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'LE NOMBRE MUSICAL GRÉGORIEN"

A STUDY OF

GREGORIAN MUSICAL RHYTHM

BY

DOM ANDRÉ MOCQUEREAU

OF SOLESMES

VOLUME I - PART I

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CONTENTS.

INTRODUCTION ................................................. 15

CHAPTER I.
ANALYSIS OF ARTS OF NOICE AND OF MOVEMENT.

Article 1. Division of the arts ......................... 37
Article 2. The arts of movement ....................... 38
Article 3. Time and movement ......................... 39

CHAPTER II.
SOUND AND THE MOVEMENT OF SOUND.

Article 1. Sound — Its production — Its diffusion 40
Article 2. Phenomena of sound ......................... 40

CHAPTER III.
RHYTHM, ITS FORM AND MATTER.

Article 1. Distinction between rhythmic matter and rhythmic form 43
Article 2. Method in the study of rhythm ............. 44
Article 3. Elements in the rhythm of sound .......... 46

CHAPTER IV.
THE RHYTHMIC PULSE.

Article 1. The elementary or basic pulse ............. 47
Article 2. The composite or group pulse .............. 50

CHAPTER V.
RHYTHM — SIMPLE OR ELEMENTARY.

Article 1. Rhythm is a synthesis ..................... 53
CONTENTS

Article 2. Rhythm and duration. — The quantitative order

§ 1. Iambic or unequal Rhythm. The Élan and the Repas
  (Aris and Thesis) ........................................ 56

§ 2. Equal or Spondaic Rhythm .................................... 62

§ 3. Two Motives reduced to a single rhythmic Principle:
  that of Élan and Repas ......................................... 63

§ 4. Corollaries .................................................. 64

Article 3. Rhythm and intensity. — The dynamic order

§ 1. Dynamic modifications, their three-fold object .................. 71

§ 2. The Position of Intensity .................................... 71

§ 3. Synthetic Power of Dynamics ................................... 73

§ 4. Simple Rhythms, duplex and triplex
  Exercise I. Simple Rhythm triplex Time, weak
    Ictus ........................................................... 75
  Exercise II. Simple Rhythm triplex Time, strong
    Ictus ........................................................ 76
  Exercise III. Simple Rhythm duplex Time, weak
    Ictus ........................................................ 76
  Exercise IV. Simple Rhythm duplex Time, strong
    Ictus ........................................................ 77
  Exercise V. Simple Rhythms. Alternation of duplex and
    triplex Groups of strong and weak Ictus ...................... 77

Article 4. Development of simple Rhythm

§ 1. Development within the Arsis (élan) and the Thesis
  (repos) ........................................................ 78

§ 2. The rhythmic Ictus may be placed at the Arsis or at
  the Thesis ..................................................... 82

§ 3. Practical Application of simple Rhythm with Arsis
  containing a duplex or a triplex Group
  Exercise VI. Simple Rhythm (duplex grouping at
    arsis), weak ictic ending .................................... 86
  Exercise VII. Simple Rhythm (duplex grouping at
    arsis), strong ictic ending ................................. 87
  Exercise VIII. Simple Rhythm (duplex grouping at
    arsis), weak ictic cadence, second pulse of arsis strong .... 88
  Exercise IX. Simple Rhythm (triplex grouping at
    arsis), weak ictic cadence .................................. 88

CHAPTER VI.

COMPOSITE RHYTHM.

Article 1. Rhythm-incises

§ 1. Formation of rhythm-incises by the fusion of simple
  rhythms ................................................................ 92

§ 2. Formation of rhythm-incises by the mere juxtaposition
  of elementary rhythms ........................................... 92

Article 2. Rhythm-member; — rhythm-phrase; — the greater
  rhythm .................................................................. 96

§ 1. Grouping of the incises into members and phrases ............ 97

§ 2. Dynamics in composite rhythm .................................. 98

§ 3. Practical application of composite rhythms formed by
  fusion or by juxtaposition ...................................... 99
  Exercise XII. One arsis, two thesis ............................. 99
  Exercise XIII. One thesis, one arsis, one thesis ................. 100
  Exercise XIV. One thesis, one arsis, one thesis ............... 100
  Exercise XV. Three arsis, one thesis ............................ 100
  Exercise XVI. Two arsis, two thesis ............................. 101
  Exercise XVII. One arsis, three thesis .......................... 101

Article 3. Pauses ................................................ 101

CHAPTER VII.

RHETORIC FIGURES IN GREGORIAN CHANT.

Article 1. Figures in simple Rhythm ........................................ 103

Article 2. Various designs in composite Rhythm ......................... 104

Article 3. Rhythms of four composite pulses ............................. 106

Article 4. Rhythms of five composite pulses ............................. 107
INTRODUCTION.

The study of Gregorian Rhythm which we propose to set forth is founded upon the theories taught and practised at Solesmes for more than thirty years. The traditional rendering of the liturgical melodies is based upon the Benedictine studies, and today, despite many obstacles, its followers abound. We speak then, to those who have followed us in the past as well as to those who do not yet know us and have not yet studied us.

This work was asked for and promised long ago; now at last our obligation is being fulfilled, a little late perhaps, but we must ask indulgence: these long years of silence on the rhythmic question have been rich in experiment, research and fruitful reflection. In the course of these years, we have rewritten and recast this work four or five times; our object being not to work quickly but to achieve results both definite and true.

Thirty years ago, the whole subject of Gregorian Rhythm or Nombre grégorien was very new. A profound and not superficial knowledge of it was absolutely necessary. The general laws which govern all rhythm had first to be completely mastered, then we had to penetrate deeply into the structure and internal composition of the liturgical melodies, analyze their many different notations and finally assimilate the teaching of the mediaeval authors and scholars.

Above all it was necessary to put to the proof of long experiment the theories, then so new, of free musical rhythm. This is what we have been doing at Solesmes, day after
day, for more than a quarter of a century, and it has been
done also in many cathedrals, churches, and chapels, mo-
nastic and secular, by voices of men, women and children,
by artists and by village cantors. It would be difficult
to estimate the advantages resulting from this period of
practical observation or to say how much light has been
thrown on the question of rhythm itself, as well as on the
deficiencies and imperfections which, it must be owned,
marr the teaching of the earlier days.

Those who are familiar with the Gregorian melodies will
understand us when we say that it is only by daily contact
with the Chant that the Gregorian temperament can be
formed. We have learned to speak, to sing, to appreciate
this melodious language forgotten for so many centuries,
and to become aware of its beauty. Our ear, at first
astonished and rebellious, soon allowed itself to be fasci-
nated by the charm of this free rhythm, supple and undu-
lating, for which our modern education had so little pre-
pared us. This was, at the very outset, a great advantage.

A second advantage has been gained: We have applied
and proved the value of the principal rules for rendition
proposed by Dom J. Pothier in his "Melodies gregoriennes".
Both in teaching and in practice they have seemed to us
natural and true. Their religious and aesthetic effect is
admitted even by those who are least predisposed in their
favor.

Critics, too, have had time to appear. We have con-
considered and weighed their criticism, and often have profited
by their kindly advice.

But, almost imperceptibly, from this faithful practice,
there came about an unexpected result: as the feeling for
the beauty of the Gregorian rhythm grew, there awakened
in truly cultivated minds a desire for more profound know-
ledge; they longed to analyse, to explain the effects that
had been obtained; and the true principles, true but vague
and wavering, which they had been taught, could not
finally satisfy their intelligence, straining towards greater
light.

On the other hand, as the Chant spread among seminaries,
religious communities and parishes, the direct influence
of its first masters was wanting. Practical difficulties and
hesitations arose which alone the oral teaching of an expert
could dissipate.

Still worse, the direction of devoted but insufficiently
trained teachers led to faulty renditions and incorrect inter-
pretation with failures which threw discredit on the cause
of Gregorian Chant, on its promoters and their doctrines,
thus seriously retarding progress.

In the face of these difficulties, the best minds were in
agreement both as to their cause and their obvious remedy.
The principal cause was lack of definite rules for the ren-
dition of rhetorical musical rhythm and the imperfection
of neumatic notation at least for rhythmic detail.

1. It became imperative to determine, define, and develop
the theory of rhythm, not only in its general outlines, but
even in its smallest details;

2. To fix the rhythm by means of a clear and precise
notation, intelligible to little children and simple village
cantors, a problem that must be faced by every teacher
of Gregorian rhythm if his work is to be practical.

Is the solution of this problem possible today? Un-
doubtedly.

To begin with, we are now in possession of certain
fundamental principles which enable us to restore Gregorian
rhythm along its broadest lines. The teaching given
through various Methods that have appeared within the last
years has passed into practice under the name of Rhetorical
Rhythm; on this point the work is already far advanced and

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we need only expound clearly the doctrines of Solesmes with the addition of certain details to complete our teaching.

We have now something stable on which to base further research.

The new and delicate task that lies before us is an intimate and reasoned analysis of the most minute details of rhythm. These details do not require inventing, they were known of old in theory as well as in practice: the testimony of history is conclusive, and even without it we could affirm a priori, the existence of the most minute rhythmic subdivisions, in virtue alone of internal proofs drawn from the very essence of rhythm itself.

There are, as a matter of fact, certain laws of free and natural rhythm from which neither speech nor music nor dancing can escape; for example, that fundamental law which requires that there should be at the base of every rhythmic composition a series of elementary or simple pulses (whether divisible or indivisible matters not for the moment), arranged in duplex or triplex groups, distinguished by means of rhythmic ictus or touches, or, to use the terms of modern music, grouped in binary or ternary measures.

While it is true that the liturgical chant should be classified as free rhythm (1), yet free rhythm itself, the classic type of which is ciceronian prose, is subject to the law: Sim quaedam latentis sermonis percussiones et quasi aliqui pedes (Quintillian. Or. ix.).

Gregorian melody too has its percussions, its feet, or rather rhythms, although of a very delicate nature. The writings of mediaeval theoreticians are most definite as to their existence, so definite in fact, that it requires only the slightest forcing of these texts by the modern mensuralists to give to their theories a show of reason.

The ancient writers did not confine themselves to pointing out the larger rhythmic divisions, incises, members, phrases; they carried their analysis farther and included the smallest subdivisions.

