrhoe. If the latter graphic arrangement designates the embellished seisma figure *e fgfe f*, then the existing parallels should provide the proof that the Latin graphic arrangements should be transcribed with the same series of tones. The oriscus of the pes quassus and of the salicus in these positions therefore indicates the same ornament of several tones as the hyporrhoe of the kondakarian graphic arrangement.


All the evidence indicates that the Greek terminus technicus seisma was translated into Latin with the expression *quassus*. Pes quassus is the Latin correlative term for the Byzantine seisma I.

5. Salicus and Choreuma

Graphic arrangements

SALICUS I (= punctum or tractulus or virga + arch + virga) 

SALICUS II (= punctum or tractulus or virga + oriscus + virga) 

CHOREUMA (= diplo + hyporrhoe [+ oxeia]) 

THE SALICUS GRAPHIC ARRANGEMENTS IN THE MANUSCRIPTS

At the beginning of a systematic investigation of the salicus it was necessary to compile completely all the various graphic manifestations of the sign. Our compilation in table 5 can claim to be comprehensive. (The survey presents an excerpt from the original table). The compilation makes it first of all clear that the salicus regularly consists of three elements. The “characteristic” sign of the conjunctions in the table is the middle element, the so-called salicus note. It imparts to the graphic arrangements its peculiar stamp and serves as a distinct feature for distinguishing the salicus from the scandicus.

The characteristic salicus note is the oriscus in most of the graphic arrangements. This distinguishing trait was already presumed to exist by Dom

Ménager²⁴⁸, although Jeannin and Ferretti first drew attention to this feature. A glance at the conjunctions with the label *salicus II* in our survey is sufficient to demonstrate that the oriscus is the common middle element although the sign appears in various forms and positions.

The situation is different with respect to the middle sema of the *salicus I* which appears predominantly in St. Gall “singular” graphic arrangements.²⁴⁹ It does not seem to be similar to the oriscus but rather resembles the *apostropha* or *clivis*. While Dom Ferretti²⁵⁰ tried to interpret this sign paleographically as “*une reduction et une simplification*” of certain oriscus forms (cf. the oriscus forms B4, 6, 7, and 8 in table 3), there are many reasons for distinguishing this “singular” St. Gall graphic arrangement (our *salicus I*) from the *salicus II*. Supporting Ferretti’s thesis is the fact that Metz, Breton and Aquitanian neumatic sources have the *salicus II* there, where St. Gall sources have the *salicus I*. Opposing Ferretti’s thesis is the fact that both *salici* occur in St. Gall sources, even within one and the same manuscript, whereby the first *salicus* appears far more frequently than the second. Also the arrangements in corresponding St. Gall passages can not be, as far as we see, indiscriminately exchanged. If the manuscripts themselves keep the two *salici* apart, then we should follow their lead. One can conclude in any case that *salicus I* and *salicus II* are closely related in St. Gall sources yet they do not designate exactly the same figures.

If we again survey the above graphic arrangements altogether, then it can be said that of the three elements of the *salicus* the first is variable. It can be a punctum, a *virga* or a *tractulus*. The characteristic *salicus* note in Metz, Breton and Aquitanian graphic arrangements always appears to be the oriscus, while in St. Gall sources an arch also appears as a middle element. The *virga* functions however in all graphic arrangements as the invariable third element.

THE SALICUS GRAPHIC ARRANGEMENTS OF THE TABULAE NEUMARUM

If one compares the transmitted versions of the *Tabula brevis* and *Tabula prolixior* respectively with each other, then it can be established with respect to the names of the neumes in the tables (if one disregards smaller differences and corrupted readings) that they generally agree with one another. For this reason it is all the more remarkable on the other hand that the signs accompanying the

248 Pal Mus XI, 92f.

249 That this graphic arrangement also appears in Monza Capitolare C. 12/75 (cf. Pal Mus II, 15 and table 4 as well as in the specimina in MGG I, Taf. XX) and in Torino G. V. 20 is not surprising. These manuscripts originated in Monza and Bobbio, the north Italian branches of the St. Gall notation.

250 Pal Mus XII, 179 and 185.

names frequently deviate from one another to a remarkable degree. This can be illustrated in particular by using the salicus graphic arrangements as examples.

Only a few Tabulae designate with the name salicus one or the other of the above mentioned St. Gall graphic arrangements. In most Tabulae, the salicus is “illustriert” with other signs – usually with the pes quassus, the quilisma or the pes praepunctis. That can be demonstrated with specific examples. (In the following we refer to the compilation in table 5).

The table published by Gerbert from the St. Blasien manuscript indicates our salicus I (see the graphic arrangement no. 2); the Wolfenbüttel table (an expanded version of the Tabula brevis) has our salicus II (see the graphic arrangement no. 8). The Trier table²⁵¹ presents under the name “virga semitones” our salicus II (graphic arrangement nr. 8). With the same name, the Leipzig table²⁵² has the singular conjunction of an arch and virga, a combination that otherwise does not appear in the neumatic notation of the manuscript.²⁵³

Several tables “explain” the salicus as well with a pes quassus or a quilisma graphic arrangement. The Brussels²⁵⁴, the Colmar and the Toulouse²⁵⁵ tables as well as the table of the codex Vaticanus Pal. lat. 78, fol. 137,²⁵⁶ illustrate the salicus with pes quassus graphic arrangements, while the table of the codex Vaticanus Pal. lat. 1346,²⁵⁷ fol. 1v, has a quilisma with a three, a four and a two curves. (The last hardly differs semi-graphically from the pes quassus.)

251 Codex no. 6 of the Dombibliothek in Trier, fol. 95v/96. Facsimile in our documentation.

252 Codex no. 1492 of the Leipzig Universitätsbibliothek, fol. 98v. Unsatisfactory “reproduction” in H. Riemann, *Studien zur Geschichte der Notenschrift* (Leipzig, 1878): Taf. XII.

253 Besides the “virga semitones” the Leipzig codex includes two expansions of this conjunction, namely the *virga semitonis subpunctis* and/or *subbipunctis*.

254 Brussels, Bibliothèque Royale II 4141, fol. 32. Facsimile in C. Vivell, *Frutolffs Breviarium de musica et Tonarius*, Sitzungsberichte der Akademie der Wissenschaften in Wien, Phil.-hist. Klasse, Band 188, 2 Abh. (Vienna, 1919): 103 and in J. Smits van Waesberghe, *MdM II*, arf. 12; bibliography on the manuscript on p. 25f.

255 Codex 445 of the Bibliothèque municipale in Colmar, fol. 132v; the present location of the Toulouse manuscript with the table is not known. Unsatisfactory “reproduction” of both tables in Lambillotte, *Antiphonaire*, 234; Fetis, *Histoire générale de la musique*. IV, 199f.; Thibaut, *Origine*, 70; Wagner EGM II, 106f. Facsimile of the Colmar table in our documentation (III. 5).







256 Facsimile in Bannister, *Monumenti vaticani di paleografia musicale latina* (Leipzig, 1913): tav. 1v.

257 Facsimile in Bannister, op. cit., tav. 1c.

Table 5: Salicus and Choreuma graphic arrangements












SALICUS I

(= Punctum or Tractulus or Virga + ARCH + Virga)

			
1	2	3	(Ex. 457, 541, 547, 553-555, 557, 577, 611, 624)
			(Ex. 555)
			(Ex. 554, 577)
5	6		

SALICUS II

(= Punctum or Tractulus or Virga + ORISCUS + Virga)

			
7	8	9	(Ex. 442, 553, 557)
			
10	11	12	13
		(Ex. 441, 442)	
			

The Forms Nr. 1-17 appear in St.Gall graphic arrangements.

Table 5: Salicus and Choreuma graphic arrangements – con't


18


19


20

METZ

(Ex. 457, 541, 543, 544,
555, 577)


21


22

BRETAGNE

(Ex. 541)


23


24

AQUITANIAN

(Ex. 541)

SALICUS PRAEPUNCTIS I and II







(Ex. 554)

CHOREUMA

(= Diple + HYPORRHOE + Oxeia)







(Ex. 275-277, 282, 283,
318, 319, 548, 550)

Finally in two tables, namely in Karlsruhe, Badische Landesbibliothek 505,²⁵⁸ fol. 86v, and in Vienna, Österreichische Nationalbibliothek 1595, fol. 86v,²⁵⁹ the salicus is illustrated with the graphic arrangement pes praepunctis.

Not included in this list is the salicus in the Wolfenbüttel and Ottobeuren²⁶⁰ versions of the Tabula prolixior. They only indicate the pes quassus.

It should be added that two tables, Wolfenbüttel (expanded version of the Tabula brevis) and Vaticanus Pal. lat. 78, evidently erroneously have the scandicus instead of the salicus graphic arrangement no. 8.

Our survey could give the impression in the first instance that most tables must be untrustworthy because of the numerous errors.²⁶¹ One would be inclined to attribute the strange salicus graphic arrangements to confusion. However it can be shown that the manner in which the tables proceed is not at all so arbitrarily as it would appear from the first impression. The signs which they use to substitute for the salicus sema are semasiologically related.

1. The pes quassus is the sign what is most closely related to the salicus. Semiographically the salicus can be apostrophized as a “pes quassus praepunctis”. The “substitutions” in the tables make it clear that the pes quassus was quite frequently used to represent the name salicus. In this way it can be explained why the three Tabulae list either the salicus or the pes quassus. In the Tabula brevis, only the salicus is found, in the Tabula prolixior on the other hand only the pes quassus. Evidently it was sufficient to cite the one or the other sign.

258 Facsimile in our documentation, Ill. 7). It should be mentioned that the text of the Tabula brevis (without neumes) can also be found on the upper margin of fol. 46 of the Karlsruhe manuscript.

259 Facsimile in our documentation, Ill. 6). The text of the Tabula brevis (without the tone signs) is transmitted in another Vienna manuscript, codex 2502 of the Österreichische Nationalbibliothek, fol. 39v.

260 Donaueschingen, Fürst. Fürstenbergische Bibliothek 653, fol. 26v. Unsatisfactory “reproductions” in Lambillotte, *Antiphonaire*, 233; Fetis, *Histoire générale de la musique*, IV, 204; Thibaut, *Origine byzantine*, 90. Probably the first mention of the table was in an article with the title “Berichtigung eines in den Geschichten der Musik fortgepflanzten Irrthumes, die Tonschrift des Papstes Gregors des Grossen betreffend” in the *Allgemeine Musikalische Zeitung*, Jg. 1828: col. 401-406, 417-423, 433-440 (esp. col. 50).

261 Complaints about the unreliability of the tables of neumes can be found in Riemann (*Studien zur Geschichte der Notenschrift*, 125), Fleischer (*Die germanischen Neumen*, 40), Smits van Waesberghe (MdM II, 537f./ footnote 40) etc.

III. 5: Colmar, Bibl. Municipale 445, 12th c., fol. 132v
Nomina neumarum: "Tabula brevis"

Epiphophan^m Strophic^m. Punct^m. Correct^m. Oriscus.
Virgula Cephalic^m. Clivus^m. Quilisma^m. Podatus.
Scandic^m. Salicus^m. Elimac^m. Torculus^m. Ancus^m P
Et pressus minor ac maior non pluribus utor. P

III. 6: Vienna, ÖNB 1595 (Theol. 426), 12th c., fol. 86v
Nomina neumarum: "Tabula brevis"

^{Punctus}
Epiphophanus. Strophicus. Punctus. Correctus. Oriscus.
Virgula. Cephalicus. Clivus. Quilisma. Podatus.
Scandicus. & Salicus. Elimacus. Torculus. Ancus.
Et pressus minor ac maior. non pluribus utor.
Neumarum signis errat qui plura refingit.
Nomina neumarum cognosces. hic uariarum.
Et currens. Torquens. Salicus. Les. Virga. Retorquens.
Descendens. Punctus. Gradicus. Declivus. Oriscus.
his ego gutturalem cum trigone sociarem.

Et praphonice et phic. claus. ultima podatur
4 igitur cephalae pinceru peract. omne
6 candionis et tano. climac. rorculus. Ancus
Et plura minora ac maior. si plibut
Quartus cum di. Abouit a sede. p. h. u. s. q.
Antiquus et octauus. non et c. i. c.
ut ep. scd. m. f. sic sapimus. suolat. m. d.

tertius supra modi qb; dis cantilena octava sa
uniusmus se unumū tonus. Semitona
Diatonus. Diatesserou. Diapente. Se
mico mico diapente. tonus diapente. ad h

Nomina neumarum: "Tabula brevis"

ostende n. dñs dixit. v̄ ^cpopule. ^dQuia etiam.
 Ciquecūq; s̄ talia. v̄ ^cq̄d̄ ultra. ^dypomixot.
 Surrex̄ d̄ uere. ^cest̄ d̄no. ^dā ^fēce lignū. ^dypot.
 Ḡ Angls̄ d̄ni. ^ddic̄ur̄ i gen. ^dā ^dū fabricator.
 Bened̄ es dei filius. v̄ ^do ad̄ mirabile.
 Bened̄ es d̄nē d̄s patrū. v̄ ^dtrux̄ fid̄. **DORIVS.**
 v̄ ^ccussū ē. ^ds̄ iudex. ^dā ^dindie res. ^dypomixot.
 Dilexi. ^dletabit̄ iustus. ^dā ^didi agm̄. ^dypomixot
ANIPHONF. ^dā ^dcū rex. ^dypomixot.
DORIVS. ^dv̄ ^fsaluc̄ f. ^dypofriḡ.
^dā ^flit̄ gr̄a plena. ^dā ^dsed̄ it anḡ. ^dypomixot.
YPOLYDVS. ^dv̄ ^dcruc̄ fixū. ^dlexordam.
^dā ^badorna. ^dHomina neumarū.
 Respon̄sū. ^fypodoris. ^dYunctū. ^dBipunctū.
^dā ^dtraud̄ i n. ^dMixolidis. ^dTripunctū. ^dTripunctū
^dā ^dInmutem̄. ^dypodoris. ^dsubpuncte. ^d
^dā ^dhura ues. ^dypofrigis. ^dapostropha. ^d
^dā ^dcolleger̄. ^dypodoris. ^dDistropha. ^d
^dā ^dAnte. v. dies. ^dypomixot. ^dTristropha. ^d
^dv̄ ^dSt̄a laus. **DORIVS.** ^dYurga. ^dBiurgis.

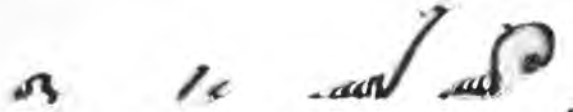
Nomina neumarum: "Tabula prolixior"

! <i>Hirya</i> ppunctis.	<i>Hera</i> . <i>Hera</i> <i>strophica</i> .
<i>Hirya</i> pbipunctis.	<i>Hera</i> <i>resupina</i> .
<i>Hirya</i> subbipunctis.	<i>Sinuosa</i> . <i>les</i> . <i>les</i>
<i>Hirya</i> cōbipunctis.	<i>subbipunctis</i> . <i>lesquassus</i> .
<i>Herripunctis</i> .	<i>lesquassus</i> <i>subbipunctis</i> .
<i>Subripunctis</i> .	<i>lesfleris</i> . <i>lesfleris</i>
<i>Conripunctis</i> .	<i>resupinus</i> . <i>lesstrans</i> .
<i>Herdratesseri</i> .	<i>les sinuosus</i> . <i>lesfleris</i>
<i>Subdratesseri</i> .	<i>strophica</i> . <i>lesfleris</i>
<i>Condratesseri</i> .	<i>pbipunctis</i>
<i>Herdrapentis</i> .	<i>les sinuocalis</i> . <i>conera</i> .
<i>Subdrapentis</i> .	<i>sinuocalis</i> . <i>sinuocalli</i>
<i>Condrapentis</i> .	<i>ppunctis</i> . <i>sinuocalis</i>
<i>Gutturalis</i> .	<i>pbipunctis</i> . <i>Quilisma</i> .
<i>Guttural</i> ppunctis.	<i>Quilisma</i> ppuncte.
<i>Subpunctis</i> .	<i>Ibipuncte</i> . <i>ppuncte</i> .
<i>Compunctis</i> .	<i>Herdratesseri</i> .
<i>C</i> si ex plurib; con stituit puncti noā in star pœ formabis.	<i>Herdrapentū</i> . <i>Quilisma</i> cōbipuncte. <i>Subbipuncte</i> .

Nomina neumarum: "Tabula prolixior" (continuation)

Letra formabilis ex punctis.
Quilifina flexū. Resupinū.
Senuuocale: sinuosum. Alii.
Scandicus & faticus. climacus. torculus.
ancus.
Pentaphonus strophicus gnomo porristis
oriscus. Virgula cephalicus clausus
quilifina podatus. Pandula pinnosa
guturalis tramea. cenir.
Proslambaromenon trigon tertius igon.
Pentadicon & trigonicus & fauculus orix.
Bisticus & gradicus tragon diatennis exon.

“Tabula prolixior” (expanded version)


 ꝑ podicus centon gradatus atticus astus.

Et pressus minor et maior ꝑ plurib. utor.
 Heumarū signi erras q̄ plura refingis.

A DE VARIIS MONOCHOR
 DIMENSURIS.
DIMENSURANDVM

monochordū duo hemisperia q̄ magada
 uocant concauo instrumento hinc &
 hinc supponunt. In quas porrecta
 epiphania lineæ quasi chorde supra
 tense diuisiones exarant. Si tria
 monochordorū gnā mensurare disponā.
 sup ficiē amagada usq; ad magadā lineis
 ꝑtentis in tria diuidas. & in superiori
 diatonicū. in medio chromaticū. in supi
 ore enarmonicū. sedm subscriptā regu
 lā cōponas. S; ꝑus qm̄ ex dimensioē

“Tabula prolixior” (expanded version)

*fuerit fabularū omnia collocaā et finiet. Tipanū: pellit corū ligno
 ex una parte extenā. E enī par media siphonie i similitudinē cribri.
 Tipanū aū dictū q̄ mediū: Vñ e margaritū mediū tipanū q̄. & ipsū ut
 siphonia ad uirgulā pcutit. Cibala acitabula q̄da s̄ q̄ pcutta iūcē se
 tangt & faciūt sonū. Dicta aū cibala q̄ cū ballematia simul pcuti
 unt. Qd̄ n̄ gēi dicit cibala latinū ballematia. Sistrū ab iuentē uocant.
 Ysis enī regina egyptioy id gen̄ iuenisse pbat. Iuuenat. Ysis e irato feri
 at mea lumina sūt. In e hoc mulieres pcutiūt. q̄ iuentē hui ḡni fuit.
 Vñ e ap̄ amazonas sistrū ad bellū feminay exercitū uocabat. Tintanna
 bulū de sono uocī nom̄ accep̄. sic plaus̄ manuū. stridor ualū q̄. Siphonia
 uulgo appellat̄ lignū cauiū. ex utq̄ parte pelle extenā. Qm̄ uir
 gul̄ hinc e in musica ferūt. fitq; i ea ex cordia ḡus e acuti suauissim̄*

N vmos aū scdm̄ musicā ita querē. De nuūis̄ musicē. *Item*
 Postā extenū. utputa vñ e dec̄ dipondi. Vide q̄t monadib̄ sup̄ e
 vñ a. xii. e e. vi. monadib̄ duci p̄ q̄dratū. Serie sem̄ faciūt. vñ. vñ. dūa
 gl̄. vñ. ad. xii. simul efficiūt. vñ. Latini t̄gēs serie p̄ dec̄ octo. efficiūt
 dipondi. Hos iungit cū sumā minore. vñ. serie. er̄. vñ. Et erit mediū
 inf̄. vi. e. xii. Qd̄ pp̄t. vñ. supant. vñ. duab̄ monadib̄. vñ. parte deor̄
 e supant. vñ. a. xii. iii. monadib̄. n̄. portio. Q̄ parte ḡ supat. ad
 supat. S; h̄c ratio q̄madmod̄ i mundo ex uolubilitate circuloy. ita
 e i microcosmo i tantū p̄t uocē ualet. ut sipe ipsi p̄fectioe etiā bō
 siphonū caren̄ n̄ s̄sistat. Etā musigē p̄fectioe etiā met̄ s̄sistunt i
 arti e t̄bē. vñ. eleuatione e positione. *Nomina neumarū.*









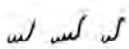


I vnetum. Bipunctū. Tripunctū. Tripunctū subpuncte. Tripunctū
 ppuncte. Tripunctū subpuncte e ppuncte. Bipunctū pbipuncte.
 Apostropha. Distropha. Tritropha. Virga. Virga ppunctis. Virga
 pbipunctis. Virga ppunctis. Virga p̄diateseris. Virga subpunctis.
 Virga subbipunctis. Virga subtripunctis. Virga subdiateseris. Virga
 ppunctis. Virga ppunctis e subdipunctis. Virga prepunctis e sub
 punctis. Virga ppunctis e subdiateseris. Virga bipunctis. Virga
 pbipunctis e subtripunctis. Virga pbipunctis e subdiateseris.

Nomina neumarum: "Tabula prolixior"

Virga trippuncti. Virga prepunctis & subdiatesseri. Virga condiatesseri.
 Virga semizoni. Semiuocalis. Semiuocal p̄ppuncti. Semiuocal semitoni.
 Les. Les semiuocat. Les quas. Les q̄ss. Semiuocat. Les p̄puncti. Les p̄ppuncti.
 Les p̄punctis. Les spunctis. Les bispuncti. Les xpuncti. Les diatesseri.
 Les p̄punctis & subbipunctis. Les ppunctis & subtr̄puncti. Les p̄p̄ncti & sub
 diatesseri. Les p̄ppuncti & subbipuncti. Les p̄diatesseri & subtr̄puncti. Les
 flexi. Les resupin. Les rep̄m semiuocat. Sinuosa. Les sinuos. hemiuocat. Gut
 turat. Gutturat subp̄nctis. Angulosa. Angulosa flexi. Angulosa resupinu.
 Angulosa semiuocale. Angulosa sinuosa. Angulosa ppuncte. Angulosa p̄bip̄ncte.
 Angulosa p̄p̄ncte. Angulosa p̄diatesseri. Iuncta si accesserit d̄sm̄q̄ta stipula
 siue positi. uocabula sumant ex sup̄dictis. Flexa. Flexa resupina. Flexa
 dependēs. Flexa semiuocat. Flexa sinuosa. Flexa gutturat. Flexa apo
 strophis. Flexa p̄puncti. Flexa p̄bip̄ncti. Flexa p̄ppuncti. Flexa p̄diatesse
 ris. Flexa gutturat subp̄ncti. Flexa hemiuocat. Bivirgul. Trivirgul. Irim
 pu. Si uos positorē notz si occurrerit stipula uocabul etiam. Virga p̄
 diapenti. Virga subdiapenti. Les dependēs. Gutturat semiuocat. Les s̄ss.
Circa quadrangula in ~~no~~ p̄p̄tata t̄ual. **C**onstitutio qu...
 ia i sumitate diuide. hinc est ore q̄ ista uolunt sic metare. Verso ad re
 quat̄ cent̄ i sinist̄ parte subthe ~~orum~~ de ipsi ~~no~~ & p̄fore firmū
 i sua octauitate manente. reglā i cent̄ posita. & i ḡdu ~~orum~~ lineā the.
 In dext̄ u parte de ipsi ~~no~~ subthe. & reglā i cent̄ manente. &
 i ~~no~~ ḡdu due ~~orum~~ lineā p̄fore. & utmq̄ eū abscede. & hec: longi
 nudo estori. Deñ due circūm i fra circūm scdm̄ placitū it̄ que n̄ alij
 circuli ducant̄. i q̄b̄ p̄m̄ diuisi ~~orum~~ hore notent̄. & n̄ te p̄ distiminy
 hore ~~no~~ & ~~no~~ & ~~no~~ & ~~no~~ reglā i cent̄ manente. & q̄dragesimo ū
 cent̄ lineā q̄ d̄r̄ eq̄noctat. Te ipsa eq̄noctali lineā estor i ~~no~~ diuidat
 i parte sinist̄. ~~no~~ q̄ p̄xim̄ eq̄noctali lineā i ta diuidat unagq̄.
 & i ~~no~~ due reliq̄. Similit̄ faciend̄: i dext̄a parte. & notent̄ illa
 spaciola. Mensurā ū discreto sic fiat. In parte dext̄a duob̄ relictis
 spaciol̄. Ianuario ~~no~~ febr̄u ~~no~~ mart̄o ~~no~~ aph̄r̄ ~~no~~ maio ~~no~~ iocclant̄.
 iunio ~~no~~ an̄ solst̄iu. & h̄ i superiori circulo. i inferiori ū. & p̄solst̄iu

Nomina neumarum: "Tabula prolixior"

Table 6: Salicus forms in tabulae neumarum

ST. ELASIEN		(= Salicus I)
WOLFENBÜTTEL Gud. lat. 334, fol. 90		(= Salicus II)
LEIPZIG Universitätsbibl. 1492, fol. 98v		"Virga semitonis" (= Arch + Virga)
TRIER Dombibliothek 6, fol. 96		"Virga semitonis" (= Salicus II)
BRUSSELS Bibl. Royale II 4141, fol. 32		(= Pes quassus)
COLMAR 445, fol. 132v ("Murbacher" Tabelle)		(= Pes quassus or Quilisma with two curves)
ROME Vaticanus Pal. lat. 78, fol. 137		(= Pes quassus)
TOULOUSE (Reproduction in L. Lambillotte, Antiphonaire de St. Grégoire, Bruxelles 1867, S. 234)		(= Pes quassus)
ROME Vaticanus Pal. lat. 1346, fol. 1v		(= Quilisma with three-, four- and two curves)
KARLSRUHE Badische Landesbibl. 505, fol. 47v		(= Pes praepunctia)
WIEN Österr. Nationalbibl. 1595, f. 86v		(= Pes praepunctia)

2. A close relationship exists as well between the salicus and the quilisma. In the Cantatorium, both figures are indicated partly with a salicus and partly with a quilisma graphic arrangement. In addition Breton and Metz neumatic sources often have the salicus graphic arrangements there where St. Gall versions have quilisma graphic arrangements.²⁶² The substitution of the salicus by the quilisma is therefore a phenomenon that can be observed not only at the tables of neumes but also at the manuscripts themselves.

3. The same applies as well to the relationship of the salicus to the pes praepunctis (= scandicus). Salicus and scandicus are quite frequently exchanged even in the oldest sources. From that it may not be inferred that the signs possessed exactly the same meanings. The substitution reveals on the contrary that certain scandicus figures were embellished with ornaments and therefore were changed into salicus figures. This much we can say in advance: that namely the salicus is a scandicus with a certain ornament (cf. further below).

Our discourse should have contributed in addition to slightly ameliorating the bad reputation which the tables of neumes have acquired.

THE PREVIOUS SALICUS RESEARCH

In the traditional Middle Latin treatises, the salicus is not defined. In their attempts to arrive at an interpretation of the sign, the previous research has therefore above all sought to extract other criteria from the etymology of the name, from the form of the characteristic note and from the substitution of the salicus with other neumes.

Since Raillard most researchers have derived the name from salire (jump, hop). The word salicus was thus translated as “to jump, to hop” and it was assumed that the name was based on a certain characteristics of the tone figure. Mocquereau, Wagner, Fleischer, Suñol, Jammers, Huglo and others shared this view.

This etymology was only challenged by Père Thibaut²⁶³ who was of the opinion that the name was derived from either σαλεύω or “more directly” (*plus directement*) from salix (meadow). (The Greek verb σαλεύω was translated by Thibaut an “être mouillé en rade, être à l’ancre” i.e. “to throw the anchor”.) The name salicus thus refers to its resemblance to the form of the sign (i.e. our salicus II) to that of an anchor or a meadow and/or a meadow fruit. P. Dechevrens²⁶⁴ considered the Thibaut’s etymology from *salix* to be more probable than that of *salire*.

262 cf. Wiesli, op. cit., 308-315.

263 *Origines byzantine*, 78.

264 SIMG IV, 335-339.

If the researchers appear to be united with respect to the question of the etymology of the word – if one exempts Thibaut’s “singular” explanation – the opinions about the meaning and manner of execution of the salicus diverge widely.

Dom Mocquereau²⁶⁵ considered the origin of the characteristic note in the salicus I to be unexplained, assumed however a connection to the apostropha. This supposition as well as a study of the “equivalences” led him to the conclusion that the characteristic second note of the three-tone salicus must have been the *ictus*²⁶⁶ which was to be stretched out in the manner of the pressus, however more lightly and more delicately.

Wagner²⁶⁷ interpreted the characteristic note of the salicus as a “hook” (therefore it was essentially an apostropha). Wagner’s salicus interpretation was dependent on the observation that the Trier table of neumes cites the salicus sign under the name *virga semitonis*. This expression supplied Wagner with the proof that the salicus was a half tone interval, which was indicated by the hook. Drawing on the name of the sign and the shape of the “Haken” he concluded that the half tone step was descending and had to be quickly executed. Accordingly the three-tone salicus had to actually be a four-tone figure. If diastematic sources transcribed the salicus for example with *efg* or *fga*, then one would have originally sung *e fe g* and/or *fg fsharp a*. One had to imagine the execution of the two-step salicus in a similar manner. If diastematic versions represented the salicus with *ef* or simply with a distropha or tristropha, then Wagner proposed the tone series should be transcribed as *efef*.

The “explanation” of the salicus as a *virga semitonis* in the Trier table also served as the starting point for the interpretation of C. Vivell.²⁶⁸ Like Wagner, Vivell also interpreted the salicus note as a double note, and similarly as a half tone step. The two interpretations differed however in the supposed direction of the step. Taking into consideration the relationship of the salicus to the quilisma, Vivell believed that he could conclude that the direction would be ascending, not falling. The salicus note indicated therefore a half tone step if the next higher tone, indicated with a virga, was a minor third or an entire tone higher. Diastematic salicus passages such as *f a c* or *f g a* had to be transcribed accordingly with *f abc* and/or *fg fsharp a*. If on the other hand the distance between the salicus note and the virga was only a half tone, then “*both notes of the salicus*” (he meant the tones of the characteristic note) would have to be

265 NMG, 164f., 401-411.

266 C. Vivell (“Musikterminologisches” *Gregorius-Blatt*, Jg. 38 [1913]: 82-84) states that the term “ictus” is nowhere mentioned in medieval treatises with the meaning of “*melody-accent, emphasis, strengthening of a tone*”.

267 *Rassegna gregoriana* III (1904): col. 249f.; EGM II, 144-148.

268 „Die Salicus-Neume von Metz und St. Gallen eine Doppelnote“ *Gregorius-Blatt*, Jg. 38 (1913): 40f., 53-56.

executed “on one and the same step in unison” and in *tremolo*. These conclusions were directly related to Vivell’s theory discussed above on “*Die enharmonischen und chromatischen Zierformen der antiken und gregorianischen Melodie*”.

Dechevrens’ theory was linked to Wagner’s interpretation, even though he did not refer to the Trier table with the *virga semitonis*.²⁶⁹ Dechevrens interpreted the characteristic note of the salicus I as a *clivis* which again resulted in a transcription of a falling step of a second. In this case however the step of a second was not always linked to the half tone. Dechevrens transcribed the *clivis*-like bow, according to the position of the salicus, as a whole tone.

Dechevrens strictly distinguished this salicus from the form of our St. Gall salicus II that he called “*scandicus volubilis*”. He was of the opinion that the S-like sign of this conjunction (Dechevrens recognized it as an *oriscus*) should be transcribed as a *gruppetto*-like figure because of its resemblance with the modern *gruppetto*.

O. Fleischer’s formula²⁷⁰ for transcribing the salicus I completely agrees with Dechevrens’ formula. His definition “*Der Salicus ist ein untertieftöniges Zeichen mit der Tonbewegung 1 2 1 3 vom Untertiefton zum Hochton hinauf*” means in less convoluted language that salicus indicated figures such as *f g f a* . However Fleischer interpreted the characteristic note of the salicus I to be an *apostropha*.

Jeannin’s salicus theory deviates fundamentally from the interpretations discussed above.²⁷¹ Setting out from two prerequisites, first that the characteristic note of the Breton salicus was an *oriscus* and secondly, that the *oriscus* was the *vox tremula* of the Middle Latin theorists, he concluded that the characteristic salicus note was a short vibration, or more exactly a mordent with the upper neighbouring note: “*balancement légèrement écourté comprenant la note supérieure et de nouveau la note réelle, avec renforcement de la voix sur la Ire note.*” Jeannin also attributed a mordent effect to the *pes quassus*.

Dom Ferretti²⁷² restricted his commentary to remarking that the Aquitanian notation of the Gradual of Saint-Yrieix used two salicus forms, the one for the two-step, the other for the three-step salicus.

Dom Suñol²⁷³ was of the opinion that the difference between the salicus and the *scandicus* must have existed solely in the nuancing. While in the *scandicus* the first note would carry the *ictus*, with the salicus the emphasis was on the second, stretched note that Suñol interpreted as an *apostropha*.

269 SIMG XIV, 335-339.

270 *Die germanischen Neumen*, 67.

271 *Mémoires liturgiques syriennes et chaldéennes*, 213.

272 *Pal Mus XIII*, 185f.

273 *Introduction*, 497-500.

Suñol still represented therefore the official standpoint of the older Solesmes school; more recent publications indicate that the Solesmes salicus interpretation has changed considerably in the meantime. In the more recent interpretations, the focus on the salicus is not on the characteristic middle note of the salicus but rather on the following note. In his interpretation L. Agustoni²⁷⁴ for example this viewpoint is emphasized:

The characteristic note of the salicus that is designated by the vertical episem should be executed more with a light emphasis rather than with a disproportionately unjustified lengthening. The peculiar nature of the salicus usually consists of bringing the melody to a culmination that must not be ignored in the execution. The note therefore, that follows the episematic salicus must be interpreted with a certain amplitude that corresponds to the melodic context.

Pater Wiesli²⁷⁵ also no longer looked upon the oriscus as the characteristic salicus note in its “*distinct function of striving*” but rather he saw the virga following the oriscus as the carrier of the musical meaning: “*It is characteristic of the salicus to lead the melodic movement upwards to this note which directly follows the oriscus.*”

Wiesli’s interpretation of the quilisma was a key element for the development of his conception of the salicus. Since the codices Laon 239 and Chartres 47 often reproduce the St. Gall quilisma with salicus graphic arrangements, Pater Wiesli considered it to be possible by means of this analogy with the characteristics of the salicus (oriscus) to discover the peculiarities of the quilisma. Based on this premise Wiesli arrived at two conclusions:

1. The oriscus would be in general, as is the case with the salicus, an light note. Therefore the corresponding quilisma should also be an light note.
2. The oriscus of the salicus has the specific function of leading up to the following virga. Such a striving function must therefore evidently be attributed as well to the quilisma note.

THE NEW SALICUS INTERPRETATION – RELATIONSHIP TO THE CHOREUMA

After the above report on previous salicus research, it certainly would be audacious to maintain that the original meaning of the sign had been found. Even if interesting aspects are offered by each of the above cited opinions, the dichotomy of the opposing positions and the variability in the interpretations

274 *Gregorianischer Choral*, op. cit., 147-154, cit. 148.

275 Wiesli, op. cit., 295-299. Both Agustoni and Wiesli based their studies on a dissertation which was unavailable to the author: R. Ponchelet, *Le salicus du cod. 359 de la Bibl. de St. Gall dans la perspective des temoignages du cod. 239 de Laon et du cod. 47 de Chartres* (Rome, 1959).

would only seem to add credibility to the complaint that “to a large extent the thread transmitting the original interpretation has disappeared without a trace”²⁷⁶ would not appear to be unfounded. Despite this it can be said that a consideration of the research results in the second book of the UNKI on the Byzantine neumes has also allowed us to open up unexpected perspectives for the interpretation of the salicus.

Our comparative neumatic investigations led to the conclusion that the salicus II, whose 18 most important forms are given in table 5, is the Latin analogon of the Byzantine choreuma. The relationships existing between the two signs are both onomatological and semiographical as well as of a semasiological nature.

The onomatological relationship

1. The name *salicus* is generally derived etymologically from *salire*. This derivation appears to be correct. *Salire* means however not only to jump and hop but rather also to dance. The meaning “dance” and “dance figure” however also applies to the Greek terminus technicus *choreuma* which already appears among the list of neumes in codex Lauva Γ. 67. *Salicus* and *choreuma* are therefore “synonymous” expressions. A study of all the sources would seem to confirm the impression that the name *salicus* is the Latin translation of the Greek musical-technical term *choreuma*.

That the explanation for the term *salicus* as a “*dance neume*” was not taken into consideration by the previous researchers is not surprising. In view of other comparable constructions with respect to the meaning of the neumes, it would seem more logical to think of *salicus* within the context of “springing” or “hopping” rather than as a “*dance neume*” Only when one is aware of the existence of the parallel expression *choreuma*, does this meaning make sense.

2. As for Thibaut's derivation of the *salicus* from σαλεύω, it has to be said that he gave this Greek verb a meaning that it does not possess. Σαλεύω never, to the best of our knowledge, has the meaning “to throw anchor” but rather means “to set in motion, waver, shake, move back and forth”. In this sense, a derivation from σαλεύω would nevertheless be worthy of consideration, because the expressions σαλεύω and σάλευμα often appear in post-Byzantine music theoretical writings.

Thus we read in the treatise in codex no. of 811 the patriarchal library in Constantinople, p. 150: Ὅτε δὲ (ἡ ὑπορροή) τίθεται μετὰ τοῦ πιάσματος διὰ τὸ σάλευμα, ἀποβάλλει καὶ τὸ ὄνομα καὶ τὰς φωνὰς καὶ λέγεται σεισμα, ὅτι σειεὶ τὰ ἄλλα.²⁷⁷ If in this case the expression σάλευμα is used within the context of the

276 Agustoni, *Gregorianischer Choral*, op. cit., 168f.

277 Citation from Thibaut, *Origine*, 80/2.

hyporrhoe and the seisma, in the treatise in codex Parisinus suppl. grec 815, fol. 64v, it is used to illustrate an ascending movement: Ὁ λόγος καὶ ἡ ἐρμηνεῖα τῆς ὑπορροῆς ὁμοίως ἐστὶ τῆ δύο κεντημάτων. Ὅτε γὰρ ὁ τεχνίτης τὰς ἀνιούσας φωνὰς (ἐτέλεσεν), τότε ἐποίησε τὰ δύο κεντήματα. Οὕτως οὖν μετὰ τὸ τελέσας καὶ τὰς τοιαύτας κατιούσας φωνὰς, ἐποίησε τὴν ὑπορροήν. Ἐκεῖνα μὲν οὖν διὰ σάλευμα ἐγένοντο τὸ ἐν τῇ ἀναβάσει. Αὕτη δὲ ἴνα ῥέη, ἤγουν τρέχη ἐν τῇ καταβάσει. When referring to the gorgon the treatises also say that the sign, to which it is set, is “brought into wavering” (σαλεύει): cf. UNkl, chap. VIII and chap. XXII.

Nevertheless the derivation of the salicus from σαλεύω is totally untenable because the expression σάλευμα was not used in Greek music literature as a name of a sign.

Thibaut’s derivation of the salicus from *salix* is devoid of any basis.

The semiographical relationship

Of the three elements, out of which our salicus II is composed, the first is, as we have seen, variable. It can be a punctum, a tractulus or a virga. The second and third parts, i.e. the oriscus and the virga, are constant. It should be noted as well that conjunctions with the virga as the first element occur, as far as we see, only in St. Gall neumatic sources and furthermore that the oriscus in some graphic arrangements (St. Gall and Metz) appears as well in a mirror-image graphic transposition.

The onomatology of the Byzantine neumes illustrates the name choreuma with two different conjunctions. The choreuma of the list of neumes in codex Lavra Γ. 67 consists, as already explained, of piasma, klasma and lygisma. A semiographical relationship between this conjunction with our salicus II is not apparent. On the other hand a Byzantine parallel for the salicus II can be found in the Coislin- and Late Byzantine choreuma. This is the conjunction of dipole and mirror-image and/or a horizontal hyporrhoe. In certain cases, the Paleo-Byzantine choreuma is expanded with a third element, an oxeia (cf. examples 282 and 550).

This three-part combination differs from the St. Gall graphic arrangement ‘virga + oriscus + virga’ only with respect to the first element, the one dipole oxeia (which in relation to the Latin neumes would be a bivirga).

The semasiological relationship

As we have already discussed, in the transmission of the table of neumes in Parisinus 261 and in the teaching song of Kukuzeles, the choreuma is represented with a six-tone figure that comprises the tones *a b c b a b* (example 314). This tone series recurs quite frequently in melodies of the sticherarion,

asmatikon and kondakarion. Coislin neumatic sources notate it with the conjunction of dipole and syrma (example 318-319). Kondakrian sources display it with “small signs” and with the ligature of epegerma and choreuma or lygisma and choreuma.²⁷⁸ In asmatic versions the figure is transposed to the lower fifth as *d efed e* (cf. example 552).

A structural analytical examination of the neumes allows us to recognize that our figure actually consists of two main tones, the first and the last tone. They form together an ascending step of a second and they are metrically long. The four middle short tones that are indicated in Middle Byzantine versions with a xeron klasma group, represent in contrast a gruppetto-like ornament.

It is impossible not to see the ornamental nature of this middle four-tone group, when Middle Byzantine versions write out the choreuma with the gorgon and the hyporrhoe. This can be seen in the Middle Byzantine notation of the embellished seisma figure in example 546, that is nothing else than a transposed choreuma: *e fgfe f* .

In this position as well as in the transposition to a fifth higher (*b cdeb c*), the choreuma forms the central component of our eight-tone figure syrma A (see the examples 275-277, 282-283, 548 and 550). The eight-tone syrma A (*f e fgfe fg* and/or *c b cdeb cd*) is thus revealed to essentially be a choreuma framed by two “bordering tones”.

That choreuma and syrma A figures are close relatives is revealed in the Paleo-Byzantine versions in the way that both figures are notated with the same graphic arrangements, i.e. the conjunction of dipole and syrma. Middle Byzantine sources with the syrma A confirm then the ornamental character of the middle four tone group of the choreuma, and here it is again indicated with the gorgon and the hyporrhoe.

We must high-light the importance of the syrma- and/or choreuma figures discussed above in examples 275-277 and 282-283 because they, taken together with the onomatological and semiographical investigation, offer us the key for deciphering the salicus. Even a mere glance at the Latin and Byzantine passages compiled in examples 547-554 suffices in order to perceive the relationship and/or equivalence of the corresponding salicus and choreuma graphic arrangements and figures. Even without a detailed explanation of the examples, a paleographically educated reader should be able to easily recognize the equivalence of the salicus and the choreuma by a simple comparison of the graphic arrangements.

Readers who are less well acquainted with paleography might not immediately recognize the connection, especially if they are familiar with the transcriptions of the Editio Vaticana. While Middle Byzantine sources of our

278 Floros, *Origins of Russian Music*, table 1.4 – 1.6.

examples break down the Paleo-Byzantine stenographic choreuma conjunctions and represent the tone series with *f e fgfe fg* and/or *c b cdc b cd*, the Editio Vaticana transmits the corresponding salicus graphic arrangements with the simple tone series *e f g* and/or *b c d*. (That the Vaticana transcribes in this instance salicus and not scandicus graphic arrangements is revealed by the “vertical episem” under the middle note.)

This transcription of the salicus does not correspond however in any way to the original manner of execution of the sign. The Vaticana represents the oriscus, the characteristic note of the salicus, in each case with only a single tone. Our investigations yielded the research result on the other hand that the oriscus is by its very nature a stenographical sema comprising several tones which indicate specific ornamental figures. This is also confirmed by the fact that the Middle Byzantine sources of our examples resolve the stenographic hyporrhoe symbol of the Paleo-Byzantine choreuma figure into an ornament consisting of several tones.

CONCLUSIONS

To sum up, we can say that it has been established that the semiographically similar and onomatologically synonymous salicus and choreuma conjunctions are also semasiologically equivalent. As the hyporrhoe in the choreuma, the oriscus in the salicus also designates a five-tone gruppetto-like ornamental figure that encircles a main tone first from above and then from below. One could express it in this way: a four-tone gruppetto-like quickly executed ornament acts as a prefix to a main tone. The Editio Vaticana only notates the main tone, the preceding ornament is not recorded. In proceeding in this way, it follows certain diastematic versions that similarly notate the oriscus in the salicus with one tone. However, if one wants to restore the original manner of execution of the salicus, one must perform the oriscus as a five-tone ornamental figure as it is illustrated in our transcription in table 7. Accordingly the salicus figures of the examples 547 and 549 do not read *e f g* and/or *b c d*, but rather *e fgfe fg* and/or *b cdc b cd*.

The correctness of this transcription confirms a further observation. In chants of the fourth mode (plagios deuterios), some inner cola are quite frequently concluded with salicus figures, which the Vaticana transcribes as *eef*. The immediately following colon usually begins with the leap of a fourth *d g* (example 555, 557). Similar phrases are to be often found in Byzantine chants of the deuterios and plagios deuterios (examples 556, 558). It is revealing that arrangements with the laimos or kylisma at the ends of Byzantine inner cola are reproduced in Middle Byzantine manuscripts with the tone series *e fgfd ef* or similar figures. Also in these cases the Middle Byzantine sources take the stenographic laimos and kylisma signs into consideration, while the Vaticana

Table 7: Transcription of the Latin Ornamental Neumes

A. ORISCUS

EDITIO VATICANA (Ex. 500)



G. HOUDARD 1898:
Combination of
“Epiphonus” and Apostropha



A. DECHEVRENS 1902 and 1912
Les vraies mélodies grégoriennes;
SIMG XIV, 294-300, 345:
Ligature of hook, Virga jacens
and comma



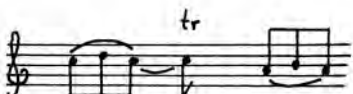
P. WAGNER 1912
EGM II, 143 f., 395.
x = “neither b nor c, but rather
a tone lying between the two tones”



O. FLEISCHER 1923
Die germanischen Neumen p.61:
Interpretation as mordent



L. JEANNIN 1925
Mélodies liturgiques p. 206-215:
Interpretation as trill



correct transcription



Table 7: Transcription of the Latin Ornamental Neumes – con't

B. PES QUASSUS

EDITIO VATICANA (Ex. 544)



A. DECHEVRENS 1902 and 1912
Les vraies mélodies grégoriennes;
SIMG XIV, 311-313



P. WAGNER 1912
EGM II, 40, 395:
“a two tone ascending figure with its
first tone twice struck or it slide into the
second longer tone in the manner of a
portamento”



O. FLEISCHER 1923
Die germanischen Neumen p. 64:
“a kind of warble”



L. JEANNIN 1925
Mélodies liturgiques p. 206-215:
Interpretation as mordent



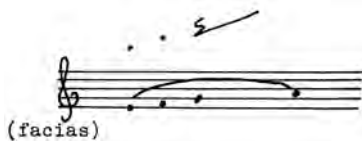
correct transcription



Table 7: Transcription of the Latin Ornamental Neumes – con't

C. SALICUS

EDITIO VATICANA (Ex. 554)



A. DECHEVRENS 1902 and 1912
Les vraies mélodies grégoriennes;
SIMG XIV, 335



P. WAGNER 1904 and 1912
Rassegna gregoriana III, p. 249;
EGM II, 144-148, 395



C. VIVELL 1913
Gregorius-Blatt Jg. 38,
p. 40, 53-56



O. FLEISCHER 1923
Die germanischen Neumen p. 67



L. JEANNIN 1925
Mélodies liturgiques p. 206-215:
Interpretation as mordent



correct transcription



Table 7: Transcription of the Latin Ornamental Neumes – con't

D. GUTTURALIS

EDITIO VATICANA (Ex. 559)



A. DECHEVRENS 1902 and 1912
Les vraies mélodies grégoriennes;
SIMG XIV, 309-311



P. WAGNER 1912
EGM II, 155-159, 395



O. FLEISCHER 1923
Die germanischen Neumen p. 61:
Interpretation as mordent



L. JEANNIN 1925
Mélodies liturgiques p. 206-215



L. DAVID 1932/1933
Revue du Chant Grégorien
Bd. 36, p. 146-154;
Bd. 37, p. 1-6



approximate transcription



transcribes the characteristic note of the salicus with a single tone. Thus in accordance with our guidelines for transcription, the salici in example 555 and 557 should be transcribed as *efgfe f*.

If we now look back from the heights that we have reached at the previous attempts to find an interpretation of the salicus, we must grant that of all the theories Dechevrens came the closest to discovering the true meaning of the sign. This applies to Dechevrens' interpretation of our salicus II that he called the scandicus volubilis and whose middle note he tried to transcribe purely hypothetically with a gruppetto-like phrase. His suggestions for transcribing the salicus are nevertheless quite far removed from the actual manner of execution. Yet they deserve to be recognized, above all if one considers that Dechevrens had to work without any knowledge of the Paleo-Byzantine material.

As for Mocquereau's salicus interpretation it might be remarked it is approximately correct, in that it interprets the characteristic salicus note as being stretched out. However the only reason it is stretched out was because it is preceded by a four-note ornament. Mocquereau however had no idea that this was a characteristic trait of the salicus note – understandably because he looked on the oriscus as a sign of a single tone.


6. Gutturalis

Gutturalis dicitur, quia cillenti gutture formatur.


Walter Odington


De speculatione musicae, pars V

Forms

 (St. Gall)

 (Metz)

 (Breton)

 (Aquitania)

THE CONFUSION WITH THE FRANCLUSUS

The neume whose forms we indicated above is in the modern literature on the neumes principally known under the name “*virga strata*” and “*franculus*”. Only in the rarest cases it is cited with the name *gutturalis*. Paradoxically the term which seems to have been so scorned in the research literature is the Middle Latin and only correct label of the neume. The two other expressions for this sign are inappropriate and should be banished from scientific usage in as far as the *gutturalis* is being discussed.

This can be substantiated at several levels. First of all the term *virga strata* is nowhere to be found in the tables of neumes. It is a creation of the school of Solesmes and was evidently coined in analogy to the term *pes stratus* that occurs in the *Tabula prolixior*. Why however a new term for our sign had to be introduced when an authentic medieval name is documented is a question to which we not able to give a satisfying answer.

As far as we see, the name *franculus* can be found in only two manuscripts which contain the expanded version of the *Tabula brevis*, i.e. in codex Wolfenbüttel and in codex St. Blasien. Both tables however do not indicate the neume with any of the forms given above but rather with the so-called “epiphonus”. In both tables the sign assumes a shape that does not have any resemblance at all to the St. Gall forms of the *gutturalis*. How it came to pass that the name *franculus* was applied to the *gutturalis* sema is a complete puzzle to the author. The confusion could only be attributed to an all too fleeting examination of the tables. Which researcher was first responsible for the mistake remains an unanswered question. In any case Wagner²⁷⁹ deals with the *gutturalis* exclusively under the name *franculus*. Several other researchers then followed his lead.

THE GUTTURALIS GRAPHIC ARRANGEMENTS IN THE TABULAE NEUMARUM

First we must note that the *gutturalis* belongs among the nine “fundamental neumes” that form the framework of the *Tabula prolixior* (cf. chap. 8). It appears with neumes in all four versions of this *Tabula*.

In the Wolfenbüttel and Ottobeuren versions of the *Tabula prolixior*, four *gutturalis* graphic arrangements are indicated: the *gutturalis* standing alone as well as the *gutturalis praepunctis*, *subpunctis* and *compunctis*. In the Trier version then five graphic arrangements are found: the *gutturalis* standing alone, the *gutturalis subpunctis*, the *gutturalis semivocalis*, the *flexa gutturalis* and the *flexa gutturalis subpunctis*. The Leipzig table adds the conjunction *gutturalis apostrophis* to these five graphic arrangements.

All graphic arrangements are expressed with St. Gall neumes in the cited tables. The *gutturalis subpunctis* is illustrated in all four tables with the graphic arrangements *pressus maior*.

The *gutturalis* is not included in the short version the *Tabula brevis*. (Just as the names *franculus*, *pes stratus* or even the so-called “*virga strata*” do not appear.) On the other hand the name *gutturalis* appears in the expanded version of the *Tabula brevis*. For illustrating the neume the Wolfenbüttel table has the

279 EGM II, 155-159.

graphic arrangement of the St. Gall pressus maior; St. Blasien on the other hand uses the graphic arrangement of the St. Gall pressus minor.

SEMIOGRAPHICAL INTERPRETATION

An essential criterion for the interpretation of the gutturalis is undoubtedly offered by the graphic arrangements of Metz, Breton and Aquitanian notation. All three have a sign consisting of the punctum or the tractulus and the oriscus. The characteristic note of this gutturalis graphic arrangement is therefore the oriscus. On this point there does not exist any doubt after the researches of Dom Ménager, Dom Jeannin and Dom Ferretti.²⁸⁰

Keeping the composition of the above named graphic arrangements in mind, it would seem that the St. Gall form of the gutturalis is a ligature of virga and oriscus. The following two facts would lend credibility this interpretation.

1. In codex Leipzig Rep. I 93, one of our oldest manuscripts with neumes, the gutturalis is notated as a conjunction of virga and an oriscus in upright position (cf. example 441).

2. Frutolf of Michelsberg (+ 1103) says in the *Tonarius*²⁸¹ that the *differentia tertia* of the *plagis tetarti* concludes with a gutturalis or *pressa* (sic) and he illustrates this with an example exhibiting a virga and an oriscus over the two syllables of the *amen*.

For the sake of completeness we still have to mention as well that all the older attempts at interpreting the St. Gall gutturalis form are completely erroneous. P. Wagner interprets the sign as a “*virga with a hook open to the upper right*”; Dechevrens²⁸² called the gutturalis a “*virga volubilis*” and interpreted it as a virga that ended in as an undulating line, the characteristic of the “*notae volubiles*”. Even in the 1930's the St. Gall gutturalis was interpreted by Dom Lucien David²⁸³ as a three-part sign that consisted of a virga, a gravis and a second, shorter virga.

PREVIOUS SEMASIOLOGICAL INTERPRETATIONS

As expected the opinions with respect to the original meaning of the gutturalis diverge to a remarkable degree.

280 Pal Mus X, 180; XI, 58,108f.; XII, 173, 179f.

281 *Differentia tertia [hypomixolydii] saeculorum amen in finali per gutturalem vel pressam finit, cantum vero partim per diatessaron, partim per diapente inferius incipit.* (*Breviarium de musica et Tonarius*, ed. C. Vivell, Vienna, 1919: 174).

282 SIMG XIV, 309-311.

283 “Le double punctum de l’Edition vaticane” *Revue du Chant Grégorien* 36 (1932): 146-154; vol. 37 (1933): 1-6.

Dom A. Schubiger²⁸⁴ defined the sign as “a double note, consisting of a kind of *appoggiatura* and a main note, both usually on the same pitch. Yet one also encountered the *appoggiatura* a half tone deeper than the main note (*mi fa*)”.

Wagner also considered the gutturalis to be a two-tone sign. In his representation, Schubiger’s interpretation of the relationship between the two tones is reversed. According to Wagner the first note was the main tone and the second note written above it was the secondary tone. The neume indicated accordingly an ascending second and more specifically a large or a small interval. Wagner considers it even for possible, “that the second tone often was only slightly above the first tone”. It seems that once again Wagner’s interpretation of the gutturalis was influenced by his theory about the existence of smaller, non-diatonic tone steps in the older hymn practice.

Dechevrens admits that one could not be certain about the original manner of execution of the gutturalis, yet he suggests that the “wavy form” of the sign could be indicated with an ornamental interval of a second, as for instance *f e f g*.

If the gutturalis appeared at the end of a colon, it might be transcribed an a gruppetto-like figure, for example *d c d e d* .

We already mentioned that Fleischer²⁸⁵ interpreted the gutturalis as a mordent with a neighbouring lower note. Here it should be added that his view was based on the St. Gall form of the neume. As a formula for transcription, it indicated the motif *a g a* or “perhaps also” *a g sharp a* . According to Fleischer the Latin name of the sign indicated “a trill-like *coloratura* similar to the manner of execution designated with an already obsolete term *gorgia* in 16th century Italy”.

Dom Louis Charpentier, the author of the most thorough study of the sign to date, came to a series of important conclusions about the meaning the gutturalis.²⁸⁶ On the basis of a comprehensive mass of material he examined the transcription of the neume in lined sources and in the Editio Vaticana and found that the gutturalis was represented in the Gradual predominantly with the podatus but in the Antiphonale on the other hand mainly with a double note on the unison.

The investigation of 156 cases from the Gradual yielded in toto the following picture: in 103 cases the gutturalis was transcribed as a half tone step, in 18 cases as a step of a full tone, in 12 cases as a unison double note, in 18 cases as a single note, in the remaining 6 cases the transcription was doubtful.

It is noticeable above all that the gutturalis in the Gradual usually indicated a half tone. Two further aspects of Charpentier’s research results should be

284 *Die Sängerschule St. Gallens*, 8.

285 *Die germanischen Neumen*, 61.

286 “Étude sur la virga strata” *Revue gregorienne* 12 (1927): 1-8, 64-80, 154-181.

emphasized: the gutturalis in the Gradual is to be found mostly over syllables which carry the main or a secondary accent; and that the tone following the second tone of the gutturalis lies as a rule a second or a third lower.

The investigation of 200 cases from Antiphoners of the first mode showed on the other hand that lined sources and the Editio Vaticana transcribed the gutturalis in 196 cases with a unison double note. Charpentier thought that these transcriptions were not without error. A comparison with corresponding neumatic passages and formulas in the codex Hartker found that the gutturalis was replaced quite frequently with the podatus or with the so-called epiphonus, whereby these signs usually indicated a half tone step. In consideration of these facts, Dom Charpentier concluded that the gutturalis was also originally executed in the Antiphonale mainly as a step of a second. He was certain that the original shape of certain tone formulas could be reconstructed in numerous cases with the aid of this sign.

On the other hand Dom David defended the viewpoint that the different reproductions of the gutturalis in the Editio Vaticana of the Gradual and Antiphonale were correct and well founded. The gutturalis had been namely originally a three-tone ornament, a mordent-like figure with the next lower note. The first two tones would be light and short and were similar to a double appoggiatura; in contrast the third tone should be interpreted as a main note.²⁸⁷ Such an ornamental figure however could not be represented in the transfer of the neumatic sources to the notational system on lines. One therefore had to leave out one of the two ornamental tones and decide which of the tones was more important from a melodic standpoint. If the first tone was considered to be non-essential, then one converted the gutturalis into the podatus. If one believed the middle, deeper tone was more important, then one transcribed the sign as a unison double note. Guided by principles of a uniform transmission of the diastematic sources, the Editio Vaticana thus faithfully preserved the tradition of the original lined sources.

THE NEW ONOMATOLOGICAL INTERPRETATION: THE GUTTURALIS INTERPRETATION OF WALTER ODINGTON AND THE APORRHOE DEFINITION OF THE HIEROMANACHOS GABRIEL

With respect to medieval explanations of the gutturalis, we only possess the definition of the Walter Odington: *Gutturalis dicitur, quia cillenti gutture formatur.*²⁸⁸ On the first impression this statement does not seem to offer more

287 Dom David's interpretation appears to have been very much influenced by the thoughts of Dechevrens und Fleischer. The attempt to interpret the guttural from a (supposedly) three-part St. Gall form reveals his orientation on Dechevrens' ideas. The interpretation of the neume as a mordent-like figure is undoubtedly based on Fleischer's studies.

288 CoussS I, 214a.

than a paraphrase of the etymology: “the neume gutturalis is so named because it [i.e. its tone figure] is quickly²⁸⁹ produced from the throat.” If however we take a look at this remark within the context of the results of our paleographical analysis of our neume and above all in the light of our comparative investigations, it offers substantially more than it would first appear.

As explained above, the characteristic note of the gutturalis is the oriscus. This sign has been proven to be identical to the Byzantine hyporrhoe (iporoi). The hyporrhoe is consistently defined in the Greek treatises as a guttural neume (s. UNkI, chap. VI).

Especially informative is the definition of the Hieromonachos Gabriel. In the treatise of the codex Lavra 610, it has this wording: Τὴν δὲ ἀπορροὴν μήτε σῶμα μήτε πνεῦμα εἶναι εἶπον, ἀλλὰ τοῦ φάρυγγος σύντομον κίνησιν.²⁹⁰ “I have made clear that the aporrhoe is neither a soma nor a pneuma, but rather a quick movement of the throat”.

If one disregards the first part of the sentence that deals with the strange “hybrid” nature of the hyporrhoe, the second part of a sentence of the Greek definition agrees with the statement of Walter Odington word for word and indeed in such a measure that the assumption that the agreement could be purely accidental would be absurd.

Five conclusions can be drawn from this comparison:

1. Our Latin neume owes its name gutturalis to its characteristic note, the oriscus (iporoi).
2. The sign gutturalis indicates with respect to the manner of vocal execution that a “throaty” effect is required.
3. The “throaty” effect is reserved only for neumes that have the oriscus as a component.
4. It is very possible that Odington’s gutturalis definition is based on an older explanation that was translated from Greek.
5. The littera significativa g, as far as it occurs in the salicus and pressus, refers to the oriscus as the characteristic note of these graphic arrangements; it means *in gutture* and indicates a guttural manner of execution for the salicus (= choreuma).

Objections could perhaps be made about the first two conclusions on the grounds that the word *guttur* in the medieval music theoretical literature has both the meaning of “throat” and of “voice” and as a result *guttur* could possibly have the second meaning in Odington’s explanation. The reply would be that in

289 Middle Latin glossaries list the verb *cilleo* as a synonym for *moveo*; cf. Smits van Waesberghe, *MdM* II, 541/footnote 51.

290 Tardo, *Melurgia*, 189. Codex 811 of the patriarchal library of Constantinople has the reading: ἀλλὰ τοῦ λάρυγγος σύντομον κίνησιν.

most cases it is clear from the context as to the sense of the word. In the case of Odington's explanation, it can possess only the significance of throat. This is confirmed with the aporrhoe definition of the Gabriel.

Berno used the term *guttur* with the meaning of "voice" on the other hand when it is stated in the Tonarius, that "*the quilismata that we name today gradatae neumae, can be more easily produced with the throat than with instrument*" (cf. above p. 80).²⁹¹ With this statement, Berno wants to denote the special vocal effect of the quilisma as against the instrumental sound. Under no circumstances can be concluded from his remark that he was commenting on a guttural manner of execution for the quilisma.

As for the third conclusion, we have the explanation from the Greek treatise that a guttural characteristic was attributed exclusively to the hyporrhoe.

As for the fourth conclusion, chronological objections could perhaps be raised. Walter Odington²⁹², the famous theorist and astronomer, lived in the early 14th century; Hieromonachos Gabriel (from the cloister of the Xanthopouloi) lived perhaps somewhat later. (He is named as an author of a codex in the patriarchal library in Jerusalem dated 1440 written in the Vatopedi monastery).²⁹³ Such chronological deliberations however are not of great importance within the context with our question. There can be doubt that both definitions reflect much older traditions and the priority of the Greek tradition can be assumed simply because the oriscus was derived from the hyporrhoe.

The fifth conclusion will be discussed in chapter 7.

THE NEW SEMASIOLOGICAL INTERPRETATION – THE RELATIONSHIP TO THE XERON KLASMA

Also for the gutturalis the principle applies that it is important that a systematic investigation of a neume be preceded by a compilation of all of its positions. Thereby it could be first established that the gutturalis – like most signs of the oriscus family – appears both as a component of a series of several neumes as well as standing over a single syllable. We must therefore make a distinction between the "connected" gutturalis and the gutturalis standing alone.

A noticeable peculiarity of the *connected* gutturalis is that it is never, when it appears with a group of neumes, "built into" that group – in contrast to the oriscus, pes quassus and salicus. It always appears as the last sign of a group of several elements, thereby acting as the end of a melisma.

291 This was already noticed by Smits van Waesberghe (MdM II, 539). He translated the word *guttur* in Odington's explanation with "voice" (op. cit., 541). Our discussion should however demonstrate that it has the meaning "throat" in this instance.

292 Cf. G. Reaney, article "Odington" in MGG IX, col. 1849f.

293 Cf. Tardo, *Melurgia*, 183/footnote 3.

Two further peculiarities should to be noted: The connected gutturalis always indicates, as far as we see, a step of a second, which can be large or small. We have not found a single instance in the Editio Vaticana where the “connected” sign is interpreted as a unison double note. In that respect it is remarkably that the connected gutturalis together with the notes surrounding it always designates a gruppetto-like figure, as can be illustrated by it the following combinations (cf. examples 658-669):

gutturalis praebipunctis:	<i>acde/d</i> or <i>dfga/g</i>
climacus and gutturalis:	<i>cbagab(b flat)/a</i> or <i>agfga/g</i>
clivis and gutturalis:	<i>agab flat /a</i>
torculus and gutturalis:	<i>gagab flat /a, dedef/e, adcde/d, gcabc/b</i>
quilisma/torculus and gutturalis:	<i>fgfga/g</i>
quilisma/pes subbipunctis and gutturalis:	<i>ab flat agab flat /a</i>

The meaning of the connected gutturalis consequently is quite clear: its components, virga and/or punctum and oriscus, each indicate a tone; the oriscus is placed here in order to refer to the gruppetto-like nature of certain figures.

The semasiological rules that we set up for the connected oriscus and pes quassus apply as well to the connected gutturalis.

Important criteria for the semasiological analysis of the gutturalis *standing alone* are provided first of all by the above discussed results of our investigation of the meaning of the pes quassus standing alone. We have to keep these results in mind because the gutturalis is semiographically nothing else than the mirror image of the pes quassus. Both signs consist of the virga (and/or the punctum) and the oriscus. In the pes quassus, the oriscus forms the first component of the neume, in the gutturalis the second.

But also semasiologically a relationship exists between the two neumes. One just has to consider the fact that diastematische records not only always represent the pes quassus as an ascending step of a second, but very frequently – in the Gradual – the gutturalis as well. At the same time it is especially noticeable that both neumes in most cases are to be found on the position of the half tones *ef* and *bc*.

Based on the assumption that the system of the Latin chant notation is constructed on strictly logical principles (and there is no reason to doubt this),

one could legitimately assume, in consideration of the analogies existing between both neumes, that one could transfer – *mutatis mutandi* – the insights gained from the study of the *pes quassus* to the *gutturalis*. Our investigation of the *pes quassus* furnished the proof that its first element, the *oriscus*, designated a gruppetto-like five-tone ornamental figure, that encircled a main tone first from above and then from below. This was followed by a second main tone which was indicated by the *virga*. Of the two main tones of the *pes quassus*, the first tone therefore has an ornament, but not the second.

To all appearances the reversed relationship applies to the *gutturalis*. Here the first tone would appear to be without ornament but the second tone was ornamented. Thereby it is not necessarily the case that the ornamented main tone of the *gutturalis* had to be furnished with exactly the same ornament as the embellished *pes quassus* tone. Possibly the two ornaments were only similar to one another.

Whatever the case may have been, it can be said to be that the second main tone of the *gutturalis* was certainly metrically long due to its ornamentation and probably longer than the first main tone. If with the *pes quassus* the emphasis was on the first main tone, with the *gutturalis* the emphasis was on the second main tone.

Supporting this interpretation are also some characteristics of Byzantine figures that might be spoken of as analogues of the *gutturalis*. Such a figure is the *xeron klasma*, or more specifically the *xeron klasma ascendens*, a two-step but three-tone figure. Semiographically the relationship of the two signs is quite loose. (The *xeron klasma* consists of the *diple* and the *klasma*.) On a semasiological level, however, there is a clear relationship in that the two-step but three-tone *xeron klasma ascendens* – like the *gutturalis* – is found on syllables that carry a main or a secondary stress, and most frequently on the half tone positions *bc* and *ef*. It is especially remarkable moreover that both signs appear quite frequently within similar Latin, Byzantine and Slavic melodic phrases, as the examples 559-566 can testify.²⁹⁴ In the Middle Byzantine versions of the cited examples it can be recognized that in our *xeron-klasma*-figures the weight rests on the second tone that is repeated and consequently lengthened.

294 It should be mentioned here that the Paleo-Byzantine version in example 564 exhibits a closer resemblance to the Latin source in example 563 than to the corresponding Middle Byzantine neumes. While the Middle Byzantine version has a *petaste* indicating the tone *d* over *ση-*, the Paleo-Byzantine *bareia* indicates the tone series *dc*.

CONCLUSIONS

In conclusion we can summarize the results of our investigation as follows:

1. Like the connected gutturalis, the gutturalis standing alone also designates as a rule a step of a second. A difference between the two positions exists therein in that the step of a second is embellish in the gutturalis standing alone but in the connected gutturalis on the other hand it is not.

2. St. Gall sources use the gutturalis far more frequently than Metz, Breton and Aquitanian neumatic sources. In place of the gutturalis these sources usually have the podatus and lack the ornamentation (cf. the examples named in table 8 under D).

3. In the first music manuscripts on lines the ornament of the gutturalis standing alone ist not written out. The gutturalis is usually represented in the Gradual by the podatus and in the Antiphonale usually with a unison double note. The latter method of transcription confirms that the second main tone of the figure was considered to be more important than the first.

4. The littera *c* (*celeriter*) is quite frequently written over the gutturalis in St. Gall sources. It relates to the second main tone, but that does not mean that it is short. Rather the littera indicates that the ornament is to be quickly executed.

5. The gutturalis standing alone at the end of a colon indicated two tones on the same tone level; the second tone is embellished.

Table 8: "Substitution" of Latin ornamental neumes and liquescents with "ordinary" signs

A. ORISCUS and VIRGA

Pes subbipunctis cum orisco

Pes subbipunctis cum virga

(SG BG EN) (MP)

(ex. 493, 525, 533)

Clivis cum orisco

Clivis resupina

(MP)

(ex. 513)

Torculus cum orisco

Torculus resupinus

(MP) (BD)

(ex. 500, 501, 504)

Quilisma praepuncte cum orisco

Scandicus praepunctis

(LN) (MP) (CH)

(ex. 516, 517, 519, 571, 648)

Trigon cum orisco


Correctus "praepunctis"


(LN)


(ex. 646)


Table 8: "Substitution" of Latin ornamental neumes and liquescents with "ordinary" signs – continued


B. Pes quassus and podatus


The St. Gall of Pes quassus  corresponds often with the angular Podatus

 SG and BG in Ex. 456 and 527

 LZ in Ex. 541



 LN in Ex. 657

 CH in Ex. 578


 MP in Ex. 456, 536, 654-656


 BD in Ex. 642 and 647

the "aufgelöste" Podatus


 or  in Ex. 456, 527, 578, 614

the Virga praepunctis


 CH in Ex. 537 and 538



 LN in Ex. 536, 653 and 656

the conjunction of Tractulus and Virga

 LZ in Ex. 526

the conjunction of two Virgae

 CH in Ex. 541

The Clivis cum pede quasso  corresponds with the Porrectus resupinus  in Ex. 534.

The Metz form of Pes quassus  corresponds with the angular Podatus  in Ex. 644.

Table 8: "Substitution" of Latin ornamental neumes and liquescents with "ordinary" signs – continued


C. SALICUS AND SCANDICUS


The St. Gall Salicus graphic arrangements



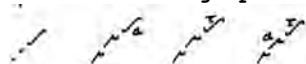
corresponds sometimes with:

the "ordinary" Scandicus  (MP in Ex. 441, 442 and 551)

the conjunction of two Tractuli and one Virga  (LZ in Ex. 441-442)



the conjunction of three Virgae  (BG in Ex. 551)



the Scandicus graphic arrangements in Metz






(Ex. 441, 442, 547, 549, 551, 553, 554 and 624)

D. GUTTURALIS and PODATUS



The St. Gall Gutturalis  corresponds with
the round Podatus  (GL in Ex. 561 and 565)




the angular Podatus  or  (LN and CH in Ex. 561, 563, 565, 568, 661-663, 666, 668)




the Virga praepunctis  or  or  (Ex. 559, 658, 661)



the conjunction of two Virgae  (LN in Ex. 666 and 668)

E. LIQUESCENT and "ORDINARY" NEUMES



Cephalicus and Punctum  (BG EN)  (LN) Ex. 614

Cephalicus and Virga  (LN)  (EN)  (CH) Ex. 669

Torculus  (EN)  (BG)  (LN) Ex. 577

Torculus  (LN)  (BG EN) Ex. 626

Quilisma + Torculus resupinus  (LN)  (BG EN) Ex. 597

Porrectus flexus  (LN)  (SG BG) Ex. 646

The forms of the left column appear all in St.Gall.

Chapter VI: The Notae Semivocales and the Hemiphona

Semivocales autem sunt appellatae, quae plenam vocem not habent.

Priscianus²⁹⁵

Institutionum grammaticarum lib. I, 9-10

Καὶ διὰ τοῦτο λέγεται (τὸ τζάκισμα) ἡμίφωνον,
ἦγουν ἔχει μισὴν φωνήν.

Codex Atheniensis 968, fol. 44

1. Introduction

The investigations of the second book of the UNkI (chap. VII) furnished the proof for the first time that the Byzantine and Old Slavic semiography included a class of tone signs that can and must be set directly parallel to the notae semivocales of the Latin chant notation. The three hemitona of the Hagio-polititanian classification, i.e. klasma, parakletike (or rheuma) and kouphisma, proved to be analoga of the Latin liquescent neumes. The semasiological investigations led to the result that a certain vocal technical effect was characteristic of the three hemitona (that are named in the treatises quite frequently also as hemiphona)²⁹⁶ and that the execution in the manner of the hemiphona implied that the relevant tones should be lengthened.


One further result of these investigations which is also especially relevant for the interpretation of the notae semivocales should be mentioned, the conclusion namely that this musical manner of execution was often called for even if the corresponded phonetic prerequisites were missing. Our critical discussion of the theories of Dom A. Mocquereau and H. Freistedt allowed us to explain in a plausible manner why a certain interpretation was called for, that otherwise would have been difficult to explain.

To have to again refer to the close relationship between the classes of the Byzantine hemiphona and the notae semivocales after we have discussed the subject in the second book of the UnkI would be superfluous. The question remains to be clarified on the other hand as to how far the relationships between the single Paleo-Byzantine and Latin “hemiphonic” semata extend.

295 *Prisciani Grammatici Caesariensis Institutionum Grammaticarum libri XVIII* ed. by M. Hertz, vol. I (Leipzig, 1855): 9 (= Grammatici latini, ed. H. Keil, vol. II).

296 The term *hemiphona* is borrowed from grammar. The expression *hemitona* probably was coined as an analogous term and then made more specific with the term *tonoi*. We should mention that the terms τόνος and φωνή are used as synonyms in the treatises.

2. Hemivocalis (“Epiphonus”) and Hemiphonon, Semitonus and Hemitonion, Franculus and Klasma

Forms: 

There are several indications the so-called Latin “epiphonus” and the Byzantine klasma are related neumes. The relationship existing between them are both onomatological and semiographical as well as of a semasiological nature.

THE ONOMATOLOGICAL RELATIONSHIP

In modern research on the neumes the term “epiphonus” is generally understood to indicate a bowl-shaped liquescent neume that consists of two tones, a deeper main tone and a higher liquescent tone.

Our sign is indicated in the *Tabulae neumarum* under no less than six different names, namely as: *eptaphonus*, *semivocalis*, *substringens*, *semitonus*, *gnomo* and *franculus*.

As remarkable as it might seem, the name “epiphonus” is nowhere to be found in the tables. One remote resemblance to it can only be found in the singular and corrupt reading of the Colmar (Murbach) table. This source has *epihophinus* (sic), which can be easily explained as the mistake of a scribe who was copying from a manuscript which must have had the reading *eptaphonus*.

All the manuscripts which contain the *Tabula brevis* (short version) accompany the term *eptaphonus* (and/or with the corrupt readings *eptophanus*, *etaphonus* and *eutaphonus*²⁹⁷) with our sema.

In the *Tabula prolixior*, our sign is named *semivocalis*. Or to be more precise, this reading is met in the Trier table. The Wolfenbüttel and the Otobeuren tables have the Hellenized reading *emivocalis*. The Brussels table has the optional term *semivocalis sive conexa* and in the Leipzig table is found then the optional reading *hemivocalis sive substringens*.

In Walter Odington’s table of neumes²⁹⁸ the so-called “epiphonus” is accompanied by the name *semitonus* and the “cephalicus” is designated with the term *semivocalis*. The table contains in addition a combination with the name of *semitonium cum virga*. That the terms *semitonus* (*semitonium*) and *semivocalis* really refer to the “epiphonus” and/or the “cephalicus” is made unambiguously clear in Odington’s explanations:

297 *Eptophanus* (Vienna, Österreichische Nationalbibliothek 1595); *etaphonus* (Erfurt, Stadtbibliothek Amplon. 94); *eutaphonus* (Vat. Pal. lat. 1346).

298 CoussS I, 213, 236.

“Semivocalis medietate sui temporis transfert ad aliam vocem que dicitur semivocalis descendens.”

“Semitonus dicitur ascendendo.”

“Semitonus virga dicitur quod ex semitonio et virga componitur, et sic de ceteris.”

In addition, Odington repeats the terms *semitonus* and *semivocalis* within the context of an explanation of the *plicae*:

Plica est inflexio vocis a voce sub una figura. Sole longe et breves sunt plicabiles. Plicarum alia ascendens, alia descendens, que in plano vocantur semitonus et semivocalis.

Let us now turn to the name, with which the expanded version of the *Tabula brevis* designates the “epiphonus”. In this source the expression *pentaphonus* stands there where the manuscripts of the short version have the term *eptaphonus*.²⁹⁹ Both the Wolfenbüttel table and the table of the codex St. Blasien “illustrate” the *pentaphonus* with the sign of the *porrectus*.

Already at this point we must mention that neither the term *pentaphonus* (the five-tone or “five-voice”) nor the term *eptaphonus* (the seven-tone or seven-voice) can be the original name of our sign, because the “epiphonus” has two tones. Neither can the name *pentaphonus* and *eptaphonus* refer to the three-tone *porrectus*. The nouns *pentaphonus* and *eptaphonus* are accordingly to be regarded as “poetic” terms or they are based on some confusion.

Of relevance is further the fact that our *sema* is indicated in the tables of Wolfenbüttel and St. Blasien (expanded version of the *Tabula brevis*) two times and specifically with names *gnomo* and *franculus* (St. Blasien) and/or *gnomo* and *fauculus* (Wolfenbüttel).

Therefore the “epiphonus” sign appears in both tables of the codex Wolfenbüttel with three different names (*hemivocalis*, *gnomo*, *fauculus*), and it is

299 It should be mentioned that the terms *τρίφωνος*, *τριφωνία*, *τετράφωνος*, *τετραφωνία*, *πενταφωνία* and *επταφωνία* recurs quite frequently in Late and post-Byzantine treatises, as for example in the codex Lavra 610 (cf. Tardo, *Meluria*, 197f, 202). They serve as labels for the tone system. Thus the expression *επταφωνία* meant the eight tone system. *επταφωνία* was the octave or more specifically the diapason (cf. Johannes Affligemensis, *De Musica*, cap. IX, CSM I, 72-75). (The label *επταφωνία* was used instead of the more correct term *όκταφωνία* because *μία φωνή* already indicated the second). *Τριφωνία* designated correspondingly a tetratonic of system; *τετραφωνία* designated a pentachordal system etc. In contrast the term *διπλοφωνία* meant a chant in the higher octave. The teachings on the *diplophonia* are dealt with in the St. Petersburg treatise (cf. S. Thibaut, *Monuments*, 89) and in the treatise of the codex Lavra 1656 (cf. Tardo, *Melurgia*, 227f).

certainly remarkable that the graphic sign shown in all three cases has exactly the same form.³⁰⁰

As for the word *gnomo*, we must point out that it is undeniably Greek; γνόμεον means carpenter's square, pointer, ruler. Disputed is however the etymological derivation and the meaning of the word *franculus*. Raillard's derivation from *frangere* (break) has been adopted by several researchers and seems to have been generally accepted.³⁰¹ Thibaut³⁰² on the other hand derives the name from φραγγέλιον and/or flagellum (whip, scourge) and justifies this view with reference to the shape of the gutturalis³⁰³ that is supposed to resemble a whip. Fleischer³⁰⁴ on the other hand translates the name with “*the small Franconian (accent)*” and derives it therefore from *francus*.

Let's now look back at the Byzantine sema *klasma*. In UNKI chapter VII we stated it was represented by four onomata in the tables of neumes and in the treatises: *klasma* (break, breach), *hemitonion* (the half toned), *hemiphonon* (the half voiced) and *tzakisma* (break, breach).³⁰⁵

The term *klasma* is already mentioned in the list of neumes in codex Lavra Γ. 67 and often appears in later treatises.

The expression *hemitonion* is found only in the Paris treatise.

Hemiphonon is the name for the *klasma* in the treatises of the codices Paris Suppl. grec 815, fol. 63v and Athens 968, fol. 44.

Finally the label *tzakisma* recurs quite frequently in compendiums of the post Byzantine era and probably was coined at a later time than the three others.

We can compare now the Latin nomenclature for the “epiphonus” to the Middle Greek onomatology of the *klasma*. The terms *eptaphonus*, *pentaphonus* and *tzakisma* are not original and can be excluded. Taking the remaining expressions into consideration reveals some astonishing correspondences. The following terms can be said to correspond:

300 It should also be mentioned that the “epiphonus” sign in the expanded version of the *Tabula brevis* also appears in conjunctions and specifically with the names *centon* and *astus*. *Centon* is named in the *Wolfenbüttel* table in connection with the conjunction of *virga* and “epiphonus”. *Astus* is the conjunction of two puncta and the “epiphonus”. The latter conjunction carries the name *semivocalis praebipunctis* in the *Tabula prolixior*.

301 *Explication des neumes* (Paris, 1859): 53; cf. as well Wagner, EGM II, 156.

302 *Origine Byzantine de la notation neumatique de l'église latine*, 85.

303 Not only Thibaut but also most of the researchers applied the name *franculus* in error to the *gutturalis* sign.

304 *Die germanischen Neumen*, 52.

305 Cf. UNKI, chapter VII in our compilation of the explanations of the treatises.

<i>hemivocales</i>	and	<i>hemiphonon</i>	(i. e. the half-voiced)
<i>semitonus</i>	and	<i>hemitonion</i>	(i. e. the half-tone)
<i>franculus</i>	and	<i>klasma</i>	(break, breach)

That the Latin expressions are borrowed translations from the Greek is obvious.

As for the remaining three terms of the Latin nomenclature, *gnomo*, *substringens* and “*epiphonus*”, we must remark that in the Byzantine music theoretical literature the term *γνώμων*, as far as we see, can not be found. Similarly a Greek expression can not be cited that one could set in parallel to the “singular” term *substringens*.

We must once again emphasize with respect to the term “*epiphonus*” that it is nowhere to be found in the *Tabulae neumarum*. It does not appear, in as far as we can see, in Middle Latin breviaries and treatises. In the scientific literature, it seems to have been first introduced by Dom Louis Lambillotte in his publication *Antiphonaire de Saint Grégoire*³⁰⁶ which discussed the Colmar table accompanied by a unreliable “reproduction” and the author tacitly introduced at the same time the reading “*epiphonus*” (in place of the corrupt *epiphonus* = *eptaphonus*). The first edition of the *Antiphonaire* appeared in 1851 in Brussels. E. de Coussemaker did not use the term “*epiphonus*” in his *Historie de l-harmonie au moyen âge* (Paris, 1852). He used the terms *gnomo* and *franculus* which he understood as “*plique longue ascendante*” or “*plique breve ascendante*”.³⁰⁷ On the other hand Dom A. Schubiger³⁰⁸ gave the the name “*epiphonus*” to the *hemivocalis* – probably based on his reading of Lambillotte. Since the 1860's the term “*epiphonus*” has been accepted as the “official” label for the *hemivocalis* in almost all publications dealing with the neumes. That until now a correction of this term has never been made is quite incredible.³⁰⁹

Taking these factors into consideration, two conclusions are to be drawn:

1. The term “*epiphonus*” whose existence is based upon an error, should be banished from scientific literature.
2. The general etymological derivations of the term “*epiphonus*” from *ἐπίφωνος*, whether it be in the sense of “cry” or “shout”,³¹⁰ or whether it be in

306 Brussels 2/1867, 202-204, 234.

307 op. cit., 180.

308 *Die Sängerschule St. Gallens* (Einsiedeln, 1858): 9.

309 The only half-way critical remarks on this subject was made by Abbé Raillard (*Explication des neumes*, 35) and by Dom Mocquereau (Pal Mus II, 59), who expressed the opinion that the “*epiphonus*” could possibly stand for *ἠμίφωνον*. Even these researchers accepted however the term “*epiphonus*” as a given.

310 Thibaut, *Origine Byzantine*, 74f.; Fleischer, *Die germanischen Neumen*, 58.

the sense of “neighbouring tone”,³¹¹ are null and void. In addition, the term ἐπιφώνος is unknown in the Middle Greek literature.

THE SEMIOGRAPHICAL RELATIONSHIP

The question about the paleographical interpretation of the hemivocalis (“epiphonus”) belongs among the most disputed problems of the discipline of neumatic notation. If one looks through the literature, one encounters – not without surprise – no less than five different theories. They are all based on the St. Gall form of the sign.

The first theory, representing the teachings of the Solesmes³¹² school, derives the liquescent neumes without exception from the primary accent neumes. The notae semivocales are thus accordingly considered to be either modifications of the last stroke of any group of neumes or the addition and/or the epenthesis of a new stroke. Therefore the “epiphonus” is explained as a liquescent podatus (i.e. as a podatus with shortened virga).³¹³ Similarly the cephalicus is defined as a liquescent clivis and the ancus is defined as a liquescent climacus.

The second theory, conceived by P. Wagner, interprets the notae semivocales as “Hakenneumen” and consequently derives them from the apostropha.³¹⁴ “*The sign for the short liquescent tone was created either by addition of ’ to another sign, or by shortening of the last acutus or gravis of the accent neume*” Wagner’s second paleographical explanation therefore concurs with that of Dom Mocquereau. Wagner also interprets the “epiphonus” as a podatus with shortened second tone.

The third theory, formulated by Dechevrens, defines both the cephalicus as well as the “epiphonus” as virgae liquescentes.³¹⁵ Accordingly the cephalicus is a liquescent virga recta and the “epiphonus” a liquescent virga jacens. In other words: the “epiphonus” is derived from the tractulus.

The fourth theory, expressed by Fleischer, derives the “epiphonus” from the ancient Greek prosodeia daseia, i. e. the spiritus asper.³¹⁶ Of this sign, Fleischer says that “*it is a so-called pneuma (spiritus) or breath sign which indicated a*

311 D. Johner, *Neue Schule des gregorianischen Choralgesanges* (Regensburg 5/1921): 23.

312 Pal Mus II, 58-86; Pal Mus XIII, 189-194.

313 This interpretation of the “epiphonus” essentially agrees with the interpretation of Dom L. Lambillotte. In the *Antiphonaire* (p. 203) he wrote: *C’est [l’epiphonus] en réalité une espèce de Podatus, et il doit produire le même effet, avec différence cependant, que dans l’Epiphonus, la note supérieure ou la second est brève, tandis que dans le Podatus les deux notes sont égales.*”

314 EGM II, 130f.

315 SIMG XIV, 284f.

316 *Die germanischen Neumen*, 58.

more elaborate tonal movement than the three main prosodic signs of the τόνοι (toni, tones), which could move only in a step-wise progression”.

Finally, the fifth theory proposed by Jammers³¹⁷ derives the liquescent neumes from the antique hyphen. “*The hyphen meant in antiquity the linking of a neighbouring tone to the main tone at the cost of this tone because the duration of both tones was determined by the metrum, i. e. the existent length of the syllables. Its form is an arch*”. Consequently Jammers interpreted the cephalicus “*as combination of the liquescent arch with the virga that followed its head*” and the “epiphonus” as a combination of the liquescent arch “*with the point, that at the same time was often hidden*”. The “epiphonus” was accordingly a kind of ligature combining the point with the hyphen.

With regard to the five theories discussed above, we have to admit that not one of them can be proven. Even the Solesmes theory, which seems to be the most plausible, lacks (with respect to the “epiphonus”) any unambiguous basis in the paleography. On the contrary several factors would seem to even make this derivation somewhat doubtful.

It cannot be disputed however that the St. Gall forms of the podatus and “epiphonus” exhibit certain resemblances. Yet the St. Gall “epiphonus” can not be spoken of as a modified (or more exactly as a shortened) podatus. If we look at the round podatus, then a suggestion of roundness can be perceived, but with the “epiphonus” the roundness is so strongly pronounced that the sign would seem to resemble a round ypsilon or a bowl. Even a glance at the neumatic notation of the oldest St. Gall sources suffices in order to perceive the difference in the forms.³¹⁸

On the other hand, the close graphic resemblance is quite evident in the case of the “epiphonus” and the Paleo-Byzantine klasma, which in the manuscripts occurs in both a more angular shape (v-shaped) as well as in a round (u-like) shape. This semiographical resemblance between both signs indicates a close relationship. One could perhaps object, that the klasma exhibits – according to our own investigations – in the oldest Byzantine sources the angular form while the contemporary St. Gall “epiphonus” is drawn with a rounded shape.

Against such an objection it can be said that graphical variants of certain standard forms are thoroughly familiar, above all if they occur in geographical areas far removed from one another. Also it should be considered, that the angularly written “epiphonus” can be found in some manuscripts. That is particularly the case in the sources of the oldest North French neumatic notation

317 *Tafel zur Neumenschrift*, 37f.

318 cf. Examples 441, 465, 490, 504, 505, 507, 536, 538, 547, 572, 579, 589, 596, 598, 601, 603, 609, 612, 613, 616, 650, 660, 661, 665.

as for instance in the codices Mont Renaud³¹⁹ and Vaticanus Reginensis lat. 1709.³²⁰

On the other hand we must take note of the fact that the “epiphonus” often is drawn like the St. Gall round podatus in the Metz and Breton sources as well as in the codices Montpellier and Leipzig Rep. I 93.³²¹ One must consider however that several Metz and Breton neumes exhibit particularly stylized forms, so that it probably can not be assumed that specifically this version of the “epiphonus” would come closest to the original form. Also speaking against such an idea is the observation that the codex Laon 239 has several special forms for the liquescent signs. Not only the apostropha liquescens (cf. example 589, 617) and the oriscus liquescens (cf. chap. V) exhibit very individualistic stylized forms but also the “epiphonus” appears as a component of many notae compositae in a special shape. (See the examples 603 and 612). While the St. Gall codices have the ligature of round or angular podatus and “epiphonus”, the Laon codex has at the corresponding places a ligature consisting of an angular torculus and a hook.

THE SEMASIOLOGICAL RELATIONSHIP

Our previous discussion of this sign should have shown that the resemblances between the “epiphonus” (recte: *hemivocalis* or *franculus*) and the klasma are so close when examined from an onomatological or semiographical viewpoint, that one can almost speak of the equivalence of the signs. Viewed semasiologically these relations proved to be less convincing. There are some points of contact but at the same time there are many differences. The relationship between the signs can be exemplified with the following three points.

1. The “epiphonus” always has two tones while the klasma standing alone can be both a one-step or a two-step progression.

2. The liquescent second tone of the “epiphonus” always is higher than the first. The interval relationship of the tones can be a second, a third, a fourth or even a fifth. In the two-step klasma, the second tone lies on the other hand a step lower than the first.

3. According to current opinions the liquescent quality of a tone only means a variation of the pronunciation, not however an abridgment of the tone duration. Accordingly both tones of the “epiphonus” are equally long.³²² In the

319 Facsimile edition: Pal Mus XVI. With regard to this manuscript cf. G. M. Beyssac, *Le graduel-antiphonaire de Mont Renaud*, *Revue de Musicologie* 39/40 (1957): 131-150.

320 Examples in Suñol, *Introduction*, 237 (pl. 51).

321 Both the Metz and the Breton neumatic manuscripts do not make use of the round podatus.




322 Cf. Jammers, *Der gregorianische Rhythmus*, 66f.; Agustoni, *Gregorianischer Choral*, 170.




two-step klasma on the other hand the first tone is longer by a half than the second.

This third difference naturally can only be taken into account under the prerequisite that the “metrical” interpretation of the “epiphonus” is correct. In any case, there are reasons why its correctness should be questioned. (cf. further below).

3. Byzantine Pallels to the Cephalicus

Forms

Cephalicus:  (St. Gall)  (Metz)  (north French)

Klasma and Combinations:   

Viewed semasiologically the cephalicus can be seen to be the correlation of the “epiphonus”. Both signs have two tones and both are composed of a main tone and a liquescent second tone. This second tone is higher than the first in the “epiphonus” but in the cephalicus on the other hand it is lower.³²³

The name cephalicus (from κεφαλή, “head” and/or of the adjective form κεφαλικός, “headed”) ³²⁴is generally related to the St. Gall form of the sign.³²⁵

The opinion of Dom Mocquereau³²⁶ is most often cited as the authoritative semiographical interpretation of the name, which interpreted the St. Gall form in two ways: either as a clivis with shortened gravis or as a virga with the addition of a hook.

It should be noted, however, that the St. Gall form of the cephalicus differs considerably from the the shape of the sema in the North French and English notation. In these sources the sign is drawn as a round arch opened to the base and to such a degree that there is not any resemblance to the clivis in these

323 To examine the graphic arrangements and positions of the cephalicus cf. the examples 445, 531, 555, 577, 579, 603, 605, 614, 615, 630, 631, 659, 669.

324 Thibaut (*Origine Byzantine*, 76) mistakenly understood the adjective form cephalicus to be a diminutive and translated the word as “little head” (“*petite tête*”)

325 And similarly by Lambillotte (*Antiphonaire*, 199), Dechevrens (SIMG XIV, 284), Freistedt (*Die liqueszierenden Noten des gregorianischen Choralen*, Freiburg 1929, 33) and many others.

326 Pal Mus II, 67-69, 72-75.

neumatic sources.³²⁷ The cephalicus drawn in this manner appears to graphically resemble a mirror image "epiphonus".

Thibaut assumed the sign to be a Byzantine analogon of the "Constantinoplitan" or "Damascene" combination of oxeia and apostrophos, an interpretation that was also accepted by Wagner. If one interprets the St. Gall cephalicus as a ligature of virga and a hook (apostropha), this analogy would naturally appear to be valid. However we must mention that the conjunction of oxeia and apostrophos over one syllable was first developed in the sixth stage of Coislin notation (cf. L5 in example 47 or D in example 73 in UNkIII). The signs have not been found in the older notational stadiums, as far as we can see.

The conjunctions oxeia with klasma and bareia with klasma would appear to be more appropriate Byzantine parallels for the cephalicus. They already appear in Chartres I and Coislin I and indicate, as the cephalicus, two tones of which the second tone lies second is lower than the first (cf. UNkIII examples 119, 121, 128a, 129, 132, 178, 392). The interval relationship of the two tones in the conjunction of oxeia and klasma always is a second, while with the conjunction of bareia and klasma it can also be a third (cf. example 212). To this extent this conjunction is semasiologically more closely related to the cephalicus than to the first combination.

Viewed onomatologically, there is apparently no connection between our klasma conjunctions and the cephalicus. The name κεφαλικός is unknown in the Middle Greek music theoretical literature. On the other hand it could be asked however whether this term was the original name of our liquescent neume. To be sure it is found in both versions of the Tabula brevis³²⁸; but it is missing in the Tabula prolixior. It would be added that the liquescent neumes in the five versions of this Tabula are accompanied by their usual names and the addition of the adjective *semivocalis*.

4. Conclusions

Our investigation has demonstrated that there is a close relationship between the "epiphonus" and the cephalicus on the one hand and the klasma on the other hand. With the relationship of the "epiphonus" to the klasma, the onomatological

327 As in Paris BN lat. 1087, Angers 730, Rouen 368 and in the Winchester tropar (cf. specimens in Suñol, *Introduction*, pl. 52, 53, 76, 77).

328 The cephalicus is "illustrated" in most versions of the Tabula brevis (short versions) with the St. Gall form of the sign. The two versions which transmit the expanded version of this Tabula illustrate in contrast the cephalicus with other signs. The Wolfenbüttel table has the flexa resupina liquescens, the table from St. Blasien has the torculus resupinus.

and semiographical factors are the most important; as for the connection between the cephalicus and the klasma the semasiological relationship is more important.

Taking into consideration the facts presented above as well as the various observations, deliberations and partial results, the following conclusions can now be drawn:

1. The expression *semivocalis* or *hemivocalis* as a translation of the Greek term *hemiphonon* appears to have been originally used as a general term for the liquescent neumes.³²⁹ The *Tabula prolixior* gives preference to the noun *semivocalis* as against the term "epiphonus", the other liquescent signs were expressed more specifically by the use of the adjective form. The term *cephalicus* and *ancus* appear to be younger than the expression *semivocalis*.

2. The North French and English neumatic notations both employ a special sign to designate the liquescents, i.e. an arched sign, that can be open both towards the top as to the base, depending on whether the "epiphonus" or the *cephalicus* is supposed to be indicated.

A similar arched sign functions as a liquescent additional sign in the codex Montpellier. Here it stands, depending whether the "epiphonus" or the *cephalicus* is supposed to be indicated, under or over two tone letters, and which correspondingly have the opening towards the top or to the base (cf. examples 441, 490, 521 and 536).

This special symbol for the liquescence differs graphically from both the *podatus* as well as the *clivis*. It cannot be derived from them, but rather it

329 The research results discussed above contradict P. Wagner's statement (EGM II, 107f., 356f.) that the term *liquida* originally served as general label for the liquescent neumes. It should be added that Wagner's statement, viewed for itself, is not well founded. It resulted from an erroneous reading of the following passage from the treatise of the *anonymus Vaticanus*: *Saepe veniunt in compositione ex brevi et longa, ut est In his ergo diebus, vel ex brevi et liquida, ut est, Circumdederunt me.* In Wagner's translation, the passage reads: "A brevis and a longa frequently convene, as in *In his ergo diebus*, or a brevis and a liquida, as in *Circumdederunt me.*" Based on his translation Wagner inferred that the *anonymus Vaticanus* simply called the liquescent signs *liquidae*. This cannot be the case. The example to which the *anonymus* refers, the introitus *Circumdederunt me*, has in the oldest transmitted neumatic sources an "epiphonus" over the syllable *Cir-* (as in GL page 29/7, in BG fol. 17/1, in EN, page 81/4, in LN page 31/5, in CH page 20/9). When the *anonymus* speaks of a combination composed of a brevis and a liquida, then he is referring without doubt to the two tones of the "epiphonus". With that the author related the term *liquida* not to the "epiphonus" sign, but rather to the second tone of this figure, more exactly on the liquida *r* of the syllable *Cir-*. Thus the *anonymus Vaticanus* uses the term *liquida* in the sense of a hemiphonic tone, not as the name of a hemiphonic neume. Any conclusions that might arise from Wagner's statements are not based on the facts.

appears to be an independent sign, which can be regarded as a *neume radical*. Also the Byzantine klasma is not a derived sema, but rather a fundamental neume.

If one takes this data into consideration, it would appear to be justified to also interpret the St. Gall "epiphonus" paleographically as an independent sign. There is a high probability that the Byzantine klasma can be assumed to be the "mother neume" of the Latin liquescent sign.

3. The Latin notae semivocales are semasiologically very closely related to the Byzantine hemiphona or hemitona. In consideration of the close relationship demonstrated above, it appears legitimately, to apply the insights gathered from the study of the hemiphona with the necessary caution to the semasiological clarification of the notae semivocales.

The Greek treatises praise as a striking characteristic of the Byzantine hemiphona its capacity to change the melos so that it becomes *hemiphonon*. We have been able to make this statement more precise in that we have shown that certain signs, especially the parakletike and the kouphisma, indicate a manner of execution with a "not full voice". In similar manner the liquescent tones of the notae semivocales might have been executed.

With the two-step klasma descendens, the first tone is longer by a half than the second. A similar metric ratio may be assumed as well for the two tones of the "epiphonus" and cephalicus. The first "full" tone would be rhythmically longer than the "liquescent" tone sung with a "half" voice. This second tone must have been a type of "ornamental note".

As a final note it appears that this interpretation could also be drawn upon with respect to the explanations of the *plicae* or *notae plicatae* by the mensural theorists.³³⁰ The "epiphonus" and the cephalicus should therefore be regarded as the ancestors of the plica ascendens and plica descendens.

330 Cf. the summary of the discussion in G. Jacobsthal, *Die Mensuralnotation des zwölften und dreizehnten Jahrhunderts* (Berlin, 1871): 16-18 and H. Riemann, *Studien zur Geschichte der Notenschrift* (Leipzig, 1878): 129-133; cf. as well Wagner, EGM II, 134f.; J. Wolf, *Handbuch der Notationskunde*, op. cit. I, 238f.; H. Freistedt, *Die liqueszierenden Noten des gregorianischen Chorals*, op. cit., 49-51; H. Anglès, "Die Bedeutung der Plika in der mittelalterlichen Musik" *Festschrift Karl Gustav Fellerer* (Regensburg, 1962): 28-39.

Chapter VII: The Litterae Significativae and the Byzantine Grammata

*Quid singulae litterae in superscriptione significant cantilenae
prout potui, iuxta tuam petitionem, explanare curavi.*

Notker Balbulus, Epistola ad Lantbertum
(Codex St. Gall 381, p. 6).

1. Introduction

Of the litterae significativae, that so-called Romanus letters, it can be said that they are surrounded in research on neumatic notation by a halo. Their special renown can be traced back to the legend which sought to explain their origins and to the manner in which this additional script lent an element of mystery to the otherwise rather dry material presented by research on neumatic notation. Finally as a third point of attraction – naturally – the many open questions with which the significant letters were surrounded.

Not only are its origins shrouded in darkness but the actual meanings of many of the litterae have also formed the basis for numerous controversies. To be sure it is well known that the litterae are discussed in the famous letter³³¹ attributed to Notker (+ 912) but it is exactly this same letter which was been surrounded by a number of questions. First of all, doubts have been raised repeatedly about the authorship of Notker. Then the correctness of the Notker's explanation has been disputed by several researchers.³³²

After the publication of Jos. Smits van Waesberghe's fundamental study on the St. Gall additional letters, the complex of questions surrounding the litterae could be seen in a new light.³³³ Pater Smits not only proposed a number of convincing arguments in support of Notker's authorship but he also undertook exemplary investigations about the meaning of the litterae which resulted in the resolution of many of the problematic aspects.

Nevertheless one can not say that all the questions have been answered. The most important unresolved question revolves around the origins of the litterae and some of the letters still remain puzzles, especially with respect to their rhythmic interpretation.

331 The letter is transmitted in 11 manuscripts. A critical edition based on the research of J. Smits van Waesberghe (cf. footnote below) has been prepared by J. Froger, "L'épître de Notker sur les "Lettres significatives" – Edition critique" *Etudes Grégoriennes* V (1962): 23-71.

332 For example H. Riemann, *Studien zur Geschichte der Notenschrift*, op. cit., 118-123; Wagner, EGM III 245f.; J. Wolf, *Handbuch der Notationskunde* I, 140 etc.

333 *Muziekgeschiedenis der middeleeuwen, Tweede Deel* (Tilburg. 1939-1942).

2. Previous Hypotheses about the Origins

The earliest report about the introduction of the *litterae significativae* into the neumatic sources comes from Ekkehard IV (+ 1036), the chronicler of St. Gall. Ekkehard wrote that the introduction of the *litterae* could be attributed to the incredible singer Romanus, who was sent in 790 on behalf of pope Hadrian I together with a second singer, Petrus, to Metz, but due to an illness, he interrupted the journey in St. Gall. He remained there as a teacher of chant and established the monastery's famous school of chant. Ekkehard says that Romanus was the first to add the *litterae alphabeti significativae* as an auxiliary to the neumes to the authentic copy of the Antiphoner of pope Gregory brought from Rome.³³⁴

Most of the older researchers accepted this description without restriction or only with a few reservations. Dom A. Schubiger³³⁵, who coined the term "Romanus letters" did not have any doubts and following him Dom A. Mocquereau³³⁶ based his discussion of the "*lettres romaniennes*" on Ekkehard's report which he did not see any reason to doubt.

The untrustworthiness of Ekkehard's report has been questioned on the other hand by more recent researchers.³³⁷ For one, the viewpoint has gained support that Ekkehard had had no clear perception of the events and personages of the 9th century and that the aim of his description of the events was to glorify his cloister. In addition it was objected that the transmission of the neumatic sources did not support any hypothesis about the Roman origin of the *litterae significativae*.

It was reasoned that these additional letters do not appear in all Latin chant notational systems but rather only in some of them and more specifically predominantly in sources, which used the St. Gall, Metz or English notation. Moreover it was especially remarkable that not all St. Gall sources contained such *litterae*³³⁸ and the distribution of the neumatic letters, as for instance the *episem*, seems to have been limited to certain zones. E. Jammers³³⁹ localized them to the Carolingian empire.

334 *In ipso [antiphonario] quoque primus ille [Romanus] litteras alphabeti significativas notulis, quibus visum est, aut sursum, aut iusum, aut ante, aut retro assignari excogitavit. Quas postea cuidam amico querenti Notker Balbulus dilucidavit; cum et Martianus, quem de nuptiis miramur, virtutes earum scribere molitus sit.* (Monumenta Germaniae historica, Scriptores, ed. G. H. Pertz, vol. II, Hannover 1829, 103).

335 *Die Sängerschule St. Gallens*, op. cit., 5, 10-15.

336 *Lettres Romaniennes*, Pal Mus IV, 9-17; NMG, 176-186.

337 Cf. Wagner, EGM I, 248-250.

338 They are missing for instance in codex St. Gall 339.

339 *Der gregorianische Rhythmus – Antiphonale Studien* (Strassburg, 1937): 82-89.

Table 9: Equivalent litterae and grammata

1. Letters relating to Tone Level

e eq q	<i>equaliter</i>	ΙϞ	<i>ison</i> (same, even)
s	<i>sursum</i> (high)	ψ	<i>psele</i> (the high)
a	<i>altius</i> (higher)		
l	<i>levare</i> (raise)		
s	<i>supra</i> (above)	ΑΝΩ	<i>ano</i> (above)
h	<i>humiliter</i> (low)	χ	<i>chamile</i> (the low)
i	<i>iusum vel inferius</i> (low or lower)	ε	<i>elaphron</i> (the light)
d	<i>deprimatur</i> (depress)	Βθ	<i>bathy</i> (the deep)
m md	<i>mediocriter</i> (middle step) (a little)	με	<i>meson</i> (middle step)
		ολ	<i>oligon</i> (a little)

2. Letters relating to Rhythm

c	<i>cito vel celeriter</i> (quick or fast)	Γ	<i>gorgon</i> (fast)
t	<i>trahere vel tenere</i> (pull or hold)	κ κρ	<i>kratema</i> (hold)
a	(“augere”?) (extend)	Αργ	<i>argon</i> (slow)

3. Other Abbreviations

z	<i>zītise</i> (search)	ζτ	<i>ζήτει</i> (search)
sim	<i>similiter</i> (similar)	ομ	<i>homoion</i> (similar)
d dt	<i>duplicatur</i> (become doubled)		

It was exactly this inconsistency in the transmission that was most frequently brought forth as an argument against the Roman hypothesis. It was repeatedly mentioned that if the litterae signitificativae originated in Rome, then how could one explain the fact that the famous *nota romana* could not be found in the entire territory of the Latin chant notation or at least in very largest part of the distribution zone. This however was not the case. It was especially remarkable that the letters were not employed in Italian (or more specifically in Middle and South Italian) sources as well in the Spanish notation. This circumstance prompted P. Wagner³⁴⁰ to express the opinion that the St. Gall and Metz letters were “*added later and that they should not be consulted when reconstructing the Roman manner of chant performance*”.

Wagner’s viewpoint was representative of younger researchers. Most hypotheses about the origins of the litterae significativae involved areas outside of Rome. Of the younger researchers only Dom Lucas Kunz³⁴¹ has, as far as we can see, raised the possibility that St. Gall and Metz simultaneously adopted the letters at the end of the 8th century at the instigation of Rome and these signs were then later independently further developed. All the remaining hypotheses lead the question of origins away of Rome.

Thus H. Riemann³⁴² expressed the bold, from a contemporary point of view strange seeming conjecture that these addition signs perhaps represented the tone letter of ancient Greek music notation.

E. Jammers³⁴³ expressed the opinion that the rhythmic additional signs could possibly be understood within the context of the Carolingian writing reform. He suggested several reasons why the Carolingian Renaissance, i.e. at the turn of the 8th to the 9th centuries, marked the most probable “*beginning point for the systematic introduction of the rhythmic signs*”.

J. Smits van Waesberghe³⁴⁴ attributed the origin of the litterae to Irish influences and he supported this viewpoint with reference to the Irish system of marginal abbreviations and glosses in the text manuscripts created by scribes in the circle of Sedulius (circa 850). In addition he emphasized the close relationships between Ireland and St. Gall and noted that the Irish monk Moengal (also named Marcellus or Fergus) – a friend of the Sedulius – had been master in St. Gall and the teacher of Notker. In consideration of these facts, Pater Smits was certain that the more common litterae in St. Gall were expanded to encompass a complete alphabet of the letter neumes under the influence of Moengal.

340 EGM II, 249.

341 „Die Romanusbuchstaben c und t“ KmJb 34 (1950): 7-9.

342 *Studien zur Geschichte der Notenschrift*, op. cit., 118-123.

343 *Der gregorianische Rhythmus*, op. cit., citation 88.

344 Mdm II, 206-260, 303-317, 775f.

Also J. Handschin³⁴⁵ spoke out against the thesis of a Roman origin and he reasoned that in the letter system for the labelling of the pitches and tone depths the expressions *acutus* and *gravis* (sharp and heavy) were not derived from the Roman tradition but were rather expressions similar to those used in the current German of his day as for instance *altius*, *levare*, *sursum* for expressing the height and *deprimere*, *jusum* or *inferius* for a low tone. The terms *gravare* or *gravitudo* were employed only occasionally as labels for the tone depth. Handschin concluded that the litterae originated in a different circle than that of the neumes themselves.

As a last supposition, P. Wagner's hypothesis about a Byzantine origin should be mentioned.³⁴⁶ Wagner was convinced that the litterae significativae "could have not belonged to the original repertoire of the Latin neumes". Taking into consideration the multiple stimulations which "the music of the western world received from the orient in that 9th and 10th century", Wagner felt he could justify the thesis that "the Romanus letters were further evidence of a Byzantine influence because the Greeks had a great advantage over the Latin musicians in that they were able to exactly fix the intervals, so that the Latin also decided to remove the vagueness of their notational system by adopting the letters".

3. Relationship between the Litterae and the Grammata Uncovering the Relationships

With reference to Wagner's thesis discussed above that the Old Byzantine neumatic notation must have already been diastematic, it must be said that this opinion is erroneous.³⁴⁷ Despite this, Wagner's question reveals, even if a posteriori, an amazing perception. Whoever has studied our discussion of the Greek letter neumes in chapter VIII of the Unkl will have recognized that a close relationship must have existed between these letters and the Latin litterae.

However neither Wagner nor the later researchers were in a position to be able to recognize these relationships. It was not only because the systematic investigation of Byzantine neumatic notation was not yet advanced enough at the beginning our century and the interest in this field did not extend much beyond a restricted circle of specialists, but rather also because the employment of the Byzantine grammata as a technique in music notation had not been

345 *St. Gallen in der mittelalterlichen Musikgeschichte*, Schweizerische Musikzeitung, 1945, 244-248, citation 246.

346 EGM II, 233-236.

347 The opinion was shared at the beginning of the 20th century by all of the leading researchers: Riemann, Gastoué, Fleischer and Tillyard etc.

sufficiently recognized as such. Even Fleischer, Riemann and Thibaut were themselves apparently not aware of the paleographical derivations of the Middle Byzantine letter neumes psele, chamele and kouphisma. Gastoué's interpretation of the psele and kouphisma might have been paleographically correctly, but on the other hand he did not understand the chamele in that he interpreted it as the combination of a straight and a mirror-image apostrophos (!).³⁴⁸

Under these circumstances, Wagner's cautiously formulated statement that "*the Greek neumatic notation of the oldest time*" did not reveal "*any letters or similar modification of the neumes through additional signs*" is quite understandable. As long as the system of the letter neumes of the Byzantine notation was not understood, it was natural that no parallels between the litterae significativae and the grammata could be drawn. Only the gorgon has been mentioned more recently in connection with the Latin littera c (*cito vel celeriter*) after this was brought to the attention of researchers by Egon Wellesz.³⁴⁹

Once the paleo-Byzantine system of the grammata had been understood, the situation naturally changed completely. We were now in a position to investigate the parallels. Without exaggeration it can be said that the correspondences are astonishing. The paleo-Byzantine grammata can easily be placed in a direct relationship with the litterae of the St. Gall, Metz, Breton and English notations. The corresponding termini technici of the notation have been proven to be both synonymous as well as equivalent. The following groupings illustrate the onomatological relationships. In the next sections, the semasiological relationships will then be revealed.

The equivalent litterae and grammata

1. SIGNS FOR TONE LEVELS

e eq q	equaliter	IC	ison
s	sursum	Ψ	psele
a	altius		
l	levare		
s	supra	ANΩ	ano
h	humiliter	χ	chamele
i	iusum vel inferius	ε	elaphron
d	deprimatur	Bθ	bathy
m md	mediocriter	με	meson
		ολ	oligon

348 *Introduction à la paléographie musicale byzantine. Catalogue des manuscrits de musique byzantine de la Bibliothèque Nationale de Paris* (Paris, 1907): 35ff.

349 *The Akathistos Hymn*, MMG, Transcripta IX (Copenhagen, 1957): LXVII.

2. RHYTHMIC SIGNS

c	cito vel celeriter	Γ	gorgon
τ	trahere vel tenere	κ κρ	kratema
a	("augete"?)	Αργ	argon

3. OTHER ABBREVIATIONS

z	zitfise	ζτ	ζήτει
sim	similiter	ομ	homoion
d	dtuplicatur		

4. The equivalent designations of the tone levels

e eq q (EQUALITER) and IC (ISON)

As a label for tone repetition, the signs are completely equivalent.

With regard to the distribution in the sources we must mention that *equaliter* is found in all manuscripts that have the litterae significativae, but the abbreviation *ison*, in as far as we can see, appears only in Patmos 55 (cf. UNkl, chap. VIII and examples 427-429, 570, 574).³⁵⁰ We were not able to find the symbol in the preserved Chartres sources. From that it can naturally not be unconditionally inferred that it was not employed in the area of the Chartres notation.

For the history of the development of the Latin of system of the litterae, the observation is significant that *equaliter* appears in the oldest codices comparatively rarely in comparison with the other litterae. According to Smits van Waesberghe's statistics³⁵¹ it is found in the Cantatorium (circa 900) only 79 times, in the Antiphoner of the Hartker (between 986-1011) on the other hand 1779 times and in the Einsiedeln Codex even 5754 times. Also in the codex Laon 239 (circa 930), *eq* is rarely employed.³⁵² The system of the litterae in the

350 In manuscripts from St. Gall the abbreviation *e* is generally found; the abbreviations *eq* and *q* are very rare (cf. Smits van Waesberghe, MdM II, 522-524). Laon 239 and the Gradual from Yrieix in contrast always use the abbreviation *eq* (with reference to the manner in which the sign is used in YRX cf. Pal Mus XIII, 164f.). Chartres 47 on the other hand always has the abbreviation *q*.

351 MdM II, 350.

352 The abbreviation *q* appears quite frequently in codex Chartres 47. This is all the more remarkable because the neumatic notation in this codex is generally much less rich than the notation in codex Laon 239.

Einsiedeln codex evidently represents a later stage of the development of diastematic notation in the direction of the greatest possible accuracy.

For the most part, the frequency of *equaliter* in the younger sources can be explained as the attempt to represent more accurately two of the most ambiguous neumes, the tractulus and the virga (recta). We have already mentioned that the tractulus could be repetens as well as ascendens. Also the virga is not always ascendens, but also frequently repetens or descendens. So it is not surprising that one most frequently finds the term *equaliter* precisely in connection with these neumes (cf. examples 567-569, 571-573, 575-578).

If one searches then for reasons for the absence of the ison sign in the Paleo-Byzantine Chartres notation, then one should take into consideration that the straight ison is the paleo-Byzantine analogon of the tractulus, which as a rule has the meaning of a tone repetition sign anyway. Semasiologically it does not need a more precise additional letter in most cases. The case is different with respect to the petaste, a sign which is comparable to the virga recta. As we have already shown the petaste is not always ascendens, but can also, if the hypotaxis is present, be repetens. As a repetens however, the petaste is made more precise with the addition of the oligon-episem or the elaphron.

The examples 579-582 illustrate that the lettera *e* (*equaliter*) and the gramma ε (elaphron) appear in Gregorian and paleo-Byzantine neumatic sources at corresponding places in similarly structured melodic phrases and both serve as a signs for tonal repetition. The *e* indicates the virga repetens, the ε the petaste.

s (SURSUM), a (ALTIUS), l (LEVARE) and Ψ (PSELE)

All of these abbreviations serve to designate high and/or higher tones.

Regarding the distribution of the symbols in the various notational systems it should first of all be mentioned that the St. Gall neumatic notation, the most differentiated of all Latin systems, makes use of all the three litterae, s, a and l. In contrast the Breton notation of the codex Chartres 47 only uses two of the signs, the s and the l and the Metz notation of the codex Laon 239 makes do with only a single abbreviation, the s.³⁵³ Also the paleo-Byzantine Chartres notation actually has only a single symbol for a high tone, the psele. This system however also has the oligon-episem, which frequently corresponds to the litterae s, a and l, especially if they are paired with the m (*mediocriter*) (cf. further below).

353 The littera a possesses in codex Laon 239 the function of a rhythmic sign (cf. further below).

There are several indications that only the height abbreviation *s* was initially used in the Latin system of the tone letters and the symbols *a* and *l* were later added.³⁵⁴

The relationship of the height abbreviations in the the Metzer and the Breton notations would seem to support this thesis.

Then it should be taken into consideration that English sources also use the height symbols *s* and the *l*, but the *a* is very seldom met.³⁵⁵

In addition it should be mentioned that of the three litterae *s*, *l* and *a* in St. Gall sources the first is met far more frequently than the other two. Waesberghe's statistics for SG record the *s* 361 times, the *l* 129 times, the *a* only 77 times. In AH the corresponding numbers are 1472, 1158 and 674 and in EN respectively 7789, 2718 and 794 times.

Moreover it could be considered that the three terms *sursum*, *levare* and *altius* are practically synonymous. The assumption that they were originally drawn on as labels for the same function can not be dismissed. One only has to remember that in Byzantine notation several expressions were used to designate the high tones. We have for example the terms *exo* and *ano* in codex Patmos 55 and/or in the St. Petersburg fragment.

Viewed semasiologically it can be said that the abbreviations *s* and ψ are completely equivalent. They designate "high tones", and not only the fourth or fifth but even the third or the second. Whether the *s* or ψ appears on certain steps according to the mode still needs to be investigated. Pater Smits³⁵⁶ mentions that the *s* can appear in all possible positions, while the abbreviations *a* and *l* prefer certain positions. Thus the *l* could in some cases appear as a label for the highest tones in certain vocal ranges. In the Byzantine system the *psele* is assigned a similar function.

The complete semasiological equivalence of the litterae *s*, *l* *a* on the one hand and the Byzantine *psele* on the other hand is documented in examples 583-590 and 607-608. They demonstrate that the abbreviations appear within neumatic passages that fix similar phrases. In examples 585-590, the letter neumes *l*, *s*, *sm* and ψ indicate a fifth upwards; in examples 607-608 the *l* and ψ indicate a fourth upwards.

354 It should be mentioned that the lettera *s* already appears in the neumatic notation of codex Vat. Reg. lat 215, fol. 131/line 2, a manuscript which is dated 877 (cf. Pal Mus XIII, 70f.; facsimile in Bannister, *Monumenti 6 vaticani*, tav. 10).