Hucbald (840-930): Veluti metris pedibus cantitena plaudatur… plandum pedes… more metri diligenter mensurandum sit, etc… Gui (1059): Ut quasi metricius pedibus cantitena plaudatur, etc.

These authors duly analysed the internal proportions of the rhythm, which are as follows:

\[
\begin{align*}
\text{aequa}: & \quad \begin{array}{c}
1-1 \\
2-2 \\
3-3 \\
4-4 \\
\end{array} & \quad \text{dupla}: & \quad \begin{array}{c}
1-2 \\
2-4 \\
3-6 \\
4-8 \\
\end{array} & \quad \text{tripla}: & \quad \begin{array}{c}
1-3 \\
2-6 \\
\end{array} \\
\text{sesqui}: & \quad \begin{array}{c}
2-3 \\
4-6 \\
\end{array} & \quad \text{sesquitertia}: & \quad \begin{array}{c}
3-4 \\
6-8 \\
\end{array}
\end{align*}
\]

They compared these feet with each other and noted their relations; they formed them into members and phrases "without other rule than the pleasure afforded to the ear", as in the prose of Cicero.

Moreover they wanted these feet, these rhythms, measured out by beats, that is, the ictus or touch were to be indicated by a sound made by the hand or foot. (1)

All these rules were true, natural, and incontestable, and they all agreed with the other texts of the same authors which represent the liturgical melodies as belonging

(1) Cf. the preceding texts and that of Hucbald, p. 29.
to free rhythm, musical or rhetorical. This rhythm cannot, of course, claim any exemption from the laws of general Rhythmics which call for the divisions recommended by the authors of the Middle Ages. Nor is the free and supple movement of the Roman Chant any more hampered by these laws than was the *prosa vienca* of the Greeks and Latins by the minute rules given by Denys of Helicarnassus, Cicero and Quintilian for the harmonious ordinance of the metrical feet which enter into its composition.

Of course theoreticians of the Middle Ages had their own way of expounding these principles; which is natural enough after all; they were men of their time. But in reading them we must know how to distinguish between the form and the substance. The form is mediæval and personal, but the substance is the faithful echo of the universal laws which have been, are, and always will be at the basis of rhythmic art.

It is clear that it would be a mistake to reject their texts on the specious pretext that these writers were metricians rather than Gregorian scholars and were expressing merely their own views. On the contrary these men were all monks: the pious and anonymous author of *Instituta Patrum*, also Aurelian, Hucbald, Blessed Notker, Guido, Odo, Aribus, etc.; all these men possessed thoroughly the *practical* knowledge of these melodies, knowledge acquired during long hours spent in reading, in psalmody, and in singing in Choir the praises of God. If then, they drew their comparisons from the laws of metrical science, the only ones accessible, it is because there were real points of contact, real analogies between these laws and the laws of Gregorian rhythm, which helped them to make their teaching intelligible. In this they followed Cicero who, in expounding the laws of rhetorical rhythm, constantly refers to the art of versification.

There is therefore nothing to do but to accept their teaching as a whole, all their rhythmic teaching, in so far as it does not contradict natural laws proper to rhythm, and is in accord with the traditions which the manuscripts hand down to us.

One thing remains certain, that free rhythm, *rhetorical* as in Ciceronian prose, and *musical* as in Gregorian Chant, comprised detailed rhythmic subdivisions.

Even if the writers of the Middle Ages had not spoken of these subdivisions, it would still have to be proved that they made no use of them in practice, and that, consequently, they cut themselves off from an essential law of natural rhythm, common to all languages, to all poetry, to all music; a thing which it is impossible either to suppose or to prove.

Those who deny this truth are faced with the task of explaining how Gregorian melody could have existed if one of the fundamental laws of rhythm had been ignored.

We come now to the question: Is it possible to recapture these subdivisions?

In a great number of cases there is no possible doubt or indecision — at least for the rhythmist.

At other times there is ground for hesitation, but by applying solid principles which we will explain, these difficulties vanish.

Then, in certain rare cases, we may be free, but in theory only; because liberty ceases the moment a practical rendition begins, above all when an accompanist undertakes to adapt his harmony to the melodies: a choice must be made between two or three possible rhythms. Here then taste may have a voice.

As for the constituent elements of this restoration, they are numerous:

a) the natural laws of rhythm;
b) the accentuation and natural rhythm of the words themselves; distinctions differing according to the sense of the words, and pauses (mora vocis) equally varied;

c) the neumatic notation, despite its imperfections, of which we shall speak in a moment; neumatic notation with its grouping of notes, with its pressus, strobicus, quilisma, etc.;

d) the melodic form, and modality of the chants which again are, in themselves, a help to the rhythmist;

e) lastly, the Romanian additions, letters and signs found in the St. Gall manuscripts, and other rhythmic signs used in various neumatic notations which are not to be disdained — all these elements are precious, not only for the determining of the rhythm, but as a proof to us that a most exquisite and natural art governed the rendition of these Gregorian melodies.

When, after using all these means with intelligence and prudence we have made a profound rhythmic analysis, the great question is how to reproduce and present this recaptured rhythm in a system of rhythmography that will be adequate and clear.

Is not the neumatic notation, then, quite sufficient in itself?

Alas no.

Unless we wish to shut our eyes to the most evident facts and deceive ourselves, we must loyally admit, after twenty-five years' experience, that the notation of the first Solesmes books, in spite of excellent qualities, failed to convey the details of the Gregorian rhythm as we now understand them, failed also to meet the practical needs of our choirs, and failed to satisfy our harmonists. From all these points of view, the notation of the first Solesmes books was defective and incomplete.

It is true that when this notation appeared it was an immense progress over the detestable square notes scattered at random in the editions of that period. It was therefore welcomed with great favor, but its defects soon became apparent in practice. We might cite many witnesses to this fact but we shall quote only one.

"If from the partisans of the present system of notation (that of the Liber Gradualis published in 1883 and 1895) we were to convok the most experienced choirmasters and the most competent professionals, we should challenge them to render with "ensemble" and perfect rhythm without previous explanation and practice, the majority of the Gregorian melodies. We have had this avowal from many quarters and hundreds of times. What result therefore can one possibly hope for in the case of the average singer?

"It would indeed be a treat to hear these gentlemen conduct a choir, above all a choir with accompaniment. We seem to hear in our fancy one boy observing a mora vocis, while the boy next to him continues the movement without a pause; another boy puts in a duplex group while his neighbor firmly makes it triplex — and to complete this delightful harmony and unity, the organist places his chords on the up beat instead of on the downbeat!... There is no reason why a musician of taste, a master of Gregorian Chant, should not allow himself such freedom of interpretation as actually exists in many cases — but only when he is singing a solo. On the pretext of safeguarding this perilous freedom, were he to suppress the rhythmic signs necessary for the direction of choirs and the immense majority of singers and organists he would be systematizing cacophony, pure and simple or reverting to the pounded out unrhythmic rendering of the Plain Chant before its restoration."

1 Canon Gaborin, choirmaster of Poitiers' Cathedral, in La Tribune de Saint Germain, January 1903.
But does not the full weight of such an accusation fall with all its force upon the neumatic notation of the manuscripts? Undoubtedly it does, and we must frankly admit that the Guidonian notation was defective as were also the *neum-accents* and *neum-points* which came immediately before it.

It seems almost inconceivable to modern musicians, equipped with an admirable system of musical writing, that any notation should fail to indicate the rhythm of its melodies; inconceivable that any system should fail to indicate the exact intervals! This, however, was precisely the case in regard to the neumatic notations of antiquity. For a pupil, the presence of a master was indispensable for the singing of the intervals as well as for the indication of rhythm. In other words, the oral tradition was twofold, *tonal* and *rhythmic*.

Fortunately, in the tenth and eleventh centuries, successful attempts were made everywhere to improve this state of affairs and the diastematic notation fixed the intervals of the melodies on lines, for all time.

But alas! nothing was even attempted in the direction of a more exact figuration of rhythm; quite the contrary, a decadence on this point set in very early. Originally, in the oldest neumatic notations, it was the rhythmic tradition that was perhaps better expressed than the melodic intervals. This important fact is attested by the Schools of St. Gall, Metz, and Como, as also by many peculiarities of script that persisted in *codices* of various origins. But this tradition did not maintain itself for long and the Guidonian notation only hastened its decline. Everywhere it did away with the letters and signs which, in the primitive notations, indicated the rhythmic *allure* and, from this point of view, far from being an advance, it was a step backward.

Since then, the rhythmic notation of the Chant has remained fixed — fossilized as it were, or rather, its decadence has become more and more pronounced. In the Sixteenth and Seventeenth centuries it reached a complete disintegration.

One often wonders just what were the causes to which we may attribute the decadence and ruin of the Gregorian Chant. Several at once suggest themselves: figured music, inaccurate copies, attempts at reform based on personal and incorrect theories, the abandoning of the liturgical life; all these causes do in fact enter the case, but one of the most destructive has been *lack of clearness in the teaching and in the notation of rhythm*.

It is easy to imagine what must have taken place in the various choirs, during the middle ages, from what happens amongst us today when the rhythmic editions are not used. We have moreover the authentic testimony of the authors of the period. With a good choirmaster, all went well; but with the manuscripts alone, uncertainties commenced; the notation was not clear enough to persuade all the choirmasters to agree in a certain uniform rendition; thus came divergences, divisions which went on increasing; the ancient oral tradition broke up into a thousand currents and soon was completely lost, and we reached the stage of that fearful hammering of the Chant which brought with it a distaste for the liturgical melodies, their mutilation and finally the cataclysm which we know.

Well, let us say it boldly, the same thing will happen again, and all too soon, to this beautiful Gregorian Chant, resuscitated with such great effort, sacrifice, and suffering, unless we arrive at a way of fixing the rhythm which shall be clear and precise, and which will enable all the churches to interpret it with facility.
and easily to appreciate its beauties. Now is the moment for us to leave the rut where we have been stuck ever since the invention of neum-accent, and to do, today, for rhythm what was done in the eleventh century for melody; this is the only chance of life for the Gregorian Chant.

Already, in response to pressure from all sides, we have made tentative efforts in this direction, and the latest Solesmes books in Gregorian notation have appeared — accompanied with dots and rhythmic signs which greatly help correct renditions by experts as well as by unpretentious village choirs.