355 Cf. E. Jammers, *Anfänge der abendländischen Musik* (Strassburg, 1955): 11-21; A. Holschneider, *Die Organa von Winchester* (Hildesheim, 1968): 84-86.

356 MDM II, 741f.

Finally it should be mentioned that the Tironian abbreviation for *supra* appears 239 times in the codex Laon 239.³⁵⁷ The Byzantine parallel is the ANΩ of the St. Petersburg fragment.

i (IUSUM), h (HUMILITER), d (DEPRIMATUR), χ (CHAMELE),
ε (ELAPHRON) and Bθ (BATHY)

All these abbreviations serve as labels for deeper or lower tones.

Regarding the distribution of the symbols in the neumatic sources, we should first stress that the St. Gall manuscripts regularly use the i as a sign for a deep tone (in Notker's interpretation: *iusum vel inferius insinuat, gravitudinemque pro "g" interdum indicat*) It is quite frequently met in combinations with m (*mediocriter*) or v (*valde*).

The Metz and the Breton notations use on the other hand the littera h or a h-like sign in place of the i. As a symbol for a low tone, the h occurs as well in French, Belgian, English, north Italian and Lorraine manuscripts.

The littera d (*ut deprimatur demonstrat*) is seldom used (cf. further below).

To the three paleo-Byzantine signs for depth, chamele, elaphron and bathy, the oligon-episem should be added. It functions as a label for a lower tone however only if it is written over descending neumes.

The Resolution of the Abbreviation h

The question about the notational technical term, whose abbreviation is represented by the sign h, has occupied researchers repeatedly, without resulting in a clear answer about its meaning.

To be sure Notker's explanation of the littera h as a sign of aspiration is unambiguously (*ut tantum in scriptura aspirat, ita et in nota id ipsum habitat*); and this appears to be the case in the few cases where the h is met in St. Gall neumatic sources.³⁵⁸ Yet it is just as clear that this statement cannot be taken as an explanation of the "deep sign" h.

Dom Mocquereau³⁵⁹ and Dom Ménager believed that the littera h, that was used in the codex Laon 239 as equivalent of the St. Gall i, was an abbreviation for *humiliter*. As his first argument for this solution Dom Ménager³⁶⁰ cited Odo, who used the adjective *humilis* as the opposite of *elevatus*.³⁶¹ A second, more

357 cf. Smits van Waesberghe, MdM II, 268-270.

358 Cf. Smits van Waesberghe, MdM II, 585.

359 NMG, 184.

360 Pal Mus X, 181.

361 The passage is to be found in the *Dialogus de musica* which reads: *Propter elevatos et humiles cantus. Nam cum acutus vel elevatus fuerit cantus in authento proto, dicitur authentus protus. Si vero fuerit gravis et humilis in eodem authento proto, dicitur plaga protus.* (GerbertS I, 258b.).

important argument was taken from the *Quaestiones in musica*.³⁶² The author of this treatise added another explanation to that of Notker's which specifically confirmed that the letter h was an abbreviation for *humiliter*: *h, ut sicut ipsa in scriptura aspirat, ita et in nota id ipsum faciat, vel humiliter inclinare notam designat*. Dom Ménager³⁶³ accepted this argument as a proof for his interpretation.

Smits van Waesberghe³⁶⁴ expressed on the other hand serious objections against the interpretation of the h-like sign in the Laon codex as *humiliter*. He drew attention to the fact that the sign in the neumatic notation of the codex appears in three distinct forms, that all took a different shape than the h as written in the text and they were to be explained as Tironian symbols for *supra*, *iusum* and *naturaliter*. The most frequently used of these h-like forms stood accordingly for *iusum*. Pater Smits³⁶⁵ did not ignore the fact that the h-like sign in other Latin sources is written unmistakable as a h, but he was of the opinion that the contradiction could be explained with the assumption that originally in that 8th and 9th century in France the Tironian sign for low, i.e. *iusum* was used and at a later time (10th and 11th century) when one no longer understood the Tironian symbols, scribes continued to utilize the h-like sign in the same sense of the word, but they understood it as an abbreviation for *humiliare*.

Two Proofs of the Interpretation of the Littera h as a humiliter

For the final clarification of this, some observations should be taken into consideration, which should be recognized for themselves as important for determining the interpretation of the littera h.

1. Our comparative neumatic research resulted in the recognition that the Latin signs i and h are perfectly equivalent to the Byzantine chamele with respect to their musical functions. But also onomatologically the terms *humilis* and χαμηλός are synonymous, indeed they are derived from the same root word (*humus* and/or χαμαί). One should remember that *humiliter* not only means "humble" and "weak" but also "low".³⁶⁶

2. In the music theoretical literature in Middle Latin the word *humilis* is repeatedly met with the meaning of low or deep. In this sense, the term occurs, apart from Odo's statement, several times in the *Commemoratio brevis* from

362 Published by R. Steglich, *Die Quaestiones in Musica. Ein Choraltraktat des zentralen Mittelalters und ihr mutmaßlicher Verfasser Rudolf v. St. Trond (1070-1138)*, Publikationen der Internationalen Musikgesellschaft, Zweite Folge, Heft X (Leipzig, 1911): 63 and 169. Regarding the authorship cf. C. Vivell in *Gregorius-Blatt* 39 (1914): 51-53.

363 Pal Mus XI, 47.

364 MdM II, 277f.

365 op. cit., 586f.

366 Regarding the semasiology of the term *humilitas* cf. E. R. Curtius, *Europäische Literatur und lateinisches Mittelalter* (Bern, 5/1965): 411.

about 900 from the school of Laon, a source closely related to the *Musica encheiriadis*.³⁶⁷ These are the relevant passages.³⁶⁸

Hac pariter diligentia custodita, ut voces in unum amborum coeant, nec qui succinit humiliter vel celsius respondeat, quam ille qui praecinit, sed quantum fieri valet, haec dissonantia caveatur.

Praeterea, quemadmodum psalmi vel alia quaelibet melodia ad rationem causae vel temporis, pro paucitate vero seu multitudine cantorum celsius vel humiliter canendi sunt.

These passages are the proof that first the h-like sign is the littera h, secondly, that the littera h was an abbreviation for *humiliter*, third that the h did not take on the meaning of *humiliter* in the 10th or 11th century, but rather that it possessed this meaning in the notation from the beginning.

Thereby Smits van Waesberghe's seemingly well founded hypothesis about the interpretation of the most frequent h-like form in the codex Laon 239 as a Tironian symbol is to be rejected. That the manner in which this sign is written in the text varies is incontestable. Nevertheless this sign must be the littera h. In our opinion the individualistic manner of notation can be explained as the wish to avoid confusion with the similar h-like written letter n (*naturaliter*) that also is frequently met in the codex.³⁶⁹

Semasiological Aspects

The Latin "deep" signs i and h are completely equivalent to the Byzantine chamele. As with the chamele, the Latin symbols served to fix more precisely descending neumes. At the same time the addition letters could indicate not just the falling second and third but also the fourth and the fifth. This is illustrated in examples 591-598. Especially remarkable are the examples 591-594, not because the letters i, h and χ denote the falling fourth, but rather because they appear within neumatic passages that outline similarly structured melodic phrases.

It has been shown that the chamele has been frequently assigned the task of making the fundamental tone of the mode or even a "lower" tone more

367 Cf. Smits van Waesberghe, *De uitzonderlijke plaats van de Ars Musica in de ontwikkeling der wetenschappen gedurende de eeuw der Karolingers* (Den Haag, 1947), (French translation in *Revue grégorienne* 31, 1952, 81ff.)

368 GerbertS I, 227.

369 That the *humiliter* sign is written in codex Chartres 47 in a manner similar to the way it is written in codex Laon 239 would seem to indicate a connection between the two codices. It should be noted that the h in CH is met much less frequently than in LN and that it has in CH a close resemblance with the frequently used oriscus form (compare CH page 21/6 with LN page 33/3; cf. also CH page 7/20 and 21, page 9/18, page 16/15 and 18, page 18/10.)

recognizable, then it appears that the Latin letters also were used quite frequently for a similar function. In numerous cases, the litterae designate the fundamental tone of the mode as for instance when they are added to the initial neume of a chant (cf. examples 587-588).³⁷⁰

If an especially deep tone is supposed to be marked, the *i* in the Einsiedeln codex is augmented at times with an additional *v* (*valde*). The combination *iv* (cf. for example EN page 188/5) corresponds to the Byzantine bathy.³⁷¹

In addition to the chamele, the elaphron and the oligon-episem should be mentioned as Byzantine analoga of the abbreviation *i* and *h*, the last sign however only when, as we have already explained, it accompanies descending neumes. In this position the oligon-episem indicates a second downward. If the St. Gall scribes and writers of other sources wanted to draw attention to a falling second or third, i.e. to a "smaller" or "middle sized" descending step, then they added *m* (*mediocriter*) to the *i*. The compound sign *im* indicated therefore, in comparison to the *i* standing alone, as a rule a smaller interval and thus can be seen as being comparable to the elaphron and the oligon-episem.

For the equivalence of the letters *i* (*iusum*) and ϵ (elaphron) as symbols indicating the falling third the examples 599-602 comparing Latin and Paleo-Byzantine sources offer some instructive parallels

The equivalence of *i* (*iusum*) and *h* (*humiliter*) is documented by examples 442, 521 and 577 in addition to the already named cases. For the study of the humiliter the examples 523 and 611 can be consulted.

Still to be mentioned is the very rare littera *d* in the three cases where it appears in the codex Chartres 47 as a small "descent", namely the falling second.³⁷²

m (MEDIOCRITER), $\mu\epsilon$ (MESON) and $\omicron\lambda$ (OLIGON)

Previous Interpretations of mediocriter

If one divides the litterae significativae in two groups, namely those whose meaning appears entirely or extensively clarified, and those that pose problems it can generally be said that the first group encompasses the more frequently appearing signs while the second group on the other hand includes the more rarely used letter neumes. Such a statement is certainly not surprising if one considers that Notker's letter does not unambiguously clarify them and because such a paucity of material is present in most cases in the manuscripts that the

370 Cf. as well EN, page 62/2, 81/4, 345/10; LN, page 47/1.

371 The *h* is rarely combined with other letters in LN. The combinations *mh* (page 20/3, 136/2), *dh* (page 51/13) and *hp* (page 31/9) are rare.

372 Cf. Pal Mus XI, 54. In SG and AH the littera *d* has not been found. In EN it occurs only twice (cf. Smits van Waesberghe, MdM II, 546-551).

chances of obtaining an interpretation on the basis of comparative analyses would appear to be very slim.

The abbreviation *m* represents however a special case within this second group. Although it belongs to the more frequently used litterae, it presents many problems with respect to its interpretation. This is due not only to Notker's unprecise explanation (*m mediocriter melodiam moderari mendicando memorat*) but also to the contradictions presented by this littera in the codices

Among the older interpretations of the abbreviation *m* the view of Dom A. Schubiger³⁷³ should be mentioned first of all, because it seems to have played a decisive role for the older research. Schubiger stated that the letter *m* standing alone had a rhythmical function and he was of the opinion that the letter had the meaning of "moderate" or "a little" when it appeared in combination with other litterae.

The letter *m* (*mediocriter*) seldom stands alone, in which case it indicates a moderately fast execution. More often one meets the sign in connection with other letters; *a m*, moderately high, *mc* (*mediocritier cito*), moderately fast; *i m* (*inferius mediocriter*), a little deeper, etc.

Schubiger's view corresponded completely with the interpretation of Dom Mocquereau.³⁷⁴ It was characteristic of the point of view of the older Solesmes school and typical of the older research generally. Divergent views were actually only expressed by A. Gastoué³⁷⁵ and Dom Jeannin. Gastoué thought that the *m* directed the attention of the performer to a middle interval ("*un intervalle médiocre*"), while Jeannin attributed only a rhythmical function to the letter.³⁷⁶ He explained the sign as a reminder to take care to not accelerate or slow down or expressed in another way, it was the direction to remain "*in medio*".

Far more differentiated results with respect to the meaning *mediocriter* were produced in the meticulous research of Smits van Waesberghe.³⁷⁷ An investigation of the meaning of the term in the theoretical literature led to his interesting statement that the letter was used exclusively in the oldest treatises (9th and 10th century) as for example in Aurelian, in a melodic sense. Pater Smits interpreted the expression *modiocriter* as "a little" or "moderately" and translated Notker's explanation as: "*The letter m requests and acts as a reminder that the course (of the melody) should be moderated a little.*"

373 *Die Sängerschule St. Gallens*, op. cit., 12.

374 *Pal Mus* IV, 13f.

375 "Sur l'intonation des introits du type "Statuit"" *Tribune de S. Gervais* (1914): 127 (cited from Jeannin, *Mémoires liturgiques* I, 196/ footnote 1).

376 Cf. below page 191.

377 *MdM* II, 149-153, 351-497, 551-561, 629-661, 762-767.

With reference to Aribo the view was put forward that the *m* indicated a medial value and fulfilled thus a function with respect to the height or duration of a tone. The first was the case if it was met in combinations with the letters *a*, *s*, *l* and *i*; the latter was the case if it was combined with the sound duration letters *c* or *t* or stood in some relationship to these letters.

Standing alone the *m* served generally as an indication for the pitch. However, it had the meaning of a term for duration when it appeared between two *jacentes* or *rectae* or over the *bistropa*, the *bivirga*, the *trigon* or the "ornamental neumes" *pressus*, *oriscus* and "franculus" (*gutturalis*).

In its function as a pitch sign the *m* indicated, in accordance with the sense of the word, small intervals, mostly the second or the minor third: in this sense it also served to indicate these steps more precisely; *am*, *sm*, *lm* meant something like "moderately high", *im* corresponded to "moderately deep". Similarly the combinations *cm* and *tm* indicated two moderate durations of sound between the extremes *c* and *t*.

Cases which are difficult to interpret

It probably does not need to be emphasized that Smits van Waesberghe's well founded explanations of *mediocriter* are very persuasive with respect to the function of the abbreviation in many cases. However, there are certain cases which do not fit into this interpretation. Pater Smits himself discussed several of these "difficult" cases and attempted to explain them in part as divergences between the Einsiedeln codex and the Editio Vaticana.³⁷⁸ If we however consult the neumatic notation in codex Laon 239 as a means of comparison with respect to the "anomalous" cases mentioned by Waesberghe (Waesberghe did not include this codex in his investigations except for the h-like sign), the problems associated with the use of littera *m* can be best be exemplified with the following observations:

1. In several cases the abbreviations *m* or *lm* are placed over neumes indicating repeated tones when an interpretation as a rhythmic sign would not come into question, as for example in EN, page 28/1, 49/13 and 252/2 (*lm* over the *virga recta*), page 147/3 (*lm* over the *cephalicus*, first tone), page 235/6 (*m* over the *clivis*, first tone), LN page 57/7 (*m* over the *punctum*).

Laon then sometimes has *m* where Einsiedeln has *e* (*equaliter*): One can compare for example LN, page 26/11 to EN, page 72/4 (*m* over the *punctum* or *e* beside *jacens*), LN, page 44/10 with EN, page 106/9 (*m* or *e* with angular *podatus*, first tone), in addition, LN, page 24/10 with EN, page 67/13 (see example 567).

378 MdM II, 363, 426f., 435f., 440f., esp. 444-447 and 495f.

In this latter case EN accompanies the first five tractuli of the versus *Quoniam aedificavit* with an e, while Laon has *md* over both of the first puncta (SG page 52/4 does not have a letter.) According to Waesberghe's interpretation the *md* would indicate a rhythmic interpretation if one drew on analoga. However the correspondence between e und *md* would appear to be especially noteworthy.

2. In several cases the m appears alone or in combinations with pitch letters or with neumes which indicate "wide" intervals, namely the major third, the fourth or even the fifth, both in ascending and descending directions. (The pertinent documents are listed below.)

3. The letter combinations *tm* or *mt* occasionally appear in the Einsiedeln codex with neumes accompanied by the episem or beside compound neumes indicating long tones. This is the case with the virga + episem, bistropha + episem, the angular podatus and angular torculus. If the t added to these neumes calls for long tones or even indicates excessive length, then the introduction of the m, in the sense of "moderate", would be a contradiction. If the m in this connection really had the meaning of "moderate" it would contradict the indication of a double length or in any case it would limit it.

The cases cited above do not conform to the interpretation of *mediocriter* as an indication of a value in the middle. How however should one interpret them? The presumption of scribal error would be absurd; the interpretation as variations is not persuasive.

The correspondence between *equaliter* and *mediocriter* could most plausibly be explained with the assumption that the m in some circumstances could be interpreted as "balanced" or "remaining in the middle". Likewise one might be perhaps inclined to understand these cases with the abbreviation m or lm over repeating neumes as reminders not to sing "deeply". However both interpretations would have already exceeded the boundaries of the Waesberghe's interpretation.

The new interpretation of mediocriter

A new point of view for the semasiological interpretation of *mediocriter* and a clarification of the contradictions mentioned above can be brought into the picture by considering the results of our investigation of the Byzantine grammar as technical terms for music notation. If we take into consideration the three possible meanings of the word *mediocriter*, namely "a little", "moderately" and "remain in the middle" (*in medio*), and look for comparable Greek technical notational expressions, then we are led to the oligon and the meson. The term *oligon* signifies "a little" and the name *meson* indicates a pitch in the middle.

(A Byzantine letter neume with the meaning of "moderately", for instance μετρίως, in contrast can not be found.)

These onomatological relationships do not turn out to be accidental. Comparative semasiological investigations led to the conclusion that close connections exist between *mediocriter* on the one hand and the Byzantine signs oligon and meson on the other hand.

Both the oligon-episem and the *mediocriter* have the characteristic in common that they accompany descending neumes and indicate, in countless cases, "little" i.e. small intervals. While the oligon-episem always indicates stepwise progressions and therefore can be compared to the term *gradatim*³⁷⁹, the term *mediocriter* frequently also serves as the indication of "medium-sized" intervals (thirds).

If we compare then *mediocriter* with meson, the differences should first be noted. While meson is not often met, but when it is, it always appears at the beginning of a colon as the indication of a "medial" pitch. The sign *mediocriter* – in St. Gall sources – belongs among the most frequently used litterae and it is not linked to specific positions. It can stand at the beginning of a colon, in the middle or at the end.

If one wants to conduct semasiological comparisons with meson, it is therefore recommended that we draw on those cases where *mediocriter* also stands at the beginning of a colon. The evaluation of a comprehensive material led to the astonishing result that *mediocriter* indicated primarily medium-sized or wider intervals such as major thirds, fourths and and fifths when it appeared at the beginning of a colon (with the first or second syllable). Often the littera was also found beside the beginning neume of chants that did not begin with the fundamental tone but with a higher tone. Examples 609-618 bring together cases from SG, BG, EN and LN which illustrate this meaning of *mediocriter*.³⁸⁰

Even more instructive, however, are the examples 603-608 drawn from Latin and Byzantine chants. The corresponding phrases have in every instance an unmistakable resemblance to each other. They reveal the "seams" between two cola and have in each case the litterae *sm* or *m* or the abbreviation $\mu\epsilon$ at the beginning of the colon. One notes that the compared passages all come from chants in the same mode or a related mode, furthermore the neumes accompanying the corresponding abbreviation fix in each case the same tones and more specifically the fundamental tone, the fourth or the third.

379 Cf. below page 199 f.

380 Regarding these examples it should be mentioned that we follow the Editio Vaticana with respect to the length of the cola (i.e. for the interpunctuation and the *divisiones*). In contrast to the Byzantine sources, the Latin manuscripts, as we have mentioned, do not have the signs of interpunctuation (see above page 49).

Examples 603-604 are taken from chants in the "third" mode (= *deuterios*) or plagios *deuterios*; the *sm* or the $\mu\epsilon$ indicate a fourth upward, namely the tone *a* . The examples 605-606 belong to the same mode; here the *sm*, the *lm* and the $\mu\epsilon$ indicate the third upward and more specifically the tone *g* . The examples 607-608 finally indicate a fourth upward and specifically the tone *g* .

One notes in examples 603 and 607 that the Einseideln codex has the *l* (*levare*) instead of *sm* or *m* (codex Laon). *sm*, *m* and *l* are synonymous here. The fact that the analogous paleo-Byzantine grammata $\mu\epsilon$ and ψ are also equivalent is illustrated incidentally by example 608. Here the $\mu\epsilon$ stands in Sinai 1219 where Vatopedi 1488 has the combination of *oxeia* and *kentema* and *psele*.

Therefore this is proof that the litterae *m*, *lm* and *sm* in the above examples indicate, as the paleo-Byzantine $\mu\epsilon$, a medial tone.

Conclusions

Our investigation has lead to the following conclusions:

1. *Mediocriter* assumes in the Latin notation all the tasks which were fulfilled in the paleo-Byzantine neumatic notation by the oligon-episem and meson. Thus the high degree of frequency of the abbreviation can also be explained.

2. As the oligon-episem, the *mediocriter* is occasionally written over neumes indicating tonal repetition. A virga accompanied with the abbreviation *m* or *lm* can be compared semasiological with a petaste accompanied with the oligon-episem.

3. In numerous cases, but above all if it stands at the beginning of a colon, the *m* indicates larger intervals, such as thirds, fourths or fifths.³⁸¹ More exactly it indicated in these cases – as the meson – certain medial steps and has the meaning of *in medio* or *medialiter*. It appears as if the *m* can serve in some cases as an indication of a change of the mode.

4. The *m* is utilized far less frequently in the codex Laon 239 than in St. Gall sources.³⁸² Certain conclusions about the manner in which the sign is used in the Metz notation can therefore be drawn about the original meaning of the sign.

5. Several signs point to the fact that *mediocriter* was used originally only as a pitch symbol. The combinations of *m* with the rhythmic litterae *t* and *c* do not

381 Larger intervals are generally only indicated by the *m* in codex Laon 239 when the abbreviation appears in the middle of a colon. Cf. for example page 8/1 and page 47/8 (major third), page 47/11 (fourth upwards).

382 I have not found the abbreviation in Breton notation.

appear in codex Laon 239, in as far as we see, so it can be assumed that they belong to a more recent stage of the development.³⁸³

5. Previous interpretations of the rhythmic litterae suprascriptae in relation to theories about Gregorian rhythm.

Without doubt the interpretation of the Latin rhythmic letter abbreviations belong to the most controversial questions for the discipline of neumatic notation. While on the whole there is general agreement about the meanings of the "melodic" litterae aside from *mediocriter* and a few other questions, on no account can the various opinions about the meaning of the rhythmic litterae be brought down to a common denominator. This may initially strike non-specialists as strange; Notker's explanations of the letters c (*ut cito vel celeriter dicatur certificat*) and t (*trahere vel tenere debere testatur*) would appear to unequivocal and one should have been satisfied with the explanation that the two signs were to be understood as representing a contrasting pair of rhythmic signs

The specialist will however be less and less satisfied with such a simple explanation the further he delves into this question. It becomes more and more obvious that the interpretation of the rhythmic litterae must play a decisive role for one of the most awkward problems of the *Choralforschung* generally. If the interest of current research has concentrated on the rhythmic litterae, it is certainly not for their sake alone. The problem of the "Gregorian" rhythm is the chief matter of concern. Primarily because of this, the differing opinions about the meanings of the litterae must be regarded as only a reflection of the bitter controversies concerning Gregorian rhythm.

THE SOLESMES THEORY CONCERNING ORATORICAL RHYTHM

The Solesmes interpretation of the rhythmic litterae stands in the shadow of the theory of "oratorical" (recitative-like) rhythm. As is well known, the quintessential elements of this theory are for one the refusal to accept mathematical regulated note durations and second the recognition of a certain freedom with respect to the rhythm because the litterae were understood as indications foragogic nuances rather than as fixed dimensional values.

383 In addition to the combinations *tm* and *cm*, the combinations *mt* and *mc* can occasionally be found in St. Gall neumatic sources (cf. for example SG page 90/5 and 91/4). It still has to be clarified whether the m in this combination represents a rhythmic or a melodic sign.

This point of view was decisively determined by the explanations of Dom Mocquereau³⁸⁴ which can thus be taken as being representative for the older Solesmes school.

With respect to the letter t it was said that it indicated that one or more tones were to be lengthened. Therefore the time duration of the tones in question in certain cases would be doubled in length. Various gradations of this duration could be indicated by the t.

The m standing alone was said to indicate a moderate movement (“*un mouvement modéré*”). If this letter appeared in combinations with other “melodic” or “rhythmic” litterae, then the function of this letter sign was to be modified in a certain way (*am, cm, im, tm*).

With respect to c it was said that it expressed in the general lightness and quickness (“*la légèreté, la célérité*”) and it could be used either in a positive or a negative sense. In the first case it indicated a momentary acceleration of the normal movement and could be compared to the modern agogic terms *animato, accelerando, più mosso* or *stretto*. However, the basic value of the notes or groups of notes was not affected. If the c was used in a negative sense, then it functioned somewhat like a “sign of dissolution”. It removed the effect of the previous t or episem and the normal pace was again taken up. In a similar way the c stood as well before these signs as a warning against a slow manner of execution.

THE MENSURAL THEORY OF DECHEVRENS

A diametrical contrast to the Solesmes point of view was developed by Dom A. Dechevrens.³⁸⁵ He explained neumatic rhythm and the rhythmic litterae in accordance with the standards of a rigorous mensuralism, taking thereby Aribio³⁸⁶ as the prime authority:

Unde in antiquioribus antiphonariis utrisque c. t. m. reperimus persaepe, quae celeritatem, tarditatem, mediocritatem innuunt. Antiquitus fuit magna circumspectio non solum cantus inventoribus, sed etiam ipsis cantoribus, ut quidlibet proportionaliter et invenirent et canerent. Quae consideratio iam dudum obiit, imo sepulta est.

Dechevrens' interpretation of the passage resulted in the thesis that three durational values formed the basis of the Gregorian rhythmus which stood

384 NMG, 177-186.

385 *Études de science musicale* (Paris 1898) : II, cap. VI; III, 191-483 ; *Les vraies mélodies grégoriennes* III (Paris, 1902): 83 ; *Le rythme grégorien / Réponse à M. Pierre Aubry* (Annecy, 1904) : 64-66 ; *Composition musicale et composition littéraire à propos du chant grégorien* (Paris, 1910): 184-195.

386 GerbertS II, 227 = CSM 2, 49.

comparatively in the ratio of 1:2:3. The c indicated the shortness, m was the middle normal value, t indicated length. As an indication of the time duration the normal value was transcribed with the quarter note with the other two values being respectively eighth notes and half notes.

Dechevrens' theory found at the beginning of the 20th century a positive echo among experts and led to several controversies. Among his defenders were A. Fleury³⁸⁷, G. Gietmann, L. Bonvin and H. Valeur. Among his opponents there was above all R. Baralli, who took to the field with a series of palaeographical arguments against the mensuralists.

Baralli³⁸⁸ uncovered several inconsistencies in Dechevrens' transcriptions and was of the opinion that the letter m could hardly be considered as a sign for a middle value of length because it appeared only rarely in the manuscripts in a rhythmical sense. Therefore he concentrated his investigations on the frequently appearing litterae c and t, coming thereby astonishingly close to Mocquereau's point of view in many ways. Nevertheless, in the contrast to Mocquereau, Baralli understood the letter c exclusively as a sign of dissolution. It was found over neumes of normal duration and fulfilled only a negative function, that is: it released the signs of length, the t or the episem. If it stood behind the sign, it indicated the return to the normal time values; if it stood before the sign, it indicated an approaching quickening.

WAGNER'S SYSTEM OF NEUMATIC RHYTHM

In the controversy about chant rhythm P. Wagner³⁸⁹ took a middle position between Dechevrens' rigorous mensuralism and the liberal equivalism of the Solesmes school. He rejected both the hypothesis of a mensural performance of the *Cantilena Romana* as well as the practise of the "oratorial" manner of performance with its "rhythmical symmetry". In contrast to both interpretations he advocated for a "moderate" theory which interpreted Gregorian rhythm in the last analysis as the continuation of the metrics of antiquity. Wagner projected numerous analogies between the antique "feet" and the rhythmical patterns of the neumes, yet he was careful to distinguish the chant rhythm from the antique metrics in that he emphasized that the first was based on the accents, not on a quantitative principle.³⁹⁰

387 *Über Choralrhythmus – Die ältesten Handschriften und die zwei Choralschulen* (Publikationen der Internationalen Musikgesellschaft, Beihefte, Zweite Folge, Heft V), (Leipzig, 1907).

388 "Osservazioni sul mensuralismo nel canto gregoriano" *Rassegna Gregoriana* IV (1905): col. 324-332 and 411-422; V (1906): col. 65-74 and 399-416; VI (1907): col. 113-134; "Risposta ad una critica a proposito di mensuralismo" op. cit. VI (1907): col.421-438.

389 EGM II, 241-248, 353-433, esp. 381f.

390 op. cit., 403.

Therefore as a regulator of the rhythm the accent syllable, regardless of its prosodic constitution as being long or short, was not taken into consideration and similarly the quantity of syllables did not have an effect of the rhythmic treatment. On the whole we have mixed rhythmic restraint with freedom in a pleasant manner.

Wagner's theory found its basis in the Middle Latin treatises (Anonymus Vaticanus, scholia to the *Musica encheiriadis* and *Commemoratio brevis*) which made a distinction between short and long syllables and tones. Supported by these statements, Wagner developed the thesis that chant rhythm had two durational values, the longa and the brevis, whereby the virga (recta and jacens) signified the longa and the punctum the brevis. Of the rhythmic litterae the t – as well as the episem – denoted excessive length, while the c over the virga recta or jacens indicated a shortening of the longa value by a brevis. Wagner transcribed the brevis (and thus the c) with an eighth note, the longa with a quarter note, the excessive length (virga with t or with episem) with a half note or with a dotted quarter note.

As a determining argument for this explanation it was stated that the *celeriter* often appeared before or over virga and jacens, yet never appeared over a punctum - an assertion, admittedly, which soon turned out to be incorrect whereby a good piece of the foundation of the whole theory was removed.³⁹¹

In addition it should be mentioned that the *mediocriter* did not fit well into Wagner's concept. In any case Wagner's explanations for this letter were contradictory in a remarkable way. The m was explained at one point as an indication of "slowing down"³⁹²; another time it was said to be a middle durational value beside the longa and brevis³⁹³; a third time this interpretation was put into doubt.³⁹⁴ Obviously the littera m presented Wagner with some discomfort.

THE MENSURALISM OF DOM JEANNIN

Dom L. Jeannin's theory about Gregorian rhythm was determined once again by a severe mensuralism whose most obvious feature is the frequent changes of tact in the transcriptions.³⁹⁵ However, between the positions of Dechevrens and Jeannin a significant difference existed. While Dechevrens assigned three basic values to the chant rhythm, Jeannin accepted only two values, the short and the long which stood to each other in the strict ratio of 1:2. The rhythmic litterae

391 Cf. Jeannin, *Mémoires liturgiques syriennes et chaldéennes*, 179; *Études sur le rythme grégorien* (Lyon, 1926): 50f; Smits van Waesberghe, MdM II, 593/ footnote 5.

392 EGM II, 235.

393 op. cit., 379/footnote 1.

394 op. cit., 427f.

395 *Mémoires liturgiques syriennes et chaldéennes* I, 166-233. Regarding Jeannin's theories cf. E. Jammers, *Der gregorianische Rhythmus*, 30-33.

were interpreted by Jeannin as additional signs. *c* always referred to the shortness; *t* always to the length. But *m* did not signify an intermediate stage, but was to be understood as a reminder not to accelerate or slow down. It was a signal to remain *in medio* (hence, the expression *mediocriter*), that is to retain the appropriate durations exactly ("*exactement*") for the longs and shorts in question. Therefore, *m* could be called upon for both the shorts and the longs. Accordingly the *cm* combination denoted "exactly" a single time duration, the *tm* "exactly" two time durations.

THE THEORY OF SMITS VAN WAESBERGHE:

Finally Smits van Waesberghe's fundamental investigations of rhythmic litterae significativae in Saint Gall sources led to the development of a theory on the Gregorian rhythm which came close to the Solesmes point of view.³⁹⁶ Therefore, the Gregorian rhythm was determined neither by a mensural scheme nor exclusively by a differentiation of short and long tones, but rather by a differentiated system of agogic stretches of the time durations or by the ornamental tones, a system which was expressed with the sound duration letters *c*, *cm*, *m*, *tm* and *t*. These letters were not to be understood as expressions of strictly individual nuances. A comparison of the Saint Gall versions revealed that these indications, in spite of divergences, were based on a traditional uniform manner of execution which did not exclude the possibility that the personal initiative of a scribe might have played a role in the placement of the letters.

With regard to the functions of these letters for sound duration Pater Smits came to the conclusion that one had to make a distinction between the littera *c* and the other litterae. The *c* fulfilled, in accordance with its position, partly a negative, and partly a positive function and partly both together. However, it was mostly used in a negative sense in that it was used as a contrast sign, while the litterae *cm*, *m*, *tm* and *tb* mostly had a positive function that they were indications of a lengthening of the sound duration which was dependent on the melodic flow or, especially in "syllabic" Mass chants, on the accentuation, in particular the main accent.

6. The equivalent rhythmic letter abbreviations

As we have already suggested, a totally new perspective for the semasiological investigation of the rhythmic litterae significativae also resulted from a consideration of the paleo-Byzantine letter neumes. After a compilation of all

396 MdM II, 653-661, 764-767, 778-781.

these abbreviations was made and their relationships with the Latin litterae was put under the microscope, a comparative investigation revealed that the question of the function of Latin litterae with respect to the nature of Gregorian rhythm could be shown under a new light - from the East.

c (CITO VEL CELERITER) and Γ (GORGON)

The evidence proving the correspondence of the letters and the neumes

An important prerequisite for a semasiological investigation of the letters was to compile a summary of all the positions in which they appear.

For the littera c, this task has been already completed by Pater Smits in an exemplary fashion.³⁹⁷ He registered and classified all relevant cases with c in SG, EN and AH. It could be shown that in circa 90% of the cases the c appeared over clivis and climacus groups. Of the sum of 2354 examples of c in SG, 2173 of them involved clivis and climacus groups. In EN it was 3116 out of 3511 and in AH 4576 of 5149. If one counted the examples in all three sources the ratio was 9865:11014.

Beside this imposing statistical analysis, we are able to offer only a limited compilation of the appearance of the gorgon in the codex Cryptensis E. α. 11. It comprises a total of 119 cases. It is moreover worthy of note that the sign appears on only three pages (fol. 22, 22v and 23) in neumatic passages from stichera in psaltic style.³⁹⁸ If we divide the cases into groups (in accordance with the positions involving the gorgon) then the following picture emerged. The gorgon is found:³⁹⁹

- over the ison (4 times);
- between two isa (once);
- over the apostroph standing alone (once);
- over the apoderma (once);

397 MdM II, 661-666.

398 Cf. example 439 with compilation of Gorgon in Crypt. E. α. 11.

399 One should not be surprised that our enumeration has been not been more extensive. We remind the reader of the fact that the gorgon does not appear in the surviving paleo-Byzantine sticheraria and heirmologia, i.e. in entire manuscripts which could be compared to the St. Gall sources. (However, the celeriter is just as rare in numerous St. Gall manuscripts). We would have been able to supply a much higher number of examples if we had investigated the gorgon cases in Middle Byzantine psaltika. Here the instances of the gorgon almost reach the same high frequency as the in SG, EN and, AH. Nevertheless, we did not choose this route because the Middle Byzantine psaltika come from a later time period (the earliest from the end of the 12th or beginning 13th century). Entire Paleo-Byzantine psaltika which might have been taken into consideration have not survived. Therefore we had to make do with the surviving specimina.

over the combination of petaste and dyo kentemata (once);
 over the apostroph of a conjunction with petaste (once);
 over the combination of apostroph and dyo kentemata (once);
 over the conjunction dyo (4 times);
 over the conjunction apeso exo (3 times);
 over the anatrachisma IIa (once);
 over the conjunction of dyo apostrophoi and klasma (once);
 over the conjunction of diple and bareia (once);
 over the dyo apostrophoi (once);
 over the bareia (5 times);
 over the combination of bareia and oxeia (3 times);
 over the antikenoma (3 times);
 over the antikenokylisma (6 times);
 over the pelaston (11 times);
 over the combination of apostroph and oxeia (once);
 over a pair of just this combination (9 times);
 with the katabasma (once);
 with the psephiston (6 times);
 with the tromikon II (8 times);
 with the kataba-tromikon (45 times).

From this arrangement it becomes clear that the gorgon in 97 cases (80%) is connected to neumes or groups of neumes which are semasiologically related to or even equivalent to Latin *clivis* and *climacus* groups. In example 619 we have compared the corresponding Latin and Byzantine graphic arrangements with *celeriter* or gorgon. The following parallels were found: 1) the *clivis* and *bareia*; 2) the ligature of two flexae and the conjunction with two *bareia*; 3) the *porrectus* and the conjunction of *bareia* and *oxeia*; 4) the *climacus* / the *katabasma*, *psephiston* and three tone *pelaston*; 5) the *pes subbipunctis* / the *tromikon* and *kataba-tromikon*; 6) the *climacus subbipunctis*, the *pes* + *climacus* and five tone *pelaston* groups. The *celeriter* is frequently positioned in Latin neumatic sources between two *jacentes*. A parallel case with gorgon is found in *Cryptensis E. a. 11, fol 22/10* between two *isa*.

The preceding arrangements as well as the compilations in example 439 should make it clear that *celeriter* and gorgon appear in positions which are related to one another.⁴⁰⁰

400 Also four cases where gorgon stands over the *ison* can be compared to the position of *celeriter* between two *jacentes*. One should note that in the latter position, the *c* appearing between the two *jacentes* either is placed over the first syllable of a word or over a monosyllable and the first syllable of the following word (cf. Waesberghe, *MdM II*, 593 and 605-607). There is similar relationship with respect to the four cases of the

Before we go over to an interpretation of the phenomenological findings with respect to the preferential positions taken by the gorgon, we want to refer to the explanation of this sign in the treatise in codex 811 of the Patriarchal library of Constantinople: Ἰδοῦ γὰρ τὸ γοργόν, ἄφωνόν ἐστι, καὶ σαλεύει τὸ τρομικὸν καὶ τὸ πελαστὸν καὶ πάσας τὰς ἀνιούσας καὶ κατιούσας φωνάς, ὅπου τίθεται, καὶ διὰ τοῦτο λέγεται γοργόν.

Our findings confirm the correctness this statement in every respect.

1. If the explanation emphasizes the positions the gorgon assumes with the tromikon and the pelaston, our survey showed that this juxtaposition is indeed very frequently found. In the three chants in Crypt. E.a.11 the gorgon appears with the tromikon and with the kataba-tromikon 53 times and with the pelaston 11, i.e. altogether 64 times. With a total sum of 119 cases that makes up more than half.

2. The explanation states that gorgon brings everything to which the neumes are attached “into wavering”. We can interpret this passage from the point of view that gorgon fulfilled a positive function, that is an acceleration of the movement. The investigation of the cases in the Cryptensis E.a.11 revealed that this was generally the meaning of the sign. It is seldom used as a “sign of contrast”, i.e. as a warning not to sing too slowly.

Our findings can be made even more precise: the gorgon stands mostly beside two, three, four, and even more neumes. (The tromikon groups consist of at least 4 tones, the pelaston groups mostly five tones.) The sign refers in these cases not to single tones but to the whole group which should therefore be executed in a lively mannner, virtually in a single breath.

If we look at the positions of *celeriter* from the vantage point that we have achieved, then it can not be denied that the letter is possibly used in many cases in a negative sense, especially when it appears immediately before a *tenere* or a neume with an episem or it immediately follows them. If this is not the case, then it can be certain that the *celeriter* as a rule fulfils a positive function.

Waesberghe⁴⁰¹ assumed that the interpretation of the following positions of the c were to be understood in a negative sense: when a neume with the c forms the climax of an ascending group (as for example with the climacus praebipunctis, with the clivis praebipunctis, with the porrectus praebipunctis, with the pes with climacus and with the pes subbipunctis⁴⁰²); as well as in

gorgon over the ison. In all four cases the following syllable has an ison neume. In two cases the isa stands over the first two syllables of a pentasyllaba.

401 MdM II, 665, 765

402 This group corresponds exactly with the Paleo-Byzantine tromikon, the kataba-tromikon or with the pelaston group.

groups of neumes such as the bistropha with clivis, bistropha with climacus and trigon with climacus and finally when a neume with a c is the first or last neume of a melisma.

Pater Smits was of the opinion that *celeriter* in these positions had a negative effect. It was placed over the clivis or the virga of a climacus to prevent a lengthening. The results of our investigations however demonstrate that this concept does not fit into our interpretation.

Two facts need to be emphasized with respect to the positive function of the c in the cases cited above: first the proven correspondence between the *celeriter* and gorgon graphic arrangements. Second the new interpretation of the oriscus. It should be noted that c stands very often over the climacus, pes subbipunctis, clivis or torculus, when they are followed by a “connected” oriscus or pes quassus (see examples 493, 501, 504, 512, 529-531, 646, 647, 655). In these cases the oriscus already indicates that the execution had to be fluid – an indication that is only emphasized by the *celeriter*.

From the above observations it can consequently be concluded that the c, when it stands over combined neumes and fulfils a positive function, does not refer to a single tone but to the whole group. The graphic arrangement climacus praebipunctis for example indicates a five tone figure, which is to be briskly executed and in one swoop when a c is written over the virga of the climacus.

τ (TRAHERE VEL TENERE) and κρ or κ (KRATEMA)
a (AUGE or AMPLE?) and APΓ (ARGON)

We have already dealt with the Byzantine letter neumes κρ and APΓ in detail in the first volume of the UNk. In this segment these letter neumes will be investigated from a new perspective, in a certain sense from the viewpoint of the West. The purpose of this is to find out to what extent they are able to provide us with information about the meaning of the Latin litterae in question.

The question about the function of κρ or κ can be answered in some cases with a reference to the fact that the letter neumes are added only as an "explanation", while in other cases they fulfil a positive function.

The κρ stands to the left of the mega kratema as an additional “explanation” in examples 129 and 132 (cf. UNkIII). The abbreviation is practically superfluous here because the neume to which it refers is a *kratema* anyway i.e. it is a sign indicating a lengthening.

The case is different in example 131. Here the scribe of codex L2 was faced with a shortage of space. He did not have enough room to record the mega kratema therefore he wrote an oxeia and added the κρ on the left in order to indicate that the oxeia was to be sung to be in the manner of a *kratema*. This is unambiguously if one compares the passage to the corresponding neumes in L3.

In the other cases the κ appears beside two or several stenographic Chartres symbols in order to indicate that one or two tones of the figure in question were to be stretched out considerably. Examples 130, 135 and 138 have mega kratemas in the corresponding Coislin and Middle Byzantine versions.

The following three statements about $\kappa\rho$ or κ seem especially significant for the semasiological interpretation of τ .

1. Of the signs of duration the longest length is indicated with the $\kappa\rho$. The mega kratema is the most important sign for length in the Byzantine semiography. The durational value amounts to more than double the normal durational value (cf. UNkI, chapter IX).

2. The neumes accompanied with $\kappa\rho$ or κ generally are accented syllables.

3. Both single signs and signs involving several tones could be provided with $\kappa\rho$ or κ .

If we compare these statements with the results of Smits van Waesberghe's investigations into the meaning of τ in St. Gall neumatic sources, we can ascertain an extensive correspondence. As we have mentioned, Pater Smits had discovered that this letter fulfilled – as with the related combinations *tm* and *tb* – in general a positive function which resulted in a stretching of the sound duration and it was found – in "syllabic" chants for the Mass – primarily attached to neumes over accented syllables.

Comparing our deductions about the kratema to Waesberghe's statements led to the following conclusions. We refer first of all to example 620 where corresponding Latin and Byzantine graphic arrangements with τ ⁴⁰³ and $\kappa\rho$ or κ are compared. The signs can be seen to correspond: virga and oxeia; bivirga, distropha and mega kratema (= conjunction of diplo and petaste); clivis and kondauma; climacus and kataba-tromikon.

In consideration of these existing correspondences the conclusion seems to be legitimate, first, that τ as well as the $\kappa\rho$ indicate a considerable stretching of the normal durational value which exceeds the normal value of single neumes (virga and especially bivirga and distropha); second, that the τ , provided it appears in St. Gall sources over neumes indicating several tones such as the clivis, torculus and others, indicates a stretching out of the tones of the figure in question.

In particular a "key" for the rhythmical transcription of the clivis with τ (see example 442) seems to be offered by the parallel graphic arrangement of the Chartres kondeuma with κ in examples 138 and 443. If the Coislin and the Middle Byzantine versions dissolve this Chartres graphic arrangement with two

403 In the oldest Latin chant manuscripts the τ , whether it appeared in the text or over the neumes, was written as the Greek τ – a scriptural trait which we have frequently retained in our text.

rhythmical values, i.e. the mega kratema and conjunction of dyo apostrophoi or a dipole, then it may be assumed that both tones of the clivis accompanied with τ also indicated a lengthening, with the first length longer than the second.

In a positive sense, that means that as a sign of lengthening, the argon sign is similarly to be interpreted in eight cases in codex Cryptensis E.a. 11 which we discussed in detail in UNKI, chapter VIII (cf. as well example 440). We already noted that argon refers in all these cases to neumes indicating several tones, while the kratema also is met with single tone signs.

Here it should be added that the argon is written in six cases beside or between sign combinations, which in parallel passages are accompanied by the gorgon. These cases involve the psephiston with triple combination of apostroph and oxeia or the kataba-tromikon or two bareia groups. These graphic arrangements reveal that the same figures could be sung quickly or on other occasions slowly.

It should be noted that the expressions kratema and argon are not synonymous. *Kratema* signifies "to hold", "to endurance"; however, *argon* would be translated with "the slow one".⁴⁰⁴ Also the name argon seems to point to the fact, that the sign was more likely used as a lengthening sign for several tones. The term "slowly" would more likely be applied to several tones rather than just one.

The appearance of the littera a as an additional letter in the notation of codex Laon 239 is particularly striking because it is used not as in St. Gall sources to indicate *altius*, but rather as a rhythmic sign. This function of the littera has probably first recognized by Dom Mocquereau.⁴⁰⁵ He was of the opinion that this a must have been equivalent to the τ because these letters were written in Metz notation where St. Gall neumatic sources had a sign of lengthening. Therefore, the littera a acted as a lengthening sign and could possibly be an abbreviation for *auge*, *augete* or *ample*.

This interpretation of the Metz letters a and τ was duly questioned by Jammers.⁴⁰⁶ He could not explain why "*without any further justification a new letter should be introduced which did not do anything differently than that which was already done for good or for worse by the similar letter t*". For this reason Jammers assumed that the Metz a must signify something else than the τ.

It [the a] appears mostly in connection with the principal endings, the descending clivis fd d and the concluding torculus – and the a is integrated

404 According to the Middle and late Byzantine classification, four signs of duration, the kratema, dipole, dyo apostrophoi and klasma, comprised the class of *argiai*.

405 NMG, 184f. Cf. Dom Ménager in Pal Mus X, 181.

406 *Der gregorianische Rhythmus*, 77-80.

into the neumes in such a manner that it is highly likely that it had an effect not on a single tone but on the whole figure.

Jammer's investigations lead to the research result that the Metz τ indicated an "excessive length", "*a stretching within the system of beating the rhythm which first made the beat possible; the a could either indicate a lengthening in the manner of a tenuto or a triplet rhythm (...) or a lengthening of the beat (or perhaps a half a beat)*"

Our own investigation of the notation of codex Laon 239 confirmed Jammer's hypothesis that the Metz a refers not to a single tone, but to several. However, our conclusions with regard to the semasiological differences between the Metz litterae τ and a deviate from his. These differences will be dealt with in the following section.

THESES WITH RESPECT TO THE MEANING OF THE EPISEM AND THE LITTERA τ IN ST. GALL SOURCES AND CONCERNING THE SEMASIOLOGICAL DIFFERENCES BETWEEN THE LITTERAE τ AND a IN CODEX LAON 239

Our theses can essentially be presented in five "main clauses":

1. The episem is used as a special rhythmic sign only in St. Gall notation. As far as we see, it has not been found in other notations. Dom Ferretti's statement⁴⁰⁷ that the Beneventan notation also employs the episem has been already rejected by Jammers⁴⁰⁸ with sound arguments.

2. In St. Gall neumatic sources the episem and littera τ do not refer to a single but rather to several tones. Dom Mocquereau⁴⁰⁹ developed the thesis that the τ and the episem had an effect only on the note to which they were attached and that in the case of clivis with episem for example applied only to the virga. However, this view must be re-examined. The results of our investigations with respect to the application of the letter neumes *kratema* and *tenere* must apply to the stretching out of several tones in St. Gall sources and the same approach – based on the frequent substitution of the τ by the episem – must apply in these cases as well.

3. The Metz notation of codex Laon 239 does not include the episem, but in addition to the τ it also makes use of the special rhythmic abbreviation a . Both signs are not used randomly but their employment depended on whether one or several tones were to be stretched out. (In this sense the *bivirga* or the Metz *bipunctum* were understood to indicate two-tone but one step signs.) In example

407 Pal Mus XIII, 97-99.

408 *Der gregorianische Rhythmus*, 86.

409 Pal Mus IV, 17-24.

621 corresponding St. Gall and Laon graphic arrangements make it clear that the LN a appears generally there where St. Gall neumatic sources have the combined signs with the episem or with the τ . However, Laon does not have a lengthening sign everywhere where such a sign appears in St. Gall sources.

In this connection we must emphasize that against the view promoted by Dom Mocquereau⁴¹⁰ and Solesmes up until today, substantial rhythmical and melodic divergences exist between the St. Gall and Metz traditions of Gregorian chant, as can be illustrated by example 621 under B with the semasiological divergent graphic arrangements and the frequent substitution of ornamental neumes and liquescents by more usual signs (cf. table 8).

4. The Metz τ indicates that a tone is to be stretched out. Exactly the same task is fulfilled by the Byzantine $\kappa\rho$ in codices L and L2. The Metz a in contrast calls for the lengthening of several tones and can be compared in this respect with the the Byzantine argon.

If one takes these findings based on our comparative semasiological investigations into consideration, it seems at least questionable that the Metz a would stand as an abbreviation for *auge* or *ample*, as Dom Mocquereau and Dom Ménanger believed. Apart from the fact that these expressions are not employed in the Middle Latin literature as a music-theoretical terms with rhythmical meanings⁴¹¹, as far as we see, the correspondence of the h (*humiliter*) with the Byzantine *chamele* (see above) and the correspondence of the a with argon would lead one to believe, that the abbreviation a must mean something else.

5. Smits van Waesberghe⁴¹² set up the hypothesis that originally the episem was first used as a lengthening sign in St. Gall and only later was the τ introduced. There are two reasons for questioning this supposition: first, several other Latin notations have the τ but do not employ the episem and secondly, the fact that the Paleo-Byzantine notation, which has the $\kappa\rho$, does not use the short horizontal dash as a lengthening sign.

7. Other Abbreviations

g (= IN GUTTURE, GRADATIM)

One can probably not speak of Notker's explanation of the littera g as being unequivocal: *Ut in gutture garruletur gradatim genuine gratulatur. Pater*

410 NMG, 168-170.

411 Hucbald (*De harmonica institutione*) at one point uses the expression *amplius* to characterise a "wide" interval: *Nonus [modus] prolixiori super omnes tensus spatio metam huiusmodi divisionum sortitur: nam nec amplius isto, nec strictius primo umquam vocum reperies divisionem.* (GerbertS I, 105b).

412 Mdm II, 767.

Smits⁴¹³ considered that two translations of the passage were possible: “*the letter g exults in that the voice rises emotionally (a little) and in a natural way*” or “*the letter g exults, in that one sings with the throat emotionally and naturally (that is, with a special vocal technique involving a throat sound).*”

The decision as to which of the two interpretations is more appropriate depends first of all on how the word *guttur* is to be translated: i.e. with “voice” or with “throat” (or throaty sound). Both meanings are possible and are attested for in the literature. However, the decision about the answer to this question depends on whether Notker’s explanation was made with reference to the expression *in gutture* or to the adverb *gradatim*. It is clear that only these two expressions can be considered to be music-technical terms.

In the neumatic sources the littera g stands out due to its rarity. According to Waesberghe’s statistics the abbreviation only appear once in the Canatatorium, in codex Einsiedeln it can be found only four times, in codex Hartker it is completely absent. In SG page 28/5 it appears over the characteristic note of our salicus I; in EN page 28/5, 43/5 and 54/6 it also appears over the characteristic notes salicus I or salicus II; in EN page 185/3 it is found over the pressus. In these last two cases in EN the letter g stands alone, in the first two cases in contrast it appears together with the letter u, as *gu*.

Taking these examples into consideration, Pater Smits⁴¹⁴ concluded that the littera g did not have the meaning from *gradatim*, but that it must have come from *in gutture*, not only because of the abbreviation *gu*, but also because the g was to be met in leaps of a third and beside neumes for tonal repetition. Indeed, the g in SG 28/5 and in EN 54/6 stands beside the characteristic note of a salicus which the Vaticana represents with the tonal series *f a c* : the first tone of the pressus which EN 185/3 notates with *g* repeats the preceding tone as is indicated by the added *equaliter*. This can be illustrated by comparing diastematic sources.

The results of our investigations on the Latin ornamental neumes confirm Waesberghe’s thesis completely. With respect to the littera g his thesis can furthermore be made semasiologically more precise. If we visualize the connection between oriscus and hyporrhoe and the explanations of the gutturalis and hyporrhoe by Walter Odington and Gabriel, then it should probably be clear that littera g in the five cases cited above refers to the oriscus as the characteristic note of the salicus (= choreuma) graphic arrangement and the pressus and thus refers to the *guttural* effect of this neume.

With that it is not said, admittedly that the littera g must have the meaning of *in gutture* aside from the five cases cited above. Provided that it does not refer

413 MdM II, 131-139.

414 MdM II, 536-541.

to an oriscus, but to other neumes, then it could under certain circumstances have the meaning of *gradatim*.⁴¹⁵

z (= ZITĪSE = ζιτῆσαι) and ζι or ζτ (= ζῆτει)

In his letter Notker explains that the z was an abbreviation for the Greek zitise and it had the meaning of *require*: „Vero licet et ipsa mere greca, et ob id haut necessaria romanis, propter predictam tamen ‚r‘ litterae occupationem ad alia requirere, in sua lingua ‚zitise‘ require.“

According to Waesberghe⁴¹⁶ the abbreviations z or r (*require*) usually appeared in Latin manuscripts in the margin and they functioned as directions. In Greek music manuscripts the abbreviations ζι and ζτ have the same function.

Thus in L1, fol 25 the following abbreviated text is written on the right side: Ζῆτει καὶ ἕτερα στιχηρὰ εἰς τὸ τέλος τοῦ βιβλίου. This indicated that an additional stichera was notated on fol. 80-83v.⁴¹⁷

In La, fol. 73 the scribe wrote on the upper margin: Ζῆτει «αἱ μυροφόροι γυναικες» εἰς τὸ τέλος τῶν αγίων πάντων. The Easter sticheron in question was to be found as an addition on fol. 105v.

Similarly Va, fol. 109 has a note below the initium of the stavrotheotokion: Ὁρῶσα σε ἡ κτίσις ἅπασα ἐπὶ σταυροῦ which reads Ζῆτει τοῦτο τῆ τετάρτη τῆς μεγάλης ἐβδομάδος. ἐκεῖ ἐγράφη. The μεγάλη ἐβδομάς does not refer to Holy week but to the fourth week of Lent. For the Wednesday of this week (Feast of the Veneration of the Cross) the codex preserves several stichera. Our stavrotheotokion is notated on fol. 41v.

d or dt (DUPLEX, DUPLICATUR) and ∞ (HOMOION)

These Latin abbreviations appear primarily in sequence manuscripts⁴¹⁸ as well as occasionally in Graduals⁴¹⁹ and indicate that the series of neumes next to the abbreviation are to be sung a second time.

415 The expression *gradatim* frequently appears in medieval literature as a musical technical term. Cf. the compilation of several instances in Smits van Waesberghe, MdM II, 135-137. As another example we can add the memory verse of the fourth psalm tone: Quartus inprimis *gradatim* ascendit. In the version of the Munich manuscript codex lat. 14965 b, fol. 30 (facsimile in C. Vivell, *Frotolfi Brevarium de musica*, 101) the tone formula in question ascends by step from *f* to *a*. Regarding the memory verses of the psalm tones cf. Wagner, EGM III, 100-106.

416 MdM II, 172-179, 583-585.

417 Cf. our description of the manuscript in UNk I, chapter II.

418 As in Paris BN lat. 118, in the troper from Winchester etc. Cf. H. Husmann, „Sequenz und Prosa“ *Annals musicologiques* II (1954): 70f.

419 As in codex Chartres 47 (cf. Pal Mus XI, 54).

The *duplicatur* can be compared to the Byzantine abbreviation homoion when it is used to indicate that a line is metrically and melodically the same as the previous (and sometimes also the following) colon. However these similarly constructed lines generally have different texts and therefore each line is written out. The \mathfrak{L} sign is not a sign of repetition like the *dt*.

It remains to be investigated if the rare Latin abbreviation *sim* (*similiter*) is used with the same meaning as the ὁμοιον (or ὁμοίωζ).⁴²⁰

8. Origin, Development and Evolution of the System of the litterae significativae

*q et reliquae litterae in significationibus
notarum probantur nihil valere. Sed et ex
suprascriptis omnibus has tantum in nostris
antiphonariis frequentari repperimus:
a c e h i m s t.*

Quaestiones in musica, chapter XXIII

Our research has demonstrated that amazing correspondences exist between the Latin and Byzantine letter neumes. The most frequently used “litterae” and the most important “grammata” have a direct relationship to one another. Of the Paleo-Byzantine grammata we could only not discover Latin analoga for the kouphisma, parechon and the letters beta and delta. On the other hand there are a few St. Gall litterae for which Byzantine parallels could not be found. It is however worthy of note that these letters are rarely used.

The most frequently appearing litterae and grammata have been proven to be synonymous and they are semasiologically equivalent or at least similar in meaning. It would appear that the termini technici expressed by the Latin litterae represent translations of parallel Greek terms.

THE ORIGINAL REPERTOIRE OF NOTAE SUPRASCRIPATAE

Anyone investigating the formation of the system of litterae significativae would obviously not begin with the notation in the Einsiedeln codex because its rich repertoire of litterae clearly belongs to a later stage of development. Among St. Gall sources with *litterae suprascriptae* the Cantatorium, codex Hartker and the Bamberg codex would be more representative of the regular repertoire. Even

420 For the abbreviations *sim* and the features that distinguish it from *simul* cf. Smits van Waesberghe, *MdM* II, 692f and 761.

these sources appear to be more developed than codex Laon 239, the Gradual of Chartres no. 47 and most of the Paleo-Byzantine manuscripts.

Consequently it can not be argued that the St. Gall system is the oldest. The results of our research make it apparent that the Paleo-Byzantine grammata represent the original system. The Metz and Breton litterae resemble this system while the St. Gall sources should be understood as a later stage of the development.

Taking the Paleo-Byzantine grammata as the standard, it should not be difficult to determine the oldest “layer” of litterae within the completely developed St. Gall system.

First of all it is clear that some letters in Notker’s alphabet do not appear or rarely appear in neumatic sources. They were only added to complete the system. This is the case for the y (*ymnizat*), perhaps for the z (*zitise*) and probably also for the h (with the meaning of *aspira*), i.e. for three letters without specifically musical meanings.

Of the letters that actually appear in the codices, not all are employed with the same frequency, as Waesberghe was able to show with his statistics. The litterae d (*deprimatur*) and n (*nota*) are not found in SG and AH and are very rare in EN. The litterae g (*in gutture, gradatim*), q (*queratur*), r (“*recte*”) and v (*valde*) appear only sporadically, whereby it needs to be noted that most of these litterae together with b (*bene*) do not have a specifically musical meaning. It is furthermore clear that some of the “directional” signs, specifically the letters p (*pressionem vel perfectionem significant*), f (*cum fragore*) and k (*clange*) are interpreted by Mocquereau⁴²¹ as signs of intensification while Smits van Waesberghe⁴²² viewed them as being instructions for vocal techniques.