Moreover, we have attempted transcriptions into modern notation, without bars, but with the rhythm carefully marked; they have been even more warmly welcomed than the earlier editions, and have penetrated into circles whence the Gregorian Chant in its neumatic guise would have been excluded forever.

The double problem which faces the rhythmists is not only capable of solution, but is already solved; for the melodies with rhythmic signs noted according to the Solesmes method have been in use for years, throughout the entire world from the tribunes of St. Peter's in Rome and St. John Lateran down to the choirs of the smallest churches.

That nothing further remains to be done is far from our thought. The signs chosen may still be modified and improved. More practical ideas may be brought forward and tested. The essential thing, however, is to leave the original Gregorian grouping of the notes intact, thus following the example of the ancient rhythmists who added the Romanian signs at St. Gall and elsewhere. Furthermore, to avoid anything which might appear to be a concession to modern measure, for the notation is, above all else, rhythmic, and this character must be preserved.

No doubt, various systems of rhythmic notation will continue to appear, and will be tested. Soon, we will witness a repetition of what happened in regard to the fixing of the intervals during the tenth, eleventh and twelfth centuries. Many systems were tried, but one, alone, survived, that of Guido d'Arezzo. The same will happen to the various rhythmic theories and their notation.

Our task, then, is to offer to the public a complete theory of Gregorian Rhythms, as understood and practiced by the Solesmes School over a period of many years.

The subject has already been exposed, but only partially, in Volume VII of the Paléographie musicale, in our study of the part played by the Latin accent. The particular plan followed was determined by the circumstances, and by the special end in view. Our exposition had to adapt itself to this end. Much space was devoted to the discussion of modern music, and to comparisons between Gregorian melody and the polyphony of the fifteenth and sixteenth centuries. But now, we again take up the same subject, limiting ourselves to the Liturgical Chant, in a didactic and practical form, which will make this book suitable for teaching purposes.

Our aim is to present to the reader's mind, by means of carefully graded instructions, the theory of Gregorian rhythms most in conformity with: a) the fundamental laws of rhythm, b) the tradition recorded in the manuscripts, c) the teaching of medieval writers.

Next, to give singers a methodical and progressive series of Gregorian vocal exercises, carefully noted and with the rhythm clearly indicated, to enable them to overcome the difficulties of reading, intonation, intervals and rhythm, peculiar to the Liturgical melodies.

Our chief object being the rhythm, we have not hesitated, in order to attain this end, to leave the beaten
track and to follow a plan intended to be as practical as it is precise and clear.

The usual *Methods, Grammars, and Manuals* of Gregorian Chant follow the same plan. They begin with an exposition of what may be called the *matter of rhythm*: letters, syllables, words, notes, groups of notes, scales, modes, etc. All this is explained in detail and supported by many examples, but without having previously given the pupil the slightest notion of what rhythm is in itself, so that he may read, vocalise, sing for weeks and months like a parrot, without having the least notion of rhythm. These long hours of study and sight-reading would have been more fruitfully employed if joined to these studies there had been given a conception of the nature of rhythm to lead to its intelligent practice: These books analyze for us the body and limbs of the melody, without speaking of its soul and of its life. As a rule, a few pages are subsequently devoted to a vague superficial explanation of rhythm; pages no sooner read than forgotten, because they have not been supported by repeated practical exercises, which alone can inculcate rhythm in the souls of the pupils.

Books on solfege in modern music, the later ones at any rate, are careful to avoid such a mistake. As soon as the pupil can read the notes, before allowing him to sing them, the master combines an instruction on time with the method of beating time: cleverly drawn diagrams help the student to grasp what is required of him, and in this respect the art of teaching has made great strides.

Now in Gregorian Chant, there are no measures, but there is rhythm, and it is this Gregorian rhythm that we wish to teach and to instill into the souls of our readers. In doing so we are following the example of our monks in ancient times, of Hucbald, for example, who, after having recommended the greatest evenness in the singing, adds:

"Quæ canendi æquitas rhythmus græce, latine dicitur numerus: quod certe omne melos more metri diligenter mensurandum sit. Hanc magistri scholarum studiose inculcare dissentibus debent, et ab initio infantes eadem acqualitatís sérvos numerositatís disciplinae inimique, inter cantandum aliquæ pedum manuumque, vel quilibet alia percussione numerum instruere; ut a primo usu æqualium et inæqualium distantiæ calle eós (f. pateat, eós) laudis Dei disciplinam nosse, et cum supplici devotione scienter Deo obsequi" [Gerbert. Scriptores. L. p. 228.]

"This evenness of the Chant is called rhythm in Greek, and numerus in Latin; because without any doubt all melody should be measured with care after the manner of metre. This evenness, the masters of the Schola ought diligently to instil into their pupils, and mould the children from the first, by this very discipline of evenness or rhythm, indicating this numerus, during the singing, by gestures of the hand or foot, or in some other way…"

The rest of the passage is defective; its general sense is however not necessary to our argument, and the first part is so very clear, so precise, that no further explanation is necessary.

But it is no easy matter to give an exposition of rhythm, and of that *free musical rhythm* essential to Gregorian Chant, especially at the present time when many musicians of culture, who vaguely feel the beauty of rhythm, recognize, in theory, nothing but measure. The modern text books deal merely with the study of time and seem unable to rise to the conception held by the ancients of the rhythmic movement which gives form to all music and all speech; these modern methods have not profited apparently by the important and scholarly works published on this subject in Germany, England and France.
We have tried to overcome these difficulties by a new presentation, a new arrangement of the matter to be treated, which will be clear.

Thus, before even mentioning the rhetorical and musical elements on which Gregorian rhythm is based, we begin by studying the rhythm in itself, so to speak, that is rhythm stripped, as far as possible, of anything which might obscure it, complicate it, or distort its fundamental principles, in order that we may seize it alive, in contact with a material of the lightest, the most transparent, the most fluid, and at the same time of the most supple nature; a matter which will give most independence and naturalness to its free play of movement, and precisely, by so doing, will enable us to penetrate to its core, and to see it in its naked truth.

This material is pure sound repeated in unison, or what amounts to the same thing, a succession of simple vowels. By means of sounds and vowels, grouped conformably to the laws of natural rhythm, we can follow the genesis of rhythmic movement, the formation of simple rhythms, of composite rhythms, of incises, of members of phrases, of phrases, and of periods. These elementary conceptions will be the more easily grasped by the reader, inasmuch as in the first part, he need consider rhythm, and rhythm only, without troubling himself about melodic intervals or liturgical texts.

Moreover, every new theory propounded is immediately followed by practical exercises intended to penetrate the ear and the feeling of the pupil with the rhythmic knowledge he has just acquired. These exercises are given both in square Gregorian notation and in modern notation.

They are accompanied by graphic signs, which describe and follow all the movements of the rhythm. These movements should be reproduced and carried out by gestures of the hand while reading the notes and singing the Chants. This applies to all the exercises.

The elementary knowledge thus acquired is next applied to material of a more complex sort, first of all to melody. This constitutes the second part.

Here we shall study the origin, names and forms of notes and of neumatic groups; in a word all that concerns notation, with and without lines; the melodic intervals, the modes, and finally the rhythmic rendition of all the groups.

Here again the acquisition of each new idea is followed by exercises: the notes are grouped in various rhythms, of true Gregorian character. The pupil will now find again the same rhythms he sang in unison in the first part of this work, but this time on the staff and combined with the melody. Naturally, the melodies of these exercises are all in Gregorian tonality.

In the third part, the liturgical text is studied with the melody, that text whose influence on the rhythm is essential to the perfect understanding of Gregorian musical numerus.

This leads to a rapid survey of the history of Church Latin and its rhythmic character. Syllables and words with their accentuation and their rhythm, then the members of the phrase and the periods, once more with their accentuation and rhythm, are reviewed. Finally, as in the preceding parts, practical exercises complete the theory.

Thus prepared by exercises of three grades, the pupil triumphs easily over difficulties which he meets in the application of words to the Gregorian melodies. From the first pages of our Treatise, he has learned to surmount them: each line, each exercise has led him, as it were by the hand, in steady progress, towards the full possession of the science and practice of Church music.
Before entering fully into our subject, there is a piece of humble advice we should like to give our readers, the result of our personal experience. If the reader does not wish to stray and lose his way perhaps for years, on the wrong paths, if he wishes to avoid not only error but waste of time, he must be on his guard against any preconceived idea arising either from our Western languages or from our modern music, and keep in mind the great divergences existing among languages and between the different musical forms which have reigned during the course of centuries. We cannot too strongly recommend this attitude of independence.

We have borrowed this advice almost word for word from Mr. Bennett in his article on "The Ictus in Latin Prosody". (1)

Referring to this article in the "Revue Critique" (Sept. 25, 1899, p. 252), M. Paul Lejay, says:

"Mr. Bennett begins by asserting that all analogies suggested by the Germanic languages must be set aside altogether. The custom of dynamic pronunciation both of accented syllables in the words, and of the strong beat in lines of verse, has led modern scholars unconsciously to transfer the facts of their daily speech to their theories regarding ancient languages. Consequently, they must first rid themselves of the prejudices born of habit. This point is of capital importance, and we are glad to see it brought out with such distinctness." Mr. Lejay adds that "it is an essential condition of right judgment", a remark which fully applies to our own subject. (2)

(1) "At all events, it is certainly of the first importance, in approaching so delicate a problem as the pronunciation of a language whose data we can no longer fully control, first to rid ourselves as completely as possible of all preconceived notions derived from our own language which might mislead us, and to take into account the great divergence of human speech along with the often radically different character of spoken languages." American Journal of Philology, Vol. xix, N° 76, p. 363. Baltimore. 1899.

PART ONE.

THE ORIGIN OF RHYTHM
PART ONE.

THE ORIGIN OF RHYTHM.

CHAPTER I.

ARTS OF REPOSE AND ARTS OF MOVEMENT.

ARTICLE 1. — DIVISION OF THE ARTS.

1. The aesthetic system of the Greeks as shown by Westphal (1) and by Gevaert (2) may serve as an introduction to the study of Gregorian Rhythm, because it determines with exactitude the place that music ought to occupy in the sum of humanity's artistic creations.

   Among the Greeks, the arts, numbering six, were grouped in two triads:

   1. Architecture, sculpture, painting;
   2. Music, poetry, the dance.

   This division holds all its truth and reality even to our own day.

2. In the first triad, the Beautiful, which is the aim of art, "is realized in the state of rest, of repose; its diverse elements are in juxtaposition in space; it is not represented in a successive development, but fixed in some single moment of its existence".

(1) WESTPHAL, Metrik, I, § 1.
(2) GEVAERT, Histoire et théorie de la Musique de l'antiquité, I, p. 22.

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PART ONE. — CHAPTER I.

Here, the notion of repose is the essential condition, the manner of being of the work of art, although, in a certain sense, movement is not absolutely foreign to it; but this very movement can be suggested only by the fixing of a single moment. It is thus that the creations of architecture, sculpture and painting appear to us.

3. In the second triad, "the beautiful is realized in a state of motion by the succession of its elements in time".

4. These first, the arts of repose, are in relation to space; and these others, the arts of movement, are in relation to time (1).

ARTICLE 2. — THE ARTS OF MOVEMENT.

5. Consequently, music, poetry and the dance received the name of musical arts or arts of movement. All three were subjected to the laws of a common rhythmic. The same terminology served to explain its theory; the same gestures — of the foot, of the hand, of the fingers, of the whole body — guided at once singers, instrumentalists, and dancers. In a word, there was but one rhythm that could simultaneously give form to three things, musical sounds, words, and orchestration.

6. However, although the principles of Greek rhythm and those of Latin rhythm differ in more than point from the rhythmic principles of the Gregorian melodies, nevertheless, these differences can only be secondary; for we shall see that there exists only one general system of Rhythmics; its fundamental laws are based on human nature itself and are necessarily found in all the artistic creations, musical or literary, of all peoples and in all times.

Indeed the multiplicity of rhythmic systems is explained by the various ways in which these laws have been applied or even, at times, ignored.

An exposition of these general laws, followed by their application to the Gregorian melodies, theoretically and practically, thus becomes the object of this book.

(1) GEVAERT, Histoire et théorie de la Musique de l'antiquité, I, p. 32-33.

ARTICLE 3. — TIME AND MOVEMENT.

7. Time is the measurement of movement and of quiescence. Taken by itself, time cannot be measured nor produce upon us any sensation. It is only through the things that take place in time, that occur and move within it, that we become conscious of time, are able to discern it, and give it its value. Moreover, apart from these things, time does not exist.

8. Movement is the condition which, by dividing time, renders appreciable to our senses its invisible and silent flow.

9. The faculty of perceiving the movements which divide the sum of the moments of which time is composed, this faculty is reserved above all to two of our senses, our sight and our hearing.

The eye seizes these divisions, these instants, by the visible movements of bodies; thus the second hand that turns on the face of a clock or the movements of dancers, etc.: these are local or visible movement.

The ear perceives these divisions through the sonorous vibrations of the air, through sound, and the succession of sounds: it is sonorous movement — instrumental, if produced by instruments, and vocal, if produced by the voice, in speech or in song.

It is especially with vocal music that we shall concern ourselves.
CHAPTER II.

SOUND AND THE MOVEMENT OF SOUND.

ARTICLE 1. — SOUND. — ITS PRODUCTION. — ITS DIFFUSION.

10. Sound is the basis of all music, of all speech, of all rhythm, whether musical or rhetorical.

11. The creation of musical sound is arrived at in a thousand ways:
   by the blow of a stick against a drum;
   by the touch of a finger on the key of a piano;
   by the stroke of the glottis in uttering a note or a syllable;
   by the drawing of a bow over the string of a violin.

   Through the impulsion of this stroke, the stricken body is put in motion and vibrates.

   Musical sound is the result of undulating movements of the bodies and molecules of the air, rapid and periodic. It is distinct from noise which produces only irregular vibrations.

12. The diffusion of sound takes place as follows: the blow of a hammer on the string of a piano causes an immediate vibration; the molecules of surrounding air are disturbed, displaced; they execute "movements back and forth precisely like the movements of the string itself; in these movements the molecules clash with the contiguous molecules which they, in turn, oblige to vibrate as themselves and to transmit to their neighbors the impulsion which they have received, and so on". (1)

It is thus that sound is created, diffused in the air and finally reaches our ear.

ARTICLE 2. — PHENOMENA OF SOUND.

13. The phenomena which accompany sound can be reduced to four principal ones. In sounds we must distinguish:

1st. Duration or quantity
   - long sounds
   - short sounds

(1) Albert Lavignac, La musique et les musiciens, p. 31.
all melody, all speech, all harmony remain brute matter, —
inert and dead.

17. We have just mentioned Rhythm, and in fact, we are
obliged to mention it even at the risk of anticipating. There
exists, in addition to the four orders enumerated above, a series
of very important phenomena which constitute a new order.

Sounds, in as much as they are used in rhythm, are distinc-
tuished by the role they fill in the sonorous rhythmic move-
ment; for, different, by far, is the impression they give depending
on whether they are placed at the élan, at the beginning of the
movement, or at its end, its term. Therefore, we really must
add to the four preceding orders, a fifth.

5th. The Rhythmic Order, properly speaking. We should like
to call it cinematic (κίνημα, — movement) or order of rhythmic
movement. This word (κίνημα) entered almost always in the
Latin or Greek definition of rhythm. In reality it takes in all the
"élan", all the "repos", all the sonorous undulations, which
are so varied, so living, and so expressive in the rhythmic phrase.

18. Interpenetration of the five orders of phenomena; their
distinction merely serves as an instrument of analysis. These
phenomena are not always called upon to participate, all together,
in the formation of rhythm; but, no matter how many may enter
into its composition, they unite, they interpenetrate, and perfect
each other mutually in order to obtain the common end which
is a work of art. Only a reasoned analysis can authorize the
separation of what, in concreto, is inseparable. But it is neces-

sary that the rhythmist should make these distinctions. They will
aid us very much in our exposition and, as the facts of quantity,
dynamics, melody, etc. present themselves, we shall assign to
each one, its place in the appropriate order and give to each its
active part in the common work.

We hope thus to present with great clearness a subject in
itself very complicated. Many works on this subject are full of
errors, obscurities and inexactitudes of terminology, due, prin-
cipally, to the confusing of these orders. The distinctions between
the orders will be, to the reader, like the clue of Ariadne through

CHAPTER III.

RHYTHM, ITS FORM AND MATTER.

ARTICLE 1. — DISTINCTION BETWEEN
RHYTHMIC MATTER AND RHYTHMIC FORM.

19. The moment there is a question of rhythm we must imbe
our minds with the distinction, classic among Greek musicians,
between rhythmic form and rhythmic matter.

20. Matter. Sounds, words, and in dancing or conducting,
gestures, are the malleable substance lending itself to the caprices
of rhythm. Taken by themselves these substrata of rhythm
"have nothing in common with rhythm, they are only capable
of receiving a rhythm given them by a free act of the creative
artist". (1)

A common rhythm can apply to sounds, words, and movements
of the body; on the other hand, the same sounds, the same words,
the same gestures, can be given various rhythms.

21. Form. Rhythm is ordered movement. This definition
includes all that the ancients have said of it (2). A series of
sounds — syllables or musical tones — does not suffice to
constitute a rhythm. These movements must be put in order and
harmoniously arranged. This ordinance, this putting in order,
is the form itself of rhythm. This it is that disposes harmoniously
the succession of short and long sounds, high and low sounds,
and every kind of timbre. It seizes the imperceptible undulations
of sonorous bodies, unites them, organizes them in more varied
and more ample undulations; arranges them with intelligence
and taste in a perfect order; this it is that gives to them a form,
that spiritualizes them in a certain sense, and gives them move-

(1) GеваERT, οφ. οτί. ΙΙ, p. 9.
(2) ε τῆς τιμῆς τῆς κίνησε ζητεί ημεῖς δομα τίνι » PLATO, Leges, ΙΙ, 665, Α.
ment, beauty and life. It is thanks to Rhythm that all the phenomena of sound present themselves to the ear with that fitness, proportion, and precision, which carry us away, and while delighting us, convinces the intelligence and captivates the heart.

22. ELEMENTS. Rhythm must naturally have elements, inert matter to organize. Very little is necessary. There need be neither melody nor words. A single sound repeated several times is enough to enable rhythm to exert its organizing and vivifying powers, as for example, in the sound of a drum.

a) Mere sounds, instrumental or vocal, repeated in unison, are the simplest matter, essential for the action of rhythm.

b) Melody, with its undulating lines of high and low sounds is already more complicated as a matter, but supple and obedient, offering no resistance to rhythm. In obeying, as it does, every caprice of rhythm, melody becomes its incomparable ornament.

c) Words, spoken or sung, are less supple, less docile. Words, by their arrested form, resist rhythm, or at least impose some limits to its power. This is why the union of words and melody presents certain practical and theoretic difficulties that trouble both composer and rhythmist.

d) Harmony, finally, completes the ensemble of sonorous elements upon which rhythm can exercise its activity. We shall speak of it only in its relation to accompaniment; for, in Gregorian Art, the role of harmony confines itself to following, step by step, the melodic and rhythmic flow of the church chants.

These, then, are the elements upon which Rhythm rests.

ARTICLE 2. — METHOD IN THE STUDY OF RHYTHM.

23. After this outline it is easy to understand the quotation from M. Vincent d'Indy: "Rhythm is the primordial element. One must consider it as anterior to all other elements of music; primitive peoples know, as it were, no other musical manifestation. Many peoples know nothing of the existence of harmony; some may know nothing of melody; but none ignore rhythm." (1)

24. Therefore it follows:

1st. That the study of rhythm ought to precede the study of melody, of words, of harmony, for these different manifestations of art could not possibly be shown and analyzed and understood without a previous knowledge of general rhythmic laws;

2nd. That, in studying rhythm, it is a distinct advantage to proceed from the simple to the complex. The more complex the rhythmic matter, the more difficult and delicate will be the study on account of this very complexity. On the contrary, the simpler the matter, the easier will be the setting forth and the understanding of the rhythmic principles. Mere sounds — without melody, without words, in unison — will serve at first as the subject of our study.

It is therefore by Rhythm and by Rhythm using elements of the greatest suppleness and simplicity that we should approach the study of Gregorian music.