It is clear that these rarely used litterae belong to a more recent layer.

Similarly it should be obvious that combinations of litterae in St. Gall manuscripts and especially in the Einsiedeln codex, did not exist originally and were added later. One thinks of the frequently used combinations using the letters b (*bene*) or m (*mediocriter*) as the second element and especially the combinations *cb tb, am, sm, lm, im, cm, tm* etc. They were clearly added in order to obtain a greater precision of the melodic and rhythmic notation. Similar combinations of letters are not found in Byzantine sources.

We therefore reached the conclusion in our investigation that only 8 of the 23 litterae mentioned by Notker in his alphabet could have belonged in the original layer, namely a, c, e, i, l, m, s and τ. This repertoire of litterae corresponds in the main with the inventory of Metz and Paleo-Byzantine notation. Essentially the main difference is that the last two systems each use a sign for height (s or ψ) while the St. Gall manuscripts have three signs (a, l and s). (A further difference between the St. Gall and the Metz systems is that for

421 Pal Mus IV, 14; NMG 180.

422 MdM II, 524-549.

signs for depth the St. Gall sources use *i* while the Metz sources have *h* – but this is only of secondary importance.)

THE BYZANTINE ORIGIN OF THE NOTAE SUPRASCRIPTAE

With these results we have already touched on the question about the origin of the Latin system of litterae significativae. It is to be noted first of all that both Metz sources and the older St. Gall system as we have reconstructed it have the same or almost the same inventory of letters as the oldest North French neumatic manuscripts with litterae from the second half of 9th and the beginning of the 10th century. Smits van Waesberghe⁴²³ noted that in these sources the *e*, *l*, *s*, *i* (also *io* and *iu*), *c* and τ appear.

Where did this system litterae come from? Up to now, researchers dealing with this question have not been able to give an unequivocal answer. As we have mentioned, Pater Smits was of the opinion that it was possible that the original St. Gall litterae were developed under the influence of the Irish system of abbreviations within glosses in the margins of text manuscripts written by Sedulius and his circle (around 850) and these were later expanded to include the entire alphabet. This rather plausible hypothesis is not capable however of explaining the origins of the litterae in music manuscripts. If one wants to accept the Irish hypothesis, it should be noted that the abbreviations used in “Irish” manuscripts never have a musical meaning. According to Waesberghe⁴²⁴ the *a* meant *alter* or *alibi*, the *c* *corrige* or *commemora*, the *l* *lege*, the *s* *semper*, the *T* *Titulus*. Only *e* – as in the music manuscripts – stood as an abbreviation for *aequaliter*.

The present investigations should have answered unequivocally the question about the origins of the litterae significativae. The following aspects can only be explained by taking a Byzantine origin into consideration:

1. The onomatological correspondence between litterae and grammata, i.e. the synonymous expressions.⁴²⁵

2. The semasiological equivalence between litterae and grammata.

3. The approximately concurrent introduction of the letter neumes in the West and in the East. Waesberghe⁴²⁶ believes that the litterae significativae flourished in St. Gall in the period between 850 and 1075. To judge by the preserved manuscripts the grammata were apparently in use in Byzantium from about 950 to 1075. The oldest manuscript with grammata, the heirmologion

423 MdM II, 255/ footnote 126, 775/ footnote 4, 777f.

424 MdM II, 241f.

425 One could also mention Handschin's opinion cited above, that the termini chosen for signifying the tonal heights and depths do not correspond to Roman conceptions of these words.

426 MdM II, 777f.

Lavra B. 32, one of the oldest of all the Byzantine manuscripts with neumes, must have been written around 950. If the system of the letter neumes was already present in these manuscripts as an essentially complete system, then the letter neumes must certainly have originated in Byzantium by at least 850.

4. The significant influence of Greek education in the monasteries of the West, especially at St. Gallen and in the area of Metz (cf. chapter 12)

5. The close connection between the Latin notae or neumae and the Paleo-Byzantine tone signs (cf. chapter 10).

THE LITTERAE AND THE GRAMMATA AS AN AUXILIARY NOTATION

It was already been demonstrated that the Byzantine system of notational-technical grammata was apparently discovered in Constantinople and was first introduced in order to overcome as far as possible the imperfections which were soon recognized in the oldest notation. The genesis of the Byzantine grammata as well as the Latin litterae is to be therefore understood as an auxiliary notation, which up to a certain degree depended on the initiative of the respective writers or of the scriptoria to which they belonged. This circumstance explains why manuscripts of the same category and of the same age which originated in some cases in one and the same scriptorium do not always have even approximately the same number in auxiliary letters. The fact that enormous differences exists between the Paleo-Byzantine Chartres and Coislin manuscripts in this regard was dealt with in connection with our investigations in the first volume of the UNK.

Even more crass divergences can be identified in the West because there are numerous sources which do not contain any litterae and it probably needs to be emphasized that even in St. Gall, the “stronghold” of a differentiated notation, there are sources with neumes which dispense with the litterae entirely.

There are several indications that suggest that the personal initiative of the scribes played a larger role in notating the rhythmical and musical technical letters than with the notation of the tone signs.

It is instructive in this regard to examine the attitude of the manuscripts with respect to the gorgon. As we have already mentioned, it appears in the Paleo-Byzantine sources of the psaltikon but is absent in the Paleo-Byzantine sticherarion and heirmologion. The employment in the psaltikon depended on the nature of this music repertoire which as a book for the soloists offered more opportunities for the introduction of a more differentiated rhythmical notation than the choral books heirmologion and sticherarion. Also it should be taken into consideration that the psaltic chants highlighted the soloist and thus it was expected that he would assume an incomparably larger responsibility for preserving this tradition than the singers of the chants of the sticherarion – a situation that gave rise to the demand for the greatest possible exactness in the

expression of the rhythmical nuances. Nevertheless, the absence of the gorgon in the Paleo-Byzantine sticherarion and heirmologion should not be taken as an indication that a more expressive execution of certain figures was considered unacceptable for the chants in these books.⁴²⁷ It is far more plausible that one did not find it necessary to express such agogic finesse with the addition of auxiliary letters.

A similar parallel situation can be found in the area of Latin notation. R. Baralli⁴²⁸ pointed out the fact that several manuscripts use the expression *tene* several times, but they do not have the *celeriter* (for example codex Cambrai 75, Oxford Douce 222 and Vat. Barb. 559). He believed that the *c* was not used because it only expressed a normal value and thus it was consequently unessential. This interpretation however is not in agreement with the results of our investigations.

THE DEVELOPMENT OF THE SYSTEMS IN THE EAST AND THE WEST

If we now trace the development of the system of letter neumes in the East and the West, we can state that the two systems ran parallel up to a certain point. While only a few litterae or grammata can be found in the oldest sources, ever more letter neumes were used in the course of the development in certain scriptoria or the already existing letter neumes were more frequently inserted.

As we have already shown, this development can be studied particularly well by comparing it with the development of the Paleo-Byzantine Chartres notation, which could be divided into four stages on the basis of the continued use and frequency of certain grammata. A similar approach can also be taken – with the necessary restrictions – in the area of St. Gall notation. According to Waesberghe's statistics the Cantatorium (circa 900) contains 4156 litterae, the Antiphoner of Harker (between 986 and 1011) 12987 and the Einsiedeln codex (circa 1000) 32378. An analogous relationship can be shown by comparing these numbers with manuscripts written with the Paleo-Byzantine Chartres notation.

In this respect one could compare the Cantatorium with the codex Lavra B. 32 (L), the Antiphoner of Hartker with the sticheraria Lavra Γ. 12, Γ. 72 and Γ. 67 (L1, L2, L3) and the Einsiedeln codex with Sinaiticus graecus 1219. The last two sources represent with respect to their wealth in litterae or grammata (which should also encompass the oligon-episem) the absolute summit of the respective developments in the West and in the East.

If we now consider the late stages of the development, then it can be said that both systems of litterae and grammata were subjected to differing "fates" in the end. The Latin litterae lost their value in a diastematic musical culture. After the introduction of the system on lines they were discarded as redundant.

427 The gorgon appears in Middle Byzantine versions of these chants.

428 *Rassegna gregoriana* V (1906): col. 404-406.

They exercised no influence on the future notational technical developments in the West. In the East however a few of the grammata continued to be used even after the development of the “diastematic” Middle Byzantine notation. The three Middle Byzantine pneumata developed out of the “grammata” psele, chamele and elaphron. In the course of the development of the Paleo-Byzantine notation these grammata evolved into “neumes”. Of the other grammata both the gorgon and argon were able to survive despite the mutations of the system.

If one were to draw some conclusions about the origin and the differing “histories” of the letter neumes in West and East, then it can be said that in the West the litterae of neumatic notation could not be integrated into the system. In the East however, some of the letters became organic components of the notation. Is this is not an additional proof of the fact that the system of the letter neumes originated in the East?

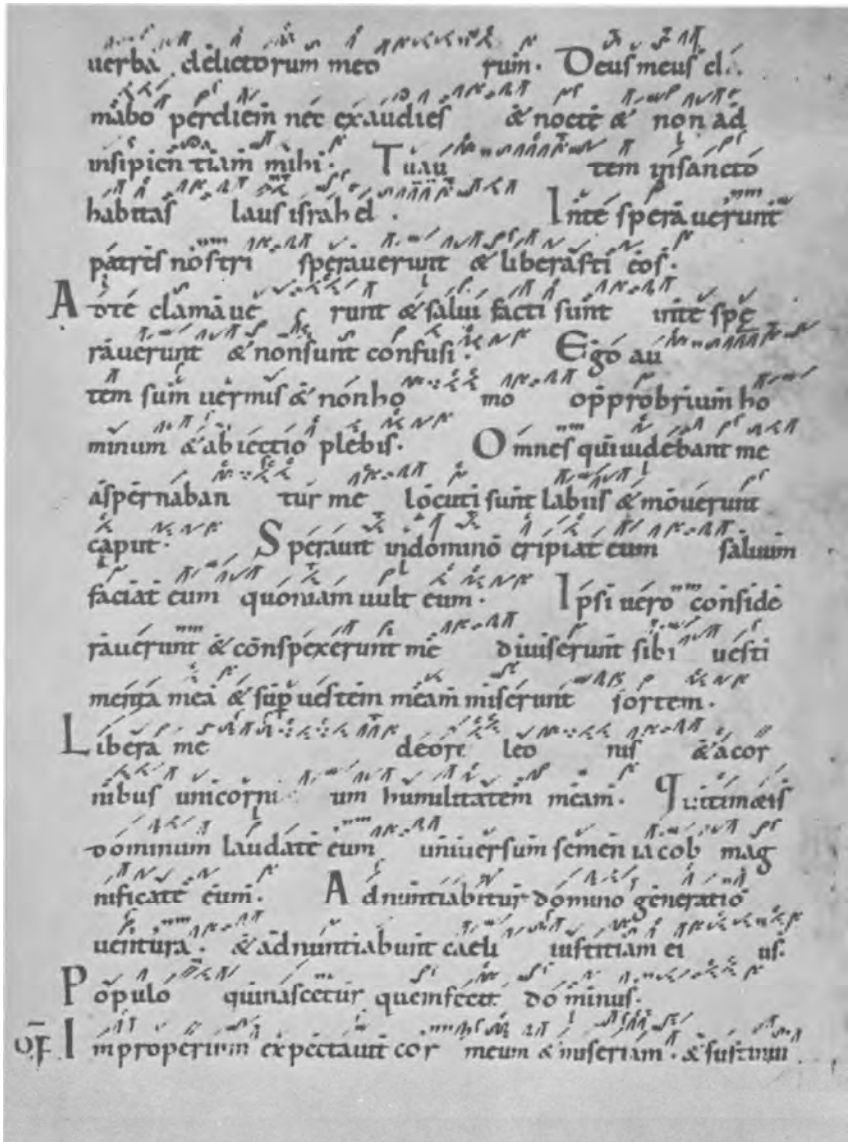
Non tradideris me domine in manus persecutorum me.
 quia insurrexerunt in me testes iniqui & mentita est
 iniquitas sibi. **Ps.** Dominus illuminatio cordium nostrorum.
Ps. Dominus stetit ad hierusalem.

DOMINE
 NE LONGE FACIAS AUXILIUM
 tuum a me ad defensionem meam
 aspice libera me de ore leonis &
 a cornibus unicornuorum humili
 tatem meam. **Ps.** Dominus respice.

QUAE TU INIUSTITIAM
 tuam decluxisti meae & cum gloria
 assumpti me. **V.** Quam bonus israel de
 us rex israel deus. Mei autem
 pedes pene effusi sunt
 gressus mei quia zelavi in peccato
 pauperum peccatorum in dens.

Deus deus meus respice in me quare
 me dereliquisti. **Lon**
 ge a salute mea

Mass Chants for Palm Sunday
German neumes with litterae significativae



Mass Chants for Palm Sunday
 German neumes with litterae significativae

quoniam contristaretur & non fuit consolantem me que
 sicut & non inueni & dederunt, inesciam meam fel &
 infirmi mea potauerunt me acc to.

V. Saluum me fac deus quoniam intrauerunt a
 que usque ad animam me am. Et dederunt.

Y. Aduersum me exercebantur, quis de
 bant importa & in me psalle bant
 qui bibe bant ui num. Et insiti mea.

III. Ego uero oratio non meam
 ad te domine tempus beneplaciti deus
 in multitudiue misericordiae tuae. Et dederunt.

Pater si non potest hic calix transire nisi bibam illum
 fiat uoluntas tua. Ps. Quis sup. AD R. Diuiserunt sibi uestimenta.
 FER. II. ST. AD S. NEREU. ET ACHIL. LEU.
 UDICA DOMINE NOCENTES ME EXPUGNA IMPUG
 nantes me apprehende arma & scutum & exsurge in adiu
 torium meum domine uirtus salutis meae. Ps. Effunde
Exsurge domine & intende iudicium meum
 deus meus & dominus meus. in causam meam.

II. Effunde frameam & conclu de
 uersus e of quime

Mass Chants for Palm Sunday and Holy Monday
German neumes with litterae significativae



IN ASCENSIONE
 ST. AD. PETRUM
 IRICALILEI QUID
 ADMIRAMINI ASPICIENTES
 in caelum alle luia quem ad modum
 uidistis eum ascendentem in caelum ita
 ueniat alle luia alle luia alle luia. Ist. Omisgen.

Andrep. Subiecit pp.
 Ascendit deus in iubilatione & dominus
 in uoce tubae.

Dominus in syna in sancto ascendens in al
 captiuam duxit captiuitatem.

Viri galilei quid admiramini aspicien
 in caelum hic uicore qui assumptus est.
 auobis in caelum sic ueniet quem ad mo
 dum uidistis eum ascenden
 in caelum alle luia. Ut. Cumque
 in ierusalem uentur in caelum curren
 illum ecce duo uiri astiterunt iuxta illos in
 bus albis qui et dixerunt. Sic ueniet

Ascendit deus in iubilatio ne dom

Mass Chants for Ascension
German neumes with litterae significativae

acerdotes tui. **Ps** Memento d. tui. **Antiphona** d. tui.
 V. Nihil proficere. **Oratio** Veritas mea. **Co** Fidelis
 servus. **Sabbatum** iugis. **Pente** cost. **St**
Antiphona ioh. **Introitus** **Letania**

I. Confitemini dno. **TR.** Laudate dnm omni gen.
Oratio. Emitte spiritum tuum & creabuntur & renova
 faciem terrae sicut gloria domini in saecula alle luia.
V. Benedic anima me a domino domine deus
 me us magnifica tus et uehemen
II. Confessio nem a decorum iniqui
 lurine sicut uestimen
III. Cerepens celum sicut pellem. **St.** **Attu.**
 in aquis superio ra eius qui ponit na
 ben ascensum tu um. **St.** **Attu.**

V. Ultimo festiuitatis die dicebat iu core qui in me cre
 dit flumina de uentre eius fluent aquae uiuae. hoc
 autem dixit de spiritu quem accepturi erant cre
 dentes in eum. alle luia alle luia.

Ps. Benedic. ii.

Oratio **Introitus** **Pente** **Cost.**
St. **Antiphona** **Deus** **Pum**

Mass Chants for the Saturday before Pentecost
German neumes with litterae significativae



P I R I T U S D O M I N I R E

PLEUIT ORBEM TER
rarum alle luia. et hoc
quod continet omnia scientiam
habet uocis alle luia alle
luia alle luia. Ps.

AD REF. Emitte spm tuum.

Alle luia. Emitte spiritum tuum
et creabuntur et renouabis faciem terrae.

Alle luia. Spiritus
domini repleuit orbem terrarum et hoc quod con
tinet omnia scientiam habet uocis.

Confirma hoc deus quod operatus es in nobis
in templo tuo quod est in hierusalem. tibi offerunt
munera alle luia. V. Carta
domino psalmum di cite nomini eius iter
facite ei quia secum dicit super occasum dominus

Mass Chants for Pentecost
German neumes with litterae significativae

Chapter VIII: The Names of the Latin Neumes

Nomen enim verum dat diffinitio rerum.
Hildebert von Lavardin⁴²⁹

1. The Problem

Nothing is more characteristic for the nomenclature of the Latin semiography than the large number the Greek or Hellenistic termini which it contains. Nearly half of the *nomina neumarum*⁴³⁰ in the tables of neumes are Greek. This very strange circumstance has given rise to differing and at times extremely contradictory interpretations

In light of this phenomenon, J.-B. Thibaut⁴³¹ developed the thesis that the entire nomenclature of Latin neumatic notation was of Greek origin. The terms were simply taken from the Greek or translated. Even if a rough and ready attempt was made to disguise their names under a Latin mantel it was in vain because their “barbaric” appearance made their derivation quite obvious.

Les noms qui caractérisent les signes neumatique de la notation grégorienne cachent bien mal, en effet, leur véritable origine, sous une forme latine dont l’aspect quelque peu barbare eût du suffire à éveiller l’attention de nos critiques et de nos musicologues si distingués.

P. Wagner⁴³² stood rather helplessly before the problem of the Greek names vis-à-vis the neumae. His conviction that “*not only the Latin choral tradition in the churches*” but also that Latin music theory stood “*from the beginning under the influence of the East*” could not be brought into line with his perception that the Hellenized names of the neumes were possibly adopted at a later period. In resignation he conceded that two contrary hypotheses of equal value might be taken into consideration:

One thing however was certain: either these names were to be traced back to the German scribes who had taken over the names transmitted by the Roman singers or in the 12th and 13th centuries the German neumes had been influenced by Byzantine musicians. Otherwise the many Greek names could not be explained.

429 Patrologia Latina, ed. J.-P. Migne, vol. 171 (Paris 1893): 1274 A.

430 *Nomina neumarum* is the title of the Tabula prolixior. Corresponding titles are missing in most of the manuscripts which transmit the Tabula brevis. The table of the codex Vaticanus Palat. 1346 has however the title *nomina notarum*. It should be noted that the expression *nomina neumarum* (or *notarum*) corresponds exactly to the Middle Greek expression ὀνόματα σημάδιων.

431 *Origine Byzantine de la notation neumatique de l’église latine* (Paris, 1907): 73f.

432 EGM II, 95-110, citation p. 110.

Dom Suñol⁴³³ took another standpoint. He doubted that the Greek names of the Latin neumes were actually the original names of the *semata*, and he was of the opinion that it could have been very probable that they were introduced within the framework of a Hellenistic movement perhaps in the 7th and 8th century.

Enfin, notons que si telle ou telle dénomination des neumes latins est sans conteste d'origine grecque, cela ne veut pas dire qu'elle soit la dénomination primitive: pour nous, nous y verrions plutôt un exemple de cette mode orientale des hellénismes, que fut adaptée au chant comme aux autres arts et aux sciences vers les VII^e et VIII^e siècles. C'est ainsi que la grammaire doit à la langue de Byzance une grande partie de son vocabulaire technique.

Also Dom Huglo⁴³⁴ has recently expressed the view that one should not accept the argument in favor of a Byzantine origin for the Latin chant notation on the basis of the Greek names. Even more emphatically than Suñol, Huglo took the position that the relevant names were the result of the influence of a Hellenistic movement. They were evidence of nothing else than that the *Ars musica*, as other disciplines as well, developed its terminology by drawing on Greek root words. According to Huglo even up to today the various branches of science still develop their technical vocabularies in a similar manner.

2. Typology of the *nomina notarum*

The various opinions with respect to the Greek names of numerous Latin neumes exhibit such contrasting viewpoints that one would tend to believe that at least one of them must express the truth. If one however begins to investigate the matter more closely, then it becomes clear that the situation is far more complicated than one had previously supposed and that the question can only be clarified by adopting a very differentiated approach. Our comparative investigations of the *nomina neumarum* and the *ὀνόματα σημαδίων*⁴³⁵ have led to results, none of which are compatible with the various hypotheses cited above. The theory that all of the *nomina neumarum* were derived from Middle Greek is just as weak as the viewpoint that all of the Greek names are an expression of a Hellenistic movement. If we want to comprehend the nomenclature of the Latin neumes then we have to divide the names in accordance with their provenance

433 *Introduction à la paléographie musicale grégorienne* (Tournai, 1935): 17f.

434 *Les noms des neumes et leur origine*, *Études grégoriennes* I (1954): 53-67.

435 In order to avoid any confusion, with the term *nomina* we refer exclusively to the names of Latin neumes (and naturally also the Greek and Hellenistic names). When we use the term *onomata*, we always refer to the names of the Byzantine tone signs.

and characteristics into several groups. Our classification is comprised of five groups.

We assign to the first group of nomina those words which were borrowed from Middle Greek. With these we can observe all the characteristics which generally can be recognized with borrowings of foreign words, namely changes in genus, changes of sounds and deformations.

A second group is comprised of nomina neumarum that have been proven to be translations of borrowed Middle Greek words. As with the first class, the determination of which of the relevant termini were borrowed words or translations came about as a result of etymological as well as semiographical and semasiological investigations.

The third group comprises nomina that are original Latin labels. They evidently were developed independently in the West and can not be related to onomata of corresponding Greek tone signs.

The fourth group is comprised of nomina that can be spoken of as Hellenized word formations. These names are not known to have been used as Byzantine notational technical termini. It could be demonstrated that most of them were derived from classical Greek.

Finally a fifth group encompasses nomina of which the etymology can be judged to be problematic.

The following groupings of the nomina neumarum are based on this typology.

A. BORROWED WORDS FROM MIDDLE GREEK.

<i>apostropha</i>	<i>apostrophos</i>
<i>distropha</i>	<i>dyo apostrophoi</i>
<i>(bistropha, strophicus)</i>	
<i>quilisma</i>	<i>kylisma</i> (roll)
<i>oriscus</i>	<i>iporoi</i> (outflow)

B. BORROWED TRANSLATIONS FROM MIDDLE GREEK

<i>punctum, punctus</i>	<i>kentema</i> (stab, prick)
<i>bipunctum</i>	<i>dyo kentemata</i> (two stabs)
<i>tripunctum</i>	<i>tria kentemata</i> (three stabs)
<i>flexa</i>	<i>perispomene</i> (the bent)
<i>scandicus</i>	<i>anabasma</i> (the ascending)
<i>porrectus</i>	<i>epegerma</i> (straighten up again)
<i>torculus</i>	<i>strepton</i> (the coiled)
<i>tremula</i>	<i>tromikon, tremulikon</i> (tremble)

<i>pes quassus</i>	<i>seisma</i> (shake)
<i>salicus</i>	<i>choreuma</i> (dance figure)
<i>pressus</i>	<i>piasma</i> (squeeze)
<i>franculus</i>	<i>klasma</i> (break)
<i>semitonus</i>	<i>hemitonion</i> (the half voiced)
<i>semivocalis</i>	<i>hemiphonon</i> (the half voiced)
<i>equaliter</i>	<i>ison</i> (same, even)
<i>supra</i>	<i>ano</i> (above)
<i>sursum, altius, levare</i>	<i>psele</i> (high, higher)
<i>humiliter, iusum, inferius</i>	<i>chamele</i> (low, deeper)
<i>deprimatur</i>	<i>bathy</i> (deep)
<i>mediocriter</i>	<i>oligon</i> (a little)
<i>mediocriter</i>	<i>meson</i> (middle level)
(in the sense of <i>medio, medialiter</i>)	
<i>cito vel celeriter</i>	<i>gorgon</i> (fast)
<i>tenere</i>	<i>kratema</i> (hold)
a (“augere”?)	<i>argon</i> (slow)

C. ORIGINAL LATIN NOMINA

<i>virga, virgula</i> (staff, little stick)
<i>bivirga</i> (two sticks)
<i>pes, podatus</i> (the foot, “the footed”)
<i>gutturalis</i> (the throaty)
<i>sinuosa</i> (curved)
<i>gradatus, agradatus, gradata, gradicus</i> (“the stepped”)
<i>pendula</i> (the outstretched)
<i>triangulata</i> (the triangular)

D. HELLENISTIC AND CLASSICAL GREEK NOMINA

<i>cephalicus</i>	κεφαλικός (the headed)
<i>clinis</i>	from κλίνω (bend, tilt)
<i>climacus</i>	from κλίμαξ (ladder)
<i>eptaphonus</i>	επτάφωνος (the seven stepped)
<i>pentaphonus</i>	πεντάφωνος (the five stepped)
<i>gnomo</i>	γνώμων (pointer, angular measure)
<i>proslambanomenon</i>	προσλαμβανόμενον (the additional)
<i>trigon</i>	τρίγωνον (triangle)
<i>trigonius</i>	τριγωνικός (the triangular)
<i>igon, ygon</i>	perhaps “δίγωνον” (the biplane)
<i>tetradius</i>	τετράδιος, τετραοίδιος (the four part)

<i>pentadicon</i>	“πενταδικόν” (the five part)
<i>orix</i>	from ὄρυγμα, ὄρυξις (trench, pit, drill)
<i>bisticus</i>	“δίστικτος” (δύο στιγμαί) (two points)
<i>tragicon</i>	τραγικόν (the tragic)
<i>diainius</i>	from διαίνω (moisten)
<i>exon</i>	from ἕξ (six)
<i>hypodicus</i>	ὑπόδικος (the accused)
<i>atticus</i>	ἄττικός (the Attic)

E. NOMINA WITH PROBLEMATIC ETYMOLOGIES

ancus

Proposed derivations: from ἄγγω, lace up, press, choke, torment (Raillard, *Explication des neumes*, Paris 1859, 50); from ἀγκών, curve, bend, elbow (Dom Mocquereau, *Pal Mus II*, 59; H. Freistedt, *Die liqueszierenden Noten des gregorianischen Chorals*, Freiburg 1929, 33); from ἄγκος, gorge, valley (Thibaut, *Origine*, 79); from Old High German *ancha* or from the Middle Latin *anca*, the back of the head (Fleischer, *Die germanischen Neumen*, 51f.).

Another possible derivation would be from the Latin *anguis*, snake. One could consider such an etymology above all in light of the Greek term σκόληξ (worm) and it is possible to consider as well the Slavic name for the neume *zmijca* (the small snake). However, the names *ancus*, *skolex* and *zmijca* do not designate the same sema. The *ancus* is a three tone liquescent neume (= *sinuosa* or *climacus liquescens*); *skolex* is a second name for the (two tone) hyporrhoe; *zmijca* appears in the old Russian tables of neumes as a conjunction of *statija* and *katabasma* or the simple *katabasma*. On the other hand we must emphasize that the three semata are related to one another.

astus (Wolfenbüttel)

In Gerbert's table (St. Blasien), the last letter of the corresponding word is not unambiguously readable. (It seems to be a carelessly written *s*; therefore probably *astus*). Thibaut (*Origine*, 89) reads it as *astul* and derives the word from *astula* (= "copeau", wood shaving).

cenix (Wolfenbüttel) – “cenir” (St. Blasien)

The correct reading is *cenix* (cf. further below). Thibaut (*Origine*, 86), who only knew Gerbert's table, derived the corrupt reading *cenir* from κενήριον (= *cenotaphium*).

centon

Proposed derivations: from κέντημα (O. Fleischer, *Neumenstudien* I, 113); from *cento*, onis and/or from κέντρον, patched dress, patchwork (Thibaut, *Origine*, 89). The word is probably derived from *cento*.

pinrosa

Proposed derivations: from πιννή, fan mussel, silk mussel (Thibaut, *Origine*, 85); from the Latin *pinna*, wing, feather (Fleischer, *Die germanischen Neumen*, 51); from *vinrosa* (Freistedt, op. cit., 33f.).

tramea

Proposed derivations: from Latin *trama*, weave, weaving comb (Thibaut, *Origine*, 86); from Old High German *trāme*, beam (Fleischer, *Die germanischen Neumen*, 51).

3. Borrowed Middle Greek and original Latin nomina

With respect to the above typology of nomina neumarum we wish to begin with several comments and considerations.

First of all we must emphasize that the nomina of the first class are derived neither from classical Greek nor from classical Latin but rather came directly from the notational technical onomatology of the Byzantines. We have demonstrated that the corresponding names in Byzantium and in the western world apply respectively to the same signs or the same figures. The latter is the case in the correspondence of the terms quilisma/kylisma. Both names may not refer to the same graphic sign, but probably refer however to the same figure (cf. chapter V).

The termini compiled in the second class of corresponding Latin and Middle Greek terms are equivalent in the senses of the words and designate the same neumes and/or letter neumes. The Latin expressions represent borrowed translations from Middle Greek. The suggestion that this agreement could be accidental is absurd. One should observe that this class is comprised of both tone signs as well as letter neumes.

It is furthermore significant that of the nomina of the first two classes, most of them were generally used – judging from the tabulae and the treatises – throughout all the distribution zones of the Latin chant notation, especially in the German area. Most of the nomina which have been proven to be borrowed words or borrowed translations from Middle Greek belong consequently to the “official” nomenclature. The astonishingly numerous nomina of the second class make up its largest component. In comparison, the third class of our typology, i.e. the class of the original Latin nomina, appears to be quite modest: it

contains a fewer number of nomina. Of far greater importance however is the realization that not all of these nomina carry the “official” seal; many of them appear only in isolation or they represent learned word formations.

Of the original Latin nouns, only five are to be considered to be “official”: the *virga* (*virgula*), the *bivirga*, the *pes* (*podatus*), the *sinuosa* and the *gutturalis*. On the other hand, most of the remaining nomina are *unica*. Thus the term *triangulata* is to be met, as far as we see, only in the tractatulus known as the *Anonymus Vaticanus*; likewise the expressions *pandula* and *gradicus* are not to be found outside of the interpolated version of the *Tabula brevis*. In contrast numerous examples of the term *gradatus* can be cited (cf. chapter V).

4. The Hellenized and especially Ancient Greek nomina

The fourth class of our typology comprises Hellenized names of neumes. They are all completely unknown in the technical onomatology of Byzantine notation. Strangely enough, they are also excluded – except for three of them – from the “official” Latin nomenclature. Only three nomina, i.e. *cephalicus*, *clivis* and *climacus*, are to be found in the original version of the *Tabula brevis*, which survives in several copies. The remaining nomina moreover are only transmitted in the expanded versions of the *tabula*.⁴³⁶ It seems to be clear that the Hellenized terms are learned word formations that never had a place in the actual musical practice.

Both F.-J. Fétis⁴³⁷ and Thibaut⁴³⁸ have dealt with the linguistic and musical meanings of the Hellenized terms yet their solutions are not particularly convincing. A detailed investigation led to the surprising result that most of these nomina are drawn from the terminology of ancient Greek music or are modeled after them. The following discussions of some of these should demonstrate this.

PROSLAMBANOMENON

In ancient Greek music theory, the lowest tone of the *systema teleion ametabolon* is designated with the term *proslambanomenos* (additional tone). It probably does not need to be mentioned that the exposition of this system forms an important chapter in many Middle Latin breviaries and treatises.⁴³⁹

436 Codex Wolfenbüttel Gud. lat. 334 (4641), fol. 90r/v and codex St. Blasien, cf. above p. 82.

437 *Historie générale de la musique* IV (Paris, 1874): 201-203, 239-241.

438 *Origine byzantine*, 83-89.

439 Frutolf, *Breviarium de musica et Tonarius*, ed. C. Vivell (= *Sitzungsberichte der Akademie der Wissenschaften in Wien, Phil.-hist. Klasse*, 188 Bd., 2. Abh.), (Vienna,

In the Wolfenbüttel table, the conjunction of virga with episem and six puncta is accompanied by the name *proslambanomenon*, a combination that evidently was supposed to illustrate a seven step descending tone series.

If one takes into consideration that in the *systema ametabolon* the *proslambanomenos* lies an octave lower than the *mese* (central tone) then it becomes clear that the medieval Latin scribe intended to suggest a descending scale of eight steps. The graphic arrangement of the Wolfenbüttel table is thus not exactly correct – it should have another punctum.

The name and graphic arrangement of the *proslambanomenon* clearly reveals accordingly a theorizing intention. In the neumatic chant notation a series of eight descending steps naturally does not exist.

TRIGON

In the Wolfenbüttel table as well as in Gerbert's source the tripunctum is given as an example of this term. Its name can be attributed to its triangle-like shape and its resemblance to the *trigonon*, known in antiquity as a Greek musical instrument.⁴⁴⁰

TRIGONICUS

This term was evidently coined in analogy to the trigon. The graphic arrangements representing the *trigonicus* differ in the tables: the Wolfenbüttel table has the graphic arrangement of trigon + virga, Gerbert's table has the ligature of pes and semivocalis. The question about which of the two graphic arrangements is original probably can hardly be answered with certainty. Thibaut⁴⁴¹ correctly comments that three angles are recognizable in the ligature in Gerbert's table. On the other hand it is however also possible that the scribe wanted to give the *trigonicus* the appearance of a trigon-like graphic arrangement.

IGON or YGON

This term is obviously also related to the trigon. It is similarly illustrated with various graphic arrangements in the tables. The Wolfenbüttel table illustrates it with two virgae subpunctes, Gerbert's table with the conjunction of virga with episem, punctum and virga with episem.

1919): chapters I and XIII, 27-32 and 97-101; Johannes Affligemensis, *De Musica*, chapter XIII, CSM 1, 97-100.

440 Cf. M. Wegner, *Das Musikleben der Griechen* (Berlin, 1949): 49f., 203f., 228; M. Wegner, article „Trigonon“ in MGG XIII, col. 679f.

441 *Origine byzantine*, 87.

We would like to suggest that the supposedly artificial word formation *igon* or *ygon* may stand for δίγωνον (biplane), especially when one observes the angle formed by Gerbert's conjunction of two virgae with episem.⁴⁴²

TETRADIUS

Thibaut⁴⁴³ derives the term from τετράδιον, a word that he translates as “*réunion de quatre choses*”. In the Byzantine period the word meant ‘notebook’.

In our opinion the expression *tetradius* is the transcription of the term τετραοίδιος or τετράδιος, the designation of one of the seven citharodic nomoi, which in ancient Greece were ascribed to Terpander.⁴⁴⁴ This nomos owes its name to its four-part construction.

The graphic arrangements of the tetradius differ slightly in the tables from one another: the Wolfenbüttel table has a five part conjunction of climacus and virga subpunctis, Gerbert's table in contrast shows two virgae subpunctes.

Since the term tetradius suggests a four tone figure one can probably accept the graphic arrangements in the St. Blasien manuscript as the original.

TRAGICON, DIAINIUS, YPODICUS and ATTICUS

The graphic arrangements of these termini correspond with one another in the two tables: *tragicon* and *diainius* are conjunctions of four and/or five tractuli drawn obliquely over one another. The name *ypodicus* is illustrated by the pes sinuosus, the name *atticus* by the quilisma semivocale sinuosum.

The four terms evidently originated as concepts in antique tragedy. They do not possess special musical meanings.⁴⁴⁵

EPTAPHONUS and PENTAPHONUS

As we have already mentioned, both names are illustrated in the two versions of the Tabula brevis with the so-called “epiphonus”. *Eptaphonus* is the name of the sign in the short version, *pentaphonus* appears in the expanded version.

442 Thibaut's explanation (*Origine*, 87) of the term *ygon* as a compositum of ũ (interjection!?) and γωνία belongs in the world of fantasy.

443 *Origine byzantine*, 87.

444 Cf. Plutarch, Περὶ μουσικῆς in the critical edition of H. Weil and Th. Reinach (Paris, 1900): 18f.

445 Thibaut's suggestion (*Origine*, 88) that the names *tragicon* and *diainius* were designations of the appropriate expressive significance of these tone figures projects a modern romantic sensibility on these terms, which were certainly viewed completely differently in the Middle Ages.

Within our typology of the *nomina neumarum* we must accord these two terms an exceptional place. It was only with some reserve that we classified them among the class of Hellenized *nomina*. If we are not deceived, these *termini* are not “learned” word formations but rather are to be traced back to Byzantine music theory. To be sure there are no Byzantine *neumes* with the *onomata* *ἐπτάφωνος* and *πεντάφωνος*. However, the *termini technici* *ἑπταφωνία* and *πενταφωνία* appear frequently in treatises on Byzantine music and they designate the octatonic and hexatonic tonal system.⁴⁴⁶

We were not able to find these terms in the Greek music theoretical literature of antiquity. In any case they do not appear in C. Jan’s edition of the theorists.⁴⁴⁷ In these texts the concepts *ἐπτάτονον*, *ἐπτάφθογγον*, *ἐπτάχορδον* as well as *πεντάτονον* and *πεντάχορδον* frequently are used. The *termini* *ἐπτάφωνον* and *πεντάφωνον* in contrast are not to be found.

5. The relationship of the *tabulae neumarum* and the contributions of the interpolators

Our onomatological investigations have already furnished the proof that the *nomina neumarum* are partly borrowed words and borrowed translations from Middle Greek, partly original Latin expressions and partly Hellenized or classical Greek names. It can be already said at this point that these research results played a role in unraveling the whole complex of questions relating to the relationship of the Latin and Byzantine *neumes* which can hardly be underestimated.

With just a few exceptions almost all of the *nomina* in our typology are to be found in the three surviving *Tabulae neumarum*, i.e. the two versions of the *Tabula brevis* and the *Tabula prolixior*. Up to now we have considered the relationship of the various tables of *neumes* only marginally. This aspect will now move into the center of our investigation.

THE TWO VERSIONS OF THE *TABULA BREVIS*

The two versions of the *Tabula brevis* differ from the *Tabula prolixior* in their poetic forms. In order to be more easily memorized, the *nomina neumarum* are arranged in such a way that they form “verses”. The short version has five such verses, the expanded version has ten.

446 Cf. page 159, footnote 299.

447 *Musici scriptores graeci* (Leipzig, 1895).

In the older research – from Fétis up to Fleischer⁴⁴⁸ – the verses of both tabulae were interpreted as hexameters organized as “long lines”. On the other hand Dom Huglo⁴⁴⁹ interpreted the “long lines” of texts in his commendable critical edition of the texts as half verses. Dom Huglo was of the opinion that, even if in two versions the first three “long lines” were each composed of two half verses of 7 and 8 syllables, this meter was violated in the fourth verse of the expanded version. As a consequence he considered the shorter version to be older.

To be able to deal with this question and at the same time to make possible a comparison of both versions, we have reproduced the texts below one after the other. As for the question of organizing the texts in long or half lines, we decided to organize the texts in long lines. This approach expresses the verse measure (hexameter) much better and this division is furthermore authentic: in the manuscripts the scribes usually wrote the initial letter of every long line as a capital. In addition, our interpretation of the texts deviates at several places from that of Dom Huglo.

Tabula brevis

a. the short version

- I Eptaphonus strophicus punctus porrectus oriscus .
- II Virgula cephalicus clinis quilisma podatus .
- III Scandicus et salicus climacus torculus ancus .
- IV Et pressus minor ac maior non pluribus utor .
- V Neumarum signis erras qui plura refingis .

Critical remarks for line I

The reading *eptaphonus* is found in most of the manuscripts and is doubtlessly original. The reading “epiphonus”, which Lambillote (*Antiphonaire*, 234), Wagner (EGM II, 106) and Huglo reproduce, is not found in any of the sources. The unique reading *epihophinus* (Colmar table) can be traced back to a misreading (cf. above, chapter VI). The reading *punctus* is much more frequently used in the manuscripts than the variant *punctum* and in view of the inner rhyme can be viewed as being authentic.

448 Fétis, *Histoire*, IV, 201f.; Riemann, *Studien zur Geschichte der Notenschrift*, 128; Thibaut, *Origine byzantine*, 83; Wagner EGM II, 106f.; Fleischer, *Die germanischen Neumen*, 49.

449 *Études grégoriennes* I (1954): 58.

b. *the expanded version*

1. Scandicus et salicus climacus torculus ancus .
2. Pentaphonus strophicus gnomo porrectus oriscus .
3. Virgula cephalicus clinis quilisma podatus .
4. Pandula pinnosa gutturalis tramea cenix .
5. Proslambanomenon trigon tetradius igon .
6. Pentadicon et trigonicus et franculus orix .
7. Bisticus et gradicus tragicon diaternius exon .
8. Ypodicus centon agradatus atticus astus .
9. Et pressus minor et maior non pluribus utor .
10. Neumarum signis erras qui plura refingis.

Critical remarks

- 2 gnomo as in W (= Wolfenbüttel) and B (= St. Blasien). Dom Huglo emends to gnomon.
- 4 gutturalis incorrectly in W. B has an incorrect gnitralis (?)
cenix W; cenir B. *Cenix* rhymes with *orix* (line 6) and therefore can be viewed as the original reading.
- 5 proslambanomenon incorrectly in W and B.
tetradius in B. The reading in W is not legible.
igon W; ygon B
- 6 franculus in B; W has faucus.
- 7 diaternius in W; B writes diainius.
- 8 agradatus in B; W has gradatus. The reading *agradatus* would seem to be preferable because it raises the syllable count from 14 to 15.

If we compare the two texts with each other the following can be stated:

In comparison with the first version, the second version is expanded by five lines (verses 4 – 8). In addition the sequence of the first three verses is partly rearranged. Thus we can compare I and 2, II and 3 and III and 1. There are also a few variations between the verses I and 2. The *eptaphonus* of the first version becomes *pentaphonus*; the *punctus* of the first version is replaced in the second version by *gnomo*. The first version has 17 nomina, the second version adds 23 nomina.

With regard to the “verse measure” or meter it can be said that the “interpolated” verses 4 – 8 of the expanded version are also organized in hexameters. There are also no essential differences with respect to the number of syllables of the individual verses between the two versions. In the first version the verses I – III each have 15 syllables and verse IV has 14 syllables. In the second version the verses 1 – 4 and verses 6 – 8 each have 15 syllables, the

verses 5 and 9 (= verse IV) each have 14.⁴⁵⁰ If one took the number of syllables as a decisive factor for the poetic form, then only verse 5 (with 14 syllables) in the expanded version would be deemed to be irregular. Incidentally it should be mentioned, that the “interpolator” stressed the poetic form of the tabula with rhymed pairs (verses 4 and 6, verse 5 and 7).

Therefore we have to conclude, that the “interpolated” verses with respect to the poetic form are not to be considered as anomalies from which one can conclude that this version is younger. There are however other reasons which would seem to justify this perception (cf. below).

STRUCTURE AND TRANSMISSION OF THE TABULA PROLIXIOR

With respect to their transmission histories the relationship of the Tabula brevis and the Tabula prolixior are diametrically opposed. The transmission of the nomina notarum in the Tabula brevis is astonishingly uniform. That the same 17 musical terms are consistently maintained in the circa 20 manuscripts with the text can probably be attributed to its poetic form.

A similar consistency does not exist in the surviving copies of the Tabula prolixior. They differ considerably with respect to the number of semata they contain. While three of the tables have roughly the same number of nomina neumarum, the number of semata is greatly increased in two of the surviving sources. The Wolfenbüttel⁴⁵¹ and the Brussels⁴⁵² tables each contain 56 semata and sign combinations, the Ottobeuren⁴⁵³ table has 55, the Trier⁴⁵⁴ table 87 and the Leipzig⁴⁵⁵ table even 103.

450 Verse 7 has 15 syllables if one considers the word *diaternius* (Wolfenbüttel) or *diainius* (St. Blasen) as consisting of three syllables.

451 Codex Wolfenbüttel Gud. lat 334 (4641), fol. 89r/v. The part of the manuscript with the table has been dated to the 12th century. Facsimile is our documentation.

452 Codex Brussels, Bibl. Royale II 4141 (Fétis 5266), fol. 31v/32. The manuscript (14th c.) contains the *Breviarium de musica* of the Benedictine monk Frutolf (+1103) from the abbey of Michelsberg near Bamberg (bibliographical references in J. Smits van Waesberghe, MdM II, 25f.). The text of the table has been published by C. Vivell, *Frutolfi Breviarium de musica et Tonarius* (Vienna, 1919): 101f. – Facsimile of fol. 32 in Vivell, op. cit., 103.

453 Codex 653 of the Fürstlich Fürstenbergischen Bibliothek in Donaueschingen, fol. 26v. The codex (12th c.) comes from the Benedictine cloister Ottobeuren. Poor quality reproductions of the table in L. Lambillotte, *Antiphonaire de Saint Grégoire*, 21867, 233; cf. also Fétis, *Historie générale de la musique*, IV, 204 and Thibaut, *Origine byzantine*, 90.

454 Codex 6 of the Dombibliothek in Trier, fol. 95v/96 (12th c.). Facsimile in our documentation.

455 Codex Leipzig, Universitätsbibliothek Nr. 1492, fol. 98 v. Reproduction of table in H. Riemann, *Studien zur Geschichte der Notenschrift* (Leipzig, 1878): Taf. XII. The codex (dated: 1438) contains numerous music theoretical treatises. Descriptions and evaluation of the manuscript: H. Müller, *Huchbalds echte und unechte Schriften über*

Although these deviations might initially seem to be substantial, the variant readings are actually not of consequence. A comparative investigation revealed that all the versions were similar in construction, were based on the same repertory of sign and were derived from the same model. Their differing sizes could be attributed to the addition of supplementary sign combinations during the course of time.

Dom Huglo⁴⁵⁶ suggested that the various copies of the *Tabula brevis* could be traced back to a common source and he found support for this conclusion in that all the versions were based on the same principles for the designation of the signs. However up to now questions about the construction principles of the *Tabula prolixior* have not been taken into consideration as well as questions about the relationship of the versions and about the manner in which the model was expanded. In order to be able to delve into these questions, we must first reconstruct the "text" of the *Wolfenbüttel* table. Of all the preserved versions it would appear to represent the original text of the *Tabula prolixior* most closely.

Tabula prolixior

(Version of the codex Wolfenbüttel Gud. lat. 334, fol. 89 r/v)

NOMINA NEUMARUM

PUNCTUM .

bipunctum . tripunctum . tripunctum subpuncte .

APOSTROPHA .

distropha . tristropha .

VIRGA .

bivirgis .
virga prepunctis . virga prebipunctis .
virga subbipunctis . virga conbipunctis .
pretripunctis . subtripunctis . contripunctis .
prediatesseris . subdiatesseris . condiapentis .
prediapentis . subdiapentis . condiapentis .

GUTTURALIS .

gutturalis prepunctis . subpunctis . compunctis .

Musik (Leipzig, 1884): 32f.; H. Sowa, *Quellen zur Transformation der Antiphonen. Tonar- und Rhythmusstudien* (Kassel, 1935).

456 *Études grégoriennes* I (1954): 60.

FLEXA .

flexa strophica . flexa resupina .

SINUOSA .

PES .

pes subbipunctis .

pes quassus . pes quassus subbipunctis .

pes flexus . pes flexus resupinus .

pes stratus . pes sinuosus .

pes flexus strophicus . pes flexus prebipunctis .

pes semivocalis vel conexa .

EMIVOCALIS .

emivocalis prepunctis . emivocalis prebipunctis .

QUILISMA .

quilisma prepuncte . prebipuncte . pretripuncte .

prediatessere . prediapentum .

quilisma conbipuncte . subbipuncte .

quilisma flexum . resupinum . semivocale . sinuosum .

Based on an analysis of this “text” of the Wolfenbüttel table it is first of all quite evident that the framework of the Tabula prolixior does not contain more than nine “root neumes”, namely: punctum, apostropha, virga, gutturalis, flexa, sinuosa, pes, emivocalis and quilisma. The remaining signs can be classified without exception as “derived neumes”. They are all combined semata which were formed either by doubling and tripling of the first three “root signs” (bipunctum, tripunctum, distropha, tristropha, bivirgis, trivirgis) or through conjunctions and/or ligatures of disparate root signs. These conjunctions and ligatures were further distinguished by the addition of one or more adjectives to the relevant root signs.⁴⁵⁷ For the layout of the tables, it is characteristic that these derived neumes and combinations follow the root signs.

Whether the *Urfassung* of the Tabula prolixior consisted only of the cited nine root neumes or whether it also encompassed some of the combined signs,

457 In order to give a better idea of the construction of the text on the nine “root signs” and the combined neumes derived from them we have reproduced the text in such a way so as to highlight the divisions. There are no such divisions in the manuscripts. We have only listed the most obvious orthographical errors such as subdyatesseris (instead of subdiatesseris). It should be mentioned that the Wolfenbüttel table omits the graphic representation of the quilisma semivocalis – in contrast to the Ottobeuren, Trier and Leipzig tables.

can naturally not be answered due to the lack of earlier sources. It is probable however that the Wolfenbüttel, the Brussels and the Ottobeuren tables are expansions of the *Urfassung*. Some of the combined neumes in any case appeared to have been included only for didactic purposes or were added in order to give the appearance of a systematic codification. Thus combinations such as the *virga condiapentis* or the *quilisma prediatessere* and “*prediapentum*” never seemed to have been used, in as far as we see, in the notation of actual liturgical chants.

The Wolfenbüttel and the Ottobeuren Tables.

If we not look at the relationship of the various versions of the *Tabula prolixior* to each other, then we can first state that the Wolfenbüttel and the Ottobeuren tables coincide. Both have the same structure except for minor deviations: the *pes* standing alone is not included in the Ottobeuren table (to judge by the poor quality reproduction in Lambillotte). A series of special readings also indicate a very close relationship between the two tables. Thus the conjunction of *flexa* and *oriscus* is called in Wolfenbüttel and Ottobeuren *flexa strophica*, but in the Trier and in Leipzig tables *flexa apostrophis*. The so-called “*epiphonus*” is called *emivocalis* in Wolfenbüttel and Ottobeuren, in Trier *semivocalis* and in Leipzig *hemivocalis sive substringens*. Finally, only in the Wolfenbüttel, Ottobeuren and Brussels tables is the *pes semivocalis* provided with the supplementary term (*vel*) *conexa* (*sic*).

The Brussels Table

The Brussels table generally retains the same structure as the Wolfenbüttel and Ottobeuren versions of the tables without however being directly related. Both the Wolfenbüttel and the Ottobeuren tables each contain 56 *semata* and the series of nine “*root neumes*” is the same in the two tables. However with respect to the combined signs and the manner in which they are organized the Brussels table has a number of variations *vis-à-vis* the two other versions. Thus C. Vivell’s opinion that our table were either derived from the *Speculum musicae* of Walter Odington or had been copied directly from the Ottobeuren table could not be confirmed.⁴⁵⁸ It is remarkable on the other hand that the Brussels table, that itemizes the *nomina neumarum* without their graphic arrangements, has a *flexa strophica* as in Wolfenbüttel and Ottobeuren. In addition it should be noted that the *semivocalis* is listed twice in the Brussels table, the first time as a *semivocalis vel conexa*.

458 *Frutolfi Breviarium de musica et Tonarius*, op. cit., 7.

The Trier Table

There are considerable deviations vis-à-vis the Wolfenbüttel and Ottobeuren versions in the Trier table. To be sure it is organized in accordance with the nine “root neumes” which forms the framework of the Tabula prolixior. Moreover the derived neumes of each “family” follow respectively the root signs. The nine root signs are however arranged in part in another sequence, namely punctum, apostropha, virga, semivocalis, pes, sinuosa, gutturalis, quilisma and flexa. Furthermore another 21 further conjunctions and ligatures are added to the 56 semata of the Wolfenbüttel version. They are moreover not grouped as a single unit as a supplement, but they are distributed – with a few exceptions – respectively in accordance with the related neumes of every family. As an example the neumes of the first family (punctum) are given below as they appear in the Trier version.

PUNCTUM

bipunctum . tripunctum . tripunctum subpuncte .
tripunctum prepuncte .
tripunctum subpuncte & prepuncte .
tripunctum prebipuncte.

In contrast to the Wolfenbüttel and Ottobeuren versions only the Trier tabula expands the combined neumes of the first family of signs with three further combinations. In a similar manner the other families are each enriched with additional conjunctions and ligatures.⁴⁵⁹ Finally a sort of appendix includes several neumes of various families which the scribe compiled after it became apparent that he had forgotten to include them in the proper order.⁴⁶⁰

The Leipzig Table

With its 103 nomina neumarum this table is the most comprehensive list of Latin neumes. It has 48 more semata than the Wolfenbüttel table and 16 more than the Trier table. The order in which the nine “fundamental neumes” are organized in the Leipzig codex (punctum, apostropha, virga, flexa, pes, sinuosa, hemivocalis, gutturalis and quilisma) more closely resembles the Wolfenbüttel table than the Trier table (cf. below the comparative juxtaposition of the signs).

459 It should be noted, first that the family of “strophici” was not expanded (neither in the Trier nor in the Leipzig tables) and second, that the sinuosa remains standing alone in all the versions, i.e. it did not form a family.

460 They are the neumes: bivirgis, trivirgis, tripunctum, virga prediapentis, virga subdiapentis, pes dependens, gutturalis semivocalis and pes stratus. The tripunctum is also introduced in the main body of the table.

A comparison of the sequence of terms reveals that the Leipzig classification is the most systematic and “logical”. After the *neumae simplices* punctum, apostropha and virga, we have the *neumae compositae* flexa and pes, then the *notae semivocales* sinuosa and hemivocalis and finally the “ornamental neumes” gutturalis and quilisma. It hardly needs to be mentioned that the “superfluous” semata in the Leipzig codex are all supplementary combinations. Thus the tripunctum is followed by 8 conjunctions (there is only one extra sign in Wolfenbüttel and the Trier source has 4 additional signs).

*The Sequence of the nine “fundamental signs”
in the respective versions of the Tabula prolixior*

WOLFENBÜTTEL OTTOBEUREN BRUSSELS	TRIER	LEIPZIG
punctum	punctum	punctum
apostropha	apostropha	apostropha
virga	virga	virga
gutturalis	semivocalis	flexa
flexa	pes	pes
sinuosa	sinuosa	sinuosa
pes	gutturalis	hemivocalis
emivocalis	quilisma	gutturalis
quilisma	flexa	quilisma

THE TABULA BREVIS AND THE TABULA PROLIXIOR

Having undertaken a comparison of the relationship of the two versions of the Tabula brevis and investigated the layout and transmission of the Tabula prolixior, we can now proceed to a comparative analysis of these three tables.

First of all a comparison of the repertory of neumes of the Tabula brevis (short version) and the Tabula prolixior reveals that of the 17 neumes in the first source 14 reappear in the second sources, even if generally with different designations. The following compilation should demonstrate this.

The Corresponding Signs in the Tables

<i>brevis</i>	<i>and</i>	<i>prolixior</i>
eptaphonus		emivocalis
strophicus		tristropa
punctus		punctum
porrectus		flexa resupina
oriscus		
virgula		virga
cephalicus		
clinis		flexa
quilisma		quilisma
podatus		pes
scandicus		virga prebipunctis
salicus		pes quassus
climacus		virga subbipunctis
torculus		pes flexus
ancus		sinuosa
pressus minor		
pressus maior		gutturalis subpunctis

Several conclusions can be drawn from this compilation.

1. Only one single sign, the quilisma, occurs in both tables with exactly the same name.
2. Four neumes have the same or related nomina, even if the word formations in each case vary somewhat: strophicus/tristropa, punctus/punctum, virgula/virga, podatus/pes. It is clear the determining factor for the *Tabula brevis* was the “poetic form” of the text. The terms were selected on the basis in part of the binary rhymes and in part in accordance with the meter. There are several indications that the forms of the names in the *Tabula prolixior* were the original nomina.⁴⁶¹
3. Three semata are listed in both tables with Greek names: eptaphonus/emivocalis, strophicus/tristropa and quilisma.
4. The nomina and semata oriscus, cephalicus and pressus minor are missing in the *Tabula prolixior*.

⁴⁶¹ That the forms *virgula* and *podatus* are to be met in theoretical sources is further evidence that they were not strictly poetic forms (cf. Aribo, CSM 2, 49; Johannes Affligemenis, CSM 1, 134 and 158; Frutolf, *Breviarium*, op. cit., 136, 141).

5. Four neumes of the Tabula brevis, namely porrectus, scandicus, climacus and torculus reappear in the Tabula prolixior with nomina which reveals their character as combined signs.

THE EXPANDED VERSION OF THE TABULA BREVIS AND THE TABULA PROLIXIOR

Concerning the relationship of the two tabulae it should be mentioned first of all that they differ only slightly with respect to the number of nomina that they contain. The expanded version of the tabula brevis has 40 nomina, the Tabula prolixior (in the version of the Codex Wolfenbüttel) 45. For a comparative investigation of the contents it is advisable to proceed from the “supplementary” neumes of the Tabula brevis. They make up 23 or (if one includes the pentaphonus and the gnomo) 25 neumes.

A comparison revealed that several of the supplementary neumes appear as well with different names in the Tabula prolixior – with only one exception (gutturalis).

The following compilation is based on the versions of the two tabulae in the codex Wolfenbüttel. The explanations of several “unique” neumes placed in parentheses are naturally not found in the Tabula prolixior; they were added as a means of illuminating the comparisons.

Dionymic Neumes

<i>Tabula brevis</i> (expanded version)	<i>Tabula prolixior</i>
pentaphonus	flexa resupina
gnomo	emivocalis
pandula	pes stratus
pinna gutturalis	pes semivocalis gutturalis subpunctis
tramea (= cephalicus)	
cenix	

proslambanomenon
(= virga with 6 puncta)

trigon

tripunctum

tetradius
(= climacus + virga subpunctis)

igon
(= 2 virgae subpunctes)

pentadicon

virga subdiapentis

trigonicus
(= "tripunctum cum virgula")

franculus

emivocalis

orix

pes flexus resupinus

bisticus

bipunctum

gradicus
(= 3 puncta)

tragicon
(= 4 puncta)

diaternius
(= 5 puncta)

exon
(= 6 puncta)

ypodicus
centon
(= "virgula cum emivocali")
gradatus

pes sinuosus

quilisma prepuncte

atticus

quilisma sinuosum

astus

emivocalis prepunctis.

CONCLUSIONS

From the above discussed facts, observations and research results, three conclusions can be drawn.

1. The expanded version of the *Tabula brevis* must be younger than the short version. Huglo also came to this conclusion even if he chose a different manner of approaching the problem. While Huglo based his conclusion on the supposed violation of the metric scheme with respect to the number of syllables in the interpolated version (cf. above), our line of reasoning was based on an onomatological analysis and a study of the neumes. The following aspects were accorded particular weight:

First, the additional unique names of the *Tabula brevis* have not been found, to the best of our knowledge, outside of the two codices Wolfenbüttel Gud. lat. 334 (4641) and St. Blasien as names for neumes, neither in other tables nor in the treatises.

Second, several of these names are classical Greek and are unknown in the Byzantine onomatology of the tone signs.

Third, with some of these unique names, neumes were designated that had been already been cited in the first three lines of the table (*gnomo/franculus*, *quilisma/gradatus*).

Fourth, some of the unique names designate graphic arrangements that are purely theoretical. Thus the graphic arrangements *prolambanomenon*, *tetradius*, *igon*, *pentadicon* and *exon* were never used in recording chant melodies.

2. The expanded version of the *Tabula brevis* must be younger than the *Tabula prolixior*. A comparison of the two tables reveals that the interpolator expanded the original version of the *Tabula brevis* with 23 names which were derived from the *Tabula prolixior*. Most of these added signs are supplementary conjunctions and ligatures that also appear in the *Tabula prolixior*. The interpolator did not however – with one exception – reuse the names of the *Tabula prolixior*, but rather coined new names which in many cases were drawn from the terminology of the Greek music of antiquity. He replaced accordingly the term *bi-punctum* with *bisticus*, the *tri-punctum* with *trigon*.