25. The study of rhythm, pure, naked, deprived of all its ornaments of melody and rhetoric, is all the more necessary in our day when many musicians and metricalists take for absolute laws of rhythm, things that are only special applications and are confined to certain languages and to certain kinds of music. The first work of the student ought to be to disentangle rhythm from all the things that envelop it and entwine themselves with it and disguise its true nature. After we have recognized the fundamental laws of rhythm, we may study it in its more and more complicated relations to melody, words, and harmony.

Although sonorous rhythm, which addresses itself to the ear, is the special object of this study, nevertheless local or visible rhythm, that of dancing and that of the choir conductor who outlines for the eye the sound rhythm, cannot escape our consideration; for they are intimately connected, and each explains the other.

ARTICLE 3. — ELEMENTS IN THE RHYTHM OF SOUND.

26. Before entering into a detailed analysis of each of the elements constituting rhythm, it will be useful to make them known at once in order that the reader may have an idea of the road that opens before him. The elements which we shall enumerate forthwith, are found in all rhythms. They belong to those General Rhythms of which we have spoken (No. 6) and apply themselves to Gregorian Art of which they form, as it were, the weave.

a) Series of fundamental units — basic pulse, sounds, syllables.

b) Grouping of these units into elementary rhythms — first step in the formation of rhythm.

c) Grouping of these elementary rhythms into rhythm-incises — second step in the formation of rhythm.

d) Grouping of these rhythm-incises into rhythm-members (kola) — third step in the formation of rhythm.

e) Grouping of these rhythm-members into rhythm-phrases — fourth step in rhythm; and if need be

f) Grouping of these rhythm-phrases into musical compositions.

27. A concrete example will explain the ensemble and the details of this five and six story construction. Each syllable has the value of a unit, or basic pulse.

Rhythm-Phrase — 4th stage

<table>
<thead>
<tr>
<th>Member, 3rd stage.</th>
<th>Member, 3rd stage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incise, 2nd stage.</td>
<td>Incise, 2nd stage.</td>
</tr>
<tr>
<td>Inc. 2nd st.</td>
<td>Inc. 2nd st.</td>
</tr>
<tr>
<td>Incise, 2nd stage.</td>
<td>Incise, 2nd stage.</td>
</tr>
</tbody>
</table>


Cantáte Dómino cánticum nóvum: laus éius ab extrémis terrae.

CHAPTER IV.

THE RHYTHMIC PULSE.

ARTICLE 1. — THE ELEMENTARY OR BASIC PULSE.

28. Individual ictus. Let us represent the silent flow of time by a continuous line of indefinite length:

---

Fig. 1.

The beat of a drum stick on a drum, the sound of a whistle, the touch of the tongue on a wind instrument, the touch of a finger on the key of a piano, the stroke of the glottis in the emission of a syllable, etc. etc.; all these strokes or ictus, have the power of dividing this line of time in two: one part representing all that precedes the sound, the ictus; the other, all that follows it. We will represent this stroke, this sonorous ictus, by an eighth note or a square Gregorian note.

---

Fig. 2.

Here is a first auditive perception of sonorous movement and of the division of time.

29. Repetition of this ictus. If, after having struck this ictus on the harmonium, you hold your finger on the key, the sound is prolonged indefinitely. The time taken up by this note is again undivided, the ear cannot measure its flow; it is an interminable organ point.

---

Fig. 3.

The undulating line indicates the vibration of the sound, indefinitely prolonged.
32. Duration of the Basic Pulse. There is nothing absolute about the duration of the basic pulse. It depends on the general movement of the phrase, and the character of the composition. In modern music, this duration undergoes notable changes, but in Gregorian Chant, the precise object of our study, the sung words help to determine the approximate value of the basic pulse. Here, the basic pulse equals the normal length of a short Latin syllable in metrical language (poetry or prose) and of an ordinary syllable in rhythmical or tonic language.

33. Indivisibility of the Basic Pulse in Gregorian Music. The basic pulse is divisible or indivisible in different epochs and according to different kinds of music and language. Modern art divides and subdivides the basic pulse, an eighth note for example, into sixteenth and thirty-second notes.

There is nothing like this in Gregorian Chant.

The basic pulse is indivisible, that is to say, its normal duration, once determined, cannot be divided into fractions, any more than can the Latin syllable which serves as its rule and support.

34. The Basic Pulse Condensed. But, in truth, the basic pulse can be reduced slightly in the course of the melody and rhythm of a phrase, but without subdivision.

35. The Basic Pulse Enlarged. It may also be enlarged in similar circumstances, but without filling or covering the space of two pulses.

36. The Basic Pulse Can Be:

\[\text{doubled: } \bullet \bullet = \text{ Fig. 7} \quad \text{or tripled: } \bullet \bullet \bullet = \text{ Fig. 8}\]

but then it becomes a Composite Pulse.

\(N = 702 \).
ARTICLE 2. — THE COMPOSITE OR GROUP PULSE.

37. The Pulse is basic when it contains only one single short note. The Pulse is composite when it contains a group of notes, two or three simple units.

The Composite pulse is either duplex or triplex.

38. The duplex composite pulse has two forms:

a) The distinct form, in which the two pulses are expressed separately by two individual ictus.

\[ \begin{array}{cccc}
\text{a} & \text{e} & \text{a} & \text{e} \\
\end{array} \]

Fig. 9.

b) And the contracted form in which the two notes are fused into one note equal in value to two basic pulses.

\[ \begin{array}{c}
\text{a} \\
\end{array} \]

Fig. 10.

39. The dot after a note doubles its value in the Chant.

40. The triplex composite pulse has three regular forms:

a) The distinct form:

\[ \begin{array}{cccc}
\text{a} & \text{e} & \text{i} & \text{a} & \text{e} & \text{i} \\
\end{array} \]

Fig. 11.

b) The contracted form:

\[ \begin{array}{c}
\text{a} & \text{a} \\
\end{array} \]

Fig. 12.

c) The mixed form:

\[ \begin{array}{cccc}
\text{a} & \text{e} & \text{a} & \text{e} \\
\end{array} \]

Fig. 13.

THE RHYTHMIC PULSE.

The reversal of the preceding form:

\[ \begin{array}{cccc}
\text{a} & \text{e} & \text{a} & \text{e} \\
\end{array} \]

Fig. 14.

is not permitted in Gregorian rhythmics. We shall give the reason later.

41. Duration of a Composite Pulse. The duplex pulse, distinct or contracted, equals two basic pulses.

The triplex pulse, distinct, contracted, or mixed, has the value of three basic pulses.

The composite pulse as well as the basic pulse is capable of being slightly condensed or, on the contrary, broadened in the course of a melodic phrase, but it is never reduced to the value of one basic pulse. (1)

42. The Composite pulse counts as a rhythmic unit. Although a composite pulse is actually, two or three times longer than a basic pulse, it is treated, in the rhythmic organization, as one rhythmic pulse.

We shall see, later on, how the composite pulse is formed. This formation can not be explained except by an exact understanding of rhythmic principles, because this formation is due solely to rhythm.

43. No composite pulse extends beyond three notes. Groups of four, five and more notes should be subdivided into basic pulses or composite pulses, either duplex or triplex. There is no composite pulse that extends beyond three notes in Gregorian Chant. A group of four notes

\[ \begin{array}{c}
\text{a} & \text{a} \\
\end{array} \]

Fig. 15.

is analyzed in one of the three following ways:

A \[ \begin{array}{c}
\text{a} \\
\end{array} \]  B \[ \begin{array}{c}
\text{a} \\
\end{array} \]  C \[ \begin{array}{c}
\text{a} \\
\end{array} \]

Fig. 16.

It is the same for longer groups.

(1) See Footnote, p. 52.
CHAPTER V.

RHYTHM — SIMPLE OR ELEMENTARY.

ARTICLE 1. RHYTHM IS A SYNTHESIS.

47. Sterility of a series of simple units in the production of rhythm. — A series of simple units or basic pulses, each with its individual and isolated ictus, of which each sound is equal to its neighbor in intensity and in duration, — such a series can never constitute a rhythm. No relation is established between such sounds. They are spread out in mere juxtaposition, without any mutual attraction, without any soul or life, in other words, without rhythm. In this case, the individual ictus exhausts its power in the production of its own pulse. Something more is required and of a different nature, for the creation of rhythm.

48. The Rhythmic process is synthetic, a constant effort toward synthesis. — Rhythm does not consist in the mere distinction between isolated elements of sound, nor in their cold juxtaposition. Rhythm is the art of well ordered movement, the musica ars bene movendi of St. Augustin. It is a synthetic reconstitution, broad and harmonious, of those moments by which we perceive, apprehend and measure the silent flow of time. All beautiful ordonnance of movement presupposes a coordination, a mutual dependence by which is established a close relation of fitness and of proportion.

49. Our first step toward a knowledge of rhythm has been through a process of analysis, the consideration of the isolated basic pulse. Our aim for the future, on the contrary, can be summed up in a single word: unity. We must tend by constant efforts and by all means proper to music, toward synthesis, toward unity.

50. We know that, to many people, rhythm appears as "proportion in divisions". In a sense, this is true, but poets, speakers and musicians will understand us when we say that rhythm depends on a general and constant effort toward the active, warm and intimate union of the various elements that participate in its life, to such an extent, indeed, that the secondary
rhythms will lose their individual being to melt into the greater rhythms of the phrase. "What is most important is not distinction but fusion". (1)

51. Undoubtedly we must distinguish between the phrases, the members of phrases, the incises, and must establish a harmonious proportion among these divisions. But the artist who confines himself to bringing out these distinctions will fail to attain his object. He must go farther and, while maintaining the distinctions, tend to unite them, to bind them together, and to make of all the parts a great, a single, rhythmic entity. Unity, we repeat, is the end in view.

52. What are the factors of this unity?

a) All the phenomena of sound, and the mutual relations which are established between them, since musical rhythm can only be built up on something of a musical nature. These, then, are the objective factors of unity.

b) The rhythmic faculties of our whole being, physical and moral, passive and active. These are the subjective factors of unity.

53. Sounds. — We must not look for the elements of rhythm outside of sounds and their qualities, namely, duration, intensity, pitch, timbre, and harmony, which are the agents that can generate rhythm. We will speak, first of all, of duration and intensity, because these by themselves, are capable of producing rhythm. In the first part of this work, then, we will consider only these two orders of phenomena.

54. Our own rhythmic faculties. All the elements of sound have an objective reality but they would be of no use if we had not, in ourselves, the aesthetic, intellectual and physical faculties that enable us to judge, appreciate, and relish rhythm and, furthermore, other faculties that permit us to create, subjectively, rhythms which, objectively, do not exist. Indeed, we possess rhythm alive within ourselves. The life that is in us and that flows along in time, manifest itself by a series of movements, ordered with admirable regularity. The throb of our pulse, the beating of our heart; our breathing which is in ternary time, our walking which is binary. These are physiological facts among many others, which reveal in us an existence of constant, spontaneous and living rhythm.

Indeed our intelligence itself, is it not rhythmed, so to speak, by the harmonious laws of logic and reason?

55. This interior rhythm, at once physical and spiritual, is so powerful, that it can bring under its sway everything that strikes our senses : the rhythm within us, the sounds, the noises from without, even those that come to our ear devoid of all rhythm as the tic-tac of a mill, the oscillations of a pendulum or metronome. In all these cases, the sounds fall on our ear, one by one, separated, without cohesion of any sort. We are conscious only of an indefinite succession of units. But, thanks to this rhythmical power which lives within us, we have the faculty of grouping these sounds, as we please, by twos or by threes. We invest them with what, objectively, they lack, namely: duration, strength, alternate élan and repos; with everything required for rhythm movement.

This aptitude, developed by education, is the base of all our rhythmic impressions. Exterior and objective rhythm, though it may take hold of our very soul, is simply a substitute for our own intimate, interior rhythm, unless, indeed, it be its continuation. The creation of sonorous rhythm is due to this association of objective rhythmic phenomena with our own intimate faculties.

56. It goes without saying that this innate, natural aptitude cannot make up for the absence of objective rhythm. We have been obliged to consider it as the basis of all the rhythmic impressions which we perceive and feel. But it is not impossible to foresee certain cases where, by exception, the ear, the rhythmic sense, making use of its subjective power, defines and makes more precise certain passages whose rhythm is undecided and floating in the Gregorian melodies. (1)

(1) Hugo Riemann, Musik Dynamik. p. 98.
PART ONE. — CHAPTER V.

ARTICLE 2. — RHYTHM AND DURATION.

THE QUANTITATIVE ORDER.

§ 1. — Iambic or unequal Rhythm.

The Elan and the Repos. (Arsis and Thesis).

57. Two individual ictus are necessary to form the smallest possible rhythm; they may be equal or unequal in duration. A single long ictus of two or three basic pulses cannot produce a rhythm,

58. Here is a series of sounds unequal in duration:

(M.M. \( \frac{\text{a}}{\text{e}} = 1:32 \).)

\[ \begin{array}{ccc}
\text{a} & \text{e} & \text{a} \\
\text{a} & \text{e} & \text{a} \\
\end{array} \]

Fig. 20.

We say "in duration", because, for the moment, there is no question of intensity. The function of intensity in the organization of rhythm will be explained later. *Duration alone concerns us in this chapter.* We must not embarrass ourselves with two ideas at once for fear of confusion and error.

Let us sing our unequal series (1) (Fig. 20). Immediately we have the feeling of an intimate relation between the short note and the long one.

59. What is this relation?

The short note seems to us a beginning, a point of departure, an elan; it seems animated, alive. *It is in motion.*

The long note, on the contrary, seems to be an end, an arrival, a cadence, or fall. It is a term, a repos. The repos is temporary for the long notes of the first two rhythms and final for the last,

60. There is no necessity of texts, of ancient parchments, to teach us this truth. It exists in ourselves, and is felt even by primitive and savage races, for this is the iambic movement, the primordial and natural rhythm, composed of a short (\( \text{A} \)) and a long (\( \text{E} \)) unit. "The iambic", says Aristotle (Rhet. III, 8.) "is the form of ordinary discourse, and it is natural to express oneself in iambics."

61. A bar line is hardly required, so definite is the impression of the rhythmic figure. Modern musicians would express it as follows:

\[ \begin{array}{cccc}
\text{.} & \text{.} & \text{.} & \text{.} \\
\end{array} \]

Fig. 21.

The more rapid the short note, the more pronounced will be our feeling of elan and ending. For example, in modern music:

\[ \begin{align*}
\text{\( \frac{3}{8} \)} & \quad \text{or} \\
\text{\( \frac{2}{8} \)}
\end{align*} \]

Fig. 22.

The more the short note is pressed, the more pronounced will be our feeling of elan and ending for the long note. This is how the rhythm is reproduced and understood by the pupil. Thus the teacher will form the habit of tracing the rhythm as a student of modern music would learn to beat time.

We assume, in the pupils, a fundamental knowledge of singing and of sight reading.
it will be noticed that the rhythms move along astride of the measures, and we would have to violate our musical sense to sing these figures as follows:

\[
\begin{array}{c}
\frac{3}{8} \quad \vdash \vdash \vdash \vdash \vdash \vdash \vdash \\
\text{Fig. 23.}
\end{array}
\]

and even more so in the following formula:

\[
\begin{array}{c}
\frac{3}{8} \quad \vdash \vdash \vdash \vdash \vdash \vdash \\
\text{Fig. 24.}
\end{array}
\]

62. The rhythmic sign like the curve in modern music, indicates the intimate union that should exist between the élan and repos of each rhythm. We have added the curl at the beginning to signify the élan which characterises this part of the rhythmical movement.

63. Thus, if we have understood, and above all practised this movement of flight and fall, of élan and repos, we have penetrated the essence of rhythm. This alternation of energy and repose in the movement of the voice, this soaring undulation which we feel and understand, this harmonious and living relation which establishes itself between the short and long notes as soon as we begin to sing the series of unequal units, behold, Rhythm in its primordial sense.

Thus, two notes, formerly isolated and unrelated, now make but one rhythmic movement. This is the first synthetic process in its first degree, simple or elementary.

64. But let us note well that this difference of value, of quantity, between the two notes is sufficient in itself to produce a rhythmic movement without the help either of intensity or of melody. These new elements, when introduced, will serve to reinforce the movement of élan and repos, make them more clearly felt, more intelligible and more agreeable, but neither intensity nor melody are essential to the movement itself (1).

65. A simple rhythm of three pulses is composed of a single rhythmic movement comprising one élan and one repos, the first pulse being at the élan, and the second and third pulses at the repos:

\[
\begin{array}{c}
\begin{array}{c}
\vdash \vdash \\
1
\end{array}
\begin{array}{c}
\vdash \vdash \\
2-3
\end{array}
\begin{array}{c}
\vdash \\
1
\end{array}
\begin{array}{c}
\vdash \\
2-3
\end{array}

\text{Fig. 25.}
\end{array}
\]

Consequently, in the series of long and short notes shown in Figs. 20, 21, 22, 25, 26 and 27, there are as many simple rhythms as there are élans and repos: two in Fig. 25 and three in Figs. 26 and 27.

\[
\begin{array}{c}
\begin{array}{c}
\vdash \vdash \\
1
\end{array}
\begin{array}{c}
\vdash \vdash \\
2-3
\end{array}
\begin{array}{c}
\vdash \\
1
\end{array}
\begin{array}{c}
\vdash \\
2-3
\end{array}

\text{Fig. 26.}
\end{array}
\]

(1) The fact that length is the essential characteristic of the ending of a rhythm has been pointed out for centuries, we have already quoted Aristotle as saying that the iambic, a brief syllable followed by a long one, is the natural rhythm of speech. Here is another text which is no less to the point: "The phōn Form (ο ω ω ο, cóleritas) is appropriate for phrase endings, whereas a brief syllable, because of its weakness, gives a mutilated and limping impression to the phrase. Consequently, it is on a long syllable that the phrase must come to rest in order that its ending be felt; and this, not merely because of the will of the writer, nor because of a material graphic sign (the dot), but because of the nature of rhythm which demands a conclusion. Aristotle. Rhet. III. 8."
66. The Stanghetta. We separate each rhythm by a short line called the Stanghetta. Fig. 26 (1).

67. Episema. Furthermore we indicate the term, the end, the repose of each rhythm by a slight mark called episema, (ἐπίσεμα) added to the note on which the repose falls.

68. When we use the terms élán and repos, it is not merely as a figure of speech, a device for explaining the rhythm or for indicating it to a choir by the rise and fall of the hand, as a thing which corresponds to no objective musical reality and therefore can be accepted or rejected at will. No, the terms élán and repos represent a sound phenomenon as objective and as real as the phenomena which we designate under the names: acuity, force, timbre, duration.

69. We must be careful not to confuse, on the one hand, the rhythmic movement itself, objective or subjective, with, on the other hand, those means which we ourselves devise to express this movement in words, notations or gestures. In a sense, indeed, we use metaphorical and symbolic expressions when we speak of height or force in relation to tones; so likewise, when we speak of rhythmic movement, of élán, of repos, because sounds and their qualities, including rhythmic movement, are, of their very nature, invisible and intangible. They cannot be expressed directly. Of necessity, then, we have recourse to symbols, and language has created them in order to deal with each of these musical realities. (2)

This recourse to the borrowed image or symbol takes nothing whatever from the distinctive reality in the world of sounds; to substitute a low note for a high note in a melody, or vice versa, destroys the melody. To change the normal position of the élans and repos in a melody, or (to use the language of modern musicians) to reverse the position of the up-beats and the down-beats, is a complete devastation. Move the bar lines a note two forward or backward in a composition of Beethoven, Mozart or Wagner, and everything is lost that makes the character of the composition. Nothing, then, is more real than the élán and the repos of sounds.

70. The rhythmic ictus and its position. — In a simple rhythm, ( — — — — ) there are as many individual ictus as there are notes distinctly expressed. Thus, in Fig. 28, there are two notes, but only one of these has a rhythmic ictus. This ictus of the rhythm falls at the end of the rhythm, on the note of repos. The first note, has, indeed, its own individual ictus, but, being on the up-beat, it has no ictus in the rhythmic sense. It enters into the rhythmic schema with its individual pulse but that pulse is not one whose ictus sustains the rhythmic movement.