Several details make it clear that he was endeavoring to vary his model or to deviate from it. There is not a single instance of a compound label. He re-labeled the *virga subdiapentis* as the *pentadicon*. As a substitute for the adjective *diatesseris*, he invented the term *tetradius*. While the authors of the *Tabula prolixior* did not find it necessary to search for Hellenized adjectives as labels for conjunctions with six puncta, the creator of the expanded version of

the Tabula brevis outdoes himself by coining the term *exon*. Instead of the pes stratus of the Tabula prolixior he created the term *pandula*.⁴⁶² Of all the terms in the Tabula prolixior, he only retained the term gutturalis.

Therefore the interpolator's expansion of the short version of the Tabula brevis can be regarded as an attempt to unite the Tabula brevis with the Tabula prolixior.

3. In the previous research the question about the temporal relationship between the Tabula brevis (short version) and the Tabula prolixior has been dealt with in various ways. While E. M. Bannister⁴⁶³ believed the Tabula prolixior was older, more recently Dom Huglo⁴⁶⁴ considered that the reversed hypothesis was more probable. Accordingly he dated the Tabula brevis to the beginning of 11th century and the Tabula prolixior to the 12th century.

An unambiguous reply of this question is at this time not possible. Nevertheless a couple of observations might contribute to its resolution.

We note first of all that the oldest manuscripts which transmit both tabulae date, to all appearances, from the 12th century. Then we must take the fact into consideration that theorists of the 11th and beginning of the 12th century employ terms which appear in both tabulae.

Frutolf of Michelberg (+1103) mainly uses in his *Breviarium de musica* and in the *Tonarius* the nomenclature of the Tabula prolixior, among them the following terms:⁴⁶⁵ distropha and tristropha (page 64), pes connexus (page 172), pes flexus (page 172), pes quassus (page 136), pes sinuosus (pages 121, 143, 173), flexa sinuosa (page 150), semivocalis (page 136), sinuosa (page 136), gutturalis (page 121), gutturalis semivocalis (pages 113, 134). On the other hand terms from the Tabula brevis are in the minority: virgula (page 121), podatus (pages 136, 141, 174) and pressa (page 174). The term quilisma (page 136) is included in both tabulae. Finally the podatus connexus (page 141) is a "mixed sign".

462 The semasiological relationships of the terms are obvious: *stratus* from *sterno*, extend, lay down; *pandula* from *pando*, extend, spread. In consideration of this probably unambiguous etymology of the word *pandula*, the derivations from *πάνδουλος*, slave (Thibaut, *Origine*, 85f.) or from the Old High German *pand* = 'band' (Fleischer, *Die germanischen Neumen*, 51) are to be regarded as refuted. In this context it should be mentioned that Fleischer's seemingly strange derivations of the names of several Latin neumes from the Old High German must be understood as an attempt to justify his theory that the adiastematic neumes were "invented" by the Germans. The actual author of this theory is however F.-J. Fétis (cf. his *Histoire générale de la musique*, IV, 183-195).

463 *Monumenti vaticani di paleografia musicale latina* (Leipzig, 1913): 3.

464 *Études grégoriennes* I (1954): 67.

465 The page numbers in parentheses refer to C. Vivell's edition.

Johanneses Afligemenis (= Cotto) employed in contrast in his treatise *De Musica*, in as far as we see, only terms from the Tabula brevis, and more specifically the terms virgula, clinis and podatus.⁴⁶⁶ J. Smits van Waesberghe⁴⁶⁷ dates this treatise to between 1100 and 1121.

From these facts it clearly can be concluded that the terminology of the Tabula prolixior must not have been first compiled in the 12th century but rather in the first half of the 11th century at the latest. (Otherwise Frutolf would not have been able to make use of this nomenclature in the second half of the 11th century).

In the debate about the temporal relationship between the two tabulae, we must always bear in mind the results of our comparative investigations, namely first, that in both tabulae the nomina of numerous semata are borrowed words or borrowed translations from Middle Greek, second, that several neumes in both tabulae have the same or similar names (quilisma, strophicus/tristropa, punctus/punctum, virgula/virga, podatus/pes) and third, that such an important sign as the oriscus does not appear in the Tabula prolixior.

If we take into consideration that 1) the oldest surviving versions of the Tabula prolixior, namely the Wolfenbüttel and Ottobeuren tables, already represent to all appearances expansions of a lost model, 2) they evidently included numerous sign combinations for systematic reasons and 3) combined terms such as for example virga praebipunctis, virga subbipunctis, flexa resupina and pes flexus were probably considered to be more difficult to understand in instruction and in the chant practice than the simple terms scandicus, climacus, porrectus and torculus, then it may be supposed with the necessary caution that the Tabula brevis (short version) is older than the surviving versions of the Tabula prolixior

6. The Age of the Nomenclature

Of all the questions raised by the nomina neumarum, three erotemata are naturally of particular relevance for the historian: what is the relationship between the tabulae, where did the neumes originate and when was this notation-technical nomenclature introduced in the West? We have already dealt with the first two questions in detail; now it is necessary to discuss the third question.

The most significant remarks about the age of the nomenclature have been those formulated by Dom Huglo in his valuable study to which reference has

466 CSM 1, 134.

467 CSM 1, 26.

repeatedly been made.⁴⁶⁸ He refers to the widely disseminated view that Latin chant notation originated in the ninth century, yet he thought that the nomenclature of the neumes must have come into existence much later, it would seem at the beginning of the eleventh century. Dom Huglo based his thesis on the observation that Aurelian made use of periphrastic language in his *Musica disciplina* from circa 850 in order to describe the pes or the tristropa. This is also true for Hucbald in his treatise (end of the 9th century). Likewise no special neumes are included in glossaries of the 9th and 10th century. Only in the 11th and 12th century were they cited in music treatises.

We regret to say that we cannot share the opinion of our esteemed colleague. In our opinion the nomenclature of the Latin neumes must have been developed in the first half of the 9th century at the latest. There are several reasons for this it would seem – and these are of critical importance for our study.

1. The use of the *litterae significativae* can be traced back at least to the first half of the 9th century. The *litterae* represent abbreviations for notational technical terms which Notker (+ 912) clarified in his letter. However one regards the question of Notker's authorship, there can be no longer be any doubt about the accuracy of the explanations after the publication of Smits van Waesberghe's research results and those of the present investigation.

If however the *litterae significativae* were already used at this early period as abbreviations for specific notational technical terms and indeed as – nota bene – symbols of a supplementary script, is it then even conceivable that the neumes to which the *litterae* were attached did themselves not possess specific names?

2. In St. Gall manuscripts the *litterae g* (*in gutture*) and *p* (*pressionem vel prensionem predicat*) occasionally accompany the *gutturalis subpunctis*⁴⁶⁹ and/or the *pressus*.⁴⁷⁰ It is quite obvious that the letters function here as additional terms for the neumes in question. Therefore one can assume that the terms *gutturalis* and *pressus* were already in use from an earlier period. The expressions *pressior sonus*, *pressim* and similar terms are to be found repeatedly, moreover, in the writings of Aurelian and Hucbald (+ ca. 930).⁴⁷¹

3. Our investigations furnished proof that the most frequent and most important *litterae significativae* representing notational technical terms in abbreviated form were borrowed translations of Middle Greek terms which were current in Byzantium (cf. above, chap. VII).

If however the terms of the supplementary notation were borrowed from the East, is it then conceivable that the names of the tone signs themselves or Latin translations thereof were not also adopted?

468 *Études grégoriennes* I (1954): 53, 67.

469 Codex Einsiedeln 121, page 185/3, cf. above page 200.

470 Cf. Smits van Waesberghe, *MdM* II, 534.

471 Cf. the compilation of examples in Smits van Waesberghe, *op. cit.*, 155-157.

4. Quite a few of the signs have double or triple designations which would seem to be an indication that at least in the earliest period the notational technical nomenclature was not uniform in the entire dissemination area of Latin chant notation.⁴⁷²

However, even if this were so, we cannot conclude that a standard nomenclature did not exist in the 9th and 10th century.

5. Dom Huglo's thesis with respect to the late origin of the onomatology of the Latin chant notation is mainly based on Aurelian's supposedly periphrastic manner of expression. It is clear that the majority of Aurelian's terms for the *semata* differ essentially from the *nomina neumarum* of the German *tabulae*. In our opinion this does not amount to an argument for the absence of an "official" nomenclature in the 9th century, even leaving out of consideration the observations and considerations made above in sections 1-4.

It is well known that Aurelian's terminology was derived from metrics (*arsis* and *thesis*) and from grammar, or more exactly from prosody (*acutus accentus*, *gravis accentus*, *circumflexio* or *circumvolutio*).⁴⁷³ There are as well the expressions *repercussio* and *tremula*. If we examine this vocabulary more closely, we can establish that several of Aurelian's terms also recur in the writings of later theorists, who clearly were familiar with an "official" nomenclature of the neumes.

Thus the concepts *arsis* and *thesis* were used by Guido and Johannes Affligemensis in the sense of a high tone and low/deep tone (*elevatio* and *depositio*).⁴⁷⁴ The terms *repercussio* and *tremula* were firmly embedded in the notational technical onomatology.⁴⁷⁵

In addition we must take into account Handschin's deduction that Aurelian's terminology was evidently based on a special relationship to the Paleo-Frankish notation.⁴⁷⁶ If one bears this in mind, it is indeed especially remarkable that the sign that Aurelian understood to be the *gravis accentus*, namely the Paleo-Frankish *clivis*, is onomatically related to and semiographically and semasiologically absolutely identical to the Paleo-Byzantine *bareia* (cf. above, chapter II).

472 It should be mentioned that several *semata* in the area of Byzantine notation are transmitted with two or three onomata (cf. chapter VIII).

473 *Musica disciplina*, Gerbert S I, 27-63.

474 Guido, *Micrologus*, cap. XVI: *Igitur motus vocum, que sex modis fieri ductus est, fit arsis et thesis, id est elevatio et depositio* (CSM 4, 178-180); Johannes Affligemensis, *De Musica*, cap. XXIII: *Fiunt igitur vocum motiones per arsin et thesin, id est per elevationem et depositionem* (CSM 1, 157).

475 Cf. the discussion of the *neumae repercussae* (chapter IV) and of the *tremula* (chapter V).

476 AMI XXII (1950), 69-73.

Chapter IX: Latin Neumes and the Ekphonic Notation

*De accentibus toni oritur nota,
quae dicitur neuma.*
Vaticanus Pal. lat. 235, fol. 38v.

The comparative investigations of neumatic notation in the preceding eight chapters and in chapter XXV of UNkII on the ekphonic notation produced results that differ from current theories about the direct derivation of the Latin neumes from the Alexandrian signs of accentuation. Our results clearly demonstrate that the relationship of the Latin neumes to the Byzantine and ekphonic signs is much closer than to the prosodic signs. In the following, we will summarize the research results relating to this and the scope of our field of inquiry will be broadened to include Armenian neumatic notation and the signs accompanying lectionary readings in the Orient.

THE DERIVATION OF THE LATIN ROOT NEUMES

We begin with the statement that of the 7 (or 8) signs which can be referred to as *neumes radicaux* of the Latin chant notation (cf. above chap. III), only three can be traced back to the prosodic signs: the *virga* (acutus), *clivis* I (gravis) and *apostropha*. Even for these three neumes it appears more than questionable whether they were directly derived from the prosodic signs.

The four remaining *neumes radicaux* punctum, tractulus, quilisma and oriscus cannot be directly derived from the prosodic signs. On the other hand our comparative research demonstrated that they were closely related to, if not identical with corresponding Paleo-Byzantine semata,

On the basis of intensive semiographical and semasiological investigations we were able to refute the previous derivations of the *punctum* from the gravis or from the brevis while the relationship of the punctum to the Paleo-Byzantine kentema proved to be quite close (cf. above chap. II).

Also the *tractulus* can not be traced back directly to the prosodic longa. We must always bear in mind that the tractulus, without even taking into consideration the case of the “punctum planum”, does not always have the meaning of a lengthening sign – contrary to the assertions of P. Wagner and his followers. On the other hand the relationship of the tractulus to the Paleo-Byzantine straight ison is quite obvious (cf. above chap. III).

As for the *quilisma*, one will search in vain for its “ancestors” among the prosodic signs. Our investigations demonstrated that the quilisma is absolutely identical both semiographically as well as semasiologically with the Paleo-Byzantine anatrachisma. The realization that certain anatrachisma figures were sometimes rendered in Paleo-Byzantine neumatic sources with the kylisma

served as an explanation of how the Latin quilisma came to acquire its name (cf. above chap. V).

Also the *oriscus*, a root sign par excellence, can not be traced back to a prosodic “mother sign” however intensively one might search for a parallel. On the other hand there is indisputable proof of the equivalence of this S-shaped sign with the ekphonic syrmatike and the Paleo-Byzantine syrma and/or the hyporrhoe (iporoi) (cf. above chap. V).

There still remains the question of the so-called “epiphonus” which should be more properly referred to with the designations *semivocalis*, *semitonus* and *franculus*. Irrespective of whether one recognizes the sign as a root neume or not, there is no doubt that it is far more closely related to the Paleo-Byzantine *klasma* (also known as *hemiphonon* and *hemitonion*) than to the prosodic hyphen (cf. above, chap. VI).

THE DOUBLING AND TRIPLING OF SOME ROOT SIGNS AS A COMMON FEATURE OF THE EKPHONETIC, PALEO-BYZANTINE, LATIN AND ARMENIAN NEUMATIC NOTATION

The extremely close relationship between Latin, ekphonic and Paleo-Byzantine notation can be demonstrated very convincingly by the manner in which certain fundamental signs are doubled. Since a similar procedure can only be found in Armenian neumatic notation, we have decided to include examples from medieval Armenian manuscripts in our investigations. Except for these four areas of semiography, the procedure is not used or it plays only a very minor role in comparable music notations.

We note first of all that in these four semiographical areas the signs *acutus*, *gravis*, *apostropha* and *punctum* can be doubled or even tripled.

In the *ekphonic notation*, the doubled *semata* are designated as *oxeiai diplae*, *diploe bareiai* and *apostrophi* (to which should be added: *dyo*). The *kentemata* appears as a three-note group (cf. UNkII, chap. XXV).

In the *Paleo-Byzantine neumatic notation* doubled fundamental signs appear with the names *diple* (namely *oxeia*), *piasma*, *dyo apostrophi* and *dyo kentemata*. The doubling of the first three “*tonoi*” is used to indicate a lengthening. The pitch of the doubled fundamental sign is retained. On the other hand the *dyo kentemata* indicates two tones of different pitches. Correspondingly the conjunction of three *kentemata*, as used in the Chartres and in the kondakarian notation, designates three tones (cf. UNkI, chap. IX).

In *Latin chant notation*, the procedure of the doubling or tripling of neumae attained, particularly in the “Gregorian” notation, a special importance.⁴⁷⁷ Here

477 With the term “Gregorian” we refer to the family of ‘accent’ neumes, i.e. the Alemanic-German, the Italian, the north French and English neumes (cf. above, chapter III).

the acutus, the apostropha and the punctum could be both doubled or tripled. The resulting conjunctions were called bivirga, trivirga, distropha, tristropha, bipunctum and tripunctum. As in the Paleo-Byzantine system, the doubling of the acutus and the apostropha resulted in a lengthening of the tone – the pitch was not affected. The bipunctum and tripunctum indicated however – like the dyo and tria kentemata – two and/or three tones of different pitches (cf. above chap. IV).

In contrast to the Paleo-Byzantine system the gravis was not doubled in the “Gregorian” notation, simply because it was not used as a sign standing alone.

Finally in *Armenian*⁴⁷⁸ *neumatic sources*, in as far as our knowledge of this system reaches, the acutus, apostropha and the punctum were doubled. The punctum is quite frequently found in groups of three or five.⁴⁷⁹ It should be mentioned at this point that the oldest surviving music manuscripts (dating from the ninth to thirteenth century) exhibit a great similarity to Paleo-Byzantine Chartres notation.⁴⁸⁰

If we now ask whether and to what extent the procedure of doubling fundamental signs can be found outside of the four semiographical systems mentioned above, we must first of all draw attention to that fact that it was unknown in the Alexandrian accent system. It is equally unknown in the Latin lectionary notation, which otherwise differs to a considerable degree from the ekphonetic notation.⁴⁸¹

Of the remaining lectionary notations, the *Armenian lectionary notation* is closest to the ekphonetic semiography. Its repertory includes the acutus (*šešti*), the gravis (*buth*), the apostropha (*storaket*) and the punctum (*ket* or *medšaket*). Of these fundamental signs only one, the punctum, is doubled (*verdšaket*).⁴⁸²

The very differentiated *Hebrew lectionary notation* makes use then of accents as well as the punctum. Of the accents, the acutus (*gereš*) is doubled

478 A brief research report on the Armenian semiography is to be found in P. Wagner, EGM II, 70-80. Cf. also Thibaut, *Origine*, 66f., 71 and table 4. Probably the most important recent study has been published by R. A. Atajan, *Armjanskaja chazovaja notopic* (Yerevan, 1959), (in Armenian with numerous specimina and extensive bibliography).

479 Cf. Atajan, op. cit., 39-68.

480 Cf. our documentation in UNkII for specimina from codex Berlin, Deutsche Staatsbibliothek Ms. Orient. Oct. 279 (facsimile no. 125-127).

481 Compared to the signs in ekphonetic notation, the Latin lectionary script appears to be an impoverished system. It encompasses only four sign combinations: the *punctus versus* (= punctum + apostropha), the *punctus circumflexus* (= punctum + flexa), *punctus elevatus* (= punctum + pes) and the *punctus interrogativus* (= punctum + question mark). Cf. O. Fleischer, *Neumenstudien* I (Leipzig, 1895): 97-108; J.-B. Thibaut, *Monuments de la notation ekphonétique et neumatique de l'église latine* (Paris, 1912); Wagner EGM II, 82-94.

482 Cf. O. Fleischer, *Neumenstudien* I, 65-68; K. Keworkian, „Die armenische Kirchenmusik“ SIMG I (1899): 54-64.

(*geršaijim*). The punctum (*rebi'a*) appears both doubled (*zaqef qaton*) and tripled (*segolta*).⁴⁸³ Franz Praetorius has shown that the masoretic ("Tiberian") accents are based on the ekphonetic signs.⁴⁸⁴

The *Syrian lectionary writing* differs basically from the ekphonetic notation (and therefore also from the Paleo-Byzantine and Latin neumatic notations).⁴⁸⁵ The punctum builds the basis of the system, which can be doubled or tripled. A group of four puncta arranged as a cross serves as a cadential signal. The Syrian notational system has neither the "accents" nor the apostropha.

In *Coptic sources* finally a single sign is doubled or even tripled, i.e. the acutus. It appears in groups of four or six.⁴⁸⁶

CONCLUSIONS

Four conclusions can be drawn out of the above.

1. The Latin neumatic notation cannot be derived directly from the prosodic signs. The statement from Anonymus Vaticanus placed at the beginning of this chapter as a "motto" can apply at the most to only three of the fundamental signs, i.e. the acutus, the gravis and the apostropha. The four remaining Latin fundamental neumes can not be traced back to prosodic signs.

2. With respect to their makeup the ekphonetic, the Paleo-Byzantine, Latin ("Gregorian") and the Armenian notations are very closely related. They form a family of neumes that can be clearly distinguished from the other notations.

3. The common features existing within these four semiographical areas would seem to indicate a genetic relationship. The Latin neumatic notation grew out of the Byzantine (cf. chap. X). Some of the signs however were evidently independently further developed up to a certain point. Thus the tripling of the acute and the apostropha are characteristic traits of the "Gregorian" system.

4. Of all the lectionary notations the ekphonetic semiography proves to be the most differentiated. Compared to it, the Latin lectionary notation is quite

483 Cf. P. Kahle, *Masoreten des Ostens* (Leipzig, 1913); Kahle, *Masoreten des Westens* (Stuttgart, 1927); E. Werner, *The Sacred Bridge* (London/New York, 1959): 410-431.

484 *Über die Herkunft der hebräischen Akzente* (Berlin, 1901); *Die Übernahme der frühmittelgriechischen Neumen durch die Juden* (Berlin, 1902).

485 Cf. H. Husmann, article „Akzentschriften“ MGG I, col. 266-273.

486 Cf. W. E. Crum, *Catalogue of the Coptic Manuscripts in the Collection of the John Rylands Library* (Manchester, 1909); H. Junker in BZ XIX (1910): 192f.; Høeg, *La notation ekphonétique*, 146; R. Ménard, article *koptische Musik*, MGG VII, col. 1619-1627; cf. MGG IX, col. 1599, Abb. 3.

“primitive”. The “modesty” of its apparatus led Wagner⁴⁸⁷ to conclude that its signs represented only a selection out of the repertory of the neumatic notation. If one were to accept this thesis then the Latin lectionary notation must be younger than the neumatic notation.

487 EGM II, 21/ footnote 2, 88.

Chapter X: The Origin of Latin Chant Notation

1. Introduction

The author would first like to be allowed the indulgence of asking the sympathetic reader if he may initiate the discussions in this chapter with the declaration that his position with respect to the subject of the neumes deviates radically from all previous standards. This is probably most clearly exemplified by the placement of this and the previous two chapters within the framework of the *Universale Neumenkunde*. While in the most well known handbooks on neumatic notation, questions about the names and the origins of the neumes usually are placed at the beginning of the discussion, the author of this study believes that this subject is the last which should be dealt with.

This decision is very closely connected to the methodological basis of the present investigations. Already in the first chapter we stated that questions about the origins of the Latin neumes had previously not been subject to any systematic investigations and furthermore none could be carried out because all the prerequisites indispensable for such a task had not yet been created. For this reason it was not surprising that both O. Fleischer⁴⁸⁸ and P. Wagner⁴⁸⁹ as well as J. Wolf⁴⁹⁰ and Dom Gr. Suñol⁴⁹¹ concluded their presentations with more or less vague hypotheses when discussing this question. In view of this situation the author of this work was quite clear from the very beginning that a clarification of the question about the origins of the Latin neumes would be the most difficult question for the discipline of neumatic notation and indeed one of the most complicated problems of the ancient music history generally. Consequently it could only be examined within the framework of a major inductive investigation. These considerations determined the course of the investigations and the manner in which the results were presented.

Starting with precise onomatological, semiographical and semasiological investigations of the individual Byzantine, Slavic and Latin neumes, we arrived by way of critical analyses at partial results which were then used as the foundation for progressively more involved research results with respect to the functions of the individual notational systems and – having arrived to a certain extent at the highest level – the goal was then to clarify the connections existing between these functions by means of the comparative method. One should not

488 *Neumenstudien* I (Leipzig, 1895): 25-40 („Der Ursprung der Neumen aus der Cheironomie”).

489 EGM II, 95-114 (“*Die ältesten lateinischen Neumen*”).

490 *Handbuch der Notationskunde* I (Leipzig, 1913): 100 („Über den Ursprung der Neumen”).

491 *Introduction à la paléographie musicale grégorienne* (Tournai, 1935): 9-29 (“Origine des neumes latins”).

forget that the question about the origins of the neumes is part of a complex of numerous and extremely difficult subsidiary questions, that are at the same time interrelated in a hierarchical manner on several levels. If one wants to solve a partial question within a larger range, then one has to first attempt to answer all the detail questions connected to it at this lower level.

This can be exemplified with reference to the nomenclature of the Latin neumes. An investigation of the *nomina neumarum* should not conclude with the detection and analysis of the terms in the *Tabulae neumarum* and in the treatises, but rather requires, at the minimum, an intimate knowledge of the Greek onomatology of the *σημάδια*. Yet whoever expresses a naive belief in the view that a knowledge of the Greek onomatology should suffice for a systematic detection of the *σημάδια* mentioned in the Byzantine treatises and tables, will realize that this is an illusion as soon as he is confronted with the unusually difficult problematic nature of the double-named and synonymous signs. Ultimately the belief in having gained an insight into the problem must yield to the conviction that a clarification of these questions must be preceded by detailed semiographical and semasiological investigations of all the Byzantine signs.

This example should clarify why the author has waited until the present chapter before discussing the names and the origins of the neumes.

If we are now presented with the question about the origins of Latin chant notation, we must at once admit that the previously represented partial results have led to an unambiguous answer. It is therefore necessary to summarize the research results up to this point – as it were at the highest level – in order to draw certain deductions and then to connect them to our final conclusions.

2. The presumed differences between Byzantine and Latin neumatic notation

As an explanation for the difficult nature of this subject, it must be said that research on the neumes is encumbered as hardly any other field in the area of medieval studies with a priori assumptions and preconceived opinions. That an understanding of the close connections between the Byzantine and Latin neumes has not been achieved until now must ultimately be attributed to such prejudices. The results represented in the present study make it possible to state that the profound differences which researchers have claimed to exist between the two notation systems are mostly specious or more often irrelevant.

THE FALSE DOCTRINE ABOUT THE PRIORITY OF DIASTEMATY

One of the most crucial hindrances for the correct assessment of the connections between the Byzantine and Latin neumes since the start of the twentieth century has been the perception that the early Byzantine neumes possessed an exact diastematic meaning from the beginning. Since the oldest Latin neumes were not diastematic, this difference was taken as a fundamental difference between the two notation systems. This erroneous view arose from a misunderstanding (it projected namely the rational of the Middle Byzantine notation on the differently structured Paleo-Byzantine system) yet it was accepted up until the first world war by almost all leading researchers.

The author of this opinion seems to have been Hugo Riemann. In any case it is met in his writings in probably its most blatant form, as the following quotation attests:⁴⁹²

A main reason that all attempts to unravel Byzantine notation have been remained so futile can probably be attributed to the false assumption that it must have been from its origins basically identical with the Western neumatic notation as preserved in manuscripts from the 9th century. That this can not be the case and in contrast that the Byzantine notation differs in its very elements fundamentally from neumatic notation is an extremely important deduction which at once clears the way for further research. The main difference is that the neumatic notation did not originally indicate the intervals of the changes of pitch whereas the Byzantine notation on the other hand was an interval script to its core by its very nature.

When and where neumatic notation arose can not yet be determined. However there are serious considerations which would indicate a Western origin. The grounds for expecting to find a common root for Byzantine notation and the Western neumatic notation in the Orient disappeared the moment the oldest forms of the Byzantine notation became legible and it became clear that the essential nature of Byzantine notation was just that feature which was missing in neumatic notation, i.e. the exact distinction of the intervals.

P. Wagner⁴⁹³ offers hardly more than a refinement of Riemann's thoughts in the second edition of his *Neumenkunde*:

Despite all resemblances with respect to their forms there is a distinct difference between the Latin and the Greek neumes with respect to their meanings. The question as to whether the neumes in Italy and generally in the Latin church initially possessed a sense of pitch, as in the East, must be answered – to judge by the evidence of the neumes surviving in the earliest manuscripts – in the negative. The neumes that were used to notate the official Roman manner of singing in the Mass and in the offices resemble the Byzantine sources more in the form than in content. One can hardly

492 *Die byzantinische Notenschrift im 10. bis 15. Jahrhundert* (Leipzig, 1909): 33f; *Kompendium der Notenschriftkunde* (Regensburg, 1910): 44f.

493 EGM II, 110f.

avoid the supposition that when the neumes were being transmitted to the Latins, they generally lost both the exact sense of pitch as well as any general indications pertaining to the direction of the melody.

The perception that the early Byzantine neumes indicated exact interval values must have contributed to the development of Wagner's hypothesis that the diastematic Latin records were possibly even older than the adiaستمatic (!):⁴⁹⁴

Therefore the Latin diastematic use of the neumes was regarded as the younger stage. However, already at this point it should be emphasized that new findings are about to modify this historical relationship – they could indeed lead to the perception that the diastematic exact interval signs indicated by the neumes was the original format. It appears that the scribes found it easier to notate the neumes one after another without having to indicate the exact dimensions of the melodic movement because it required too much effort to pay attention to every single stroke of the corresponding intervals. That thereby the entire history of Latin neumatic notation is drawn under a new light should be clear.

Wagner's hypothesis was then taken up by Jacques Handschin⁴⁹⁵ in his research on the Paleo-Franconian notation and reformulated. We cannot conceal our opinion that the reports of V. Galilei and A. Kircher cited by Handschin with respect to the lined notations in the era before Guido should be assessed as little more than curiosities. In view of the results of the present study, the doctrine of the priority of the diastematy can be considered to be null and void.

THE QUESTION OF LIGATURES

It is furthermore generally assumed that a second basic difference between the Byzantine and Latin neumes is apparent in the manner in which figures consisting of several tones were notated. After the publication of Hugo Riemann's investigations of isolated Byzantine neumatic records, it was commonly thought that Byzantine semiography used individual single signs to indicated groups of figures consisting of several tones and that – in contrast to Latin chant notation (i.e. "Gregorian" notation) – it did not make use of ligatures.

If we may be allowed to first quote H. Riemann with respect to this question:⁴⁹⁶

The first difference between the two systems of the notation is that the Byzantine notation dissects the melody into single steps, while the [Latin] neumatic notation on the other

494 EGM II, 112, 266, 272f.

495 „Eine alte Neumenschrift“ AMI XXII (1950): 84-87. As an aside it might be remarked the Handschin's "humour" at times appears to be rather twisted. Are these insipid quips – even though much imitated – really "witty" within the context of style criticism?

496 *Kompendium der Notenschriftkunde*, op. cit., 47.

hand conceives the melodies as single tones or groups of single tones. This difference is more important than it first appears.

This can be compared to the corresponding formulation by P. Wagner:⁴⁹⁷

Thus it came about that the Latin neumes continued to be conceived as entities consisting of graphic arrangements that were expressed nominally in the development of signs for tone complexes, i.e. compound neumes, thereby making it clear that the origins are to be sought in Rome or at least within Latin Christianity.

These combinations were, it seems of Latin origin; the Greek neumatic notation does not have any analoga to this although compound signs were probably known in the Armenian notation.

The incomparably differentiated and more carefully formulated view of E. Jammers can also be cited:⁴⁹⁸

Obviously the Paleo-Byzantine notation did comprise compound signs. Byzantine scholars still have to determine whether or not these originally indicated several tones – as far as I know an authoritative interpretation of the Paleo-Byzantine notation has not yet been written. In any case Byzantine notation did not develop the system of ligatures, i.e. in the sense of signifying groups of tones, but rather it utilized the system of single signs – every tone was individually recorded and other tone features such as direction, sound character, interval distance to preceding tones were later indicated by the addition of specific individual signs. This is basically a different system and this was perhaps already apparent in the Paleo-Byzantine notation.

If we now assess the „question of the ligatures“ from the perspective of our preceding investigations, there is no need for any complicated debate before asserting that the supposed differences between the oldest “Gregorian” and Middle Byzantine notation in recording figures of several tones actually exist. The Middle Byzantine notation indeed indicates every tone with distinct tone signs. At the same time it should not be forgotten that even this system encompasses numerous so-called great hypostases of which most – as our investigations have shown – are ligatures.

The supposed difference proves however to be nonexistent as soon as one compares the oldest “Gregorian” records with Paleo-Byzantine Chartres neumatic sources. The Chartres notation distinguishes itself, as has been demonstrated, with its highly developed system of ligatures. Numerous Chartres neumes that appeared to be “elementary signs” surprisingly turned out to be ligatures (cf. UNkI, chapters IX and X). Our comparative investigations of the *neumae compositae* and the *tonoi synthetoi* should have made it clear that numerous

497 EGM II, 111 and 120.

498 *Byzantinisches in der karolingischen Musik*, op. cit., 13.

ligatures are common to both the "Gregorian" as well as the Paleo-Byzantine notations (cf. above chapter IV).

3. The relationship of Early Byzantine neumes to the Latin 'accent' and 'point' neumes

If comparisons between the neumatic notations of the Byzantine and Latin churches are to be carried out at the highest level of enquiry, then it would be appropriate to first of all summarize all the criteria which would allow a classification of the various neumatic notations of the East and the West.

As we have already explained, Ferretti's classification of the lineless Latin neumatic notations into the three large families of *neumes-accents*, *neumes-points* and *neumes mixtes* (cf. above chapter II) is based on an analysis of the frequency of accents or points as a distinguishing characteristic.

There is no doubt that the "accents" (the acute and the gravis) are met far more frequently in the family of the "accent neumes" than in the area of the "point neumes". On the other hand the "points" reach an incomparably higher degree of frequency in Aquitanian neumatic sources than in the "Gregorian" family of neumes which comprises the Alemannic-German, north French, English, Italian and Mozarabic sources. "Accents" and "points" finally balance one another on the comparative scale in the family of the "mixed neumes" which encompassed the Paleo-Franconian, Breton and Metz sources

The predominance of "accents" or "points" is very closely connected with the differing frequency with which the ligatures are used. This characteristic forms a second criterion for the classification. Ligatures occur in "Gregorian" sources far more frequently than in Aquitanian manuscripts where the "picture of the neumes" is determined by conjunctions of puncta and tractuli.

We were able to gain a third criterion from the differing relationship of the notations vis-à-vis the apostropha: the "strophici" have been found only in the "Gregorian" notation. They are unknown both in the Aquitanian and Paleo-Franconian notations as well as in Metz and Breton sources. This criterion is in contrast to the first two "absolute".

If we now look at the two Paleo-Byzantine systems, the Chartres and the Coislin notations, then the differing utilization of so-called great signs and the shape of the ison offer two primary criteria for a classification (cf UNkI, chapter I). A third criterion is the frequency with which the grammata are used (cf. UNkI, chapter VIII). A fourth, although "relative" criterion is the number of ligatures in the respective repertories; the Chartres notation is much richer in ligatures than the Coislin notation. Moreover the Coislin notation in the course of its development exhibited a strong tendency to an "analytical" manner of recording

the melodies. It gradually dissolved the shorthand symbols into single signs. This process culminated in the development of the Middle Byzantine notation (cf. UNKI, chapters XII - XIV).

Now we can proceed to a comparison of the Paleo-Byzantine with the Latin neumatic notation. First we must emphasize that no Byzantine notation system can be placed in a relationship with the family of the Latin "point neumes". Differently expressed: in no Byzantine system do the "points" reach even approximately an equally high degree of frequency as in the Aquitanian notation. If the concepts of "accent neumes" and "point neumes" were drawn on for the characterization of the Byzantine neumatic notations, then it can be said without hesitation that they are to be classified as "accent neumes".

That means that the Paleo-Byzantine neumatic notations are more closely related to the "Gregorian" clan of neumes than with the Aquitanian notation. The investigations of the chapters I to VII of this book revealed in addition that there was a particularly close relationship between the "Gregorian" family of neumes and the Paleo-Byzantine Chartres notation. An astonishingly large number of a semasiologically equivalent signs and ligatures are common to both systems. The common repertory of neumes indicates unmistakably that both systems can be traced back to a no longer existent *Urnotation*.

4. The Byzantine Origin of the Nota Romana Presentation of the evidence

The results of the comparative investigations of the neumes presented in this study allow no other interpretation than that Rome received the chant notation, or the *nota romana*, as Ademar of Chabannes⁴⁹⁹ called it, directly from Byzantium. The close relationships between the "Gregorian" and the Paleo-Byzantine neumatic notations, especially the "Chartres" notation, fit together in a complete chain of evidence.

FIRST PROOF THE NAMES OF THE LATIN NEUMES

The most frequently used names of the Latin neumes and *litterae significativae* have been proven to be mostly borrowed words or borrowed translations from Middle Greek. Only a few of the common standard names can be spoken of as being original Latin expressions.

In the interpolated version of the Tabula brevis – the work of a scholar – several nomina neumarum appear that represent Hellenized word creations

499 Cf. above page 66, footnote 151.

which do not have any Middle Greek counterparts. Most of these nomina are borrowed from the terminology of ancient Greek music or are imitating it and they were never used in the actual chant praxis.

The West must have received the Middle Greek nomenclature of the neumes in the first half of the 9th century at the latest (cf. above, chapter VIII).

SECOND PROOF

THE COMMON REPERTORY OF "FUNDAMENTAL SIGNS" AND THE EQUIVALENCE OF THE BYZANTINE AND LATIN FORMS OF NEUMES

The Latin (especially the "Gregorian") neumatic notation shares the same repertory of "fundamental neumes" with the Paleo-Byzantine (especially with the Chartres) notation. There are not a single Latin "root neume" (*neume radical*) – be it a *neuma simplex*, a *nota semivocalis* or an ornamental neume – that does not have a Paleo-Byzantine analogon.

Also most of the compound Latin neumes, the *notae compositae*, have parallels in Byzantine notation. The semiographical principle of conjunctions and ligatures is just as obligatory in West as in the East.

Semiographically compatible Latin and Byzantine tone sign have in most instances the same names or they are onomatologically related (cf. above, chapters III-VI).

THIRD PROOF

THE SEMASIOLOGICAL EQUIVALENCE OF CORRESPONDING BYZANTINE AND LATIN NEUMES AND THE COMMON REPERTORY OF FIGURES AND FORMULAS

The synonymous or onomatologically related and graphically equivalent Paleo-Byzantine and Latin neumes have also proven to be semasiologically equivalent. The corresponding tone signs possess the same or very similar melodic and rhythmic meanings in most instances. The same applies also to the relationship of the *litterae significativae* to the Paleo-Byzantine *grammata*.

Of especial relevance is the proof that the corresponding semata were used for the labelling of the same or similar figures, formulas and phrases and the existence of an astonishing wide range of common figures, tone formulas and phrases in both the "Gregorian" (i.e. the so-called "New Roman") chant and the Byzantine church music.

As a result of the detection of these relationships, our comparative investigations have for the first time made it possible to reconstruct the original meanings of numerous Latin neumae, especially the ornamental neumes and the rhythmic *litterae* (cf. above, chapters III-VII).

FOURTH PROOF
THE RELATIONSHIP OF THE LATIN NEUMES
TO THE BYZANTINE LECTIONARY SIGNS

Of the seven (or eight) signs which have been classified as the *neumes radicaux* of Latin chant notation (cf. above chapter II) only three at the most, namely the *virga* (acutus), the *clivis I* (gravis) and the *apostropha* can be traced back directly to prosodic signs. Three of the remaining "root neumes," namely *punctum*, *quilisma* and *oriscus*, are not derived from the prosodic signs but rather are the descendents of Paleo-Byzantine and/or ekphonetic *semata*, namely the *kentema*, the *anatrachisma* and the trinomial sign *syrmatike/syrma/hyporrhoe*. The derivation of the *tractulus* from the *gravis* or the *longa* is very doubtful while the relationship of the neume to the straight *ison* is obvious. Likewise the relationship of the so-called "epiphonus" (recte: *semivocalis*, *semitonus* or *franculus*) proves to be closer to the Paleo-Byzantine *klasma* (also called *hemiphonon* or *hemitonion*) than to the prosodic *hyphen*.

The close relationship of the ekphonetic, Paleo-Byzantine, Latin and Armenian semiography can be clearly demonstrated by the employment of a procedure that can only be found in these four neumatic notations, i.e. the doubling or tripling of the four "fundamental sign" *acutus*, *gravis*, *apostropha* and *punctum*. The Latin lectionary notation utilizes a very limited repertory of signs. The technique of doubling certain fundamental signs is unknown (cf. above chapter IX).

FIFTH PROOF
POLITICAL AND ECCLESIASTICAL RELATIONSHIPS BETWEEN
ROME AND CONSTANTINOPE
IN THE SEVENTH AND EIGHTH CENTURY

At least since then the authoritative Belgian musicologist François Auguste Gevaert⁵⁰⁰ raised the "Gregorian question" in its entire range⁵⁰¹, modern scientific research on chant has recognized that the establishment of the Roman liturgy and the organization of ecclesiastical chant took place in the seventh and eighth century if not earlier. The fierce discussions since 1950 about "Old Roman" and "New Roman" chant also localized the decisive processes with

500 *Les origines du chant liturgique de l'église latine* (Gent, 1890); *La mélopée antique dans le chant de l'église latine* (Gand, 1895).

501 Cf. P. Wagner, EGM I, 191-199; H. Huckle, „Die Entstehung der Überlieferung von einer musikalischen Tätigkeit Gregors des Großen“ *Mf. VIII* (1955): 259-264; A. Burda, „Gregor der Große als Musiker“ *Mf. XVII* (1964): 388-393; H. Anglès, „Sakraler Gesang und Musik in den Schriften Gregors des Großen“ *Essays Presented to Egon Wellesz* (Oxford, 1966): 33-42.

respect to development of the two chant versions mainly to this period of time.⁵⁰² At the same time several scholars reasoned on the basis of solid research that the processes in question very likely could have happened during the tenure of the pope Vitalian (657-672). Special reference was made among other indications to the report of Ekkehard V (after 1220), who mentioned that during a Mass celebrated by Vitalian the "Vitaliani" i.e. singers named after him, performed a particular chant. It also should be recalled that during the pontificate of Vitalian missionaries were sent to England in order to introduce "Gregorian" chant there.

In this connection we should note that in the musicological discussions about these historically highly significant processes the chronology and historical circumstances have not always been properly taken into consideration. It would be appropriate therefore to remind the readers of several well known as well as a few – at least in the Musikwissenschaft – less well known facts.

First of all we must recall that Rome until about the middle of the eighth century was part of the Byzantine empire.⁵⁰³ The exarchate set up by Maurikios (582-602) in Ravenna exercised military and political control in Italy as the imperial representative. The popes stood at least politically in subordination to Constantinople. Their election had to be confirmed by the emperor. Only in 751 when Ravenna was conquered by the Lombards and the hopes of an endangered papacy to be rescued by the Byzantine emperor turned out to be futile, did the popes Stephen II (752-757) and its younger brother Paul I (757-767) strike up an allegiance with Pippin. Only after that did the relations to Constantinople begin to unravel.

Then we should not forget that the Roman ("West Roman") and the Byzantine ("East Roman") church, the papacy in Rome and the patriarchate in Constantinople, understood themselves during this period, in spite of rivalries and theological disputes about monothelism, as a single entity. It was exactly during this period that several Syrians and Greeks occupied the apostolic throne. During this time, numerous feasts, processions and chants of the Byzantine rite were introduced into the Roman church. One only has to think of the

502 Cf. Br. Stäblein, „Alt- und neuromischer Choral“ Kongreß-Bericht Lüneburg 1950 (Kassel, 1950): 53-56; „Zur Entstehung der gregorianischen Melodien“ *KmJb* 35 (1951): 5-9; *ibid.*, article „Choral“ *MGG* II, 1271-1277; H. Huckle, „Gregorianischer Choral in altrömischer und fränkischer Überlieferung“ *AfMw* 12 (1955): 74-87; W. Apel, „The Central Problem of Gregorian Chant“ *JAMS* IX (1956): 118-127; R. J. Snow, „The Old-Roman Chant“ in: W. Apel, *Gregorian Chant* (London, 1958): 484-505; E. Jammers, *Musik in Byzanz, im päpstlichen Rom und im Frankenreich* (Heidelberg, 1962): 107-126; J. Smits van Waesberghe, „Zum Aufbau der Groß-Alleluia in den päpstlichen Osterverpernen“ *Essays Presented to Egon Wellesz* (Oxford, 1966): 48-73.

503 Cf. G. Ostrogorsky, *Geschichte des byzantinischen Staates* (Handbuch der Altertumswissenschaft, 12. Abteilung, 1. Teil, 2. Band), (Munich, 1963): chapter II, 73-122.

processions at the feast of the Purification and on Palm Sunday, the *Hodie* antiphons, the chants of the *Adoratio crucis*, the *Agnus dei* and the alleluias of the Easter vespers.⁵⁰⁴ It was exactly during this period of Roman ecclesiastical history that numerous Greek cloister settlements in Rome became more important culturally and politically.⁵⁰⁵

Within the context of the efforts of pope Vitalian in organizing the chant repertory it should first be mentioned that this pontifex ended the dramatic conflict enflamed by the bitter disputes over monothelism which came to a head under his predecessor pope Martin I (649-649) and he restored the ecclesiastical harmony between Rome and Constantinople.⁵⁰⁶ In contrast to Martin I, who had been placed on trial in Constantinople and died after his exile to the Crimean because of his rejection of the notorious "typos" of the emperor Constans II (641-668), Vitalian immediately contacted the emperor upon his assumption of office (July 30, 657). In appreciation of his determined stand in matters of dogma Constans II presented Vitalian with a magnificent book of gospels ornamented with precious jewels. Vitalian's name was registered on the diptychs of Constantinople.

Six years later Constans came to Italy in order to wage war against the Lombards. Whereas Maurikios had already contemplated a plan to establish Rome as a second imperial city, Constans was determined to transfer his residence from Constantinople to the West. On his arrival in Rome Constans was received by Vitalian with the greatest deference. The church historian Joseph Langen summarized the reports on the events as follows:⁵⁰⁷

504 Cf. P. Wagner, EGM I, 49-54; A. Baumstark, *Liturgie comparée* (Chevetogen, 1953): 107-113; E. Wellesz, *Eastern Elements in Western Chant* (MMB Subsidia II), (Boston, 1947).

505 A. Michel, „Die griechischen Klostersiedlungen zu Rom bis zur Mitte des 11. Jahrhunderts“ *Ostkirchliche Studien* I (1952): 32-45; *ibid.*, „Der kirchliche Wechselverkehr zwischen West und Ost vor dem verschärften Schisma des Kerullarios (1054)“ *ebenda*, 145-173; G. Ferrari, *Early Roman Monasteries* (Rome, 1957).

506 Cf. C. J. von Hefele, *Conciliengeschichte* (Freiburg im Breisgau, 1873-1890): III, 248; F. Gregorovius, *Geschichte der Stadt Rom im Mittelalter* (Dresden, 1926): I, 376-383; F. X. Seppelt, *Geschichte der Päpste* (Munich, 1955): II, 68-71.

507 *Geschichte der römischen Kirche* (Bonn, 1885): II, 517-545, citation page 540. Paulus Diaconus described the visit in his *Historia Longobardorum*, lib. V, 11 as follows: At vero Constans augustus cum nihil se contra Langobardos gessisse conspiceret, omnes saevitiae suae minas contra suos, hoc est Romanos, retorsit. Nam egressus Neapolim, Romam perrexit. Cui sexto ab urbe miliario Vitalianus papa cum sacerdotibus et Romano populo occurrit. Qui augustus cum ad beati Petri limina pervenisset, optulit ibi pallium auro textilem; et manens aput Romam diebus duodecim, omnia quae fuerant antiquitus instituta ex aere in ornamentum civitatis deposuit, in tantum ut etiam basilicam beatae Mariae, quae aliquando pantheum vocabatur et conditum fuerat in honore omnium deorum, et iam ibi per concessionem superiorum principum locus erat omnium martyrum, discoperiret tegulasque aereas exinde auferret easque simul cum aliis

On the fifth of July 663, he [Constans II] arrived in Rome. Vitalian went out toward him with the Roman clergy to the sixth milestone. Still on the same day, the emperor proceeded to prayer at St. Peter's and brought his offerings there. On the following Saturday he did the same at the church of the Holy Virgin. On Sunday there was held an awe-inspiring procession in St. Peter's with a large entourage. Everyone approached him with burning candles, he laid a pallium woven with gold as an offering on the altar, and after that the Mass was celebrated. At the following Saturday the emperor appeared in the Lateran, in the papal palace. There he bathed and partook of a meal in the basilica of Julius. On Sunday there was again a solemn Mass in St. Peter's and after the Mass he left the pope after he had stayed in Rome for twelve days.

It was furthermore characteristic of the relationship of Vitalian to the imperial house that after the assassination of Constans in Syracuse (on the 15th of September, 668) this pope helped his son Constantine IV (668-685) overcome the usurper Mezezius and ascend to the throne of Constantinople. It deserves to be also mentioned that Vitalian in 668 sent Theodoros, a Greek from Tarsus, as archbishop of Canterbury to England. Bede says of him that he was knowledgeable both in worldly and ecclesiastical literature and was fluent in Greek and Latin.⁵⁰⁸

If we summarize all these facts, it must be assumed that the choral organisational activities of Vitalian must have been strongly influenced by the East Roman Church.⁵⁰⁹

omnibus ornamentis Constantinopolim transmitteret (Monumenta Germaniae historica, Scriptores rerum Langobardicarum et italicarum saec. VI-IX, ed. by G. Waitz, Hannover 1878, 149f.).

508 *Historia ecclesiastica*, lib. IV, chapter I: Erat ipso tempore Romae monachus Hadriano notus, nomine Theodorus, natus Tharso Ciliciae, vir et saeculari et divina literatura, et Graece instructus et Latine, probus moribus, et aetate venerandus, id est, annos habens aetatis sexaginta et sex. Hunc offerens Hadrianus pontifici, ut episcopus ordinaretur obtinuit. (PL, XCV, 172).

509 One may be surprised that the historical relations between Rome and Byzantium should be placed in the fifth place in our presentation of the evidence. For the music historian and in this respect also for the medievalist, the musical sources (i.e. principally the codices with neumes and the treatises) naturally possess a greater relevance than historical records (i.e. the general historical, ecclesiastical and liturgical sources). Therefore the results of our onomatological, paleographical and semasiological examinations of the neumatic sources have been emphasized.

Basically this is not different from the situation in other areas of music history. As indispensable as biographical, archival, historical, music sociological, aesthetic and philosophical studies might be for the investigation of an epoch of music history, one should always be aware that the most substantial insights are to be drawn from an investigation of the works of art themselves.

SIXTH PROOF
THE BYZANTINE ORIGIN OF THE LATIN DODEKAECHOS
(cf. chapter XI)

5. The Actual Differences between the Latin and Paleo-Byzantine Notation

The careful analysis of the evidence relating to neumatic notation leads to the conclusion that Rome appropriated the Byzantine semiography with only a few changes. A comparison of the oldest preserved Latin and Byzantine neumatic sources reveals three differences that need to be interpreted in this respect.

THE PERIMETERS OF THE REPERTORY OF NEUMES

The investigations of chapters I-VII of this book revealed that the Latin chant notation shared a common repertory of “root signs” with the paleo-Byzantine notation. Many combined *semata* are utilized in addition in both systems. However, we must emphasize that the Paleo-Byzantine semiography encompassed an incomparably richer repertory of neumes and combinations of neumes. While Paleo-Byzantine analoga can be identified for almost all the Latin *neumae*, the reverse is not the case.

This difference is revealed most strikingly if one compares the large number of *tonoi haploi* and *synthetoi* (UNKI, chapters VI and IX) with the very small number of *neumae simplices* and *compositae* (cf. above chapters III and IV). One should bear in mind that Latin parallels for the classes of the thetas (*themata*) and the *phthorai* are completely lacking (cf. above, chapter II). A relative equilibrium is established with respect to the number of *litterae significativae* and Paleo-Byzantine *grammata* (cf. above, chapter VII). Also with respect to the utilization of *notae semivocales* and/or *hemiphona*, the Latin chant notation and the Paleo-Byzantine neumatic notation balance one another.⁵¹⁰

If we now summarize the perimeters of the Latin system it can be said that it is generally more frugal than the Paleo-Byzantine. This conclusion applies not only to a comparison of Latin neumatic signs with the μεγάλα σημάδια of the

510 The St. Gall neumatic notation represents an exception in this respect. It encompasses a very sophisticated repertory of *notae semivocales* which is doubtlessly larger than the corresponding range within the family of Byzantine *hemiphona*. However it should be pointed out that the St. Gall notation takes a special place within the family of “Gregorian” neumes due to the extraordinary range of its special liquescents, ornamental neumes and rhythmic signs (cf. above, chapter XIII).

enormously rich Chartres repertory. Even the more economical system of Coislin notation surpasses the number of the neumes in the Latin system to a considerable degree.

THE ANALYTICAL AND THE STENOGRAPHICAL MANNERS OF NOTATION

The use in equal measure of both the “analytical” and the stenographical manner of notation can be cited as a distinctive characteristic of the Paleo-Byzantine neumatic notation (cf. UNkI, chapters IX and X). Just as many signs indicate single tones as figures.

If one wanted to investigate the corresponding characteristics of the Latin neumatic notation and consulted the transcriptions of the Editio Vaticana, then one would have to come to the conclusion that the Latin semiography did not have any stenographic signs. Such a conclusion would be however a fallacy.

The investigations of chapter I to VII furnished the proof that the Latin neumatic notation did not forgo in any way the stenographic means of expression. It should be remembered first of all that the oriscus is a stenographical symbol par excellence. As we have demonstrated, it designates two tones in numerous positions. Also the quilisma functioned originally as a stenographical sign. This can be attested to in Breton and Paleo-Franconian neumatic sources, which represent the two or three tone quilisma figure with the simple oriscus sema. The Latin “ornamental neumes” oriscus and quilisma have the same stenographical functions as their Paleo-Byzantine analoga, the hyporrhoe and the anastrichisma (kylisma)(cf. above, chapter V). Also to be included in this context are the straight up stroke and the straight down stroke, two *neumae simplices* therefore that indicate two tone figures, namely the podatus or the clivis (cf. above, chapter III).

These results convey the new, fundamental paleographical insight that the Latin semiography also includes stenographic symbols. In this respect, no fundamental difference exists between the Latin and Paleo-Byzantine neumatic notation. Rather it is more a question of degree. While in the Paleo-Byzantine notation (especially in the Chartres notation) the analytical and the stenographical methods of notation are employed as two equal components, in the Latin system the analytical method has the greater relevance. Thus figures of several tones are indicated in St. Gall neumatic sources – if one excepts the ornamental neumes and the liquescents – with combined neumes that are composed of a corresponding number of "puncta" and "accents" (strokes). For instance there is no Latin sign that can be compared to the four-tone epegerma.

THE SYLLABLES WITHOUT NEUMES

While both of the above differences between the Latin and paleo-Byzantine neumes first became apparent after the conclusion of our comparative research, a third difference was already to be recognized in our initial comparisons. In the oldest Chartres and Coislin sources numerous syllables did not have neumes (UNKI, ch. II & IV). In contrast all the syllables were attached to tone signs in the Latin neumatic sources. Syllables without neumes were found only in the rarest of cases.⁵¹¹

INTERPRETATION OF THE RESULTS

The differences that have been demonstrated between the Latin and Paleo-Byzantine semiography serve to elucidate the beginnings and the historic development of neumatic notation. They allow us to perceive that the Byzantine semiography underwent a simplification when it was transmitted to the West or soon afterwards. Practical considerations must have played a decisive role in this transformation.

At the moment of this transfer it was evidently thought that it was quite enough to accept the most important *tonoi haploi* and *synthetoi* (= *neumae simplices* and *compositae*). As for the acceptance of the *themata*, the medial *martyriai* and *phthorai*, it was decided that they were not necessary. Of the stenographical symbols only the *anatríchisma* (*kylisma*) and *hyporrhoe* were originally adopted. As *quilisma* and *oriscus*, they became the ornamental neumes of the Latin chant notation. Apart from these *semata*, Latin notation indicated figures of several tones either with ligatures or with groups of single signs. In addition it was decided to attach neumes to all or nearly all of the syllables.

Consequently the Latin system possessed vis-à-vis the Paleo-Byzantine semiography the advantage of being simpler and therefore easier to learn. To be sure the simplification of the notation could only be obtained at the loss of many unique *semata*. Thus the Paleo-Byzantine neumatic notation, with respect to the fixation of finer aspects of the rhythm and vocal techniques, was incomparably more differentiated than the Latin.

In conclusion we should add that the Byzantine notation was adopted not only by the Roman, but also – even though much later – by the Slavic church. The

511 Two exceptions are the “Paleo-Franconian” neumatic notation for the *Doxa en ypsistis* in codex Paris, BN lat. 2291, fol. 16/line 4 (= line 2 of the notation)(facsimile in AMI 1950, 72) and the introit *Ad te levavi* in Düsseldorf D 1, fol. 126v/line 1 (facsimile in E. Jammers, *Die Essener Neumenhandschriften der Landes- und Stadt-Bibliothek Düsseldorf* (Ratingen, 1952): table 5 and in MGG IX, col. 1618).

investigations of the first part of the UNkI demonstrated that the original Greek neumatic notation had to undergo some changes when it was accepted by the Slavs. The most important was the substitution of the oxeia standing alone by the krjuk and the addition of neumes to the syllables without neumes in the Greek models (cf. UNkI, chapter IV). These processes can be equated with the notational technical developments in the West.

6. The Age of the nota romana

If one now ponders the question about when the Latin neumatic notation was introduced, then one is confronted with two precise questions, namely was neumatic notation in use in western Europe before 800 and why have no examples of this notation been found?

The answer to these questions has varied a great deal in the previous research. While some researchers consider the Latin chant notation to be an “invention” of the ninth century, others take the view that it must have already existed at the time of Gregory the Great (590-604) or even already in late antiquity.

At this point it should be remembered that the oldest surviving complete Graduals and Antiphonals date from the beginning of the tenth century. No complete manuscripts with neumes have survived from the ninth century but there are numerous fragments with neumes as well as isolated examples.⁵¹² The oldest dated document with neumes is probably the Easter prosula *Psalle modulamina* in the codex Munich Clm 9543, fol. 199v, written by the monk Engyldeo from Regensburg (817-834).⁵¹³ Neumatic sources dating from the eighth century have not been found.

Whether neumatic notation was commonly in use in the period before 800 can not be ascertained with certainty from the historical records of the 7th and 8th century. There are indeed several mentions of antiphonals and “responsals” yet it is not explicitly stated that these chant book had neumes.⁵¹⁴

512 Compilation of the oldest surviving fragments and examples in: Gr. Suñol, *Introduction*, op. cit., 30-36; J. Handschin, AMI 1950, 86f.; S. Corbin, *La notation musicale neumatique. Les quatre provinces lyonnaises; Lyon, Rouen, Tours et Sens* (Paris, 1957) - (typed manuscript not available to author; cf. the review in Mf XVIII, 1965, 211); E. Jammers, *Tafeln zur Neumenschrift* (Tutzing, 1965) : 25-29.

513 Cf. J. Smits van Waesberghe, „Zur ursprünglichen Vortragsweise der Prosulen, Sequenzen und Organa“ Kongreß-Bericht Köln 1958 ((Kassel, 1959): 251-254.

514 Of especial importance in this respect is a letter of pope Paul I to Pippin written between 758 and 763 in which it is mentioned that the pope had sent him as many Greek books as he was able to buy, among which was an antiphonal, a responsal and a nocturnal horologium: *Direximus itaque excellentissime praecellentiae vestrae et libros, quantos reperire potuimus; id est antiphonale et responsale, insimul artem gramaticam Artistolis,*

Nevertheless there are several reasons to state that one can be certain there must have been records with neumes at the beginning of the eighth century at the latest. E. Jammers⁵¹⁵ has already formulated the most illuminating: if the earliest surviving examples of neumatic notation date from the first half of the ninth century this naturally implies that older sources at least from the eighth century must have preceded them. Another valid argument was advanced by Helmut Hucke⁵¹⁶, namely that the adoption of Gregorian chant by the Franks in the 8th century probably would not have been possible without written records of the melodies. Similar considerations lead Dom Higiní Anglès⁵¹⁷ to postulate that Gregory the Great could hardly have carried out his work in organizing the chant if some type of notation did not exist.⁵¹⁸

All the problems surrounding “the age of the Latin neumatic notation” can be seen from a new perspective now that the Byzantine origin of the *nota romana* has been demonstrated. If we take into consideration on the one hand that Rome appropriated the chant notation, as we have shown, with some changes from Constantinople and bear in mind on the other hand that German-Alemannic and Breton types of neumes already appear fully developed⁵¹⁹ in the earliest surviving examples dating from the first half of the ninth century, then the period of “development” and therefore also the time of the acceptance of neumatic notation must lay at least between one or two centuries before the earliest documents.

In view of the above discussed political and ecclesiastical relationships between Rome and Constantinople in the seventh and eighth century it is probable that the Byzantine neumatic notation was introduced into the Roman realm during this period at the latest.

Allow us to conclude this discussion with the suggestion that there may have been a connection between the “invention” of the *nota romana* and the attempts to organize the chant repertory in the seventh century, especially in view of the existence of two versions of this chant repertory.