In examples such as the above, where we have simple rhythm and simplex time, the rhythmic ictus belongs, by its very nature, to the point of arrival, of rest, of repos. (1)

71. The rhythmic ictus, its nature. — The rhythmic ictus are the time bearers of rhythm. (2)

The ictus, the touch, the rhythmic support, — all these terms are equally good — is not a strong beat necessarily. It is merely the point at which the rhythm alights, poises itself, touches, whether to take a fresh impetus and continue on, or whether to terminate a movement. The ear and the inner rhythmic sense distinguish the ictus by this alone: its character of arrival, of support, of rest. Nothing further, no question, yet, of strength or weakness. The phenomena of quantity and of rhythm must not be confused with the dynamic phenomena of which we shall speak before long.

(1) For the sake of clearness, we shall mark all the rhythmic ictus by an episema in the early pages of this book. Later, when the reader becomes familiar with the theory of Gregorian Chant, we will suppress them where the rhythm is clear, keeping only the ones used in our rhythmic editions of the liturgical melodies.

(2) The rhythmic ictus corresponds to the down-beat of modern music.
§ 2. — Equal or Spondaic Rhythm.

72. The word spondaic is used here in the sense of a rhythm composed of two sounds equal in duration. Here is a series of equal sounds; how shall we rhythm them?

\[ \text{\textit{Fig. 29.}} \]

We must apply to these notes the principles already given: we must give life, animation, élan, movement to the first sound and to the second, a length, slight, infinitely slight, or rather perhaps the feeling of a temporary alighting, a touch, a mere support.

\[ \text{\textit{Fig. 30.}} \]

73. The rhythmic ictus thus becomes the carrier pulse, and when it is not the sign of final repose, at least it indicates this delicate touch, this momentary alighting. The rhythm does not cease, but one feels that, here, it might cease. Here, in fact, on a pulse bearing the rhythmic ictus, it does, eventually, close.

74. Equal or spondaic rhythms are in reality only a condensed form of the unequal or triplex rhythm which is the primitive and natural form.

75. In summing up, therefore, we find: that in all natural rhythm, brevity belongs to the up pulse and length belongs to the down pulse.

(1) No bars between measures are used in Gregorian Chant. When we apply them it is only as a means of reaching the minds of modern musicians in order to make them understand us.

RHYTHM. — SIMPLE OR ELEMENTARY. 63

In a triplex (iambic) rhythm, there is one simple pulse at the élan or arsis and two simple pulses at the repos or thesis.

In a duplex (spondaic) or equal rhythm we find one pulse at the élan, and one at the repos or thesis, this pulse being either slightly lengthened, or else merely carrying an ictus or rhythmic touch.

76. There are but two elementary or primitive rhythmic forms:

Spondaic rhythms in which the notes are equal:

\[ \text{\textit{Fig. 32.}} \]

Iambic rhythms in which the notes are unequal:

\[ \text{\textit{Fig. 33.}} \]

Other forms, whatever they may be, differ in appearance only from these two fundamental rhythmic forms, and can always be reduced to one or the other.

77. Thus understood, the theory of rhythm is of an extreme simplicity. Once we have grasped this principle, it is very easy to realize the construction of musical periods, even when the regular ordonnance of élan and repos are most troubled and complex, which is frequently the case in the music of Palestrina and, above all, in modern music. In the Gregorian melodies, this confusion is never found.

§ 3. — Two Motives reduced to a single rhythmic Principle: that of Élan and Repos.

78. It is possible to push the simplification of rhythm even further, and to reduce the two primary forms,

\[ \text{\textit{Fig. 34.}} \]  \[ \text{\textit{Fig. 35.}} \]
the iambic and the spondaic, to a single principle. These two motives are only variations of one and the same fundamental form: élan-repos.

This single movement with its beginning and end, its élan and repos, (1) is the essential yet least material element of rhythm. Consequently, it is most difficult, not perhaps to understand, but to explain. It is the form, the soul of rhythm; it is rhythm itself. Intensity can only complete it, affirm it, embellish it. Melody, without it, loses all character. Harmony itself, follows and keeps step with it.

Here then, in all its nakedness and simplicity, is the basic truth upon which rhythm rests: rhythm of every description — instrumental, vocal, poetic, rhetorical, orchestral — rhythm of all countries and of all times, because it is founded on human nature itself.

§ 4. — Corollaries.

79. From this basic principle of rhythmic movement, several important corollaries follow:

80. a) Length in the natural movement of rhythm, — whether in a note or syllable — is the sign of a rhythm-ending.

(1) M. H. Riemann has made the following comments on this terminology:

That is to say: "Dom Mosquera has translated literally my terms "schwer" and "leicht" by heavy and light, but in the course of his own exposition, he has substituted terms which are infinitely better, those of élan (for Aufakt) and repos (for Schwerpunkt), terms suggested to him by the ancient expressions, arsis and thesis (elevation and descent). These terms are more universal and more philosophical by far, since they make us understand their own functions and mutual relation provided they be placed in their true sequence: élan-repos, and they bring out the fundamental error of changing this normal sequence; the terms themselves emphasize the unnatural rhythmic result of such inversion."

81. b) The intimate union of élan and repos. — "To have a right understanding of rhythm, we must realize that the movement which constitutes a rhythm is a unity. Though we talk of two pulses, one at the arsis (élan) the other at the thesis (repos) (1), they are in reality inseparable. They are two phases of a single indivisible movement, which otherwise would become incomplete and abortive. We must therefore, in theory and in practice, guard the continuity of the rhythmic movement, for in this continuity consists its unity". (2)

Everything should tend to bring out this intrinsic unity. "It is necessary... that these two parts, arsis and thesis (élan and repos) should attract one another, and that the voice should be carried over from one to the other, so that the second part arrives as the result of the first", just as movement is of necessity followed by reposé.

82. c) The thesis or repos concludes the elementary rhythm and all perfect rhythms. This is very simple and clear in the case of little rhythmic motives.

And if, to this first elementary rhythm, succeeds another rhythm of like nature, the thesis of this second rhythm acts as its conclusion — its term — and so on in like manner for the incises,

(1) Regarding these expressions, arsis and thesis, see Par. 169 and what follows.
(2) R. P. Lhoumeau, Rythme du Chant Grégorien, p. 85.
N° 702. — 5
phrase members, periods, which all terminate regularly on the thesis, that is on the note of repos.

\[ \text{Fig. 38.} \]

The repos, the term, — mora ultimae vocis — is one of the most important elements of rhythm. A discourse, a piece of music without repos, is without rhythm. Whatever is without conclusion, without an ending, without fulfilment is disagreeable. And there is no repos except on the thesis (1).

83. Fundamental rule: in natural rhythm it is the thesis and the thesis alone that closes incises, phrase members and phrases.

The words élan and repos, arsis and thesis, are so clear, they represent so perfectly an objective and subjective reality, that it would be scarcely necessary to formulate this rule were it not for the widespread forgetfulness of the true and intimate nature of rhythm which makes it necessary to explain even the minute details of its manner of functioning.

84. d) Rhythm moves along necessarily by steps of twos or threes (duplex and triplex steps). Duplex steps are perfectly natural, since it is obvious that the first ictus or point of support requires a fresh élan to carry it on to the next point of support; thus, two rhythmic ictus obviously cannot succeed each other on immediately adjoining pulses.

\[ \text{Fig. 39.} \]


Rhythm also moves by triplex steps: these may be considered as an extension or enlargement of the duplex movement.

\[ \text{Fig. 40.} \]

Under the heading "Metrics" in his Dictionary of Music, W. H. Riemann treats the Rhythmic Motive A: \[ \text{Fig. 41.} \]

as simply a modification of Motive B: \[ \text{Fig. 42.} \]

and thus brings them to a single principle. The last note in a duplex rhythm is a point of support, of arrival, of repos, which — even when provisional — has a tendency toward length, often resulting in an instinctive prolongation of the note syllable which serves as a rhythmic support. A slight exaggeration of this natural tendency to length in the thesis of Motive B, until we have an extra pulse on the thesis in Motive A changes this duplex quasi-mathematical organization into a triplex motive, and this by the simplest transformation.

85. Rhythm can organize itself in:

1. A constant duplex movement; \{ This is the measured form
2. A constant triplex movement; \}
3. A movement that in free and mixed — in which duplex and triplex groups succeed each other in a harmonious combination.

86. All these rhythms exist in nature. As we have said, a man walks in duplex, and breathes in triplex time. As for free and mixed rhythms, they are everywhere about us, the natural condition of rhythmical movement in the elements themselves. The undulations of the sea, audible and visible, the outline of
PART ONE. — CHAPTER V.

mountain ranges, the waving grain, the sound of the wind, etc., all these are things of marvellous rhythm — of nombre — but they escape a mathematical, mensuralistic movement. Those who affirm that free rhythm or mixed rhythm is the most natural, are perhaps right; because everything in nature, while submitting to rhythm of numerus, to proportion and harmony, is absolutely free from the mathematical and artificial laws which too often regulate and hamper the works of man's creative genius.

87. In short, all rhythmic forms — and they are legion — may be reduced to:

1. The free form (olutus) or numerus:
2. The measured form (vincata), bound and shackled arbitrarily by measure.

And to these two forms the different rhythmic matter adapts itself: the matter of sounds, of speech, of gesture.

88. Thus, for example:

Free rhythm is musical when applied to a series of sounds; as in the melismas of Gregorian Chant.

Free rhythm is rhetorical if applied to speech; as in Cicero's orations (numerus oratorius.)

Free rhythm is both musical and rhetorical if applied at the same time, or successively, to two matters, sounds and words. This is the case in Gregorian Chant.

89. In the same way:

Measured rhythm is musical when applied to mere sounds; as in all kinds of musical instruments.

Measured rhythm will be rhetorical when applied to speech; as in poetry.

Measured rhythm is musical and rhetorical if applied both to poetry and melody.

These divisions which we enumerate — and there are others — will suffice to indicate the place which Gregorian rhythm holds in the ensemble of what we might call the geography of rhythm.

90. So it follows that the qualifications, free or measured, indicate the form of the rhythm; the qualifications, musical or rhetorical indicate only the matter to which rhythm gives its form.

91. Rhythm, or nombre musical grégorien, belongs to free rhythm (olutus), and in the connection of which we have just been speaking (No. 86) this rhythm is more natural than the rhythm of arbitrary measure.

92. (a) Elementary analysis of a succession of simple rhythms. Its necessity and its nature. — This analysis is it that we have just made. It consists in neglecting for the moment the study of the greater rhythmic divisions, phrases, members, incises, in order to concentrate our attention on the infinitesimal degrees of the rhythm: elementary rhythm, with its élan and its repos.