Dionisii Ariopagitis geometricam, orthografiam, grammaticam, omnes Greco eloquio scriptas, nec non et horologium nocturnum. (Monumenta Germaniae historica, Epistolarum Tomus III [Epistolae Merowingici et Karolini aevi, Tomus I] ed. by E. Dümmler, Berlin 1892, 529).

515 „Die Entstehung der Neumenschrift“ *Bibliothek und Wissenschaft* 2 (1965): 85-105.

516 „Die Einführung des Gregorianischen Gesanges im Frankenreich“ *Römische Quartalschrift* 49 (1954): 172-187.

517 “Gregorian Chant” *New Oxford History of Music* II (London, 1955): 105-109.

518 Hereby it should be mentioned that the question about the activities of Gregory the Great in organizing the chant is not at all resolved. The “Gregorian” question is now even more puzzling than ever before.

519 As for example in Munich, Clm 9543, fol 199v (German neumes) and in Oxford, Bodl. Auct. F 4/26, fol. 1v (Breton neumes). In the last example the *litterae significativae* q and s appear.

7. Other Conclusions

THE RELATIONSHIP OF DEPENDENCY BETWEEN THE LATIN POINT NEUMES AND THE ACCENT NEUMES

There are two opposing theories about the relationship of the diastematic “point neumes” to the adiaستمatischen “accent neumes”.

The first, which is represented by the school of Solesmes, considers the “accent neumes” to be older and derives the “point neumes” and “mixed neumes” from them. This view was initially formulated as a thesis by Dom A. Mocquereau.⁵²⁰ His reasoning was based on the recognition that the “accent neumes” could be traced back to the antique prosodic signs, that they are distributed throughout Western Europe and that they constituted a completely developed system. In addition the oldest theorists used the terminology of “accentuation” when they were discussing the notation. On the other hand, examples of the “point neumes” have not been found which can be dated before the end of the 9th century. Their distribution is restricted to certain regions and their variable and bizarre forms suggest that they went through a lengthy development. Various changes and experiments can be recognized. Based on this reasoning Dom Mocquereau concluded:

Les points neumatiques, de toutes formes & de tous pays, se rattachent par des liens étroits de filiation aux accents chironomiques, dont ils sont un développement naturel, en même temps que le plus heureux perfectionnement.

Dom P. Ferretti⁵²¹ later expounded on Dom Mocquereau’s arguments as followed:

En ce qui concerne le système graphique, le lecteur aura pu voir que le système des *neumes-accents* est le plus commun dans toute l’Europe (Italie, Espagne, Angleterre, France, Allemagne); et nous sommes fondés à supposer qu’il est aussi le plus ancien de tous et que les deux autres systèmes (à *neumes-mixtes* et à *neumes-points*) ne sont pas autre chose qu’une évolution lente et progressive de ce système primitif.

According to the second theory the “point neumes” and the “accent neumes” developed independently of each other. This possibility was discussed above all by E. Jammers⁵²² who thought he could explain the existing differences between

520 “Origine et classement des différentes écritures neumatiques” Pal Mus I, 96-160, esp. 124-126. Cf. also Pal Mus III, 80.

521 “Étude sur la notation aquitaine d’après le graduel de Saint-Yrieix” Pal Mus XIII, 126.

522 „Zur Entwicklung der Neumenschrift im Karolingerreich. Otto Glauning zum 60. Geburtstag“ Festgabe in: *Wissenschaft und Bibliothek* (Leipzig, 1936): 89-98.

the Aquitanian and St. Gall notations (interpreted as the extreme representatives of the two families of neumes) with the hypothesis, that they are based already from their origins upon different foundations. The former developed out of the prosodic *chronoi*, the latter on the other hand from the accents. Accordingly the Aquitanian notation was based on two main signs, the punctum and the tractulus. They corresponded to the brevis and the longa and had primarily a rhythmic meaning. The St. Gall notation in contrast was built from its beginnings in contrast on the accent signs, the acutus and the gravis. These signs would have had originally only a melodic meaning. At a later time in the Carolingian period, and especially as a result of the pursuit of liturgical uniformity by the Carolingians, the two opposing systems converged. Accent signs penetrated into the Aquitanian notation, which according to Jammers was used in the Gallican liturgy. On the other side the St. Gall notation was reshaped in various regions as a rhythmic notation "*until it finally became if definitely not thoroughly, but yet in some respects superior to the Aquitanian notation*".

Also J. Handschin⁵²³ assumed that the "point neumes" were derived from an independent starting point. In the zeal of his argumentation, he allowed himself to be drawn to some quite exaggerated statements:

And as for the relationship between 'accent neumes' and 'point' (or more exactly: tone position) neumes: if one wants to derive the latter from the former, then one could just as well imagine, how the Italian-Alemannic notation would have been able to emerge from a notation of this type [referring to the Paleo-Franconian notation]; in that one assumed the 'humanistic' approach of the grammarians, who taught, that since the up-stroke meant the high tone one had to preface it with a down-stroke in order to represent two tones (formation of the hook), or else (as a more theoretical possibility) in that one reinforced the concurrence of a punctum and a clivis from below and the resulting sign became independent.

The above discussed results of our investigation allow us to examine the question about the relationship of the "accent neumes" and "point neumes" from a new perspective.

It should be emphasized first of all that the term "point neumes" is a convention employed as a cachet. Its use does not imply that the Aquitanian notation consists for example only of puncta and tractuli, but rather indicates that the "points" appear in this notation far more frequently than in the "accent notation".⁵²⁴ Even in Aquitanian sources "accent neumes" such as the virga and the clivis II are to be met. The Aquitanian notation encompasses in addition ornamental neumes and *notae semivocales*.⁵²⁵ As far as we know, no Aqi-

523 AMI 1950, 82-84.

524 Cf. the discussion in chapter III.

525 Cf. Pal Mus XIII, 154-159, "Tableau des principaux neumes aquitains d'après le graduel de Saint Yrieix".

tanian notation completely and utterly excludes these signs. Consequently with respect to the repertory of signs, the Aquitanian notation should not be portrayed as basically different from the "accent neumes". What distinguishes it from the "accent neumes" is the higher frequency of the puncta and the tractuli, the predominance of the conjunctions and the very distinct "diastematic" arrangement.

It can therefore be said that the most important neumatic notations of Europe are all "accent notations". Our investigations demonstrated that the very close relationships between the "Gregorian," ekphonic, Paleo-Byzantine and Armenian semiography (cf. above, chapter IX). A fully developed neumatic notation that only consists of the "point" and the horizontal dash does not exist in the European cultural realm. The Syrian notation based on points is a lectionary notation.

Finally, if we take into consideration that the "Gregorian" neumatic notation, i.e. the *nota romana*, can be traced back to a Byzantine origin, then the so-called Latin "point neumes" could have only developed out of the original "accent neumes".

THE EDITIO VATICANA AND THE RESTORATION OF GREGORIAN CHANT

Even though it is perhaps not for the first time, it nevertheless needs to be emphasized that the Editio Vaticana of Gregorian chant produced by the Benedictines of Solesmes represents one of the most magnificent achievements of musicology. Thanks to this edition and the intensive work preceding it, music palaeography became established as scientific discipline around 1900.

One should therefore certainly not take it as a lessening of the accomplishments of the school of Solesmes when it is stated that the Editio Vatican does not restore that original version of the Gregorian chant in all its aspects. That applies primarily to the rhythm and the ornamentation.

1. Despite the addition of the episematic special signs to the equalized transcriptions of the Editio Vaticana, the transfer of the neumatic notation into the square notation does not do justice to the original rhythm of Gregorian chant. There can be no doubt that the chant was differentiated and included several other values. This thesis has already been presented by several researchers.⁵²⁶ However the investigation of chapters I-VII for the first time furnished the proof of the close relationship between the rhythm of the Gregorian and Old Byzantine chant repertories. This was most clearly demonstrated with respect to the relationship of the rhythmic *litterae significativae* to the corresponding paleo-

⁵²⁶ Recently by J. W. A. Vollaerts, *Rhythmic Proportions in Early Medieval Ecclesiastical Chant* (Leiden, 1958). Cf. the review by E. Jammers in *Mf* XV (1962): 93f.

Byzantine *grammata* (cf. above, chap. VII). Furthermore the rhythmic relationship is quite obvious between the *notae semivocales* and the Paleo-Byzantine *hemiphona*, especially for the *klasma* (cf. above, chapter VI). But also the same or similar rhythmic meanings could be demonstrated between the "usual" *neumae simplices* and *compositae* and the corresponding *tonoi haploid* and *synthetoi* (cf. above, chapters III and IV). These relationships allowed for the first time a reliable reconstruction of the Gregorian rhythm.

2. The Editio Vaticana reproduces the "ornamental neumes" as single tones accordance with the evidence of younger diastematic sources. The investigations of chapters I-VII showed however that the ornamental neumes were actually stenographic symbols which usually indicate ornamental figures of several tones. In most of the cases it was possible to discover the original meaning of these signs (cf. above, chapters V and table VII).

AN ¹ ² ³ ⁴ ⁵ ⁶ ⁷ ⁸ ⁹ ¹⁰ ¹¹ ¹² ¹³ ¹⁴ ¹⁵ ¹⁶ ¹⁷ ¹⁸ ¹⁹ ²⁰ ²¹ ²² ²³ ²⁴ ²⁵ ²⁶ ²⁷ ²⁸ ²⁹ ³⁰ ³¹ ³² ³³ ³⁴ ³⁵ ³⁶ ³⁷ ³⁸ ³⁹ ⁴⁰ ⁴¹ ⁴² ⁴³ ⁴⁴ ⁴⁵ ⁴⁶ ⁴⁷ ⁴⁸ ⁴⁹ ⁵⁰ ⁵¹ ⁵² ⁵³ ⁵⁴ ⁵⁵ ⁵⁶ ⁵⁷ ⁵⁸ ⁵⁹ ⁶⁰ ⁶¹ ⁶² ⁶³ ⁶⁴ ⁶⁵ ⁶⁶ ⁶⁷ ⁶⁸ ⁶⁹ ⁷⁰ ⁷¹ ⁷² ⁷³ ⁷⁴ ⁷⁵ ⁷⁶ ⁷⁷ ⁷⁸ ⁷⁹ ⁸⁰ ⁸¹ ⁸² ⁸³ ⁸⁴ ⁸⁵ ⁸⁶ ⁸⁷ ⁸⁸ ⁸⁹ ⁹⁰ ⁹¹ ⁹² ⁹³ ⁹⁴ ⁹⁵ ⁹⁶ ⁹⁷ ⁹⁸ ⁹⁹ ¹⁰⁰ ¹⁰¹ ¹⁰² ¹⁰³ ¹⁰⁴ ¹⁰⁵ ¹⁰⁶ ¹⁰⁷ ¹⁰⁸ ¹⁰⁹ ¹¹⁰ ¹¹¹ ¹¹² ¹¹³ ¹¹⁴ ¹¹⁵ ¹¹⁶ ¹¹⁷ ¹¹⁸ ¹¹⁹ ¹²⁰ ¹²¹ ¹²² ¹²³ ¹²⁴ ¹²⁵ ¹²⁶ ¹²⁷ ¹²⁸ ¹²⁹ ¹³⁰ ¹³¹ ¹³² ¹³³ ¹³⁴ ¹³⁵ ¹³⁶ ¹³⁷ ¹³⁸ ¹³⁹ ¹⁴⁰ ¹⁴¹ ¹⁴² ¹⁴³ ¹⁴⁴ ¹⁴⁵ ¹⁴⁶ ¹⁴⁷ ¹⁴⁸ ¹⁴⁹ ¹⁵⁰ ¹⁵¹ ¹⁵² ¹⁵³ ¹⁵⁴ ¹⁵⁵ ¹⁵⁶ ¹⁵⁷ ¹⁵⁸ ¹⁵⁹ ¹⁶⁰ ¹⁶¹ ¹⁶² ¹⁶³ ¹⁶⁴ ¹⁶⁵ ¹⁶⁶ ¹⁶⁷ ¹⁶⁸ ¹⁶⁹ ¹⁷⁰ ¹⁷¹ ¹⁷² ¹⁷³ ¹⁷⁴ ¹⁷⁵ ¹⁷⁶ ¹⁷⁷ ¹⁷⁸ ¹⁷⁹ ¹⁸⁰ ¹⁸¹ ¹⁸² ¹⁸³ ¹⁸⁴ ¹⁸⁵ ¹⁸⁶ ¹⁸⁷ ¹⁸⁸ ¹⁸⁹ ¹⁹⁰ ¹⁹¹ ¹⁹² ¹⁹³ ¹⁹⁴ ¹⁹⁵ ¹⁹⁶ ¹⁹⁷ ¹⁹⁸ ¹⁹⁹ ²⁰⁰ ²⁰¹ ²⁰² ²⁰³ ²⁰⁴ ²⁰⁵ ²⁰⁶ ²⁰⁷ ²⁰⁸ ²⁰⁹ ²¹⁰ ²¹¹ ²¹² ²¹³ ²¹⁴ ²¹⁵ ²¹⁶ ²¹⁷ ²¹⁸ ²¹⁹ ²²⁰ ²²¹ ²²² ²²³ ²²⁴ ²²⁵ ²²⁶ ²²⁷ ²²⁸ ²²⁹ ²³⁰ ²³¹ ²³² ²³³ ²³⁴ ²³⁵ ²³⁶ ²³⁷ ²³⁸ ²³⁹ ²⁴⁰ ²⁴¹ ²⁴² ²⁴³ ²⁴⁴ ²⁴⁵ ²⁴⁶ ²⁴⁷ ²⁴⁸ ²⁴⁹ ²⁵⁰ ²⁵¹ ²⁵² ²⁵³ ²⁵⁴ ²⁵⁵ ²⁵⁶ ²⁵⁷ ²⁵⁸ ²⁵⁹ ²⁶⁰ ²⁶¹ ²⁶² ²⁶³ ²⁶⁴ ²⁶⁵ ²⁶⁶ ²⁶⁷ ²⁶⁸ ²⁶⁹ ²⁷⁰ ²⁷¹ ²⁷² ²⁷³ ²⁷⁴ ²⁷⁵ ²⁷⁶ ²⁷⁷ ²⁷⁸ ²⁷⁹ ²⁸⁰ ²⁸¹ ²⁸² ²⁸³ ²⁸⁴ ²⁸⁵ ²⁸⁶ ²⁸⁷ ²⁸⁸ ²⁸⁹ ²⁹⁰ ²⁹¹ ²⁹² ²⁹³ ²⁹⁴ ²⁹⁵ ²⁹⁶ ²⁹⁷ ²⁹⁸ ²⁹⁹ ³⁰⁰ ³⁰¹ ³⁰² ³⁰³ ³⁰⁴ ³⁰⁵ ³⁰⁶ ³⁰⁷ ³⁰⁸ ³⁰⁹ ³¹⁰ ³¹¹ ³¹² ³¹³ ³¹⁴ ³¹⁵ ³¹⁶ ³¹⁷ ³¹⁸ ³¹⁹ ³²⁰ ³²¹ ³²² ³²³ ³²⁴ ³²⁵ ³²⁶ ³²⁷ ³²⁸ ³²⁹ ³³⁰ ³³¹ ³³² ³³³ ³³⁴ ³³⁵ ³³⁶ ³³⁷ ³³⁸ ³³⁹ ³⁴⁰ ³⁴¹ ³⁴² ³⁴³ ³⁴⁴ ³⁴⁵ ³⁴⁶ ³⁴⁷ ³⁴⁸ ³⁴⁹ ³⁵⁰ ³⁵¹ ³⁵² ³⁵³ ³⁵⁴ ³⁵⁵ ³⁵⁶ ³⁵⁷ ³⁵⁸ ³⁵⁹ ³⁶⁰ ³⁶¹ ³⁶² ³⁶³ ³⁶⁴ ³⁶⁵ ³⁶⁶ ³⁶⁷ ³⁶⁸ ³⁶⁹ ³⁷⁰ ³⁷¹ ³⁷² ³⁷³ ³⁷⁴ ³⁷⁵ ³⁷⁶ ³⁷⁷ ³⁷⁸ ³⁷⁹ ³⁸⁰ ³⁸¹ ³⁸² ³⁸³ ³⁸⁴ ³⁸⁵ ³⁸⁶ ³⁸⁷ ³⁸⁸ ³⁸⁹ ³⁹⁰ ³⁹¹ ³⁹² ³⁹³ ³⁹⁴ ³⁹⁵ ³⁹⁶ ³⁹⁷ ³⁹⁸ ³⁹⁹ ⁴⁰⁰ ⁴⁰¹ ⁴⁰² ⁴⁰³ ⁴⁰⁴ ⁴⁰⁵ ⁴⁰⁶ ⁴⁰⁷ ⁴⁰⁸ ⁴⁰⁹ ⁴¹⁰ ⁴¹¹ ⁴¹² ⁴¹³ ⁴¹⁴ ⁴¹⁵ ⁴¹⁶ ⁴¹⁷ ⁴¹⁸ ⁴¹⁹ ⁴²⁰ ⁴²¹ ⁴²² ⁴²³ ⁴²⁴ ⁴²⁵ ⁴²⁶ ⁴²⁷ ⁴²⁸ ⁴²⁹ ⁴³⁰ ⁴³¹ ⁴³² ⁴³³ ⁴³⁴ ⁴³⁵ ⁴³⁶ ⁴³⁷ ⁴³⁸ ⁴³⁹ ⁴⁴⁰ ⁴⁴¹ ⁴⁴² ⁴⁴³ ⁴⁴⁴ ⁴⁴⁵ ⁴⁴⁶ ⁴⁴⁷ ⁴⁴⁸ ⁴⁴⁹ ⁴⁵⁰ ⁴⁵¹ ⁴⁵² ⁴⁵³ ⁴⁵⁴ ⁴⁵⁵ ⁴⁵⁶ ⁴⁵⁷ ⁴⁵⁸ ⁴⁵⁹ ⁴⁶⁰ ⁴⁶¹ ⁴⁶² ⁴⁶³ ⁴⁶⁴ ⁴⁶⁵ ⁴⁶⁶ ⁴⁶⁷ ⁴⁶⁸ ⁴⁶⁹ ⁴⁷⁰ ⁴⁷¹ ⁴⁷² ⁴⁷³ ⁴⁷⁴ ⁴⁷⁵ ⁴⁷⁶ ⁴⁷⁷ ⁴⁷⁸ ⁴⁷⁹ ⁴⁸⁰ ⁴⁸¹ ⁴⁸² ⁴⁸³ ⁴⁸⁴ ⁴⁸⁵ ⁴⁸⁶ ⁴⁸⁷ ⁴⁸⁸ ⁴⁸⁹ ⁴⁹⁰ ⁴⁹¹ ⁴⁹² ⁴⁹³ ⁴⁹⁴ ⁴⁹⁵ ⁴⁹⁶ ⁴⁹⁷ ⁴⁹⁸ ⁴⁹⁹ ⁵⁰⁰ ⁵⁰¹ ⁵⁰² ⁵⁰³ ⁵⁰⁴ ⁵⁰⁵ ⁵⁰⁶ ⁵⁰⁷ ⁵⁰⁸ ⁵⁰⁹ ⁵¹⁰ ⁵¹¹ ⁵¹² ⁵¹³ ⁵¹⁴ ⁵¹⁵ ⁵¹⁶ ⁵¹⁷ ⁵¹⁸ ⁵¹⁹ ⁵²⁰ ⁵²¹ ⁵²² ⁵²³ ⁵²⁴ ⁵²⁵ ⁵²⁶ ⁵²⁷ ⁵²⁸ ⁵²⁹ ⁵³⁰ ⁵³¹ ⁵³² ⁵³³ ⁵³⁴ ⁵³⁵ ⁵³⁶ ⁵³⁷ ⁵³⁸ ⁵³⁹ ⁵⁴⁰ ⁵⁴¹ ⁵⁴² ⁵⁴³ ⁵⁴⁴ ⁵⁴⁵ ⁵⁴⁶ ⁵⁴⁷ ⁵⁴⁸ ⁵⁴⁹ ⁵⁵⁰ ⁵⁵¹ ⁵⁵² ⁵⁵³ ⁵⁵⁴ ⁵⁵⁵ ⁵⁵⁶ ⁵⁵⁷ ⁵⁵⁸ ⁵⁵⁹ ⁵⁶⁰ ⁵⁶¹ ⁵⁶² ⁵⁶³ ⁵⁶⁴ ⁵⁶⁵ ⁵⁶⁶ ⁵⁶⁷ ⁵⁶⁸ ⁵⁶⁹ ⁵⁷⁰ ⁵⁷¹ ⁵⁷² ⁵⁷³ ⁵⁷⁴ ⁵⁷⁵ ⁵⁷⁶ ⁵⁷⁷ ⁵⁷⁸ ⁵⁷⁹ ⁵⁸⁰ ⁵⁸¹ ⁵⁸² ⁵⁸³ ⁵⁸⁴ ⁵⁸⁵ ⁵⁸⁶ ⁵⁸⁷ ⁵⁸⁸ ⁵⁸⁹ ⁵⁹⁰ ⁵⁹¹ ⁵⁹² ⁵⁹³ ⁵⁹⁴ ⁵⁹⁵ ⁵⁹⁶ ⁵⁹⁷ ⁵⁹⁸ ⁵⁹⁹ ⁶⁰⁰ ⁶⁰¹ ⁶⁰² ⁶⁰³ ⁶⁰⁴ ⁶⁰⁵ ⁶⁰⁶ ⁶⁰⁷ ⁶⁰⁸ ⁶⁰⁹ ⁶¹⁰ ⁶¹¹ ⁶¹² ⁶¹³ ⁶¹⁴ ⁶¹⁵ ⁶¹⁶ ⁶¹⁷ ⁶¹⁸ ⁶¹⁹ ⁶²⁰ ⁶²¹ ⁶²² ⁶²³ ⁶²⁴ ⁶²⁵ ⁶²⁶ ⁶²⁷ ⁶²⁸ ⁶²⁹ ⁶³⁰ ⁶³¹ ⁶³² ⁶³³ ⁶³⁴ ⁶³⁵ ⁶³⁶ ⁶³⁷ ⁶³⁸ ⁶³⁹ ⁶⁴⁰ ⁶⁴¹ ⁶⁴² ⁶⁴³ ⁶⁴⁴ ⁶⁴⁵ ⁶⁴⁶ ⁶⁴⁷ ⁶⁴⁸ ⁶⁴⁹ ⁶⁵⁰ ⁶⁵¹ ⁶⁵² ⁶⁵³ ⁶⁵⁴ ⁶⁵⁵ ⁶⁵⁶ ⁶⁵⁷ ⁶⁵⁸ ⁶⁵⁹ ⁶⁶⁰ ⁶⁶¹ ⁶⁶² ⁶⁶³ ⁶⁶⁴ ⁶⁶⁵ ⁶⁶⁶ ⁶⁶⁷ ⁶⁶⁸ ⁶⁶⁹ ⁶⁷⁰ ⁶⁷¹ ⁶⁷² ⁶⁷³ ⁶⁷⁴ ⁶⁷⁵ ⁶⁷⁶ ⁶⁷⁷ ⁶⁷⁸ ⁶⁷⁹ ⁶⁸⁰ ⁶⁸¹ ⁶⁸² ⁶⁸³ ⁶⁸⁴ ⁶⁸⁵ ⁶⁸⁶ ⁶⁸⁷ ⁶⁸⁸ ⁶⁸⁹ ⁶⁹⁰ ⁶⁹¹ ⁶⁹² ⁶⁹³ ⁶⁹⁴ ⁶⁹⁵ ⁶⁹⁶ ⁶⁹⁷ ⁶⁹⁸ ⁶⁹⁹ ⁷⁰⁰ ⁷⁰¹ ⁷⁰² ⁷⁰³ ⁷⁰⁴ ⁷⁰⁵ ⁷⁰⁶ ⁷⁰⁷ ⁷⁰⁸ ⁷⁰⁹ ⁷¹⁰ ⁷¹¹ ⁷¹² ⁷¹³ ⁷¹⁴ ⁷¹⁵ ⁷¹⁶ ⁷¹⁷ ⁷¹⁸ ⁷¹⁹ ⁷²⁰ ⁷²¹ ⁷²² ⁷²³ ⁷²⁴ ⁷²⁵ ⁷²⁶ ⁷²⁷ ⁷²⁸ ⁷²⁹ ⁷³⁰ ⁷³¹ ⁷³² ⁷³³ ⁷³⁴ ⁷³⁵ ⁷³⁶ ⁷³⁷ ⁷³⁸ ⁷³⁹ ⁷⁴⁰ ⁷⁴¹ ⁷⁴² ⁷⁴³ ⁷⁴⁴ ⁷⁴⁵ ⁷⁴⁶ ⁷⁴⁷ ⁷⁴⁸ ⁷⁴⁹ ⁷⁵⁰ ⁷⁵¹ ⁷⁵² ⁷⁵³ ⁷⁵⁴ ⁷⁵⁵ ⁷⁵⁶ ⁷⁵⁷ ⁷⁵⁸ ⁷⁵⁹ ⁷⁶⁰ ⁷⁶¹ ⁷⁶² ⁷⁶³ ⁷⁶⁴ ⁷⁶⁵ ⁷⁶⁶ ⁷⁶⁷ ⁷⁶⁸ ⁷⁶⁹ ⁷⁷⁰ ⁷⁷¹ ⁷⁷² ⁷⁷³ ⁷⁷⁴ ⁷⁷⁵ ⁷⁷⁶ ⁷⁷⁷ ⁷⁷⁸ ⁷⁷⁹ ⁷⁸⁰ ⁷⁸¹ ⁷⁸² ⁷⁸³ ⁷⁸⁴ ⁷⁸⁵ ⁷⁸⁶ ⁷⁸⁷ ⁷⁸⁸ ⁷⁸⁹ ⁷⁹⁰ ⁷⁹¹ ⁷⁹² ⁷⁹³ ⁷⁹⁴ ⁷⁹⁵ ⁷⁹⁶ ⁷⁹⁷ ⁷⁹⁸ ⁷⁹⁹ ⁸⁰⁰ ⁸⁰¹ ⁸⁰² ⁸⁰³ ⁸⁰⁴ ⁸⁰⁵ ⁸⁰⁶ ⁸⁰⁷ ⁸⁰⁸ ⁸⁰⁹ ⁸¹⁰ ⁸¹¹ ⁸¹² ⁸¹³ ⁸¹⁴ ⁸¹⁵ ⁸¹⁶ ⁸¹⁷ ⁸¹⁸ ⁸¹⁹ ⁸²⁰ ⁸²¹ ⁸²² ⁸²³ ⁸²⁴ ⁸²⁵ ⁸²⁶ ⁸²⁷ ⁸²⁸ ⁸²⁹ ⁸³⁰ ⁸³¹ ⁸³² ⁸³³ ⁸³⁴ ⁸³⁵ ⁸³⁶ ⁸³⁷ ⁸³⁸ ⁸³⁹ ⁸⁴⁰ ⁸⁴¹ ⁸⁴² ⁸⁴³ ⁸⁴⁴ ⁸⁴⁵ ⁸⁴⁶ ⁸⁴⁷ ⁸⁴⁸ ⁸⁴⁹ ⁸⁵⁰ ⁸⁵¹ ⁸⁵² ⁸⁵³ ⁸⁵⁴ ⁸⁵⁵ ⁸⁵⁶ ⁸⁵⁷ ⁸⁵⁸ ⁸⁵⁹ ⁸⁶⁰ ⁸⁶¹ ⁸⁶² ⁸⁶³ ⁸⁶⁴ ⁸⁶⁵ ⁸⁶⁶ ⁸⁶⁷ ⁸⁶⁸ ⁸⁶⁹ ⁸⁷⁰ ⁸⁷¹ ⁸⁷² ⁸⁷³ ⁸⁷⁴ ⁸⁷⁵ ⁸⁷⁶ ⁸⁷⁷ ⁸⁷⁸ ⁸⁷⁹ ⁸⁸⁰ ⁸⁸¹ ⁸⁸² ⁸⁸³ ⁸⁸⁴ ⁸⁸⁵ ⁸⁸⁶ ⁸⁸⁷ ⁸⁸⁸ ⁸⁸⁹ ⁸⁹⁰ ⁸⁹¹ ⁸⁹² ⁸⁹³ ⁸⁹⁴ ⁸⁹⁵ ⁸⁹⁶ ⁸⁹⁷ ⁸⁹⁸ ⁸⁹⁹ ⁹⁰⁰ ⁹⁰¹ ⁹⁰² ⁹⁰³ ⁹⁰⁴ ⁹⁰⁵ ⁹⁰⁶ ⁹⁰⁷ ⁹⁰⁸ ⁹⁰⁹ ⁹¹⁰ ⁹¹¹ ⁹¹² ⁹¹³ ⁹¹⁴ ⁹¹⁵ ⁹¹⁶ ⁹¹⁷ ⁹¹⁸ ⁹¹⁹ ⁹²⁰ ⁹²¹ ⁹²² ⁹²³ ⁹²⁴ ⁹²⁵ ⁹²⁶ ⁹²⁷ ⁹²⁸ ⁹²⁹ ⁹³⁰ ⁹³¹ ⁹³² ⁹³³ ⁹³⁴ ⁹³⁵ ⁹³⁶ ⁹³⁷ ⁹³⁸ ⁹³⁹ ⁹⁴⁰ ⁹⁴¹ ⁹⁴² ⁹⁴³ ⁹⁴⁴ ⁹⁴⁵ ⁹⁴⁶ ⁹⁴⁷ ⁹⁴⁸ ⁹⁴⁹ ⁹⁵⁰ ⁹⁵¹ ⁹⁵² ⁹⁵³ ⁹⁵⁴ ⁹⁵⁵ ⁹⁵⁶ ⁹⁵⁷ ⁹⁵⁸ ⁹⁵⁹ ⁹⁶⁰ ⁹⁶¹ ⁹⁶² ⁹⁶³ ⁹⁶⁴ ⁹⁶⁵ ⁹⁶⁶ ⁹⁶⁷ ⁹⁶⁸ ⁹⁶⁹ ⁹⁷⁰ ⁹⁷¹ ⁹⁷² ⁹⁷³ ⁹⁷⁴ ⁹⁷⁵ ⁹⁷⁶ ⁹⁷⁷ ⁹⁷⁸ ⁹⁷⁹ ⁹⁸⁰ ⁹⁸¹ ⁹⁸² ⁹⁸³ ⁹⁸⁴ ⁹⁸⁵ ⁹⁸⁶ ⁹⁸⁷ ⁹⁸⁸ ⁹⁸⁹ ⁹⁹⁰ ⁹⁹¹ ⁹⁹² ⁹⁹³ ⁹⁹⁴ ⁹⁹⁵ ⁹⁹⁶ ⁹⁹⁷ ⁹⁹⁸ ⁹⁹⁹ ¹⁰⁰⁰

The Byzantine Echemata with the Latin psalm formulas and the divisions (German neumes)

F **A** **Y** **A** Omnis totus mundus. DETONO V. AUTHENTICUS TERTIUS.
F **N** **O** **I** **O** **E** **A** **N** **E**. G L O R I A S E C U L O R U M A M E N
F **A** Omnis uallis. Diu. II. T. V. G L O R I A S E C U L O R U M A M E N
P **T** **A** Ecclesia. DETONO VI. PLAGATERTI.
F **N** **O** **I** **O** **E** **A** **I** **S**. G L O R I A S E C U L O R U M A M E N
A **N** **T** **A** Nostri mater. DETONO VII. AUTHENTICUS TERTIUS.
G **N** **O** **I** **O** **E** **A** **N** **E**. G L O R I A S E C U L O R U M A M E N
G **A** Uenidno uisitare. Diu. I. T. VII. G L O R I A S E C U L O R U M A M E N
B **A** Dignitatem patrum. Diu. II. T. VII. G L O R I A S E C U L O R U M A M E N
G **A** Speciosa. Diu. III. T. VII. G L O R I A S E C U L O R U M A M E N
G **A** Antimonon est formidat. Diu. IIII. T. VII. G L O R I A S E C U L O R U M A M E N
G **A** Scollasti. Diu. V. T. VII. G L O R I A S E C U L O R U M A M E N
P **H** **A** Loquobatur. DETONO VIII. PLAGATERTIARCHI.
N **O** **E** **A** **I** **S**. G L O R I A S E C U L O R U M A M E N
H **A** In illa die. Diu. I. T. VIII. G L O R I A S E C U L O R U M A M E N
H **A** In iudicio. Diu. II. T. VIII. G L O R I A S E C U L O R U M A M E N
H **A** Dum uenerit. Sunc ergo nifallor pinnapa
let diuisione tonorum uiginta octo. uiginti octo.

The Byzantine Echemata with the Latin psalm formulas and the divisions (German neumes)

cordarum q. ut in tractat. cord. quini. ponuntur
 In quibus totius musicae perfectionis summa consistit.
 Volumus autē quidā usup̄m̄ minimū tonostan
 ai modo siue differentia. ut eē xij. hoc modo;
 Tonus inquit est totius constructionis armoni
 ae differentia & quantitas quae in uocis ac
 centu siue tenore consistit; Sunt autē numero xij
 cū interpretationibus suis;
 I. **Authenticus procus.** Id: antiquus siue au
 thentis primus. Notā ano canē. ^{1 2 3 4 5 6 7 8 9 10 11 12}
 AN. ^{1 2 3 4 5 6 7 8 9 10 11 12} Ecce nomen domini.
 II. **Plagi procus.** Id: obliquus primus.
 No ē a nē AN. ^{1 2 3 4 5 6 7 8 9 10 11 12} Luste & pie uiuimus.
 III. **Paraccer.** Id: circum aequalis.
 Anan ne a of. AN. ^{1 2 3 4 5 6 7 8 9 10 11 12} Nos qui uiuimus.
 IIII. **Antiphonicus deuterus.** Id: antiquus emēdat.
 Ne io ē a nē. AN. ^{1 2 3 4 5 6 7 8 9 10 11 12} Eccedunt nos cer.
 V. **Plagi deuterus.** Id: obliquus emendatus.

The Beginning of the Byzantine-Latin Discussion
 of the Twelve Mode System (German neumes)

AUTENT PRO TAVC TORITAS ERICIA

NON ENO EANE

Gloria patri & filio & spi
ritui sancto — Sicut

erat in ptra pro & nunc

& sem per & in seculu se
culorum AME — N

Ducite manus me — c N obsequio — at

Deus — in ptra & filio & spi
ritui sancto — Sicut

erat in ptra pro & nunc

& sem per & in seculu se
culorum AME — N

Byzantine echema of the first tone with small doxology
Aquitanian neumes

Ill. 25: Paris, BN lat. 118, end of the 10th c., fol. 106v

The image shows a manuscript page with musical notation and a central figure. At the top, there is a line of text: **I**ustitiam utitur mus **I**uem vidistis **E**cce magis. Below this is a large initial **O** for the text: **O** sapientia **AUTENTICITATIS** **T**oy. **III**. To the left of the text is a black and white illustration of a figure, possibly a saint or scholar, wearing a long robe and a hood, with one arm raised. To the right of the figure is a large initial **N** for the text: **N**obis **S**ante **G**loria. Below this is the text: **p**ater et **f**ilio et **s**piritu **s**ancto. Below that is: **sc**i **en**te **i**n **p**rin **c**ipio **et** **n**unc. Below that is: **et** **se**m **p**er **et** **i**n **f**in **e** **cu**la **se**cu **lo**. Below that is: **rum** **am**e **et** **L**ibera **et** **in** **ter** **ra**. Below that is: **in** **ter** **ra** **O** **m**n*i*a **q**ue **f**ecisti **I** **n** **ter** **ra**. Below that is: **h**onora **T**ribuisti **S** **ec**ulo **rum** **am**e **C**onfessio. Below that is: **D**um **sc**i **f**ica **nt** **C** **oc**em **no**am **de**um **I** **oh**an **D**um **sc** **lo**.

Byzantine echema of the third tone with small doxology
Aquitanian neumes

The image shows a manuscript page with a large illustration of a man in medieval dress on the left. He has his arms raised, pointing towards the text. The text is written in a Gothic script and includes several lines of Latin text with neumes above them. The text is as follows:

debet *Seculorum amen* *Imman dant* *Et uson* *Cus*
indidit *Seculorum amen* *Rubrum* *Secul de cur sul*
Seculorum amen *Reccof de ca* *Et xpu gra* **PLAGITRI**
OE O EANE
Gloria patri & filio
& spiritui sancto *Sicut*
erat in principio
nunc & semper
in secula seculorum
Amen **Cursum**

Byzantine echema of the fifth tone with small doxology
Aquitanian neumes

Rex no ster adue mo' Exulta bunt Sic noue me V'ricap
li Exentim V'ox clamant O mis ualif E lesamini poze
P'igu nouum L'euu uincen Alleluia C'ogno uo' TUS VI
OF AGIS G' l'aua p'aua
filio & spu uis sancto Sicut
erat in prin cipio & nunc
& sem per & in secula seculi
Iesum amen H'odie factus
us dicitur In medio O' fustis



S'ac'dotes dei I'usu epule n'at' E' s'omachi Quasi modo Cantu
re domino Respice uirgine O mis gen'et' a' uleu' re de' D'ied'is

Byzantine echema of the sixth tone with small doxology
Aquitanian neumes

Chapter XI: The Byzantine Origin of the Latin Dodekaechos

*Nunc autem apologias ante oculos ponimus spectatoris,
petentes, quatenus siquid reprehensibile hac in
commentatiuncula repererit, emendare festinet:
sin autem displicet, aut naevum erroris arbitravit,
sciat a Graecorum derivari fonte una cum musica licentia
omnes varietates ibi contextas, atque ex tam prolixo
ortobracca haec acceptasse floscula.*

Aurelian

Musica disciplina, cap. XVIII
(Gerbert I, 53 b)

*Constat igitur non esse novem rem
hanc nostrum de XII modis assertionem,
sed probam antiquitatis instaurationem.*

Glarean

$\Delta\Omega\Delta\text{EKAXOP}\Delta\text{ON}$, Basel 1547

DEFINITION OF THE PROBLEM

From whichever side one approaches the question about the origins of the modes of Gregorian chant, two aspects can immediately be perceived irrespective of the point of view. The one is the connection to the ancient Greek system of the eight scales; the other is within the context of a relationship to the Middle Greek (Byzantine) theory of the *echoi*.

This ambiguity characterizes the particular nature of the Middle Latin modal theory. On the one hand, it remained true to its role as a custodian of the antique tradition; on the other hand it drew in many ways upon a relationship with the practical music theory of the Byzantines. Symptomatic for this situation is ultimately the double terminology for the modes. In defining the Latin "church modes" the antique names *dorian-phrygian-lydian-mixolydian* were just as valid as the Byzantine labels *protos-deuteros-tritos-tetartos*.

Taking these two tendencies in Middle Latin modal theory into consideration, an examination of the melodies of "Gregorian" chant and the results of a modal analysis makes it clear that the antique traditions transmitted in the treatises remained without relevance for the musical practice. While the older research derived the "church modes" directly from the antique eight scales and their

transpositions, more recent research has tended to the view that the modal system of "Gregorian" chant rested on other prerequisites.⁵²⁷

As far as we can see Oskar Fleischer⁵²⁸ was the first researcher who emphasized the close relationship between the Middle Latin and Byzantine modal theory. His thesis that "*the Western church tones were only an unadulterated reflection of the Greek echoi*", is based essentially on three arguments: first, the Middle Greek terms, which were used by Latin theorists and in neumatic sources for designating the eight modes⁵²⁹; second, the presence of the Byzantine intonation formulas in several Middle Latin treatises⁵³⁰; third, the testimonies of Alcuin and Aurelian.⁵³¹

Even if these arguments appear to be convincing, one has to acknowledge that a conclusive answer to the question of the origins of the Latin church modes is ultimately tied to two prerequisites: the one is a clarification of the relationship between Middle Latin and the Byzantine modal theory; the other is a comparative modal analytical investigation of the chants themselves.

527 Cf. H. Riemann, *Geschichte der Musiktheorie im IX.-XIX. Jahrhundert* (Berlin, 21920): 7-16; O. Gombosi, „Studien zur Tonartenlehre des frühen Mittelalters“ *AMI X-XII* (1938-1940): 29-52; O. Ursprung, „Die antiken Transpositionsskalen und die Kirchentöne“ *AfMf V* (1940): 129-152; A. Auda, *Les gammes musicales* (Wolumé-Saint-Pierre, 1947); H. Schmid und E. Waeltner, „Byzantinisches in der karolingischen Musik“ *Berichte zum XI. Internationalen Byzantinistenkongreß München 1958* (V, 2); L. Richter, „Antike Überlieferungen in der byzantinischen Musiktheorie“ *Deutsches Jahrbuch der Musikwissenschaft für 1961* (Leipzig, 1962): 75-115; M. Vogel, „Die Entstehung der Kirchentonarten“ *Bericht über den Internationalen Musikwissenschaftlichen Kongreß Kassel 1962* (Kassel, 1963): 101-106; J. Chailley, *Alia musica (traité de musique de XIe siècle)*, (Publications de l'institut de musicologie de l'université de Paris), (Paris, 1965).

528 *Die spätgriechische Tonschrift* (Berlin, 1904): 36-45.

529 It involves the following terms: protos, protus, deuterus, tritos, tritus, tetrardos, tetradus, terarchus, tetrachius, authenticus, authentus, plagis, plagius, plaga. Cf. the compilation of the readings in W. Brambach, *Das Tonsystem und die Tonarten des christlichen Abendlandes im Mittelalters* (Leipzig, 1881): 37-40. It should be mentioned that the "authentic" modes are called κύριος in the surviving Byzantine treatises. The term ἡχοὶ αὐθεντικοί is unknown. However the words αὐθεντής and κύριος (lord) are synonyms.

530 Even if they appear in very corrupted forms.

531 It should be mentioned that even Fr. Aug. Gevaert (*La mélopée antique dans le chant de l'église latine*, Gand 1895, 104-108) did not have any doubts about the Greek origin of the Latin oktoechos. His discussion culminated in the sentence: "*Démontrer l'origine hellénique d'une théorie dont tous les termes sont grecs est une besogne superflue.*" Gevaert believed that it was probable that first, the church of Antioch had been the "cradle" of the oktoechos, second, that the development of the theory of the eight modes reached back to the beginning of the 7th century, i.e. the time of the invasion of the Moslems, and third, that the originator of the system must have possessed a "superficial" knowledge of ancient Greek music theory.

Our investigation will begin with the examination of a previously neglected aspect of the Middle Latin music theory; i.e. the twelve mode system.

AURELIAN'S REPORT ON THE TWELVE MODES

Aurelian's *Musica disciplina* is undoubtedly the most important historic testimony with respect to the Byzantine origin of Latin modal theory. In a chapter entitled *Deuterologium tonorum* in this treatise dating from about 850 Aurelian frankly admits that his teachings on the *toni* and their *differentiae* (*varietates*) was "derived from the source of the Greeks".⁵³² His discussions in chapter VIII (*de tonis octo*) leave no doubt that the West recognized the claim of the Byzantines as being the authors of the oktoechos. Just because the Greeks boasted that they had invented the eight modes, and because some cantores complained that many antiphons did not fit into the system of the oktoechos, Charlemagne had decided to add four modes to the existing eight. Thereupon the Greeks also decided to increase the number of modes to twelve.⁵³³

This report by Aurelian has been dismissed by some researchers as a legend. P. Wagner⁵³⁴ responded in a similar vein:

The report of Aurelianus of Reomé is to be assessed in a similar manner [as a fable] whereby Charlemagne, upon hearing the complaints of some singers that not all the antiphons could be fit into the system of the eight modes, ordered that a further four modes should be added.

A paraphrase of the Wagner's view was later formulated by Otto Ursprung.⁵³⁵

532 The text in question is cited at the beginning of this chapter.

533 The passage reads as follows: Caeterum fuere quidam, qui his octo tonis, ut iam diximus, sumpsisse numerum arbitrati sunt a novem Musis, quas poetae fingunt esse filias Iovis, videlicet ut octo congruerent his octo tonis, nona autem ad discernendas cantilenarum esset differentias: quae non inter tonorum dicitur numerum deputari, sed ad inventionum nomine censer; ut sicuti in adverbio caeterae redundant partes, ita in hac caeterae dissonantiae, quae multimodas habent varietates. Existere etenim nonnulli cantores, qui quasdam esse antiphonas, quae nulli earum regulae possent aptari, asseruerunt. Unde pius Augustus Avus Vester Carolus Paterque totius orbis, quatuor augere iussit, quorum hic vocabula subter tenetur inserta: *Ananno, noëane, nonannoëane, noeane*. Et quia gloriabuntur Greci, suo ingenio octo indeptos esse tonos, maluit ille duodenarium adimplere numerum. Tunc demum Greci possent ut nobis esse communes, et eorum habere contubernium philosophiacum Latinorum, et ne forte inferiores invenirentur gradu, itidemque quatuor ediderunt tonos; quorum hic praescribere censui litteraturam: *Neno teneano noneano annoannes*. Qui tamen toni modernis temporibus inventi tam Latinorum, quam Graecorum, licet litteraturam inaequalem habeant, tamen semper ad priores octo eorum revertitur modulatio. (GerbertS I, 41 b/42 a).

534 EGM I, 238 f.

Since a Greek delegation had been present in Franconia for more than a generation, we are informed from a few sources about various legends about this delegation. Doesn't Aurelian of Réomé know how to spin a yarn which was concocted in the local academies and penetrated into the theory of Gregorian chant about the necessity of increasing the number of modes from 8 to 12, about the ancient and puerile memorizing word "nonannoiane" etc., about the intervention of the emperor Charlemagne and the mutual overtrumping of the Oriental and Occidental musicians!

A detailed investigation of this question reveals however that Aurelian's report was not a "fable" but rather that the account only needed to be put into the correct historical perspective.

THE THEORY OF THE TWELVE MODES IN ACCORDANCE WITH PSEUDO-HUCBALD, THE LEIPZIG TREATISE AND BERNO

It should first be mentioned that the system of the twelve modes is well documented. Not only Aurelian, but also other theorists speak about four extra modes that could be placed beside the authentic and plagal modes.

These four modes are discussed in detail in a small treatise appended to the *Alia musica* with the title *De modis*, which M. Gerbert attributed to Hucbald.⁵³⁶ Here the four modes are called *parapteres*.⁵³⁷ The necessity of their inclusion is explained with the comment that many antiphons ended in a mode which differed from the mode in which they began.⁵³⁸ The author listed the intonation formulas of the *parapteres* (nenotenarsis, anos, anaetanenagis, aianneagies) and added a few antiphons for each mode as examples. Of the *parapter primus*, he says that it touched the tonus secundus (= plagios deuterus) then entered into the tonus secundus at the verse and closed in the tonus primus. The *parapter secundus* touched the tonus quartus (= plagios deuterus) and closed in that mode. The *parapter tertius* touched the tonus septimus (= tetartos) and ended in the tonus quartus (= plagios deuterus). Finally the *parapter quartus* touched the tonus octavus (= plagios tetartos), but did not climb into another area but rather ended "in a lower or middle range" (*meliocris*).⁵³⁹

535 „Alte griechische Einflüsse und neuer gräzistischer Einschlag in der mittelalterlichen Musik“ *ZfMw* Jg. 12 (1930): 193-201, citation p. 208.

536 Gerbert I, 149.

537 Brambach (op. cit.) correctly presumes that *parapter* is a poorly constructed adjective for *parapteros*. "Παράπτερον bedeutet im Mittelalter den Flügel eines Kirchengebäudes."

538 Item *parapteres*, qui supra scripti sunt, necesse est, ut teneamus, qui in antiphonis minutis comprobantur, maxime de psalmis, qui non finiuntur ita ut inchoant. *Parapteres* dicti, eoquod iter praeparant versibus descendendi in antiphonis.

539 NENOTENARSIS Parapter primus contingit tonum secundum, & intrat in versum, ut tonus secundus & finit sicut tonus primus, ut es illud: *Misserere mei Deus. & A delicto, & aliae plures.*

Twelve modes are also deployed in a treatise in codex Leipzig. Rep I 93, fol. 35r – 36r.⁵⁴⁰ In this source the additional modes are called *paracteres* (sic), *circumaequales* or *medii*.⁵⁴¹ The special intonation formulas are again listed (ananneaos, ananneoies, aiaeoies, anoais) and four antiphons are added as examples for the *toni medii*. That “texts” of the intonation formulas differ from those in the treatise attributed to Pseudo-Hucbald and as do the antiphons cited as examples. The antiphons *Nos qui vivimus* and *O mors ero mors tua* are indeed cited in both treatises, but they are assigned to different modes. As with Aurelian, the author of the Leipzig treatise approached the *toni medii* with some mistrust. He admits that he did not like to increase the number of modes beyond eight and emphasized that he was following the teachings of the Greeks and some of its compatriots with respect to the deployment of the twelve modes.⁵⁴²

The dissemination of the system of the twelve modes is attested as well by Berno in his *Tonarius*.⁵⁴³ He named the four additional modes *toni medii*.⁵⁴⁴ However he neither itemized their intonation formulas nor cited examples. His discussion gives the impression that the four *toni medii* were deployed in order to enable to encompass chants with extraordinary vocal ranges.

ANOS Parapter secundus contingit tonum quartum, & ibi finit. Hae sunt antiph. *Quia mirabilia. Sede a dextris, Speret Israel. Omnis terra.* & aliae plures.

ANAGETANENAGIS Parapter tertius contingit tonum septimum, & finit in tono quarto. Sunt vero multae antiphonae, quae ibi descendunt, quas nobis dinumerare longum est. Sed in aliquantulum dicamus. Ant. *Benedicta. Rorate.*

Erit etiam AIANNEAGIES. Parapter vero quartus contingit tonum octavum, sed non ascendit in alteram vocem, & mediocris in ipsam finitur, & parumper inveniuntur, nisi quatuor aut quinque antiphonae: *Nos qui vivimus. In ecclesiis. Martyres Domini. Angeli Domini, Virgines Domini* (GerbertS I, 149).

540 The treatise has been published and commented upon by P. Wagner, *Zur mittelalterlichen Tonartenlehre*, Festschrift G. Adler (Vienna, 1930): 29-32. Facsimile in our documentation.

541 *Paracteres* clearly stands for *parapteres*. The term *parapter* is also found in an addition to the treatise *De Musica* attributed to Odo (GerbertS I, 284 b) and it is here translated as *circumaequalis*.

542 Sunt ergo secundum supra comprehensum modum toni octo et medii quattuor, quos paracteres id est circumaequales appellant, per quos omne genus modulationis regitur et gubernatur; haec secundum grecos nec non etiam quosdam nostros dicta sunt.

543 GerbertS II, 72 b and 73 a. Cf. H. Oesch, *Berno und Hermann von Reichenau als Musiktheoretiker* (Bern, 1961): 110-113.

544 Tales vero solent quidam medios tonos vocare. Et quia inter singulos quatuor authenticos et subiugales huiusmodi reperiri possunt, hos quatuor illis octo adiciunt, et duodecim tonos dinumerare contendunt.

PREVIOUS HYPOTHESES ABOUT THE TONI MEDII

Several researchers have previously turned their attention to the four *toni medii*, *parapteres* or *circumaequales*. Most of them are united in their assessment that these “additional modes” offer numerous riddles. Neither has the origin of this series of modes been clarified nor could conclusive results be produced about the structural peculiarities of the *toni medii*. Similarly the interpretation of the “medial” chants, in as far as they have been investigated, have posed considerable difficulties. It was recognized that there must have been a connection between the *toni medii* and the *tonus peregrinus*;⁵⁴⁵ yet the incorporation of the “medial” chants into the system of that four “middle” modes could not be realized. Antoine Auda⁵⁴⁶, who up to now probably has dealt most intensively with the “modes paraptères” was of the opinion that they could be connected to the eight scales of the ancient Greeks and believed that they were transposed modes. Accordingly, the first *parapter* was deemed to be an *a* mode transposed up a fourth, likewise the second a transposed *b* mode and the third a transposed *c* mode. Other researchers on the other hand, in particular P. Wagner and later H. Oesch, believed that there was a connection with Byzantine music theory.

THE TONI MEDII (MOESI) AND THE ECHOI MESOI THE SYSTEM OF THE TWELVE MODES IN ACCORDANCE WITH THE ANONYMUS VATICANUS AND THE HAGIOPOLITES

On the basis of our investigations it can now be stated that the four *toni medii* of the Middle Latin music theory correspond exactly to the Byzantine *echoi mesoi* and are derived from them.⁵⁴⁷ Unequivocal proof of this is provided first of all by the theorist known as Anonymus Vaticanus (Codex Vat. Pal. lat. 235, fol. 38v-39).⁵⁴⁸ It was previously not observed that the twelve modes were discussed in this source and that beside the four authentic and the four plagal modes, four medial modes are mentioned, that are specifically identified in this text *expressis verbis* as *moesi* (sic).⁵⁴⁹

545 Of the antiphons which Pseudo-Hucbald and the Leipzig treatise mention as being paradigmata of “medial” melodies, four are assigned to the *tonus peregrinus*: *Nos qui vivimus*, *Martyres Domini*, *Angeli Domini* and *Virgines Domini*. Cf. P. Ferretti *Esthétique grégorienne* (Tournai, 1938) : 324-331; B. Stäblein, article “Psalm” MGG X, 1680-1683.

546 *Les gammes musicales* (Woluwe-Saint-Pierre, 1947): 153-162.

547 Cf. the discussion of the *echoi mesoi* in UNkI, chapters VIII and XI.

548 The treatise was published by P. Wagner, “Un piccolo trattato sul canto ecclesiastico in un manoscritto del secolo X-XI” *Rassegna Gregoriana* III (1904): col. 481-484.

549 It is surprising that Wagner does not mention the Vatican treatise in his article in the Adler Festschrift.

Tonus est sonus vocis armoniae, id est, vox modulata. Toni sunt XII, autenti IV, plagi IV, moesi IV. Autenticus protus est princeps vel senior. Plagi proti lateralis primi, id est, adjacens primi. Moesi protus, medius primi. Similiter secundus, tercius, quartus. Autenticus protus, id est, auctor primus. Primus ideo dicitur, quasi ab eo deriventur alii. Plagi et moesi. Similiter secundus, tercius et quartus.

It is especially remarkably that the Anonymus Vaticanus sets up a hierarchy and genealogy of the modes, in that he states that the first authentic mode serves as the source for all of the other toni, i.e. the plagi and the moesi.

We arrive at some astonishing results however if we compare this genealogy to the modal theory of the *Hagiopolites*, our oldest Byzantine treatise.

If we now consult the version of this treatise in the codex Parisinus graecus 360, we learn that the four main modes are named in accordance with their positions within the modal system.⁵⁵⁰

Ἰστέον δὲ ὅτι ὁ πρῶτος καὶ δεύτερος καὶ τρίτος οὐκ ἔστιν ὀνόματα τῶν ἤχων κύρια, ἀλλὰ διὰ τὸ κατὰ τάξιν καὶ ὅσον ἐν βαθμοῖς κείσθαι τούτους. Ὁ πρῶτος λέγεται πρῶτος ὡς πρῶτος κείμενος, ὁ δὲ δεύτερος ὡς μετὰ τὸν πρῶτον καὶ οἱ λοιποὶ ὁμοίως.

Furthermore it is stated that the four main modes are not derived modes but rather were “created from themselves”. On the other hand the four plagal modes were derived from the four authentic modes, and similarly the four medial modes were derived from the four plagal modes.

Οἱ μὲν οὖν τέσσαρες πρῶτοι οὐκ ἐξ ἄλλων τινῶν, ἀλλ' ἐξ αὐτῶν γίνονται. Οἱ δὲ τέσσαρες δεύτεροι ἤγουν οἱ πλάγιοι. ὁ μὲν πλάγιος πρῶτος ἐκ τῆς ὑπορροῆς τοῦ πρῶτου γέγονε Καὶ ἀπὸ τῶν τεσσάρων πλαγίων ἐγεννήθησαν τέσσαρες μέσοι.

The same train of thought, if somewhat more precisely formulated, appears in the codex Leningrad (St. Petersburg) 239:

Πόσοι ἤχοι κύριοι; Τέσσαρες. πρῶτος, δεύτερος, τρίτος, τέταρτος. Ἀπὸ δὲ ἀπορροῆς τῶν τεσσάρων τούτων ἐγένοντο οἱ ἕτεροι τέσσαρες πλάγιοι. Καὶ ὡσπερ ἀπὸ τῶν τεσσάρων τῶν πρωτοτύπων ἐγεννήθησαν οἱ τέσσαρες πλάγιοι, τὸν αὐτὸν δὲ τρόπον καὶ ἀπὸ τῶν τεσσάρων πλαγίων ἐγεννήθησαν οἱ τέσσαρες μέσοι.

It is quite evident that these three texts ultimately are derived from one and the same model. If incontestible proof of the dependency of the Latin twelve mode theory on a Byzantine model was needed, then we have it in the documentation that we have assembled.

550 Cited from Thibuat, *Monuments*, 87.

It remains to be mentioned that the concise theory of the modes cited above from the treatise known as Anonymus Vaticanus is followed by a somewhat diffuse discussion about antiphons that begin in one mode and close in another mode together with several examples. It is not unambiguously clear from the descriptions if these antiphons are related to the *toni moesi*. The author in any case speaks of the euphony of such chants and concludes with the quite paradoxical view that antiphons that begin and close in the same mode do not sound right but rather are dissonant (!).⁵⁵¹

THE BILINGUAL ANTIPHON CRUCEM TUAM ADORAMUS AS A PARADIGMA OF A MELODY IN THE MOESUS SECUNDAS (= NENANO)

Further proof of the close relationship between the Latin *toni medii* (*moesi*) with the Byzantine *echoi mesoi* is provided by the antiphon *Crucem tuam adoramus* which the Leipzig treatise mentions as an example of a melody in *medius* (*parapter*) *secundus*. This chant forms together with the pieces *Adoramus crucem tuam*, *Laudamus te*, *Christe* and *Omnnes gentes* a group of four antiphons that belong to the liturgy of the *Adoratio crucis* on Good Friday and are transmitted in Beneventan manuscripts as bilingual chants in Greek and Latin whereby the melodies of the two versions deviate only slightly from one another.⁵⁵² In the double version Τὸν σταυρὸν σου προσκυνούμεν / *Crucem tuam adoramus* our antiphon is found in Vaticanus lat. 10673, page 56 and in codex Benevento VI. 40, fol. 10v/11.⁵⁵³ The Latin version by itself is also to be found in Benevento VI. 35, fol. 65v and in Lucca, chapter library 606, fol. 156.⁵⁵⁴ Finally in Benevento VI. 34, fol. 115v only the incipit is recorded.⁵⁵⁵

551 Cum enim plures antiphonae alium tonum habeant in initio, et alium in fine, quaedam etiam in se teneant tonos quaedam vero autenticus et plagio, in hoc euphonia, id est bonam sonoritatem conspice et discerne, ut non sonum, sed consonum cantum reddas. Et sicut enim concordantia sunt in canone evangelia aliquando quattuor, aliquando tria, aliquando duo, similiter in cantilena concordantes invenies tonos. Si vero in antiphona discordantes inveneris duos tonos, unum in initio, et alterum in fine, unus minus elevetur et alter minus deponatur. Taliter tonum in medio abhibe, qui discrecionem faciat inter elevationem et depositionem et congruerit euphonia. Verbi gratia: *Malos male perdet* initium habet de tercio et finum de sexto, sed non est facienda nec de tercio nec de sexto, sed de septimo, quod sola exigit euphonia. Sicut enim gramatica non semper sequitur regulam, sed aliquando plus valet euphonia, similiter cantus, non enim sequitur proportionem. Si enim quasdam antiphonas de illo tono inchoaveris, de quo finiantur, sicut est *Adorate deum omnes angeli et Deus in adiutorium meum, Accipite iocunditatem, Deus dum egredereris*, istae non recte sonant, sed insuper dissonant.

552 Cf. Dom R. J. Hesbert, "La tradition bénéventaine dans la tradition manuscrite" Pal Mus XIV, 308-318.

553 Facsimile edition of Vaticanus lat 10673 in Pal Mus XIV. Facsimile of codex Benevento VI. 40, fol. 10v/11, ebenda, table XIII.

554 Facsimile in Pal Mus XIV, tables XXV and XLIII.

Our antiphon, that is assigned to the fourth mode (= plagios deuterus), can be also found outside of the Beneventan tradition in the "Gregorian" repertory of the Good Friday liturgy, although without the Greek parallel version. A comparison of the Beneventan version with the "Gregorian" shows several deviations both in the text and in the melody.⁵⁵⁶ Nevertheless both versions carry all the marks of a Byzantine melody of the echos *mesos deuterus* (*nenano*). To be sure the character of the mode in the Beneventan version, that is derived directly from a Byzantine model, is much more "medial" than the "Gregorian" melody: while the Beneventan version has the finalis *e* with the one "repercussion tone" a fourth higher, i.e. the tone *a*, the "Gregorian" version also has the third, i.e. the tone *g* as a second "repercussion tone".

CONCLUSIONS

From the above discussion it becomes clear that Aurelian's report about the twelve modes does not correspond to the historical reality in two points.

1. The introduction of the four medial modes into medieval music theory was undoubtedly not prompted by an ordinance of Charlemagne. The West received the modal theory directly from Byzantium. It comprised not only the *toni authentici* and *plagii*, but also the *toni medii* or *moesi*. If Charlemagne really did play a role in increasing the number of modes to twelve from eight then it was only to sanction an already existing practice.

2. Aurelian represents the circumstances surrounding the introduction of the modes as if the original system of the oktoechos was retroactively expanded by four extra modes. There are however several indications that the modal system of the early medieval church music consisted of more than eight echoi. It is clear that melodies in medial modes are to be found in the oldest surviving Byzantine and Slavic codices with neumes, and indeed in not insignificant numbers. The list of neumes in the codex Lavra Γ. 67 includes three *echoi mesoi* and two *phthorai* next to four main modes and the four plagal echoi.⁵⁵⁷ Moreover the rite of the Adoratio crucis which included the bilingual antiphon Τὸν σταυρὸν σου προσκυνούμεν / *Crucem tuam adoramus* belongs among the

555 Facsimile edition of codex in Pal Mus XV.

556 A third version of the text appears in a Latin-Greek double text in the grammatical codex Berlin Diez. B. 66 (8th/ 9th century), page 116 (cf. B. Bischoff, "Das griechische Element in der abendländischen Bildung des Mittelalters" BZ 44 (1951): 43/footnote 2).

557 Cf. UNkI, chapter XI.

earliest organized liturgies. It is attested that this rite was already in use in Constantinople by the middle of the 7th century.⁵⁵⁸

It would appear that in the future we should apply the term *dodekaechos* to the modal system of the Byzantine and Latin chant. We should not forget that Aurelian, the Leipzig treatise and Berno refer to the *duodenarius numerus tonorum* or the *duodecim toni*.

558 A. Baumstark, „Der Orient und die Gesänge der Adoratio crucis“ *Jahrbuch für Liturgiewissenschaft* II (1922): 1-17; Baumstark, *Liturgie comparée* (Chevetogne, 3/1953): 11, 157f.

Chapter XII: Notker's *Ellinici Fratres*

*Salutant te ellinici fratres, monentes
sollicitum te fieri de ratione embolismi triennis,
ut absque errore gnarus esse valeas biennis,
contempto precio divitarum xerxis.*

Notker Balbulus

Epistola ad Lantbertum

(Codex St. Gall 381, page 9)

THE EPILOGUE OF NOTKER'S LETTER

The above passage from a letter by Notker (+ 912) on the *litterae significativae*, serves as the conclusion of the epilogue. It is only found in the version of codex St. Gall 381, pages 6-9, a manuscript of the 10th/11th century.⁵⁵⁹ It is not included in the ten other surviving copies of the epistola. Nevertheless there is no reason to doubt the authenticity of the passage. Pater J. Smits van Waesberghe⁵⁶⁰ demonstrated that the version of this St. Gall codex represented the most dependable transcription of the letter and he explained the omission of the final greeting in the remaining sources by assuming that the scribes did not consider it to be pertinent to the matter under discussion.

Pater Smits van Waesberghe was the first to propose in addition a plausible translation of the something obscure passage that clarified several questions.⁵⁶¹ Translated from the Dutch it reads: "Many greetings from the brothers [of St. Gall] knowledgeable in Greek; at the same time they admonish you to calculate the three-year embolismus painstakingly, with which you can calculate flawlessly the two-year [cycle] while viewing with contempt the reward of Xerxes' wealth (= remaining humble)."

There is no doubt that Notker is here making reference to calculations of the calendar, and more specifically the calculations of the nineteen-year Metonic cycle, that consists of twelve "usual" and seven leap years (embolism).⁵⁶² The question however remains, what is meant with the expression *ellinici fratres*?

559 Facsimile in Pal Mus IV, pl. B and C; also J. Smits van Waesberghe, MdM II, afb. 3-4.

560 MdM II, 17-77

561 Ebenda, 179-196.

562 The teachings about embolism were discussed by Beda Venerabilis, *De temporum ratione*, cap. XLV, *De ratione computi*, cap. XVII and in the text *De embolismorum ratione computus* (PL, XC, col. 485-488, 579-600, 787-820) and by Hrabanus Maurus, *Liber de computo*, cap. LIX (PL, CVII, col. 700 f.) Cf. M. Manitius, *Geschichte der lateinischen Literatur des Mittelalters*, I, (Munich, 1911): 298. Copies of these texts

PREVIOUS EXPLANATIONS OF THE ELLINCI FRATRES

Although several researchers have expressed themselves on this question, only two theories are to be distinguished. The one emphasizes that St. Gall was a center of Greek learning in that 8th and 9th century and interprets Notker's *ellinici fratres* as monks knowledgeable in Greek. The other theory on the other hand interprets the *ellinici fratres* as Greek monks.

The author of the first theory was to all appearances Ernst Dümmler.⁵⁶³ In a commentary to his edition of the Notker's letter, he wrote:

The Greek brothers on whose behalf Notker sent greetings can hardly be interpreted as native Greeks who were staying at St. Gall, although wandering Greeks at times turned up in German cloisters, but rather were probably monks of St. Gall who had acquired a knowledge of this language. Saint Notker could not count himself among this group, although he knew the Greek letters and was capable of copying the canonical letters with the original text. He requested that his student Salomon find someone knowledgeable in Greek to translate Origen's commentary on the Song of Songs into Latin. On the basis of some fragments and particularly a complete manuscript of the four gospels (cod. St. Galli 48) we can say that in the 9th century the study of the Greek language must have been indeed cultivated in St. Gall. Taking into consideration the meager knowledge of those who claimed they knew Greek in the Middle Ages, we can not say just how far this knowledge extended, just as it can not be determined how Greek was able to penetrate into the Swabian wilderness. One can assume however that the Irish pilgrims, who taught for longer or shorter periods of time in St. Gall, spread a knowledge of Greek. Yet it always remained an isolated and rarely encountered skill and was of no great importance for the learning at this center in its entirety.

Dümmler's very carefully formulated hypothesis was first adopted by Gabriel Meier.⁵⁶⁴

If we believe Ekkehart IV, Notker seems to have been capable of writing Greek because, as we have mentioned above, he copied the Greek canonical letters. What is more remarkable is that during Notker's time in St. Gall these were "Greek brothers", *ellinici fratres*, on whose behalf he sent greetings to Lambert. Probably there were monks of St. Gall who had appropriated for themselves a knowledge of this language, however we do not know more.

were already made in St. Gall in the ninth century. Cf. H. Brauer, *Die Bücherei von St. Gallen und das althochdeutsche Schrifttum* (Halle /Saale, 1926): 32f., 59 and 63.

563 *St. Gallische Denkmale aus der karolingischen Zeit* (= Mitteilungen der antiquarischen Gesellschaft in Zürich, Band XII, Heft 6), (Zürich, 1859): 223 f. and 258 f.

564 „Geschichte der Schule von St. Gallen im Mittelalter“ *Jahrbuch für Schweizerische Geschichte* 10 (Zürich, 1885): 33-128, esp. 106 f.

Dümmler's opinion lost its hypothetical character in Stephan Beissel's formulation.⁵⁶⁵

In St. Gall one still sang in the 10th century the Gloria, Credo and Pater in Latin and Greek at the high offices. The monks knowledgeable in Greek formed a special society of "Greek brothers". Perhaps some of them were born Orientals.

With reference to Dümmler, Heinrich Brauer claimed that the *ellenici fratres* were Irish:⁵⁶⁶

Since the time of Maongal traces of Greek knowledge can be found at St. Gall. Even Ermanrich felt compelled to intersperse his poem on the Trinity with a couple of Greek morsels which he does not seem to have fully digested, to judge by the prosody and Notker speaks about *ellenici fratres* by which reference is presumably made to Maongal and his companions. Greek letters of the alphabet and word glosses appear repeatedly in manuscripts (codd. 17, 196, 251, 270). Codex 17 even contains the last third of the psalms and the fragments in cod. 1395, II appear to have belonged to a complete psalter with the Greek text written with Latin letters. The Greek language found practical use in the liturgy, as can be demonstrated by the occasional passage with Latin transliterations and iotacized pronunciation in the codd. 237, 338, 376, 380, 381, 382 and 484.

The same view was shared by J. M. Clark:⁵⁶⁷

In short the *fratres ellenici* were the Irish monks of St. Gall und their Swabian pupils.

Otto Ursprung offered a paraphrase of the Dümmler's formulation in a quite tendentious study.⁵⁶⁸

St. Gall did not seek to conceal its participation in the Hellenistic movement. It was founded by an Irish monk and now maintained the closest connections with the intellectual life at the imperial court and palace school. Also the *Doxa* and *Pisteuo* of Fleury were cultivated there. And as for the *Ellenici fratres* for whom Notker Balbulus once sent greetings – and notably in a letter about the *litterae significativae* copied in the 11th century in St. Gall – we may assume that they were monks of St. Gall knowledgeable in Greek or simply interested in Greek.

565 *Geschichte der Evangelienbücher in der ersten Hälfte des Mittelalters* (Freiburg im Breisgau, 1906): 77

566 *Die Bücherei von St. Gallen und das althochdeutsche Schrifttum*, op. cit., 20 f.

567 *The Abbey of St. Gall as a Centre of Literature and Art* (Cambridge, 1926): 111.

568 „Alte griechische Einflüsse und neuer gräzistischer Einschlag in der mittelalterlichen Musik“ ZfMw 12 (1930): 205.

Pater Smits van Waesberghe believed the *ellinici fratres* to be a fellowship of monks knowledgeable in Greek dedicated to the study of advanced astronomy at St. Gall.⁵⁶⁹

Lantbertus zal zich dus in zijn brief aan Notker hebben uitgelaten over de onderwijsstoestanden in zijn verblijfplaats en Notker grijpt de gelegenheid aan, om met zijn oorspronkelijke woordenkeus hem eens te vertellen, op welk plan het onderricht in zijn klooster staat. Daar wordt Grieksch onderwezen, daar zijn Grieksch-kundige ‘broeders’, die gestudeerd hebben in de hogere computus- of astronomie-leer en die daarom, bij monde van Notker Balbulus, Lantbertus vermanen, zich maar te blijven beperken tot de eerste beginselen dezer kunst en verdere studie maar te laten varen.

Finally Wolfram von den Steinen adopted Dümmler’s interpretation:⁵⁷⁰

Notker belonged nevertheless to the few who had learned some Greek – he had copied parts of the New Testament in Greek and for a while he belonged to a group of eager *ellinici fratres*, as they called themselves in accordance with the Byzantine pronunciation.

The second theory was first adopted in the field of musicology by P. Wagner.⁵⁷¹ He wrote:

It is worthy of note that Notker in the letter to Landpert, who had requested from him an explanation of the signs, speaks of "Hellenic brothers", whose greetings he was to send to the addressee. Thus we can assume that there were Greek monks in St. Gall about the year 900.

This interpretation found far fewer followers than the first theory. The following remarks by Dom G. Suñol⁵⁷² probably were derived from P. Wagner although this is not explicitly stated:

Quelqu’un a pensé que la formule « Salutant te ellinici fratres » par laquelle Notker adresse son salut à Lantpert, pouvait être un témoignage en faveur de la culture byzantine, dont l’Abbaye de S. Gall était un centre au IXe siècle. On sait que l’auteur de la lettre est contesté ainsi que le lieu de son origine. De plus il ne s’agissait pas de chant, mais du comput en cette épître.

569 MdM II, citation 196.

570 *Notker der Dichter und seine geistige Welt, Darstellungsband* (Bern, 1948): 35.

571 EGM II, 234. It should be mentioned that Dom Cabrol („La bibliothèque et le monastère de Saint-Gall“ *Pal Mus I*, 1889, 61), with reference to Fr. Weidmann (*Geschichte der Bibliothek von S. Gallen seit ihrer Gründung*, St. Gall 1841, 9) understood the phrase *fratres Hellenici* (sic) to be Greek monks.

572 *Introduction à la paléographie musicale grégorienne* (Tournai, 1935): 18 footnote 1.

ASSESSMENT

GREEK MONKS IN THE REICHENAU AND IN ST. GALL IN THE 8TH AND 9TH CENTURY

In the discussion about the *ellenici fratres* it appears that some important aspects have not been taken into consideration. They can be represented as follows:

1. The word *ellenici* (sic) undoubtedly represents the phonetic transcription of the adjective ἑλληνικοί. The spelling *ellenici* corresponds exactly to the Byzantine (i.e. iotacized or Reuchlinian) pronunciation of the word. Notker speaks of the *ellenici*, not the *ellenici* or even *hellenici*. Ἑλληνικοί means the Greeks. Is it linguistically and stylistically even conceivable that Notker used the expression *ellenici fratres* in the sense of "Hellenists"? Can this meaning of the expression be found anywhere in Middle Latin literature? We are of the opinion that the interpretation of adjective *ellinicus* in the sense of "knowledgeable in Greek" rests upon a misunderstanding. Dümmler's carefully formulated suppositions were mostly adopted by other researchers without being checked or proven and thereby were raised – undeservedly – to the level of a conclusive research result.

2. On the basis of several sources it is clear that in Notker's time Greek monks must have been residing in St. Gall. First of all it is known that at the beginning of the 10th century Greek monks were present in the Reichenau, a cloister closely connected to St. Gall. One manuscript written at this cloister contains the Vita of a Greek from Achaia with the name Symeon.⁵⁷³ In a *Historia de translatione et miraculis S. Marci* in the same manuscript there is also an account about two Jerusalem pilgrims, a Greek by the name of Symeon (he probably is identical with the Symeon of the Vita) and a Venetian with the name Philippus, who both belonged to the Reichenau cloister, furthermore of a relative of Symeon, a bishop Constantinus, who stayed in the cloister.⁵⁷⁴

573 Monumenta Germaniae historica, Scriptores IV, 445*. Cf. E. Dümmler, op. cit., 258 / footnote 5.

574 Contigit ut duo fratres de Ierosolima pergentes, quondam ad nostrum devenere monasterium, que dicunt pene omnia circuire maritime loca. Unus erat de Grecia, alter de Venetia, prior fuit Symeon nuncupatus, posterior Philippus. Hi vero dum nostrum visitarent monasterium, cupiebant se nostro adungere consortio. Quod sicut petierunt ita impleverunt. Dum adhuc novo uterentur hospitio, dubitabant vere beatum Marcum ibi manere ...

Non multo iam tempore preterito venit de Grecia quidam episcopus nomine Constantinus, praedicti Symeonis cognatus. Hic dum familiariter nostro uteretur hospitio, coepit quendam de nostris fratribus rogare, ut ipsi permitteret aecclesiam intrare et perduceret eum ad singular altaria indicaretque ei beatorum martyrum nomina. (Monumenta Germaniae historica, Scriptores IV 452).

Moreover one can conclude from various indices that the scribes of several Greek texts in St. Gall manuscripts from the 8th and beginning of the 9th century were Greeks.⁵⁷⁵ B. Bischoff⁵⁷⁶ considered the vestiges of Greek in St. Gall, between that 9th and 11th century to be "*more numerous perhaps than at any other place*".⁵⁷⁷

CONCLUSION

On the basis of the facts, observations and considerations presented above, we presumably can infer that Notker's *ellinici fratres* were Greek monks. If we ask the question as to why they were mentioned in this letter we need to consider that following. Dom A. Mocquereau⁵⁷⁸ was the first to demonstrate that Notker relied on the famous text *De nuptiis Philologiae et Mercurii* by Martianus Capella and the grammar of Priscianus as sources for the explanation of the litterae h, o, q and r. As we have shown these litterae are extremely rare in St. Gall neumatic manuscripts (cf. above, chapter VII) and they do not possess specific musical meanings. Until now it was not known whether and to what degree Notker drew on literary sources in his explanations of the litterae with musical meaning. If we consider that most of the litterae used to indicate notational technical terms are borrowed translations from Middle Greek, it is conceivable that Notker would call upon the assistance of Greek monks for the explanations of the litterae. This hypothesis would most clearly explain in any case why in a letter dealing with the litterae supraescriptae the *ellinici fratres* are also mentioned. These *ellinici fratres* must have been well known to Lantpertus, the addressee of the letter.

575 Cf. R. Drögereit, „Griechisch-byzantinisches aus Essen” BZ 46 (1953): 110-115; R. Schlötterer, „Byzantinisches in der karolingischen Musik” *Berichte zum XI. Internationalen Byzantinisten-Kongress München 1958* (Munich, 1958): V. 2, 3.

576 „Das griechische Element in der abendländischen Dichtung des Mittelalters“ BZ 44 (1951): 28-55, citation 48.

577 With respect to this theme it deserves to be mentioned that the *nomina sacra* Jesus and Christus are always or frequently written with Greek majuscules in St. Gall neumatic manuscripts as well as in codices with St. Gall neumes from the 10th and 11th century. Thus IHCOC in BG, fol. 41v/11, IHCVC in EN, page 211/10, IHCUC in GL, page 78/10, IHCOC in GL page 13/13 and 13/15, IHCV in EN page 36/7, IHCVM in EN page 36/10, XPICTUS in EN, page 213/5. In contrast these nomina are written with Latin minuscules in Breton and Aquitanian as well as in Italian manuscripts from the same period. Thus *Ihesus* in YRX, page 155/11, *Hiesus* in BD, fol. 141/7, *ihesum* in YRX, page 23/10, *xristo* and *xristum* in YRX, page 162/6, *cristo* and *cristum* in CH, page 64/11-12. Also of note is the phonetic transcription *Ayos* (for Agios) in LN, page 100 (several times).

578 “Lettres romaniennes” Pal Mus IV, 15 f.

Chapter XIII: St. Gall: Centre for the cultivation of an artistically nuanced ornamented chant tradition

THE EVALUATION OF THE ST. GALL MANUSCRIPTS

From its beginnings, the modern scientific chant research accorded the St. Gall chant manuscripts a special position among the oldest preserved sources. The high esteem which the St. Gall manuscripts were accorded in the past century found its expression in that several researchers; among them L. Lambillotte, A. Schubiger, F. Raillard, G. Houdard, A. Dechevrens and J.-B. Thibaut, based their investigations exclusively on these codices. This preference for the St. Gall tradition can be attributed not only to the renown of the codex St. Gall 359, considered to be the “antiphony” of pope Gregory I. Just as influential were apparently two further factors: for one, recognition of the great music historical relevance of the St. Gall cloister⁵⁷⁹ and also the well-established opinion that the St. Gall musical repertory, so richly endowed with litterae significativae and episematic nuances, overshadowed all the remaining surviving neumatic sources.

These reasons should help to explain why the esteemed researchers of the school of Solesmes and primarily Dom A. Mocquereau ascribed to the St. Gall manuscripts such a fundamental role in the restoration of the Gregorian chant. It is well known that P. Wagner⁵⁸⁰ reproached them (incidentally without broaching any decisive arguments) that their over-evaluation of the St. Gall manuscripts was “completely untenable” and that they ran the risk “of losing themselves on the wrong track” in that they again and again “confined” themselves to the St. Gall neumes. At the same time Wagner himself had to attest to the “abundance and subtlety” of these sources which were “exceeded by no other type”.

DOM MOCQUEREAU’S THESIS ABOUT THE RELATIONSHIP OF THE ST. GALL TO THE METZ CHANT TRADITION

Dom A. Mocquereau was undoubtedly one of the first researchers to obtain solid paleographical results through precise comparisons of corresponding neumatic records. On the basis of such investigations he declared that the corresponding

579 Cf. Dom Cabrol, “La bibliothèque et le monastère de Saint-Gall” *Pal Mus I*, 55-70; P. Wagner, „St. Gallen und die Musikgeschichte” in: S. Singer, *Die Dichterschule von St. Gallen* (Leipzig, 1922); J. Handschin, „St. Gallen in der mittelalterlichen Musikgeschichte” *Schweizerische Musikzeitung VI* (1945): 244-248; H. Husmann, „Die St. Galler Sequenztradition bei Notker und Ekkehard” *AMI XXVI* (1954): 6-18.

580 *EGM II*, 207-216, 233, 379, 398-400.

but diverging St. Gall and Metz graphic arrangements were equivalent and he developed – probably as the first – the thesis that the St. Gall and the Metz chant traditions totally agreed with one other, both melodically and rhythmically. However he noted that Metz sources substituted “usual signs” for certain “special neumes”. In particular he noticed that the codex Laon 239 very frequently had a scandicus there, where St. Gall neumatic sources had a salicus.⁵⁸¹ On the basis of this observation, he believed that he could conclude that the Metz manuscripts were less “stabile”, which was interpreted as a sign of decadence and they were decidedly inferior to the St. Gall manuscripts with respect to the transmission of the salicus. He considered the Metz substitutions to be mistakes as a result of careless copy work and he felt obligated to “restore” the tradition by replacing the Metz scandici with salici.

This interpretation of the “substitution” does not however hold up to a critical examination.

One must consider first of all that the codex Laon 239, the main representative of the Metz tradition, belongs among the oldest surviving sources⁵⁸² and it has been proven to be an extremely correct and carefully written manuscript. The assumption of errors on the part of the copyist is quite absurd.

Then it should be taken into consideration that Dom Mocquereau interpreted the scandicus and the salicus as two neumes that differed from each other only in certain “nuances” in their execution. The investigations of chapter V yielded the research result on the other hand that an essential difference existed between the two signs: the scandicus is a “usual” neume that indicated only three tones while with the salicus the middle tone was embellished with an ornament of several tones. As a result the Metz “substitutions” are in no way to be viewed as “equivalent” but rather are to be interpreted as a variants.

CONCLUSIONS

Dom Mocquereau’s thesis resulted consequentially from the axiom that the transmission of Gregorian chant had been uniform in entire distribution zone of the Roman liturgy. Since the St. Gall manuscripts represented the original Roman tradition, the occasional deviations in other sources were to be interpreted as signs of decay.

With respect to the three parts of this axiom, we must note however that the first part is somewhat exaggerated, the second is unproven⁵⁸³ and the third is to all appearances incorrect.

581 NMG, 403-407.

582 Cf. Pal Mus X, 35-40.

583 P. Wagner (EGM I, 249 f., I, 214 f.) was of the opinion that St. Gall had “*den gregorianischen Gesang auf dem Umwege über England und Irland erhalten*”. Br. Stäblein (“Der „altrömische“ Choral in Oberitalien und im deutschen Süden” MF XIX, 1966, 3-9)

The statement that the “New Roman” chant tradition is homogeneous and “universal”⁵⁸⁴ can not be essentially challenged. Fundamental differences undoubtedly do not exist between the versions of the oldest St. Gall, Metz, French, Breton, Aquitanian and Italian sources. However with respect to rhythmic and melodic details, the versions do differ.⁵⁸⁵ At the same time the St. Gall tradition can be distinguished from all other versions thanks to its rhythmic differentiations and its wealth of ornamental figures and liquescent neumes.

The investigation of chapters I-VII demonstrated that the St. Gall sources often have ornamental neumes or notae semivocales there, where parallel non-St. Gall versions have “usual” signs. Our documentation in table 8 gives an impression of the frequency of the “substitutions” of numerous “special neumes” – especially in the oriscus family – with “usual” semata. It illustrates that the oriscus is quite frequently “replaced” with the virga. Even more frequent are the “substitutions” of the pes quassus and the gutturalis with the connected or “unraveled” podatus, with the virga praepunctis or even with the conjunction of two virgae. Finally the salicus could be replaced with various scandicus graphic arrangements.

Therefore the paleographical data attests that in St. Gall an ornamented and more richly nuanced chant repertory was cultivated than elsewhere. Metz, Holland, France, the Bretagne, Aquitania and Italy were evidently satisfied with a simpler although not necessarily unornamented repertory.

As for the special relationship of the St. Gall tradition to that of Metz, it is clear that the latter distinguished itself to a high degree by its independence. Not only are there frequent rhythmic and melodic deviations between St. Gall and Metz versions (cf. example 621), but rather it appears in addition that Metz at times has ornament figures and liquescent (hemiphonic) effects there, where St. Gall versions have unornamented passages. One can consult the examples 597, 626, 644 and 646.

In conclusion it can be consequently stated that Dom Mocquereau’s thesis about the “corruption” of the Metz tradition is null and void. The investigation of the surviving sources of Metz notation reveals on the contrary that the high regard that was accorded the “Metz chant school” in that 9th and 10th century is justified.⁵⁸⁶

thought it was possible that the Old Roman chant repertory was sung in St. Gall until about 900.

584 Cf. A. Mocquereau and J. Gajard, *The Rhythmic Tradition in the Manuscripts* (Monographs on Gregorian Chant, no. IV), (Tournai, 1952).


585 The first comprehensive investigation of the connections between the variants in the various “traditions” of “Gregorian” chant was undertaken by Dom R. J. Hesbert in *Pal Mus XIV*, 153-196.

586 Cf. P. Wagner, *EGM I*, 233 f., 243, 249 f., II, 248; *Waesberghe*, *MdM II*, 106-113.


**IDENTICAL AND CORRESPONDING
LATIN, BYZANTINE AND SLAVIC
NEUMES, TONE FIGURES AND FORMULAS**

Musical Example 439/1: Graphic Arrangements with Gorgon


Γ over the Ison

 fol. 22/3, 22/9, 22/14, 22v/18 (Ex. 619)


Γ between two Isa

 fol. 22/20 (Ex. 619)


Γ over the Apostrophos

 fol. 22/14


Γ over the Apoderma

 fol. 23/16


Γ over the combination of Petaste and Dyo Kentemata

 fol. 22v/18


Γ over the Apostrophos a combination with Petaste

 fol. 23/15


Γ over the combination of Apostrophos and Dyo Kentemata

 fol. 22/6

Γ over the conjunction Dyo

 fol. 22v/10, 22v/12, 23/14, 23/15


Γ over the conjunction Apeso exo

 fol. 22/14, 22/20, 22v/3


Γ with Anatrachisma Iia

 fol. 23/10

Γ with the conjunction of Dyo Apostrophoi and Klasma


 fol. 23/3

Γ with the conjunction of Diple and Bareia



 fol. 23/20

Musical Example 439/2: Graphic Arrangements with Gorgon


Γ over the Dyo Apostrophoi

 fol. 22/19


Γ over the Bareia

 fol. 23/1, 23/8  fol. 22v/1, 23/4 (twice)






Γ over the conjunction of Bareia and Oxeia

 fol. 22v/17, 23/10, 23/21





Γ over the Antikenoma

 fol. 22/24 (twice), fol. 23/15 (?)



Γ over the Antikenokylisma

 fol. 22v/7  22v/13 (twice)
 fol. 22v/14  23/12  23/14


Γ with Pelaston

 fol. 22v/21  22/4, 22/10, 22v/1, 22v/8 (twice)
 22v/9, 22v/14, 23/4
 fol. 22v/19  23/8






Γ with the combination of Apostrophos and Oxeia

 fol. 23/8  22/2, 22/17, 22/19, 22v/6
 22v/10 (twice), 22v/20, 22v/22
 23/8

Γ with Katabasma


 fol. 23/8

Γ with Psephiston


 fol. 23/10  22v/7  22/9, 22v/8
 fol. 22/21  22/3

Musical Example 439/3: Graphic Arrangements with Gorgon

Γ with Tromikon II


 fol. 22/3, 22/14 (twice), 22/19 (twice), 22v/18, 22v/22 (twice)

Γ with Kataba-Tromikon or groups with this sign

 fol. 22/1 (twice), 22/6 (twice), 22/7, 22/8, 22/11, 22/14 (twice), 22/15 (twice), 22/16 (twice), 22/19 (twice), 22/20, 22/21, 22/24, 22v/1, 22v/5 (twice), 22v/8, 22v/9 (twice), 22v/12, 22v/14, 22v/17, 22v/18, 22v/19 (twice), 22v/20, 22v/22, 22v/23 (twice), 22v/24, 23/1, 23/6, 23/9, 23/10, 23/13, 23/15, 23/16, 23/17, 23/20, 23/21

Musical Example 440: Graphic Arrangements with Argon



Argon with Anastama

 fol. 22/3




Argon with the Ligatur of Anastama and Katabasma

 fol. 22/4


Argon with Bareia-Groupes

 fol. 22v/18  23/9

Argon with Psephiston

 fol. 22v/7  22v/14  22v/21

Argon with Kataba-Tromikon

 fol. 22v/14

Musical Example 441-443: Flexa II and Kondeuma

h (humiliter), i (iusum) and χ (Chamele)
 τ (tenere) and κ (Kratema)

(441)

LN	103/9			
LZ	39v/4	- - - /		
SG	107/12	- - -		
EN	207/4	- e -		
MP	119/7	- - - /		
EV	779			

(442)

LN	103/10			
LZ	39v/5	- - /		
SG	107/15			
BG	41/2			
EN	207/7	e -		
MP	119/9			
EV	779			

(443)

L3	161/3		
Cam	296v		

Musical Example 444-447: Phrases cadencing on *f* with Flexa II and Bareia

(444)

BG 30v/9 
 EN 155/3 
 MP 149/2 
 EV 1048 
 De us e o rum:

(445)

LN 12/6 
 BG 2v/20 
 EN 9/12 
 EV 1269 
 et nu bes plu ant ju stum:

(446)

CH 65/12 
 LN 118/6 
 BG 47/3 
 EV 1465 A 
 ad te Do mi ne,

(447)

Va 153v/8 
 C₄ 183 
 ου τε οβ γο νεις αυ του.
 Ch 93v/13 
 NH po ΔH TE ΔA EE ΓO.

Musical Example 448-451: Torculus in theta form with inverted Tinagma

(448)

LN	152/4	
BG	64/13	
BD	152/4	
EV	1012	

(449)

G1	9/1	
BK	77v/6	

(450)

LN	125/12	
BG	50/14	
BD	151/4	
EV	882	

(451)

G1	5/1	
BK	72v/6	

Musical Example 452-455: Angular Scandicus and Tria (Anabasma)

(452)

LN	169/1	♯	♯	♯	♯	♯	♯	♯	♯
LZ	40/6	-	-	-	/	-	-	β	β
EN	203/13	-	-	-	/	-	-	π	π
Montecassino	339	-	-	-	-	-	-	-	-
f.	61/14	-	-	-	-	-	-	-	-
EV	776 II								

(quo) ni am in sae cu lum

(453)

L ₃	147/2	∞	∞		
Va	212/1	∞	∞		
E ₁₁	19v/14	∞	∞	- -	- -
Pa	147v/6	∞	∞	- -	- -
Athen	974				

κα λον.

(454)

L ₁	8v/11	∞	∞		
Ōch	44B/7	∞	∞	- -	- -
Va	38v/8	∞	∞	- -	- -
D	211v/3				

ι δειν.

(455)

L	131v/18	∞	∞		
P	99v/8	∞	∞	- -	- -
O	119	∞	∞	- -	- -
G	117v/12				

(αναγα) γε με.

Musical Example 456-459: Ligature composed of Flexa and Podatus – Tessara

Ligatur von Flexa und Podatus - Tessara

(456)

MP	160/11	↓ / // 11 ✓ ↓ ∙
		h k k kk KK v h ik hg
SG	75/14	✓ / ∞ ∞ ſ ✓ ∙
BG	26/14	✓ / ∞ ∞ ſ ✓ ∙
LN	60/10	↓ ↓ ∙ ∙ ∙
EY	553	

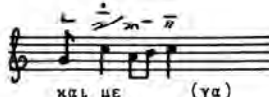
fa ci e

(457)

SG	61/5	∙ ↓ / ∙ ∙ / -
BG	18/15	∙ ↓ / ∙ ∙ / -
EN	88/9	e ∙ ↓ / ∙ ∙ / -
LN	35/1	∙ ∙ ↓ / ∙ ∙ / -
VA	2v	∙ ∙ ↓ / ∙ ∙ / -
EY	512	


qui fa cis

(458)

I ₃	14/15	∙ ∙ ∙ ∙
D	220/3	

καλ με (γα)

(459)

I ₃	14/15	∙ ∙ ∙ ∙
C ₃	54/9	

φο (βω)

Musical Example 460-463: Porrectus flexus and Strangismata

(460)

BG	20/8	✓	Λ	Π	Π	Λ	Λ	Λ	-
EN	99/6	✓	Λ	Π	Π	Λ	Λ	Λ	-
LN	40/6	✓	Λ	Π	Π	Λ	Λ	Λ	✓
CH	24/21	✓	Λ	Π	Π	Λ	Λ	Λ	-

EV 532

(glorifi) ca bo e um:

(461)

Va	137/2	✓	Λ	Π	Π	Λ	Λ	Λ	✓
L5	205v	✓	Λ	Π	Π	Λ	Λ	Λ	✓
D	256v/5	✓	Λ	Π	Π	Λ	Λ	Λ	✓

ελ λη φεν.

(462)

SG	35/9	✓	Λ	Π	Π	Λ	Λ	Λ	✓
BG	4v/12	✓	Λ	Π	Π	Λ	Λ	Λ	✓
EN	20/1	✓	Λ	Π	Π	Λ	Λ	Λ	✓
LN	16/3	✓	Λ	Π	Π	Λ	Λ	Λ	✓

EV 351

(inten) de:

(463)

L3	60/13	✓	Λ	Π	Π	Λ	Λ	Λ	✓
Vi	227/4	✓	Λ	Π	Π	Λ	Λ	Λ	✓
C4	152/8	✓	Λ	Π	Π	Λ	Λ	Λ	✓

ε δε α μνος.

Musical Example 464-467: Twisted Climacus and Kataba-Tromikon

(464)

BG 32v/11							
EN 166/1							
LN 77/8							
Barcelona 895							
EV 572							

(465)

BG 32v/9							
EN 165/11							
LN 77/6							
Barcelona 895							
EV 572							

(466)

Va 96v/11		
D 244/3		
Ch 39/8		

(467)

Va 113v/12		
D 248/1		

Musical Example 468-471: Climacus resupinus and Kataba-Tromikon with Oxeia

(468)

EN	1/6	•	••	/••	/	κ
LN	8/6	~	••	/••	/	~
Angelica	123	-	-	~	~	^
f.	18v/15	-	-	~	~	^
BD	102v/4	-	-	~	~	β
EV	321					
		Do	mi	ne		

(469)

L3	58/7					
C4	148/13					
		ε	πλ			

(470)

BG	63/9	/	//	/••	/	-	~	-
EN	314/9	e-	//	/••	/	-	~	•
LN	149/10	•	^	:	/	~	^	~
MP	17/1	•	//	/	~	•	~	/
EV	961							
		in	la	ti	tu	di	nem	

(471)

L3	147/2						
D	306v/12						
		η	τι	τερ	κνον.		

Musical Example 472-275: Climacus with Flexa and Kataba-Tromikon with Kondeuma

(472)

LN 111/9

BG 44/7

BD 143v/10

EV 806

in no mi ne Do mi ni:

(473)

LN 123/3

BG 48v/21

BD 149v/11

EV 849

in ju bi la ti o ne,

(474)

LN 121/1

BG 48/5

BD 148v/3

EV 1252

cor dis me i

(475)

L3 58v/14

D 247v/17

Δι α

Musical Example 480-483: Quilisma, Anatrachisma and Kylisma

(480)

CH	7/12	-	~	.	-	~	.	-	-
LN	18/8	μ	~	.	~	.	μ	μ	
BG	5v/13	-	~	.	~	.	-	-	
SG	38/6	-	~	-	~	.	.	-	
EV	393								

(481)

L ₃	42v/16	-	-	-	/				
Pa	193v/21	L	L	L	/	>	+ >>	~	~
D	241/1	L	L	L	/	>	+ >>	~	~



ο συμ φω νου με νος.

(482)

L ₂	17/13	-	-	-	/				
L ₃	43/4	-	-	-	/	>	+ >>	~	~
Pa	194/2	L	L	L	/	>	+ >>	~	~
C ₄	127v	L	L	L	/	>	+ >>	~	~



και μη κτη σω με θα.

(483)

Δ.α. 14,	235/11	B	//	ou	pa	vos.			
L ₃	62/1	L							
Va	119v/9	//		θα	π	~	~	~	~
C ₁	24v/5	//		π	π	~	~	~	~
Pa	192v/4	//		π	π	~	~	~	~
D	239v/1	//		π	π	~	~	~	~



υ μιν.

Musical Example 484-487: Quilisma and Anatrachisma

(484)

CH	102/8	• • 1 : ̄ = ̄ - ̄ -
LN	167/1	̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
LZ	36v/8	/ ̄ ̄ ̄ ̄ ̄ ̄ -
EN	27/10	̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
EV	405	

(Alleluia)

(485)

SG	49/11	̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
BG	13/8	̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
EN	60/8	̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
MP	149/8	h g f e g f e d e f d
EV	1130	

(e) um.

(486)

CH	60/8	/ - ̄ - ̄ - ̄ -
LN	104/8	̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
BG	41/13	/ - ̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
EN	208/12	/ - ̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
EV	781	

Pas cha no strum:

(487)

L	77/3	̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
P	49/4	̄ ̄ ̄ ̄ ̄ ̄ ̄ ̄
G	78/1	

τον δη με ουρ γον.

Musical Example 488-491: Quilisma descendens and Kratemokatabasma

(488)

LN 77/5	
EN 165/10	
Barcelona 895	
EV 572	

Et e nim

(489)

LN 77/7	
EN 165/13	
Barcelona 895	
EV 572	

(Prolonga) ve runt

(490)

LN 49/12	
EN 115/9	
MP 44/6	
EV 541	

au rem tu am

(491)

G1 6v/3	
	προς το μη ρι σαλ.
BK 74/3	
	ΠΟ ΜΑ· Δ· 3Α Δ Α· ΤΖ.

Musical Example 492-495: Pes subbipunctis cum orisco, Seisma II and III

(492)

LN 149/10						
GL 116/1	- //	/ . /	-		-	-
BG 63/9	/ //	/ . /	-		-	-
EN 314/9	e - //	/ . /	-		-	-
EV 961						

in la ti tu di nem:

(493)

GL 21/14	// / /							
BG 13/4	// / /							
EN 60/2	// / /							
MP 17/4	// / /							
EV 1182								

sa cer do ti i di gni tas


(494)


V 161/12							
	(εκηρυ) υ			ττο	ον.		
UK 174v/2	± S ω			∩̄ =			
	(Προπονη) ΔΑ Α Α			χΟΥ.			


(495)


L2 5/2						
Va 71v/14						
C3 64/14						
	τον ρυ			πον της	ψυχης	μου.

Musical Example 496-499: Pes subbipunctis cum orisco, Kondakarian ligature of Hyporrhoe (Syrma) and Kataba-Tromikon

(496)
 CH 15/17
 GL 22/8

 in con spe ctu re gum,

(497)
 M 7v/7
 BK 97v/10
 UK 192v/5-6

 μῆ δ ζ ζ ε ση η μελ ω (θη)
 НА НА А АА.ΓΗΑ. ΝΑ ΝΑ. 3ΝΑ Α Α Α. ΜΕ Ε Ε. ΝΑ Α. (CA)
 ΓΑΑ Α. 3ΝΑ Α Α Α ΜΕ Ε Ε ΝΑ (CA)

(498)
 M 9v/12
 UK 193/3-4

 α γ λ α ζ ζ α πε ε νε χθη (σοντα)
 ΓΑΑ Γ ΠρΗ Η Η Η ΒΕ Ε Ε Δδ δ (CA)

(499)
 G₁ 12/2-3
 BK 101/7
 UK 189/8-9

 α νες Α γ α α λλ λ α χα (σθε)
 Α Α ΝΕC.ΝΑ ΝΑ. ΡΑ. Δδ. δ δ δ. Η Ι Η. ΤΕ ΧΕ (CA)
 Α Α ΝΕ Ε :- ΡΑ Δδ δ δ Η Η Η ΤΕ ΧΕ (CA)

Musical Example 500-503: Torculus cum orisco, Seisma II and III


(500)

LN	45/12	.	.	f r	r	r r	sw	r r r
SG	68/7, BG	21v/20	- e -	r r	/	r /	sw s	sw
EN	108/8	- e -	r	/	r	r	sw s	sw
MP	180/6	.	/		/	N	sw	sw
			f	h	kk	k	klk	klkk
EV	546							
		Tri bu la ti o nes						



(501)

LN	29/8	r	r	i	sw	sw	sw	sw
SG	56/7	r	r	i	sw	sw	sw	sw
EN	77/8	e r	r	i	sw	sw	sw	sw
MP	167/9	^	l	l	sw	sw	sw	sw
		kh	hg	hg	fg	gh	gh	fg
EV	1136							
		Do mi num:						

(502)

		G ₁ 13/3		
		(εζη)	η	τουν.
UK	178/1-2, LK	92/4	± s ω	υ̇ =
		(HCKA)	Δ Δ Δ	ΧΟΥ.

(503)

D	246v/4		
		ο	αυ του την
Ch	45v/15		
		Η	ΜΕ ΤΟ ΤΟ

Musical Example 504-507: Torculus cum orisco

(504)

BG	64/11	u	ḡ	1	ḡ	s	-
EN	319/6	e	ḡ	1	ḡ	s	-
BD	151v/11	u	ḡ	1	ḡ	s	-
EV	1012						
		et	tau	ro		rum,	

(505)

LN	68/7	v	ḡ	r	ḡ	f	ḡ
SG	80/1	v	ḡ	r	ḡ	f	ḡ
EN	147/13	v	ḡ	r	ḡ	f	ḡ
EV	561						
		Pi	at	pax			

(506)

LN	12/3	r	r	f	ḡ	r	f
BG	2v/17	-	-	ḡ	ḡ	-	ḡ
EN	9/7	-	-	ḡ	ḡ	1	ḡ
EV	337						
		et	no	li	te	ti	me re:

(507)

LN	114/13	f	ḡ	1	f	ḡ	f
BG	45v/2	e	1	ḡ	f	ḡ	ḡ
EN	233/2	e	1	ḡ	f	ḡ	ḡ
EV	830						
		an	nun	ti	a	te,	

Musical Example 508-511: Torculus cum orisco, Kondakarian Seisma

(508)

GH	2/14	-			
LN	9/5				
BG	1v/17	-			
EN	3/4	-			
EY	329				

(ve) ni et.

(509)

CH	75/8	-			
LN	132/3				
SG	121/10				
EN	268/9				
EY	1500				

te.

(510)

G ₁	7v/10				
			(Εκπλη)	ΓΓη η η η	των.
BK	75/8				
			(ΟΥΔΗΕΛΛ)	Α. Α Α Α.	ΙΑ.

(511)

G ₁	7v/12				
			(δροςι)	ΓΓι ι ι ι	ζων.
BK	75/11				
			(ροσα)	Α. Α Α Α.	ΙΑ.

Musical Example 512-515: Quilisma praepuncte and Clivis cum orisco, Anatrichisma with Seisma II or III

(512)

LN 133/13				
SG 123/1				
BG 54/2				
EN 272/8				

EV 1486

(eo) rum:

(513)

LN 12/B				
SG 28/14				
EN 10/2				
MP 157/1				

EV 1269

(ve) stras:

(514)

G ₁ 9/2			
	ε	ε	γε ε. (ερωε)
BK 77v/7			
	βζ ζ	ζ ζ	κρβ. (κενηεμα)

(515)

C ₃ 71/8			
	το ω σαν	να	σοι ε (κραυγαζον)
Ch 30/10			
	ο οα	να	τη βζ ιη (ιααχογ)

Musical Example 516-520: Quilisma praepuncte cum orisco and Jacens, corresponding Syrma (Hyporrhoe) figures

(516)

CH 3/20

LN 12/3

EN 9/7

EV 337

ec ce

(517)

EN 286/1

MP 145/5

EV 1726

quo ni am

(518)

L₃ 31v/11

Va 75v/1

G₃ 66v/11

Ch 17/12

ec ce

(519)

LN 38/9

BG 19v/5

EV 1020

(hu) mi li (avit)

(520)

G₁ 13v/2

UK 178v/7

(χο) ο ο ο ο χο ο ο (στω)

(ΜΗρο) ο ο ο ο χο ο ο (ΒΗ)

Musical Example 521-524: Oriscus liquescens

(521)

LN	89/13	
SG	90/6	
EN	181/6	
MP	158/5	
EV	594	

qui a ze la vi in pec ca (toribus)

(522)

LN	32/2	
SG	59/7	
MP	133/1	
EV	499	

in ten den tes

(523)

LN	90/9	
SG	91/9	
MP	301/8	
EV	595	

et non sunt con fu si.

(524)

LN	75/12	
BG	32/8	
EN	162/9	
EV	567	

fir ma men tum me um,

Musical Example 525-528: Pes subbipunctis or Climacus cum orisco, Climacus cum pede quasso, angular Podatus and Lygisma

(525)

CH 15/17	- / / - - :: / -
BG 13/19	- / / - / . . ? /
EN 62/4	/ / / - e / . . / /
GL 22/8	- / / - / . . / /
EV 1215	

in oon spe ctu re gum,

(526)

LN 111/6	
LZ 39v/12	- / / - / - /
SG 111/12	// / / / / / / / /
BG 44/3	- / / / / / / / /
EV 428	

Al le lu ia.

(527)

LN 24/11	/ / / / / / / / / /
BG 14v/2	- - - - / . ✓ / / . >>> /
EN 68/2	e - - - - / . ✓ e - / . >>> /
SG 52/6	- - - - / . ✓ - / . >>> /
EV 490	

in ma je sta te su a.

(528)

L2 32/11	3 / > / // / ✓ >>>
L3 59v/15	>> / > > // / ✓ >>>
D 249/5	

a φς ου τοι π τος

Musical Example 529-532: Climacus cum orisco, Climacus cum pede quasso

(529)

CH	16/10	
SG	50/16, BG 13v/18	
EN	64/6	
EV	1163	

in san ctis,

(530)

LN	33/11	
SG	60/14	
EN	86/2	
EV	507	

mo ta

(531)

LN	152/7	
BG	64/18	
EN	320/4	
EV	1012	

su rem ti am,

(532)

LN	23/3	
SG	51/8	
EN	64/12	
EV	1163	

(inimi) cos.

Musical Example 533-536: Pes subbipunctis cum orisco and Climacus praepunctis cum pede quasso, Quilisma praepuncte cum orisco or cum pede quasso

(533)

SG	44/16	Π		$\cdot \cdot$	\gg	$\checkmark \cdot \cdot$	/	/
BG	10v/9	Π		$\cdot \cdot$	\gg	$\checkmark \cdot \cdot$	/	/
EN	47/5	Π		$\cdot \cdot$	\gg	$\checkmark \cdot \cdot$	/	/
GL	17/8	Π		$\cdot \cdot$	\gg	$\checkmark \cdot \cdot$	/	/
EV	1240							

(dedu) cet. te

(534)

LN	103/8		$\cdot \cdot$	\checkmark
SG	31/4	Π	\checkmark	\checkmark
BG	40v/15	Π	\checkmark	\checkmark
GL	6/6	Π	\checkmark	\checkmark
EV	345 und 779			

e jun.

(535)

CH	80/15	\checkmark	-	-
SG	128/6	\checkmark	-	-
EN	286/1	\checkmark	-	-
GL	104/8	\checkmark	-	-
EV	1726			

quo ni am

(536)

LN	123/11	$\cdot \cdot$	\checkmark	\checkmark	\checkmark
BG	49/9	\checkmark	Π	\checkmark	-
EN	251/11	\checkmark	Π	\checkmark	-
MP	23/3	\checkmark	\checkmark	\checkmark	\checkmark
EV	849				

O ri en tem

Musical Example 537-540: Clivis cum quasso, Stavros and Seisma II

(537)

GH 85/13	- 1 / 1 1 / . .
LN 144/8	ε 1 ₂ 5 7 ₆ 7 ₆ c ^{te} 1 ⁷
SG 119/6	+ 1 2 3 1 ² 2 . .
BG 51v/12	- 1̇ 2̇ 1 ^c 1 ₁ 2̇ . .
EV 1171	

cor (de)

(538)

GH 13/14	- 1 / 1 1 / . . = =
SG 47/6	1 - 2 + 1 2 3 1 2 3 . . 1 / -
BG 11v/19	- 1 / 1 2 3 1 2 3 . . 1 2 . .
BN 53/11	- 1 2 3 1 2 3 . . 1 2 . .
EV 479	

bc col lee

(539)

V 159/4	
	κε νω χω χω ω σας.
BK 75v/5	
	(H) CTZ Δ. ΠH χH χH H. ΒΔ.

(540)

E 15/8	
O 70/17	
GB 82	
G 65v/12	

ω τα λαζ.

Musical Example 541-542: Pes quassus, Salicus and Seisma I

(541)

LZ	37v/13, 41/10						
GL	9/13, 129/2						
	BG 70/10						
BG	5/20, 71v/12						
	SG 37/9						
	EN 22/5						
	EN 349/7						
	LN 166/10						
	CH 106/10						
	YRX 253/11						
EV	354, 1064, 1217						
		Al	le	lu			ia.

(542)

L3	79/16				
Va	133v/13				
Pa	204v/24				
D	253v/5				
		κρα	ζειν με τα	σου.	
Ch	74v/15				
		3Δ BA	TH CA TO	BO FO.	

Musical Example 543-546: Pes quassus, Salicus, Seisma and Choreuma

(543)

LN 60/8	
SG 75/12	
EN 132/3	
MP 160/10	

In con ver ten do

(544)

LN 94/3	
SG 94/5	
EN 189/5	
MP 159/5	
EV 611	

Ju di ca do mi ne

(545)

G₁ 6/14

ve a ves Me ta to pa a a tho ygos.

UK 172/4

ΠΟ ΜΑ. ρ. ρ ρ ρ ΛΒ.

(546)

G₁ 6v/2

ve a ves pros to mu pt i sai.

UK 172/7

ΠΟ ΜΑ Α ΒΑ Α Α ΤΒ.

Musical Example 547-550: Salicus and Choreuma

(547)

LN	114/7	✓	✓	•	•	✓	✓	✓	✓	✓
GL	84/16	✓	✓	•	✓	✓	✓	✓	✓	✓
BG	45/15	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN	231/8	✓	✓	✓	✓	✓	✓	✓	✓	✓
EV	826									

(548)

Va	73v/1	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pa	187v/1	✓	✓	✓	✓	✓	✓	✓	✓	✓
D	230/13	✓	✓	✓	✓	✓	✓	✓	✓	✓

(549)

CH	15/15	✓	✓	✓	✓	✓	✓	✓	✓	✓
GL	22/4	✓	✓	✓	✓	✓	✓	✓	✓	✓
BG	13/15	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN	61/9	✓	✓	✓	✓	✓	✓	✓	✓	✓
EV	1311									

(550)

L3	20/4	✓	✓	✓	✓	✓	✓	✓	✓	✓
Va	63/3	✓	✓	✓	✓	✓	✓	✓	✓	✓
D	225/2	✓	✓	✓	✓	✓	✓	✓	✓	✓

Musical Example 551-554: Salicus and Choreuma

(551)

LN	13/1	9m	
BG	3/7	ns	
EN	10/13	ns	
MP	174/8	Λγ	
EV	354	l x l	

om nis

(552)

G1	12v/14	
UK	177v/9	

(σωοσο) του χου χου ου.
(ΧΗΒΟΔΑΒΔ) ΗΑ ΧΑ ΧΑ Α Α.

(553)

LN	150/9	
GL	116/13	
BG	63v/4	
EN	316/7	
EV	998	

a quo tre pi da ho?

(554)

LN	166/10	
GL	4/4	
BG	2v/11	
EN	8/6	
EV	336	

fa ci as

Musical Example 555-558: Salicus, Kylisma and Laimos, Flexa II and Kondeuma

(555)

LN 138/9 7 2V . . . 9 2V 7 2V 2

GL 103/2 1 2V . . . 2 2V 1 2V -

BG 56/7-8 1 2V . . . 2 2V 1 2V -

EN 282/2 1 2V . . . 2 2V 1 2V -

EV 1132

ma ne bit et se des e jus

(556)

L₃ 63/15 - 2V > \ >> >> > / - 2 2V

Och 532/6 - 2V > > >> >> > - 2V > >

D 250v/3

πα λα μη την κτι σιν. κα λυ πτει λι θος.

(557)

LN 36/13 1 2V . . . 2V 2V 2V 2V

GL 33/8 2V 2V 2V 2V

BG 19/1 2V 2V 2V 2V

EN 92/11 2V 2V 2V 2V

EV 523

al ta re plo ra bunt

(558)

L₃ 55v/7 2V 2V 2V 2V 2V 2V 2V

Va 107v/12 2V 2V 2V 2V 2V 2V 2V

D 239/10

εις μα στι γω σιν. και το προ σω πον μου

Musical Example 559-562: Gutturalis and Xeron Klasma

(559)

CH	64/1	-	-	/	/	-	Λ	-
LN	110/13	μ	τ	μ	μ		μ	μ
BG	43v/17	/	/	/	ε	μ	μ	-
EN	222/12	/	4p	/	ε	μ	μ	-
EV	803							
		et Spi ri tus San cti,						

(560)

L ₂	3v/9	>	/	>	μ	μ	μ	μ
L ₃	26v/2	μ	/	μ	μ	μ	μ	μ
C ₃	63v/2	μ	/	μ	μ	μ	μ	μ
		ερ χο με νος προς το πα θος.						

(561)

CH	99/18	-	/	/	-	Λ	-	
LN	162/6	μ	μ	/	μ	μ	μ	
GL	125/4	-	/	μ	μ	μ	μ	
EN	339/5	-	/	ε	μ	μ	-	
EV	1069							
		α νι μα με α,						

(562)

Δ.α.14, f.233v/10	/	μ	μ	μ	μ	μ	μ	
Va 114/12	μ	μ	μ	μ	μ	μ	μ	
D 248/15	μ	μ	μ	μ	μ	μ	μ	
		σταυ ρω σαι Ι ου θαι αι.						

Musical Example 563-566: Gutturalis and Xeron Klasma

(563)

GH	75/8	=	♩	♩	-
LN	132/3	♩	♩	♩	♩
BG	53/9	♩	♩	♩	♩
EN	268/10	♩	♩	♩	♩
EV	1500				

et te ti git

(564)

L ₃	98/13	♩	♩	♩	♩
Va	169/13	♩	♩	♩	♩
D	272/9	♩	♩	♩	♩

ΝΟΥ ΕΙΣ ΟΝ ΜΕΙ ΟΥ

(565)

LN	117/8	♩	♩	♩
GL	86/19	♩	♩	♩
BG	46v/8	♩	♩	♩
EN	240/5	♩	♩	♩
EV	843			

quae ri te

(566)

L ₃	56/7	♩	♩	♩
Va	110v/3	♩	♩	♩
C ₄	146/10	♩	♩	♩

το στο μα

Musical Example 567-570: e (equaliter) and IC (Ison)

(567)

LN 24/10

BG 14v/1

EN 67/13

EV 489 f.

Quo ni am ae di fi ca vit Do mi nus

(568)

SG 42/11

BG 9/18

EN 40/1

EV 422

Sed: sic e um vo lo ma ne re,

(569)

LN 22/9

BG 7/13

EN 34/5

EV 416

sal vum me fac pro pter mi se ri oor di am

(570)

P 16/10

L 67/15

G 47/3

κα τε νο η σα τα ερ γα σου. και δο ξα ζω την

Musical Example 571-574: e (equaliter) and IC (Ison)

(571)

LN 22/11

BG 7v/7

EN 34/11

EV 1205

et su per sa lu ta re tu um

(572)

SG 42/8

BG 9/17

EN 39/12

EV 422

Ex i it ser mo in ter fra tres,

(573)

SG 46/16

BG 11v/16

EN 53/7

EV 478

Be ne di ctus Do mi nus

(574)

P 147v/14

E 69/15

G 165v/17

To sto ma mou pla tu von. e pi tous e xhous mou

Musical Example 575-578: e, eq, q (equaliter)

(575)

CH 23/5 - - - - - \wedge - - - - - \smile -

BG 18v/20 - / $\text{p} \gg \text{p}$ \wedge - - - - - \smile -

EN 92/3 - e - e p $\gg \text{p}$ \wedge - e - - - - - \smile -

EV 522 

mul ti tu di nem mi se ra ti o num

(576)

CH 67/6 - - - - - q - - - - - M

BG 46/2 - - - - - \gg \smile - - - - - \wedge q

EN 246/10 e - - - - - e - p \gg p \smile - e - - - - - e \wedge q

EV 1251 

De us, cu i ad stat An ge lo rum cho rus,

(577)

LN 109/10 f eq \wedge f_4 sm f f_4 eq p

BG 43/16 p e - \wedge - \gg \wedge p e \checkmark -

EN 220/4 p e - p sm - \gg p p e \checkmark p -

EV 799 

(voca) vit in ad mi ra bi le lu men

(578)

CH 2/3 - f q - \wedge \checkmark \wedge \checkmark f

LN 8/4 p f q f q sm f

SG 25/11 \checkmark f mc \wedge f \checkmark f

EV 320 

vi as tu as, Do mi ne

Musical Example 579-582: e (equaliter) and ε (Elaphron) as sign for tonal repetition (“Tonmalerische” phrases)

(579)

LZ 40v/1 - 

GL 83/10 - 

EN 210/5 

EV 786 

An ge lus Do mi ni de san ctis de cae lis

(580)

LZ 40v/2 - 

GL 83/10 - 

EN 210/6 

EV 786 

et ac ce dens re vol vit la pi dem

(581)

L3 9v/14 - 

Va 47v/9 

D 215v/9 



των α ρε των την ευ πρε πει αν.

(582)

L3 59v/12 

Va 115v/4 


D 249/1-2 



θα να του του α θα να του

Musical Example 583-586: I (levare) and Ψ (Psele)

(583)

LN	129/2	⌣	2 ^m _a
BG	51v/20	-	2 ^m
EN	262/13	2 ^m	2 ^m ⌣
EV	1388		
		II	EO

(584)

L ₂	3/11	↓ ā	-	⌣	/	>
L ₃	25/11	ā	-	⌣	/	
G ₄	120v					
		ΕΙ ΟΥΝ Ο ΜΕΛΕΣ ΦΙΛΟΙ				

(585)

CH	14/14	-	-	⌣	'	-	⌣	,	∧	=
GL	20/18	-	/	⌣	/	-	⌣	⌣	∧	∧
BG	12v/9	-	/	⌣	/	-	⌣	⌣	∧	∧
EN	57/13	2 ^m	/	2 ^m	/	-	2 ^m	⌣	∧	∧
EV	486									
		Ju bi la te De o								

(586)

L ₃	54v/6	⌣	>	\	>>	⌣	//	-	∞	>	⌣	>
Va	107/11	2 ^m	⌣	⌣	>>	/	//	-	∞	>	⌣	>
G ₄	141/1											
		Īa σα η κτι σις. η λ λ ο ι ο υ τ ο										

Musical Example 587-590: l (levare), s (sursum) and Ψ (Psele), i (iusum) and χ (Chamele)

(587)

LN 60/4

BG 26/8

EN 131/6

EV 552

o cu li me i sum per ad

(588)

L₃ 125v/5

Och 614/9

D 286/1

lle τρατ ε οχι εθη σαν σω τηρ.

(589)

LN 68/7-8

BG 29/15

EN 147/13

EV 561

(tu) a: et a bun dan ti a

(590)

L₂ 80/5

L₃ 89v/14

D 266/10

l χνη μεν υ που το ως χει ρος στο μα δε.

Musical Example 591-594: i (iusum), h (humiliter) and χ (Chamele) as Sigel for indicating the descending fourth

(591)

OB	29/6	/	↗	↗	↗	↘	↘	-
LN	47/11	g	↗	↗	↗	↘	↘	↘
BG	22v/6	-	↗	↗	↗	↘	↘	-
EN	111/10	e	↗	↗	↗	↘	↘	-
EV	1039							

et vi de te,

(592)

LN	82/7	↗	↗	↗	↘	↘	↘	
BG	34/21	/	/	/	-	✓	-	
EN	174/9-10	/	/	/	m	✓	-	
EV	1063							

quae fe ci sti no bis,

(593)

L ₂	16v/11	↗	↗	↗	↘	↘	↘
L ₃	42v/3	↗	↗	↗	↘	↘	↘
C ₃	70v/13	↗	↗	↗	↘	↘	↘

καὶ μὴ τὰς μερὶ μνάς

(594)

L ₃	77v/12	↗	↗	↗	↘	↘	↘
Va	132v/1	↗	↗	↗	↘	↘	↘
C ₄	163	↗	↗	↗	↘	↘	↘

θαυ μα τος. α πι στει

Musical Example 595-598: h (humiliter) and i (iusum)

(595)

LN 8/13

BG 1v/11

EN 2/7

EV 322

da bit be ni gni ta temi

(596)

LN 89/4

BG 35v/5

EN 180/2

EV 592

Do mi ne ne lon ge fa ci as

(597)

LN 75/7

BG 32/4

EN 162/2

EV 566

pau per:

(598)

LN 75/11

BG 32/7

EN 162/8

EV 566

pau per:

Musical Example 599-602: i (iusum) and ε (Elaphron)

(599)

LN	104/12		
BG	41/18		
EN	209/8		
EV	785		
		al	le lu ia;

(600)

L ₃	36v/3							
Och	496/17							
C ₃	67v/20							
		(δεσπο)	τι	κου	δει πνου α	μου	η	τος.

(601)

LN	104/13		
BG	41/19		
EN	209/10		
EV	785		
		al	le lu ia.

(602)

L ₃	51v/3									
Och	521/11									
D	246/20									
		λη	στην	συν	ο	δοι	πο	ρον	λα	βων.

Musical Example 603-606: m (mediocriter) and με (Meson)

(603)

LN 89/12					
SG 90/3		-			
BG 35v/14		-			
EN 181/3		-			

EV 593
 cor de! me i au tem

(604)

L3 133v/6					
Va 193v/13					
D 289/2					

την α να στα σιν αυ του. σταυ ρον γαρ υ (πομεινας)

(605)

LN 94/3								
SG 94/6								
EN 189/6								

EV 611
 im pu gnas tes me ap pre hen de

(606)

L3 53/7				
Va 105/1				
H 102				

πα θων. α πα θως

Musical Example 607-610: m (mediocriter) and με (Meson)

(607)

LN 132/5  

BG 53/14 - - -  

EN 269/4 - - -  

EV 1502 
 (vo) ca be ria; pra e i bis e nim

(608)

Sin 74/10  
 Ερ χο με νος με τα σαρ κος. προς ι ορ θα νην κυ ρι ε.

Va 114/11  

D 248/13 
 Ελ κο με νος ε πι σταυ ρου. ου τως ε βο ας κυ ρι ε.

(609)

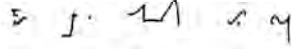
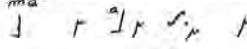
LN 32/13  

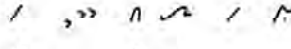
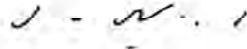
BG 174/4  

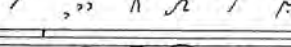
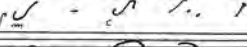
EN 84/6  


EV 501 
 Il lu mi ne fa ci em tu am

(610)

LN 69/13  

BG 294/17  

EN 150/12  

EV 1013 
 (protecto) rem, et in lo cum

Musical Example 611-614: m (mediocriter)

(611)

LN 26/1

BG 14v/19

EN 70/6

EV 1138

se met i paum; et tol lat cru cem su am,

(612)

LN 35/2

SG 61/7

EN 88/11

EV 513

(gen) ti bus vir tu tem

(613)

LN 45/10

BG 21v/18

EN 108/4

EV 545

do mi nen tur no bis in i mi ci no stri:

(614)

LN 115/9

BG 45v/14

EN 234/9

EV 1152

Gau de te ju sti

Musical Example 615-618: md (mediocriter) ♯ (sursum), a (altius) and l (levare)

(615)

LN 47/10 

BG 22v/5 

EN 111f/8 

EV 1039 

(Do) mi ni in cir cu i tu

(616)

LN 108/4-5 

BG 42v/13 


EN 217/8 

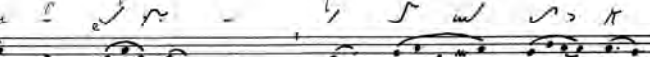
EV 795 


al le lu ia: mors il li ul tre

(617)

LN 127/12 

BG 51/10 

EN 259/13 

EV 897 

lau de tu a, al le lu ia:

(618)

LN 129/13 

BG 52/16 

EN 264/11 

EV 1492 B 

ter rae: se cun dum

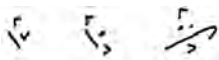
Musical Example 619: Corresponding figures with c (celeriter) and Γ (Gorgon)

SG	46/5	^c et	il	^m lu	mi	(nare)
SG	68/7	^c Tri	bu	la	ti	o nes
E11	22/14	πo	θελ	vo	τα	το. (ov)
E11	22/20	δo	ε	λεu	σε	ταλ αλ.
E11	22v/18	κ	κε	τεu	o	με (εv)

c over the Clivis II



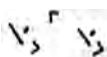
Γ over the Bareia or the Antikenoma



c over the Porrectus flexus



Γ between two Bareia-groups



c over the Porrectus



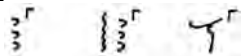
Γ over the conjunction of Bareia and Oxeia



c over the Climacus



Γ with Katabasma, Psephiston or Pelaston



c over the Pes subipunctis



Γ with Tromikon II or with Kataba-Tromikon



c with five tones groups with Climacus



Γ with five tones Pelaston



Musical Example 620: Corresponding figures with τ (tenere) and κρ or κ (Kratema)

τ over the Virga



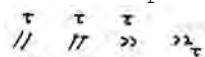
(Ex. 476 und 553)

κρ over the Oxeia



(Ex. 131)

τ over the Bivirga
or Distropha



(Ex. 488, 509,
591 and 598)

κρ over the mega Kratema



(Ex. 129 und 132)

τ over the Flexa II



(Ex. 460, 567,
572 and 578)

κ next to Kondeuma



(Ex. 443)

τ with Climacus



(Ex. 501, 572, 579)

κ next to Kataba-Tromikon



(Ex. 130, 133, 134)

Musical Example 621A: Equivalent St. Gall and Metz symbols with Episem and the letters τ and a

Nomina neumorum	St. Gallen	Laon 239	sources
VIRGA			Ex. 457, 489, 524, 541, 578, 589, 601, 610, 612, 626, 632
BIVIRGA			Ex. 500
DISTROPHA "maior"	\gg or \gg_{τ}		Ex. 456, 598, 612
FLEXA			Ex. 442, 445, 450, 452, 462, 473, 474, 484, 563, 571, 587, 597, 607, 611
	$\bar{\lambda}$ or $\bar{\lambda}$		Ex. 473, 567
			Ex. 522
SCANDICUS (five tones)			Ex. 522, 537
			Ex. 597
CLIMACUS			Ex. 501
			Ex. 597

Musical Example 621/ 2

Nomina neumarum	St. Gallen	Laon 239	sources
VIRGA cum CLIMACO or CLIMACUS "praepunctis"			Ex. 527
			Ex. 569
			Ex. 531
CLIMACUS "praebipunctis"			cf. SG 25/9 with LN 8/3
BIVIRGA subbipunctis			Ex. 509
			Ex. 513
TORCULUS			Ex. 470, 472, 492, 508, 547, 597
			Ex. 509
			Ex. 506
			Ex. 452, 474, 628
			Ex. 610
TORCULUS subpunctis			Ex. 526
POBRECTUS "praepunctis"			Ex. 473
PES QUASSUS			Ex. 532, 598
GUTTURALIS			Ex. 441

Musical Example 621/ 3: Semasiological divergences between St. Gall and Metz symbols with episem and the letters τ and a

Nomina neumorum	St. Gallen	Laon 239	sources
Rythmical Divergences			
Pes subbipunctis and Torculus subpunctis			Ex. 597
Climacus "praebipunctis" and Pes subtripunctis			Ex. 595
Virga + 2 Flexae			Ex. 472
Melodic Divergences			
Podatus "quadratus" and "Bivirga"			Ex. 592, 617
Bivirga and Pes cum "Virga"			Ex. 470, 492
Pes quassus and Podatus			Ex. 456, 527, 578, 614
Salicus I and Scandicus			Ex. 547
Salicus II and Scandicus			Ex. 441, 442, 547, 549, 551, 553

Musical Example 622-625: Corresponding Gregorian, Byzantine and Slavic Final Cadences on e

(622)

CH 11/5	
BG 10/10	
EN 44/7	
EV 1186	

Chri sti tu i.

(623)

G ₁ 19v/10	
LK 112/4	

Δο ο ο ο ξα σοι.
 CAA BA A A A A A TE EE.

(624)

LN 95/4	
BG 37v/13	
EN 191/7	
EV 616	

De i Pa tris.

(625)

G ₁ 21/15	
LK 115/1	

(δο) ο ο ο ξα σοι.
 (CAA)A A A A Γ TE EE.

Musical Example 626-629: Corresponding Final Cadences on g

(626)

LN	107/2					
BG	42/14					
EN	214/12					
EV	792					
		aI	le	lu	ia,	

(627)

L ₃	70/8					
Va	124/3					
D	252/6					
		a	va	ava	av	ava

(628)

LN	107/4						
BG	42/15						
EN	215/2						
EV	792						
		aI	le		lu	ia,	

(629)

L ₃	58v/16							
Va	113v/11							
D	247v/20							
		μη	πα	ρα	αλ	ω	πη	σησ.

Musical Example 630-633: Corresponding Cadencial Phrases on a in Chants of the Protus mode

(630)

GL 126/12 - ✓ P / - - M -

BG 69/5 - ✓ P_i / - - Λ° Λ -

EN 342/10 - ✓ P / - - Λ Λ -

EV 1077

man di eu va bis

(631)

LN 28/4

BG 16/2

EN 75/1

EV 1675

Gau de a mus o mnes in Do mi no,

(632)

LN 77/9

BG 32v/13

EN 166/3

EV 573

Con fi te bor ti bi Do mi ne,

(633)

L_{3a} 63/5







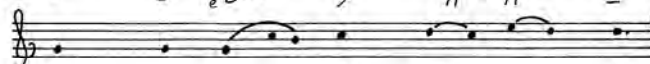
Va 141v/6

D 256v/13

Ο τη πα λα μη τη α χραν τω. πλα στουρ γη σας τον αν θρωπον.

Musical Example 634-637: Corresponding beginnings in Introits, Alleluias and Stichera of the Tetartos mode

(634)

LN 122/13	x	x		x		x
BG 48v/3	-	-		/		-
EN 248/11	-	-		/		-
EV 846						
	V	r	G	l	l	i
		ri	Ga	li	lae	i,

(635)

LZ 37/7	-		/	-	-	-
BG 69v/12	-		/		-	-
EN 347/11	e-		/		-	-
EV 1038						
	V	e	n	i		t
		ve	ni			te.

(636)

Sin 100v/3	x	/	/	-	-	=	>
Δ.α.16, fol. 62/26	>	\	>>	/	/	=	//
D 130v/1	>>	x	/	/	/	/	>>
							
	Δ	ρ	κ	λ	ο	ς	π
		ρς	κα	λος	παι	δο	τρι
							βης.

(637)

L ₃ 122v/6	✓	x	\	-	?	✓	//
Va 187/14	✓	x	\	-	?	✓	//
D 285v/1	>>	x	/	-	-	/	>>
							
	Δ	π	υ	λ	α	ς	χ
		πυ	λας	χαλ	κας	συν	ε
							τρι
							φας.

Musical Example 638-641: Corresponding Phrases cadencing on d'

(638)

LN 12/3	
BG 2v/17	
EN 9/6	
EV 337	

(639)

LN 106/1	
BG 41v/17	
EN 212/6	
EV 789	

(640)

Sin 100v/3	
α.16, f. 62/26	
D 130v/1	

(641)

L3 122v/6	
Va 187/14	
D 285v/1	

Musical Example 642-645: Torculus cum pede quasso

(642)

BD 141v/3 | | | | - | | |

BG 42/6 | | | | - | | |

EN 213/12 | | | | - | | |

EV 791  et ap pa ru e runt

Detailed description: This block shows the notation for musical example 642. It includes four staves: BD (Basso Continuo) with rhythmic symbols, BG (Basso Continuo) with rhythmic symbols, EN (Ensemble) with rhythmic symbols, and EV (Vocal) with a vocal line on a five-line staff. The lyrics are 'et ap pa ru e runt'.

(643)

LN 75/7 | | | | | | | |

BG 32/4 | | | | | | | |

EN 162/1 | | | | | | | |

EV 566  de re li ctus est

Detailed description: This block shows the notation for musical example 643. It includes four staves: LN (Lute) with rhythmic symbols, BG (Basso Continuo) with rhythmic symbols, EN (Ensemble) with rhythmic symbols, and EV (Vocal) with a vocal line on a five-line staff. The lyrics are 'de re li ctus est'.

(644)

LN 70/11 | | | | | | | |

BG 30/10 | | | | | | | |

EN 152/7 | | | | | | | |

EV 1043  ex spe cta vi Do mi num,

Detailed description: This block shows the notation for musical example 644. It includes four staves: LN (Lute) with rhythmic symbols, BG (Basso Continuo) with rhythmic symbols, EN (Ensemble) with rhythmic symbols, and EV (Vocal) with a vocal line on a five-line staff. The lyrics are 'ex spe cta vi Do mi num,'.

(645)

GL 21/1 | | | |

BG 12v/12 | | | |

EN 58/6 | | | |

EV 487  Do mi nis

Detailed description: This block shows the notation for musical example 645. It includes four staves: GL (Guitar) with rhythmic symbols, BG (Basso Continuo) with rhythmic symbols, EN (Ensemble) with rhythmic symbols, and EV (Vocal) with a vocal line on a five-line staff. The lyrics are 'Do mi nis'.

Musical Example 646-649: Tripunctum (Trigon) cum orisco or cum pede quasso, Corresponding Kondakarian Figure with Hyporrhoe (Syrma)

(646)

LN	21/4	
SG	40/8	
BG	6v/8	
EV	409	

(647)

BD	145v/8	
BG	46/20	
EN	239/4	
EV	842	

(648)

LN	133/1	
BG	53v/7	
EN	270/10	
EV	1508	

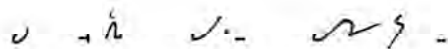
(649)

G ₁	22v/14	
		(oupa) vl xl l ol.
UK	163/3	
		(NEBEC) NAI xH xH IA.
LK	99/10	
		(NEBEC) NAI xH xH IA.

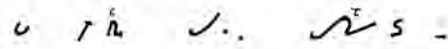
Musical Example 650-653: Torculus resupinus cum orisco, Trigon cum pede quasso, Trigon subbipuncte cum pede quasso, Distropha cum pede quasso, Pes subbipunctis cum pede quasso

(650)

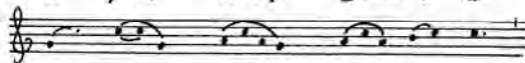
SG 58/9



BG 17/5



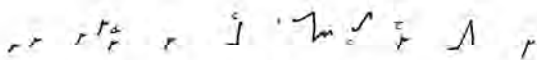
EV 498



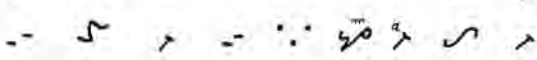
Ad ju tor

(651)

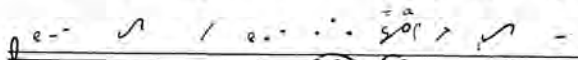
LN 24/12



BG 14v/5



EN 68/7



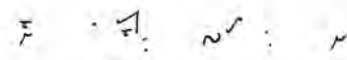
EV 677



fe cit vir tu tem,

(652)

LN 70/13



BG 30/12



EN 152/11



EV 1043



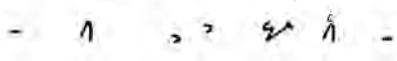
no stro.

(653)

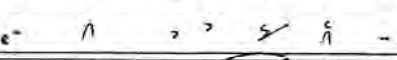
LN 65/4



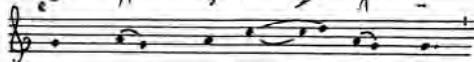
BG 28/3



EN 141/5



EV 1061



in me di o

Musical Example 654-567: Climacus subpunctis cum pede quasso,
 Pes subbipunctis cum pede quasso

(654)

LN 65/1
 SG 78/7
 MP 187/11
 EV 944

B scam

(655)

LN 72/4
 SG 82/9
 MP 149/3
 EV 1048 f

si hi,

(656)

LN 12/11
 SG 29/3
 MP 157/5
 EV 1270

ma ni bus

(657)

LN 59/8
 SG 75/4
 EN 130/4
 EV 1042

ta am

Musical Example 658-661: Gutturalis praebipunctis

(658)

CH	5/7	- - ✓ - - - ✓ - - =
LN	15/2	. . ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
EN	14/9	. . ✓ / - ✓ ✓ / ✓ ✓ ✓ -
EV	343	
		Ve ni, et o sten de no bis

(659)

GL	18/7	. . ✓ - p - <i>mf</i> -
BG	11/13	- - ✓ - p / <i>mf</i> -
EN	50/2	. . ✓ - p / <i>mf</i> -
EV	459	
		Ec ce ad ve nit

(660)

CH	13/10	- - ✓ - ✓ N ✓ ✓ / = ✓ - =
BG	11v/14	- - ✓ - u N ✓ ✓ / ✓ <i>mf</i> ✓
EN	53/5	e . ✓ - e u N ✓ ✓ / ✓ <i>mf</i> ✓
EV	477	
		ec ce cu jus im pe ri i

(661)

CH	21/6	- - ✓ - ✓ - ✓ - ✓
LN	33/3	. . ✓ ✓ ✓ ✓ ✓ ✓ ✓
EN	85/1	e . ✓ <i>pc</i> - ✓ ✓ / u / ✓
EV	504	
		qua re fa ci em tu am

Musical Example 662-665: Torculus with Gutturalis

(662)

CH 7/10	-	∧	∨	-	∧	∨
LN 19/8	∨	∩	∨	∨	∩	∨
EN 27/4	-	∩ ^{cm}	∨	-	∩	∩
EV 404						
	in	no		mi		ne

(663)

CH 69/2	-	∩	∨	-	-
LN 123/13	∩	∩	∨	∩	∩
EN 252/1	∩	∩	∩	∩	∩
EV 854					
	E	xau	di,	Do	mi ne,

(664)

CH 27/4	-	-	∩	∩	∩
LN 44/10	∩	∩	∩	∩	∩
EN 106/10	-	∩	∩	∩	∩
EV 1060					
	sa	cri	fi	ci	um

(665)

CH 47/6	∩	∩	=	∩	∩
LN 77/1	∩	∩	∩	∩	∩
EN 165/2	∩	∩	∩	∩	∩
EV 571					
	ab	in	sur	gen	ti bus

Musical Example 666-669: Climacus, Clivis, Quilisma subbipuncte or Quilisma/Torculus with Gutturalis

(666)

CH 19/4	- -	≡ / - ^ ≡	✓ -
LN 28/9	^	✓ ^	✓ ^
EN 75/12	l -	l -	l -
EV 1221			
	ci	vi	ta
			tem

(667)

CH 3/15	- -	^ /	-
LN 11/11	^	^	^
EN 8/11	-	/	^
EV 337			
	a	ver	ti
			nti

(668)

CH 44/8	- ^	^	^
LN 72/4	^	^	^
EN 155/6	l	l	l
EV 1049			
	Do		mi (ni)

(669)

CH 94/18	/	=	^
LN 154/4	9	^	^
EN 323/6	l	l	l
EV 1029			
	au	di	ant

**COLLATIONS OF
LATIN NEUMATIC NOTATIONS**

Chart 1/1: Twelve Neumatic Versions of the Easter Alleluia
Pascha nostrum

GERMAN	LZ f. 39v	
ALEMANIAN	SG p. 107	
ALEMANIAN	GL p. 76	
GERMAN	BG f. 40v	
ALEMANIAN	BN p. 207	
LORRAINE (Metz) (Metz neumes)	LN p. 103	
LORRAINE (Metz) (Metz neumes)	Laon 226 f. CXXXI	
BRETON	CH p. 108	
NORTHERN FRANCE	MP p. 119	
NORTHERN ITALIAN	Verona CV f. 206	
BENEVENTAN	BEN f. 125v	
AQUITANIAN	YRX p. 153 (h)	
	EV S. 779	

Chart 1/2: Easter Alleluia Pascha nostrum

LZ	-				-							
SG	-				r							
GL	-				r							
BG	-				r							
EN	- im				b							
LN	r				r							
Leon 226												
CH	-					multilated leaf						
MP	-				r							
		i	ĩm l m	l m l	k l k h	u g	l m l	m l	m l i	k l k	l k h	u g
Verona CV					r							

BEN

YRX

EV

(1a)

Chart 1/3: Easter Alleluia Pascha nostrum

LE	/ ʃ ʌ ʃ ʌ ɛ	/ - ʃ ʌ ʌ = ʌ ʌ ʃ:
SG	/ ✓ ʃ ʃ / ʃ	/ - ʃ ʃ ʃ = ʃ ʃ ʃ -
GL	/ ✓ ʃ ʃ ʃ ʃ	/ - ʃ ʃ ʃ ʃ = ʃ ʃ ʃ -
BG	/ ✓ ʃ ʃ ʃ ʃ ʃ	/ - ʃ ʃ ʃ ʃ = ʃ ʃ ʃ -
EN	ʃ ʃ ʃ ʃ ʃ ʃ ʃ	/ - ʃ ʃ ʃ ʃ ʃ ʃ ʃ
LN	ʃ ʃ ʃ ʃ ʃ ʃ ʃ	ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ
Leon 226	ʃ ʃ ʃ ʃ ʃ ʃ	ʃ ʃ ʃ ʃ ʃ ʃ ʃ

CH multilated leaf ʃ / - ʃ ʃ ʃ - ʃ ʃ - ʃ

MP	/ ʃ ʃ ʃ ʃ ʃ	/ ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ
	1 gh ghf hkh ih ʃg	k i lnlm lnl ml kl ml ml klk ʃi

Verona CV ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ ʃ

BEN

YRX

EV

(1a). V.Pas cha no strum

Chart 1/4: Easter Alleluia Pascha nostrum

LZ - - / /: /: 11 11 / /: /: 11 11 /: .: .: /

SG ^f 7 ? / /: /: 11 11 / /: /: 11 11 /: .: .: /

GL - / / /: /: 11 11 / /: /: 11 11 /: .: .: /

BG ^f - / / /: /: 11 11 / /: /: 11 11 /: .: .: /

BN ^f 7 7 / /: /: 11 11 / /: /: 11 11 /: .: .: /

LN . . /: .: .: .: /: .: .: .: /: .: .: /

Leon
226 7 7 / /: /: 11 11 / /: /: 11 11 /: .: .: /

CH / - /: .: .: .: /: -: .: .: .: /: -: .: .: .: / multilated leaf

MP / / / /: /: 11 11 / /: /: 11 11 /: .: .: /
k l lo pow onl onnl op on onnl onnl mlk kkh kl

Verona
CV 7 7 / /: /: 11 11 / /: /: 11 11 /: .: .: /

BEN

YRX

EV

lm no la

Chart 1/5: Easter Alleluia Pascha nostrum

LZ	
SG	illegible
GL	
BG	
BN	
LN	
Leon 226	
CH	multilated leaf
MP	 m l k ik h 's ik le l' il il ih g ih g hg g
Verona CV	

BEN

YRX

EV
tus est

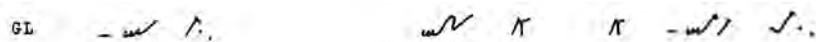
Chart 1/6: Easter Alleluia Pascha nostrum

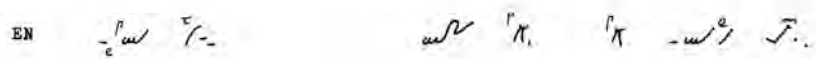
LZ							the ending is not notated
SG							
GL							the ending is not notated
BG							
EN							
LW							
Laon 226							
CH							the final neume group marks the beginning of the Alleluia jubilus
MP							
Verona OV							
BEN							
YRX							
EV							

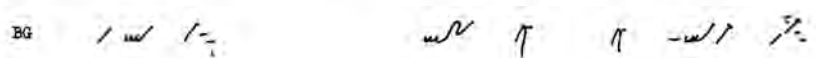
Chart 2/1: The Communion for Easter Saturday and the corresponding Troparion for Easter and Christmas in asmatic style, sung instead of the Trisagion (text: Paulus, Gal. 3, 27)

ALEMANIAN	GL p.82	
ALEMANIAN	EN p.225	
GERMAN	EG f.44	
NORTHERN ITALIAN	Angelica 125 f.115	
BENEVENTAN	BEN f.144v	
LORRAINE (Metz) (Metz neumes)	LN p.112	
BRETON	CH p.64	
AQUITANIAN	YRX p.162 (d)	
	EV S.807	
MIDDLE BYZANTINE	Grottaferrata Γ.γ.Ι f.34 Messina 129 f.45 Vaticanus gr.1606 f.44	
KONDAKARIAN	LK f.108v	
KONDAKARIAN	UK f.182v	

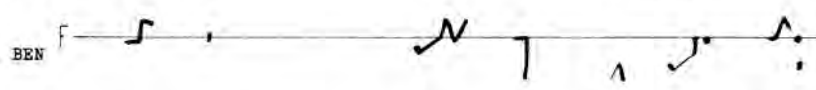
Chart 2/3: Communion for Easter Saturday

GL 

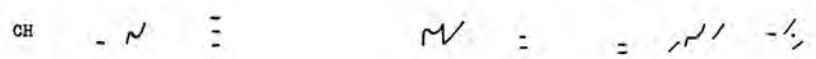
EN 

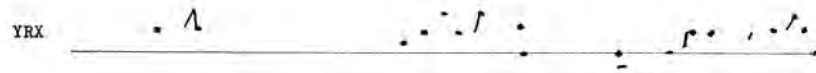
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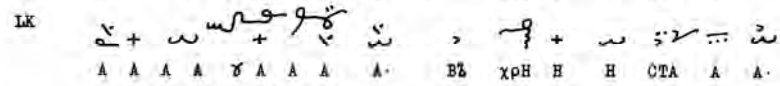
LN 

CH 

YRX 

EV 
 e stis, Chri stum

Γ.γ.Ι 
 ε ε γ ε ε ε Χρῖ σ το ο γγος.

LK 
 Α Α Α Α γ Α Α Α Α Βλ̅ χρΗ Η Η ΟΤΑ Α Α.

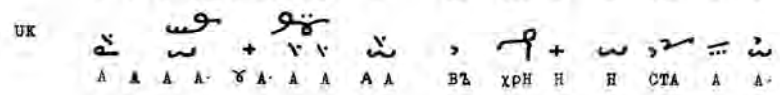
UK 
 Α Α Α Α γ Α Α Α Α Βλ̅ χρΗ Η Η ΟΤΑ Α Α.

Chart 2/5: Communion for Easter Saturday

GL	1 p	//	~	-
EN	1 p	//	~	-
BG	1 p	//	~	-
Ang.	1 f	//	~	-
BEN	F —————			
LN	1 p	//	~	-
CH	//	//	~	-
YRX	1 p	//	~	-

EV

al le lu ia.

ΓΥΙ

Ζ α α λλε. ε ρ ε γγε ε λου ου ου ε ε α γγα α γγαα.

LK

Α Α Α Α ΑΕ. Ε Ε ΧΕ ΧΕ. ΛΟΥ ΟΥ ΟΥ ΟΥ ΟΥ ΓΗ Α Α Α Α Α.

UK

Α Α Α Α ΑΕ Ε Ε ΧΕ ΧΕ ΑΥ ρ ρ ρ ρ ΓΗ Α Α Α.

APPENDIX

History of the Reception of the Universale Neumenkunde, 1970 – 2010

by Neil Moran

In 1955 Constantin Floros graduated from the University of Vienna with the dr. phil. degree and in the fall of 1957 he took up studies on Gregorian chant and Byzantine church music at Hamburg University with Prof. Heinrich Husmann. In 1961 he completed a three volume study of “Das mittelbyzantinische Kontakienrepertoire: Untersuchungen und kritische Edition”. He then began to study the repertory of the kondakaria and the relationships between the Paleo-Byzantine, Old Slavonic and Latin neumatic notations. In 1962 he was able to isolate the key for deciphering the kondakarian notation. His two-part study entitled “Die Entzifferung der Kondakarien-Notation” was published in *Musik des Ostens* in 1965 and 1967. The manuscript of the first three books and some chapters from the fourth and fifth books of the *Universale Neumenkunde* were completed in the fall of 1966. In this form the manuscript was submitted to the Austrian Academy of Sciences in the fall of 1967. The fair copy of the tables and graphs in the third volume took almost two years to complete. The work appeared with Bärenreiter in 1970.

Within the next few years reviews of the UNK by Egon Wellesz, Miloš Velimirović, Michel Huglo and Max Haas appeared in international journals.

Both Egon Wellesz⁵⁸⁷ and Miloš Velimirović⁵⁸⁸ were overwhelmed by the amount and scope of the material yet they seem to have examined most of aspects presented in the three volumes. Given the title Wellesz expected “*a survey of every aspect of the many systems of neumatic notation, arranged historically and paleographically, as we find in P. Wagner's Neumenkunde*“ and he was puzzled that Floros did not begin the study with a discussion of the origins. He considered Vol. III to be “*the most useful part of the 'Neumenkunde', though it is difficult to find the references to the music examples*” due to the lack of an index.”

Miloš Velimirović acknowledged that Floros’ “*previous publications have established him as an erudite competent scholar*” but he considered many aspects of the study to be highly controversial. Floros had obviously invested a tremendous amount of work into his study of neumatic notation but it would be seen if Floros’ hypotheses would stand up to the test of time.

587 Egon Wellesz, *Music & Letters* 53 (1972): 79-81.

588 Miloš Velimirović, *JAMS* 25 (1972): 479-483.

The reviews of Michel Huglo and Max Haas on the other hand were extremely critical. Michel Huglo⁵⁸⁹ maintained that references to the work of previous researchers was deliberately “*plus parcimonieuses*”. He said that “*sur la plupart des problèmes, l’A. donné sa solution personnelle, sans accorder à ses prédécesseurs, si éminents soient-ils, l’honneur d’une discussion courtoise et objective*” and criticized his attitude “*scientifique*”. The chapters on the Latin neumes were among “*les plus discutables*”. As for Floros’ discussion of the names of the neumes Huglo commented “*A ce compte il ne serait pas impossible de rapprocher le sténographie moderne de l’écriture arabe !*” The date proposed by Floros for the introduction of neumatic notation to the West “*n’est pas acceptable*”. He considered the UNK to be “*l’exposé d’une thèse personnelle*” adding a rather nasty inuendo: “*On remarquera l’ouvrage n’est pas édité; au sens précis du terme, mais livré par Bärenreiter: quel sens donner à cette petite nuance? Au lecteur de s’informer...*”.

In a 17 page article Max Haas⁵⁹⁰ attacked the very idea of a “Universale Neumenkunde” because Latin and Paleo-Byzantine neumes were so different and he reproached Floros for his method of comparing the neumes without taking the characteristic traits of the neumatic notation into consideration. He disputed many of Floros’ interpretations of the signs while ignoring Floros’ research results on the names of the neumes and the litterae significativae.

The opinions of Huglo and Haas prevailed in the following years and were evoked (usually in a footnote) whenever the occasion might arise for comparisons of Latin and Greek sources. Helmut Hucke⁵⁹¹ added a footnote in his article “Toward a New Historical View of Gregorian Chant” which reads: “*C. Floros (Universale Neumenkunde (Kassel, 1970), II, pp. 232 ff. With regard to Floros’s book cf. M. Haas, ‘Probleme einer ‘Universale Neumenkunde.’ Forum Musicologicum, Basler Studien zur Musikgeschichte, I (Bern, 1975), pp. 305-22.*”

In footnote 92 in an article on “Reading and Singing: On the Genesis of Occidental Music-Writing” Leo Treitler⁵⁹² wrote:

The major exception is the attempt by Constantin Floros to derive the Latin neumes from the Byzantine system (*Universale Neumenkunde*, 3 vols., Kassel, 1970). The attempt is unsatisfactory on one side, because it is as though one were studying the transformation of one biological form into another without taking into account the environment. And on the other side it fails on a host of technical grounds – paleographical, chronological, semiotic – which have been summarised by M. Haas, ‘Probleme einer “Universale Neumenkunde”’, *Forum Musicologicum*, 1 (1975), pp. 305-22.

589 *M. Huglo, Revue de Musicologie* 58 (1972): 109-112.

590 „Probleme einer ‘Universale Neumenkunde’” *Forum Musicologicum* 1 (1975): 305-22.

591 “Toward a New Historical View of Gregorian Chant” *JAMS* 33 (1980): 437-67.

592 *Early Music History* 4 (1984): 135-208

Kenneth Levy⁵⁹³ added his commentary in footnote 14 of an article “On the Origin of Neumes”:

The notion of Greco-Byzantine origin, going back to Riemann (*Studien zur Geschichte der Notenschrift* [Leipzig, 1878], p. 112), has been revived by C. Floros (*Universale Neumenkunde* [Kassel, 1970], II, pp. 232ff.), whose theories should be approached with caution indicated for the Latin notations by M. Huglo in *Revue de Musicologie*, 58 (1972), pp. 109-112, and for the Byzantine notations by M. Haas, ‘Probleme einer “Universale Neumenkunde”,’ *Forum Musicologicum*, 1 (1975), pp. 305-22.

Similarly Christian Meyer⁵⁹⁴ in a review of *Vom Mythos zur Fachdisziplin, Antike und Byzanz* remarked: “*On relira, sur ce point, les réserves déjà formulées par Michel Huglo dans son compte rendu de la Universale Neumenkunde (1970) de C. Floros (Revue de Musicologie, vol. 58/1 [1972], p : 109 -112) “.*

The general approach however was to ignore the work of C. Floros completely. In 2009 Thomas F. Kelly published a two volume set with the titles *Chant and its Origins* and *Oral and Written Transmission in Chant* in the series *Music in Medieval Europe*.⁵⁹⁵ Consisting of 37 contributions (over 1,000 pages) with the “*best current scholarship in the study of medieval music*“, the only reference to Floros is the footnote by Huckle cited above. Floros is not mentioned in Richard Crocker’s “Gregorian studies in the 21st century” nor in David Hiley’s “Writings on Western plainchant in the 1980s and 1990s”. At a conference in honor of David Hughes at Harvard University, Charles Atkinson gave a paper on the text “*De accentibus toni oritur nota quae dicitur neuma*”. Although Floros devoted an entire chapter to this text (cf. above, chapter IX), the UNK is not cited. That the study was not unknown to the distinguished Harvard audience is revealed however by Atkinson’s quip: “*It will not be my purpose here to attempt a new “Universale Neumenkunde”.*

In 1997 Paula Higgins, editor of the *Journal of the American Musicological Society* included the following anonymous commentary in her rejection notice for an article of mine on the medial modes:

The author’s knowledge of the topic seems to be based largely on Floros’ *Universale Neumenkunde*, an idiosyncratic book that overvalues East-West resemblances and thus overstates the degree to which Eastern and Western chant repertoires influenced each other. In the Middle Ages, as today, most Latins and Greeks were totally ignorant of the

593 *Early Music History* 7 (1987): 59-90.

594 *Revue de Musicologie* 92 (2006): 399-401. Cf. *Geschichte der Musiktheorie*, Bd.2: *Vom Mythos zur Fachdisziplin, Antike und Byzanz* (Darmstadt, 2006).

595 Thomas F. Kelly (ed), *Chant and its Origins* (Farnham, Surrey, UK: Ashgate, March 2009) and *Oral and Written Transmission in Chant* (Farnham, Surrey, UK: Ashgate, May 2009).

culture of the other. For some more mainstream perspectives, I recommend Max Haas, *Byzantinische und slavische Notationen* (Cologne, 1973).

Despite his involvement in research on Mahler (*Gustav Mahler*, 3 vols. 1977-1985), Beethoven (*Beethovens Eroica und Prometheus-Musik*, 1978), Mozart (*Mozart-Studien I. Zu Mozarts Sinfonik, Opern- und Kirchenmusik*, 1979), Brahms (*Brahms und Bruckner. Studien zur musikalischen Exegetik*, 1980), Alban Berg, György Ligeti, Tchaikovsky etc., Prof. Floros was not slow in taking up his pen to defend his study.

In 1972 he wrote to the editor of the *Revue de Musicologie*, François Lesure, asking him to publish his response to Huglo's review. Since he refused, a translation of this letter is given below:

REPLY

In the last issue of the *Revue de Musicologie* (Tome XVIII, 1972, 109-112) Monsieur Michel Huglo published a review of my work *Universale Neumenkunde*. I regret that I must say that this review is a pamphlet. It contains neither a correct report about the contents of the work nor does it observe the basic tenets of a scientific discussion. If I now feel compelled to challenge the statements in this pamphlet, it is only because the freedom of the press may not be abused for purposes of defamation in any country.

As drastic as it might sound: Almost every sentence of this pseudo review contains incorrect statements, intentional distortions, deceptive comparisons and malicious imputations. Almost every sentence exhibits a frightening ignorance. Some examples:

1. Monsieur Huglo maintains that I deliberately omitted a report on the previous research in the prolegomena of the first volume of the work because I had personal solutions for the majority of the problems. This statement is false. What is rather correct is that my work contains the most comprehensive research report (I, 21-35) to date. However I did not engage in fabricating accolades for researchers who did not deserve them (I can understand, that Monsieur Huglo and its friends were especially disturbed by this). If literature references are sparse in most chapters of the first volume, then this was because no literature existed. The object of my work was to a large extent a terra incognita. Both the Paleo-Byzantine and the old Slavic notations were previously generally considered to be indecipherable. I developed for the first time a method for deciphering them.

2. Monsieur Huglo maintains that I cited Oliver Strunk's facsimilia collection *Specimena notationum antiquiorum* only six times in 700 pages.

That is false. Alone in the first volume on pages 52-67 the collection is cited 18 times, on pages 321-324 21 times, however to be sure under the abbreviation SNA. Should Monsieur Huglo have overlooked the indices of the abbreviations?

3. Monsieur Huglo maintains that I only cited the works of Carsten Høeg twice or three times, and then only in comments. Also that is false. What is correct is that I discussed Høeg's studies on the Old Slavic church music (I, 24 f.) on the heirmologion Iviron 470 (I, 326 f.), on the dating of some Paleo-Byzantine heirmologia (I, 361) and on the ekphonetic notation (II, 208-213) in detail.

4. Monsieur Huglo states that I did not refer in the first volume of my work to J. Raasted's book on the martyria. To this I would like to first of all only say that Raasted and I examined the problem of the martyria from different viewpoints and came to different conclusions.

5. Monsieur Huglo tries to give the impression, that I. D. Petresco in his *Études de paléographie musicale byzantine* (Bucarest, 1967) had referred to the existence of chants in medial modes before me. Such an impression does not correspond to the facts. Independent of Petresco and already before him I dealt with the problem of the medial modes and their martyria for the first time in my study on deciphering the kondakarian notation (*Musik des Ostens*, III, 1965 and IV, 1967). References to the research results from this study are to be found in the *Universale Neumenkunde* (I, 184f., 284-288, II, 241-249, 271f.). Monsieur Huglo must have also overlooked these references.

6. Monsieur Huglo proposed in a study of 1954 that the Greek names of the Latin neumes were first introduced long after the actual origin of the notation. I refuted Huglo's thesis on the basis of a very comprehensive investigation (II, 184-207). Monsieur Huglo persists with his old standpoint without dealing with my research results. Is this really a scientific attitude?

7. Monsieur Huglo correctly asserts that the graphic identity of the signs does not suffice for a productive comparison of the Byzantine with the Latin neumes. It all depends on their meanings. Monsieur Huglo intentionally conceals however that this demand comes from me and that I based the semasiological investigations of the second volume on it. Did Monsieur Huglo even read my introductory discussion on my research principles (II, 12-15)?

8. Monsieur Huglo clearly exhibits a very deficient knowledge in the field of the neumatic notation. For example he expresses the opinion in all seriousness that a comparison of the Byzantine with the Latin notation can not be possible, because the Byzantine notation is diastematic, while the Latin on the other hand is adiastematic. I regret that I must say that Monsieur Huglo has confused the most elementary concepts. Only the Middle Byzantine notation is diastematic. The Paleo-Byzantine and Old Slavic notations are on the other hand adiastematic (cf. I, 16f.) and are in same measure "cheironomic " as the Latin notations.

9. Monsieur Huglo maintains that I did not deal with the problems of the classification of the Latin notations. That is false. Apart from the fact that such problems are taken into consideration in the treatment of the individual neumes, the relationship of the various "schools of notation" are repeatedly discussed in detail (II, 36f., 234-236). Did Monsieur Huglo also overlook this?

On the basis of the above two conclusions can be drawn:

1. Monsieur Huglo wrote a review of a book consisting of over 1054 pages of which he read at best the table of contents and a couple of pages.
2. Monsieur Huglo proved his incompetence in the field of neumatic notation in a very deplorable manner.

Constantin FLOROS

In 1980 Floros published *Einführung in die Neumenkunde* (Wilhelmshaven, 1980) as an aide for navigating through the material presented in the UNk. The translations of this book into Greek by Kostas Kakavelakis as Η ελληνική παράδοση στις μουσικές γραφές του Μεσαίωνα (Thessaloniki, 1998) and later into Bulgarian by Elena Tončova as Въведение в невмознанието: Средновековни нотни системи (Sofia, 2006) had a profound influence on researchers in Eastern Europe. In 1984 Bjarne Schartau and Jørgen Raasted published "Indices to the Greek Examples in Constantin Floros, *Universale Neumenkunde* III"⁵⁹⁶ In 2005 Floros published his very important article on "Byzantinische Musiktheorie" with a discussion of "Beziehungen zur mittel-lateinischen Choraltheorie"⁵⁹⁷.

596 *Cahiers de l'Institut du Moyen-Âge grec et latin* 48 (1984): 105–30.

597 In: *Vom Mythos zur Fachdisziplin. Antike und Byzanz* (= Geschichte der Musiktheorie, Bd. 2), ed. by F. Zamminer and T. Ertelt (Darmstadt, 2006): 257-318. Relationships between Byzantine and Latin notations are also discussed in his articles „Über Zusam-

Among researchers who based their studies on the UNk were Finn Egeland Hansen⁵⁹⁸, Olaf Strömer⁵⁹⁹ and Reinhard Flender⁶⁰⁰. At an international symposium held in November 1992 in Hernen (Netherlands) his classification of the stages of Paleo-Byzantine notation were recognized as the standard classification.⁶⁰¹ A second expanded version of the *Einführung* appeared in 2000, which was translated into English as *Introduction to Early Medieval Notation*.⁶⁰²

In her review of the English edition in *Notes*, Svetlana Kujumdzieva⁶⁰³ commented:

The importance of Floros's book lies in the fact that it opened new horizons in the field of medieval chant and launched new research initiatives in general and in the field of early Bulgarian Orthodox chant in particular. First of all, the author relies on a rich material basis, representative of the three major early chant traditions that developed notational systems and are preserved in numerous musical (neumated) sources – Byzantine, Slavonic, and Latin. The approach to this material is quite innovative: the author insists on the thorough study of the neume repertories based on an interdisciplinary and comparative methodology.

In another review Alexander Lingas noted that “*in recent years the search for the origins of Latin plainchant has, with a few notable exceptions, demonstrated little interest in suggesting Byzantium as a major source for Western musical traditions*” yet “*many scholars of Byzantine and Slavonic chant have shown the work of Floros to be a good point of departure for their own research*”.⁶⁰⁴ In 2009 an English translation of the article in *Musik des Ostens* (1965 and 1967)

menhänge zwischen der Musikkultur des Ostens und des Westens im Mittelalter“ *Musica antiqua Europae orientalis* IV (Bydgosz, 1975) and „Über Beziehungen zwischen der byzantinischen und der mittelalterlichen Choraltheorie“ *Miscellanea Musicae. Rudolf Flotzinger zum 60. Geburtstag* (= *Musicologica Austriaca* 18), ed. by W. Jauk, J.-H. Lederer and I. Schubert (Vienna, 1999): 125-139.

598 R. E. Hansen, *H. 159, Montpellier: Tonary of St. Bénigne of Dijon* (Copenhagen, 1974).

599 Olaf Strömer, „Die altrussischen Handschriften liturgischer Gesänge in sematischer Notation als Hilfsmittel der slavischen Akzentologie“ *Slavistische Beiträge* 209 (Munich, 1987).

600 Reinhard Flender, *Der biblische Sprechgesang und seine mündliche Überlieferung in Synagoge und griechischer Kirche* (Wilhelmshaven, 1988). Doctoral candidates and students of Prof. Floros at the University of Hamburg include Richard von Busch, Gisa Hintze, Reinhard Flender, Ioannis Zannos, Susana Zapke and Konstantinos Kakavelakis.

601 Jørgen Raasted and Christian Troelsgård (ed.), *Palaeobyzantine Notations: A Reconsideration of the Source Material* (Hernen, 1995).

602 2nd enlarged ed. (Wilhelmshaven, 2000). English translation as *Introduction to Early Medieval Notation*. Enlarged second edition. Revised, translated and with an illustrated chapter on cheironomy by Neil K. Moran (Warren, MI, 2005).

603 Svetlana Kujumdzieva, *Notes*, Second Series, 64 (2008): 489-490.

604 *Early Music* 37 (2009): 300-302.

on the kondakarian notation appeared as *The Origins of Russian Music: Introduction to the Kondakarian Notation*.⁶⁰⁵

There are signs, however, that this campaign has been losing its steam, at least in Europe. In February 2010 Oliver Gerlach commented as follows on the internet site “musicologie medievale”: “*Pour moi c'est un grand plaisir de réaliser que mes collègues des sources latines ont finalement reconnu la qualité du grand travail de Constantinos Floros. Ce n'était pas toujours comme ça*”.⁶⁰⁶ As for the scholars dealing with Gregorian chant who continue to reject the research results of the UNK, an axiom formulated by Max Planck might be recalled:⁶⁰⁷

A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it.

605 *The Origins of Russian Music: Introduction to the Kondakarian Notation*. Revised, translated and with a chapter on Relationships between Latin, Byzantine and Slavonic Church Music by Neil K. Moran (Frankfurt am Main, 2009).

606 *gregorian-chant.ning.com*. Cf. the disertation of O. Gerlach *Im Labyrinth des Oktōich. Über die Rekonstruktion einer mittelalterlichen Improvisationspraxis in der Musik der Ost- & Westkirche* (Humboldt University Berlin, 2006).

607 Max Planck: *Vorträge und Erinnerungen*, 8. Auflage (Darmstadt, 1965): 333: „Eine neue wissenschaftliche Wahrheit pflegt sich nicht in der Weise durchzusetzen, dass ihre Gegner überzeugt werden und sich als belehrte erklären, sondern vielmehr dadurch, dass ihre Gegner allmählich aussterben und dass die heranwachsende Generation von vornherein mit der Wahrheit vertraut gemacht ist“.

Forty Years After Constantin Floros’ Universale Neumenkunde. Some New Insights.

by Luca Ricossa

Forty years have already elapsed since the publication of Floros’ *Universale Neumenkunde*. This monumental work in three volumes could have opened a new era for the semeiological scholarship but it met with a hindering wall of tabus and received ideas, especially in the field of Gregorian research. Bypassing the official school, Floros followed in the steps of Dechevrens and Jeannin, and this original sin resulted in his work being ignored.

True, his book questioned more than giving solutions and easy answers, but those suggestions and openings should have been the starting point of a renewed semeiological school. The author himself was under the influence of the western antirhythmic doctrine, as it appears in his transcriptions, although Van Biezen’s dissertation: *The Middle Byzantine Kanon-Notation of Manuscript H* was published already in 1968. But this book was also set apart in the academic world and it was not until the last few years that Arvanitis came through different methods to the same conclusions as Van Biezen about the rhythm of the heirmological and sticheraric chant. Those ideas were later applied with success to the repertory of the Gregorian office antiphons.

In my opinion, Floros offered two fundamentals to the research: a serious study of the stenographical parts of the Byzantine and Latin neumatic notations and a shy opening in the rhythmical questions. But perhaps the greatest contribution of the *Neumenkunde* resides in its comparative tables. Forty years after its first publication, the *Neumenkunde* is worth to be used as the basis of new developments.

Exegesis

The possibility of performing a chant item differently according to the occasion constitutes a fundamental characteristic of the Byzantine music. A melody can typically be performed as *σύντομον* (or quick), *σύντομον αργόν* (moderated) or *αργόν* (slow). At first sight, this performance practice seems foreign to the Latin chant tradition. Nonetheless some traces of it subsist, not only in theoretical treatises (like the famous encyclopedical work of Hieronymus de Moravia), but also in the Old Roman manuscripts. For example two antiphoners notate the antiphon *Crucifixum in carne* for the Easter vespers in three different ways. In the Antiphoner of London (BM 29988), as a quick chant:



Then as a moderate and slow chant as in the Antiphoner of St Peter's (B 79 - I add the unnotated but necessary B-flats).



There was not one single way to sing one chant, because the melodies could change according to the solemnity or the situation. It seems probable to me that when the children had to learn a new chant, they memorized simple versions before acquiring the skill to render them in the appropriate way by applying the ornamentation techniques according to a local style.

Ornamentation and Stenography



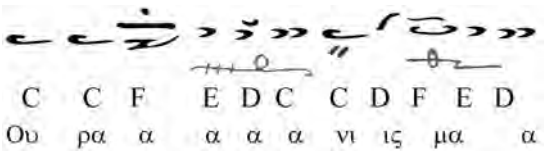
Comparing Byzantine and Latin notations, Floros came to the conclusion that both had a partial stenographic character. He considered neumes like the quilisma, pressus, and generally speaking every sign based on different forms of the oriscus, as stenographic signs representing more complex acoustic realities. Unfortunately, his tables show only Gregorian sources which only offer stenographic notations without apparent melodic analysis of the ornaments. Had Floros taken in consideration the so-called Old Roman – or Milanese – repertory, he would have had more weapons at his disposal, because these Italian repertories notate the majority of the ornaments in an analytical way very often confirming the insights of the author.

Quilisma and Other Ornaments

Floros assimilates the Gregorian quilisma (also known as vox tremula) not with the κῶλισμα (سند), but with the ανατρίχισμα (↪). He notes that – Bd. 2, p.71

– that the ανατήριγμα is rendered in many sources by a theta figure including a κύλισμα, showing a relationship with different sorts of Θέμα, such as the ουράνισμα. He thought that the Gregorian quilismata could represent analytical figures, supposing nevertheless an original stenographic signification of the neume. The comparative study of the Roman and Gregorian repertories shows that his vision was fundamentally correct. The ROM chant translates the Gregorian quilismata with different figures characterized by a greater or lesser development, spanning from a simple ornament up to big formulas rarely found as such in the GRE repertory.

The beginning of the responsory Domine ne in ira tua is a good example of the Roman grand quilisma, rendered in a similar –although not identical– way in the Gregorian version:

ROM	GRE
	
<p>Ouranisma</p> 	

The similarity is evident, but I should add that, if this formula is used on every page of the Old Roman books, it is almost never translated in such an explicit way in the Gregorian graduals and antiphoners. Hence the question about the correct interpretation of the Gregorian quilisma. It should also be noted that the ουράνισμα I give here according to the μέγα ἴσον attributed to Koukouzelis, should also probably be sung with more notes than the ones represented here, which adds again to the similarity of the formulas (cf. infra).

Floros was also the first to draw attention to the existence of a quilisma descendens, although his correct remarks stayed most of the time unheard. He considered this figure in near relationship with the quilisma and the κατάβα τρόμικον. For sure, if the quilisma descendens is only noted in some notational schools (French, Hispanic, Bologna, among others) its very existence is a matter of fact.

At the page 294 of the third volume of the Neumenkunde, Floros proposes his transcription of a very common Gregorian cadence formula. It contains a repeated note, written sometimes as an oriscus, sometimes as a strophicus (this

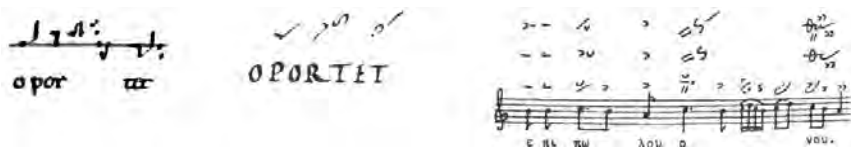
fact points to the ornamental character of the latter, which was unfortunately not considered by the author). The Old Roman manuscripts translate systematically this formula with a musical turn resembling to the one suggested by the scholar, represented by a *κάταβα τρόμικον* with *κόνδευμα* (page 46, examples page 115):



In the illustration, we find on the left the notation of the formula according to the Antiphoner of St Peter's, and on the right its Gregorian counterpart with two neumatic notations added: above, a St Gall manuscript (Antiphoner of Hartker) and beneath a French manuscript (Mont Renaud). The latter notates the downward movement from F to D with a *quilisma descendens*, corresponding in the Byzantine notations to an *ὑπορροή* (which is not always notated, like in the *ὀυράνια* cited before). The next example shows that the formula can sometimes be noted by a similar *κρατημοκατάβασμα*:



Floros next equates the *salicus* and the *pes quassus* with the *χόρευμα* (p. 295). Once again the Roman sources confirm his suggestion:



The Importance of the Comparative Tables

The complete third volume of the *Neumenkunde* is devoted to musical examples. These are always organized in tables systematically superimposing a number of more or less important manuscripts. A comparative study of the sources is essential for shedding light on the significance of the old notations, because – apart from the cases of true variants – they very often notate the same musical reality by different means. Thus, not only can the various formulas be described in a more or less precise manner, which helps to compensate for what is missing

when the scribe left the execution up to the interpretation of the cantor, but especially the notation of the same formulas using more or less the same signs helps to reveal the rhythmic interpretation of the latter.

I have for example transcribed the following table according to the method of Van Biezen (roughly equivalent to that of Arvanitis) which Floros gives on the page 226 of the third volume of the *Neumenkunde*:

τη ση οι - κο - - νο - μι - α

τη ση οι - κο - - νο - μι - α

τη ση οι - κο - νο - μι - α

One first notices the equivalencies: the *πετασθή* alone is rhythmically equivalent with the *δυο κεντήματα*, as the combination with the *τζάκισμα* corresponds to the *κούφισμα* standing alone. Even more interesting is the metrical re-elaboration of the third source, which opts for the ordinary accentuation of the word *οικονομία* by suppressing the *ξηρὸν κλάσμα* (that in this case seems to have the form of the *τρόμικον* in the educational song of Koukouzelis). Usually, the substitutions of the signs confirm the intuitions of Van Biezen. Thus, table xvi, line 9 (p. 203) shows the equivalence between $\text{τ} > \gg$ and $\text{τ} \text{τ} \gg$ (therefore: $\text{τ} \text{τ} \text{τ} \text{τ} \text{τ} \text{τ}$). Or again, the examples 636 and 637 (p. 354) reveal that the indication of length (here the *μέγα κράτημα*) does not pertain to the notation but rather to the syllable. Here one finds in fact a long syllable sustained with two notes, of which the first one is provided with the hypostasis, replacing the two normal syllables. The group *ὀλίγον - ὄξεϊα* with *διπλή* on a single long syllable also corresponds moreover to two normal syllables:

Ως κα - λος και δο - τρι - βης

Πυλας χαλκας συν - ετριψας

Example 41 (p. 64) is even more interesting, for it shows the equivalence between a single long note and four notes carrying a lengthening sign (διπλή), all on one and the same syllable.

πως ου καθευ - - δει

πως ου καθευ - - δει

This demonstrates once again that the rhythmic signs do not generally apply to the note but rather to the syllable.

All these equivalencies can be found in the notation of the Gregorian chant. Thus, for example, the square pes (✓) systematically replaces two syllables (- /), just as the clinis with the episeme (↗ = / -), the lengthening sign, affects the syllable, not the note.

One could again multiply the examples that are really innumerable, while demonstrating as well that the volumes of Floros have an immense potential for exploration, not least because the tables from so many different sources immediately put the various manners of notating the same chant at the disposal of researchers. His work, while not giving the last word in the domain of semeiology, could today certainly again be the point of departure for productive developments, both in the domain of the Byzantine music as well as in the area of the Gregorian chant, given that the rhythmic conceptions resulting from a

consideration of comparative studies of the notations of the heirmologion and sticherarion are identical to those underlying the chants of the Gregorian (and Roman) refrains of the office.

(This article by Professor Ricossa was translated from French to English by Neil Moran with the permission of the author.)

Abbreviations

AfMf	Archiv für Musikforschung
AfMw	Archiv für Musikwissenschaft
AMI	Acta Musicologica
BN	Bibliothèque Nationale
BZ	Byzantinische Zeitschrift
ChN	Chartres Notation
CoN	Coislin Notation
CoussS	E. de Coussemaker, <i>Scriptores de musica medii aevi</i>
CSM	Corpus Scriptorum de musica, American Institute of Musicology
CSCO	Corpus scriptorum christianorum orientalium
CIMAGL	Cahiers de l'Institut du Moyen-Age grec et latin
EGM	P. Wagner, <i>Einführung in die gregorianischen Melodien</i>
EV	Editio Vaticana of the <i>Liber usualis Missae et Officii</i> , ed. Desclée no. 780, Tournai, 1962
GerbertS	M. Gerbert, <i>Scriptores ecclesiastici de musica sacra</i>
JAMS	Journal of the American Musicological Society
KmJb	Kirchenmusikalisches Jahrbuch
KonN	Kondakarian Notation
MbzN	Middle Byzantine Notation
MdM	J. Smits van Waesberghe, <i>Muziekgeschiedenis der middeleeuwen</i>
MdO	Musik des Ostens
Mf	Musikforschung
MGG	Die Musik in Geschichte und Gegenwart
MMB	Monumenta Musicae Byzantinae
MQ	Musical Quarterly
NMG	A. Mocquereau, <i>Le nombre musical grégorien</i> (English edition), Tournai
Pal Mus	Paléographie Musicale
PL	Patrologia Latina
SIMG	Sammelbände der Internationalen Musikgesellschaft
UNk	Universale Neumenkunde
ZfMw	Zeitschrift für Musikwissenschaft

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Constantin Floros

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Five kondakarian manuscripts dating from the 11th to 13th century belong among the oldest witnesses of Russian church music. The Slavonic church texts are accompanied by a peculiar notation which represents the most complex notational system of the European Middle Ages. For centuries this system has been viewed as being undecipherable. In 1962 the author of this book succeeded in deciphering this notation using various methods even though directly compatible Greek sources were unknown at that time. His research appeared in two issues of journal which ceased publication several years ago. After the publication of the first part of this study a Greek philologist discovered in Kastoria (Northern Greece) a unique manuscript with a system of notation similar to that of the Russian kondakaria, confirming there by his research results in a most unexpected and indubitable manner. This path-breaking study has been revised and brought up to date in the present publication. The prominent Russian scholar Yuri Keldysh was of the opinion that "no historian of Russian music would be able to proceed without taking into consideration this study".

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