This analysis takes into account only the smallest elements of rhythm, it dissects them, so to speak, in order to study and verify the anatomic construction. It considers each rhythm, iambic or spodic, equal or unequal, by itself, looked at apart as a complete thing, giving each small rhythm its own élan and repos.

In this analysis, each rhythmic ictus is necessarily thetic and only thetic, because every rhythmic ictus is the point of arrival, the fall, of an élan which has gone before; this ictus terminates the rhythm. The rise which follows the ictus belongs to the next rhythm:

\[
\begin{align*}
& \text{Élan} \quad \text{Repos} \\
& \text{E} \quad \text{R} \quad \text{E} \quad \text{R}
\end{align*}
\]

Fig. 43.

93. To know the elementary analysis of a melody, and the place of each rhythmic ictus, is of course an enormous help in the rendering of a work and an absolute necessity for its harmonization (1); but in practice, were we to make use of this knowledge to take to pieces, tear apart, one by one, the simple rhythms and reduce the melody to scraps, it would be false, inept, and unaesthetic.

It is necessary for the painter and the sculptor to know the human skeleton, but this knowledge is only the point of departure

(1) In modern and in palestinian music we know without hesitation the place of each rhythmic ictus.
for the realization of the artist’s ideal. Therefore this dissecting
of the melody bone by bone, rhythm by rhythm until the smallest
elements are reached, should be relegated to the realm of theoretic
analysis.

94. It cannot be neglected however. Just as the human
skeleton is the basis of the finest works in sculpture, so the facts
that are revealed to us by this elementary analysis form the basis
of the most beautiful rhythmical constructions. This analysis is
necessary, not for its own sake, but because it leads us to the
synthesis of composite time. This synthesis consists in counting
as one single rhythmic pulse, the two or three basic pulses between
successive ictus; the place of these ictus being determined by the
movement of the elementary rhythms.

95. Analysis according to composite or group pulses. In the
analysis of this kind of musical phrase we no longer work by a
halting succession, a repetition of disconnected elementary
rhythms:

\[\text{Fig. 44.}\]

but, on the contrary we consider the composite pulses as they come
in succession, broad and calm, and intimately bound together.

\[\text{Fig. 45.}\]

This analysis of the musical phrase is called an analysis accor-
ding to composite or group pulses. It is a nobler, more aesthetic
and more real analysis than the one by elementary rhythms.
Essentially, we retain everything that was included in the first
method, namely, all the rhythmic ictus, while avoiding that pain-
ful, breathless element that characterized it. By means of this
analysis, we rise a step higher in our understanding of the greater
rhythm, of which we shall speak later. (See No 125)

 ARTICLE 3. — RHYTHM AND INTENSITY.

THE DYNAMIC ORDER.

§ 1. — Dynamic modifications, their three-fold object.

96. Rhythmic movement has revealed itself, so far, solely
through phenomena belonging to the quantitative order — (con-
trasts in the length of simple pulses) — but now we must add
certain phenomena of intensity belonging to the dynamic order
(strength or weakness of individual tones, crescendo or diminuendo
in a series of notes or syllables).

97. These dynamic modifications have a three-fold object:

a) They increase the sense of rhythmic unity, gathering up all
the tones, syllables, words and phrases in a single dynamic
movement, augmenting or diminishing, thus adding to the
quantitative synthesis, which has already created the rhythm,
another element of synthesis — that of intensity;

b) Dynamics, like brevity and length, bring out in bold relief,
the élan and repos of the rhythm, rendering its movement and
life more readily perceptible;

c) Consequently, dynamics are one of the principal ornaments
of rhythm. While the effect of these dynamic contrasts is felt
more powerfully in the greater rhythm of the phrase, they have
an influence even on the simpler rhythmic units.

§ 2. — The Position of Intensity.

98. As regards the smaller rhythms, particularly, the rule for
dynamics must not be confused with the rule for length since
length belongs naturally to the end or thesis of the rhythm.

A perfect rhythm will contain a certain contrast of strength and
weakness, but nothing in the nature of rhythm requires that a
special place to be reserved for intensity. In other words, intensity
can function equally well whether it be applied to the arsis of the rhythm (élan) or to its thesis (repos).

99. Thus an artist who traces a curve (A B C) is free to reinforce his line at the end, (C: Fig. 47), at the beginning (A: Fig. 48) or even in the middle, (B: Fig. 49).

Fig. 45

Fig. 47

Fig. 48

Fig. 49

The curve is identical in each case. We have a single curve, a single graphic rhythm of equal length, but of different thickness; the eye follows these three patterns with equal facility.

As with the painter, so it is with the musician: he is free to distribute at will, all along his rhythmic line, the different shades of intensity, as in the following examples:

Fig. 50.

Fig. 51.

In these examples, the movement is always the same although under different dynamic aspects, two varying shades in Fig. 50, and three in Fig. 51. The ear seizes the difference at once, and the synthetic effect of the dynamic movement is as perceptible in the crescendo rhythm as in the diminuendo form.

100. As regards intensity, we have two rhythmic forms:

a) The strong ictic rhythm, where the thesis, or term, is stronger than the arsis, or élan.

b) The weak ictic rhythm, where the thesis is weaker than the arsis.

These rhythms are called ictic because their fall coincides with the rhythmic ictus.

101. The position of the intensity is determined by external and accidental circumstances, the will of the artist, musician or poet; the genius of a language; the accent of the word; by the melodic form or by the meaning and expression of the phrase.

In his work, a musician may confine himself to one or the other of these rhythms, or rather dynamic shadings of rhythm; or he may mix them freely, as was done by the composers of classical music, ancient polyphony and Gregorian Chant.

§ 3. — Synthetic Power of Dynamics.

102. To understand the true function of dynamics in relation to rhythm, we must set aside the idea that its function is the creation of time divisions by means of a strong stroke or beat recurring at regular periods, like a dynamic discharge on every second or third note. We are told that a strong beat appearing at equal or unequal distances constitutes measure. This is a false and material idea of measure and also of the function of dynamics.

It is true that intensity, used in this fashion, would produce measures, duplex or triplex groups:

Fig. 52.
but it would isolate those groups, and dig a trench between them. Only in compositions of the most trivial character, of the lowest type of inspiration, do these metrical dynamic shocks appear, only in the most vulgar renditions does this brutal role of force reveal itself.

103. Intensity creates neither measure nor rhythm. It does not belong necessarily to some privileged note which divides up the series of pulses two by two, or three by three. Intensity is something greater than mere measure and belongs to rhythm as a whole, to the greater rhythm of the phrase which does not depend upon intensity to organize the details of its movement. Stress does not recur at regular intervals, nor renew itself on each rhythmic ictus. Intensity surpasses the measures, surpasses the smaller elementary rhythms, and belongs to the phrase as a whole, to the greater rhythm which it enfolds completely. It moves by crescendo or diminuendo progressively from note to note, from group to group, binding them together, fusing them into a single organic whole. Intensity is the sap, the blood of rhythm; it pours through the melodic vein, rising with it and falling, diffusing, life and warmth, producing beauty. Therefore it is in studying the phrase as a whole that the function of intensity appears in its true light.

§4. — Simple Rhythms, duplex and triplex.

104. The following exercises should give the student a deep sense of the elementary rhythmic movement under its various dynamic shadings.

105. They should be sung mezzo forte and recto tono, at a convenient pitch, which the teacher will vary, and raise gradually.

When the note has been sounded on the piano or the harmonium, the teacher will exact a neat but gentle attack, a perfectly true tone, firmness without any tremolo or unsteadiness, evenness of time values, a calm and quiet progression from one note to the next, without any jerks or sudden explosions of sound in the crescendo and diminuendo; finally, a great gentleness combined with a perfect clearness and neatness throughout.

106. Each one of these exercises gives a different relative intensity to the notes. At the beginning, this detail, although very important, may be neglected in order to concentrate the full attention of the student on the rhythmic movement alone, élan and repos. After this point has been mastered, the crescendo and diminuendo must be observed as they are indicated.

107. During the exercises the student should always outline the rhythm by a movement of the hand.

108. The metronomic movement is but approximative; and the exercises may be sung more slowly at first.

109. The vowels a, e — a, e, i — may be changed according to the wish of the teacher; but ultimately, all the vowels should be used and the various consonants be added: ia, ie, le, ma, mo, mu, etc. No words should be sung for the moment.

110. The breath should be taken after two, three or four rhythmic groups, but always taken from the value of the note that forms the thesis.

111. Both notations, ancient and modern, may be used, but for students accustomed only to modern music, it is better, in the beginning, to use the modern notation.

**Exercise I.**

Simple Rhythm triplex Time, weak Ictus.

(M.M.  \( \frac{1}{4} = 132 \))

\[
\begin{array}{ccccccc}
\text{1} & 2 & 3, & 1 & 2 & 3, & 1 & 2 & 3, \\
\text{a} & \text{e} & \text{a} & \text{e} & \text{a} & \text{e} & \text{a} & \text{e},
\end{array}
\]

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PART ONE. — CHAPTER V.

Exercise II.

Simple Rhythm triplex Time, strong Ictus.

(M.M. \( \text{\textstyle \frac{3}{4}} = 128 \))

Exercise III.

Simple Rhythm duplex Time, weak Ictus.

(M.M. \( \text{\textstyle \frac{3}{4}} = 128 \))

Exercise IV.

Simple Rhythm duplex Time, strong Ictus.

(M.M. \( \text{\textstyle \frac{3}{4}} = 128 \))

Exercise V.

Simple Rhythms. Alternation of duplex and triplex Groups, of strong and weak Ictus.

In this exercise, the breath should be taken only on the long thesis, and consequently after two rhythmic groups or after four.
RHYTHM — SIMPLE OR ELEMENTARY.

§ 1. — Development within the Arsis (élan) and the Thesis (repos).

112. Simple Rhythm consists of a single arsis followed by a single thesis. We have seen it under two forms, the equal and the unequal. (See ch. V, par. 76). (2) There are other forms to follow since both arsis and thesis can cover a group of notes, taking in a composite pulse, either duplex or triplex. (See ch. IV, par. 37).

113. Development within the arsis. — The arsis of a simple rhythm may contain:

a) A single basic pulse:

\[ \text{Fig. 53.} \]

b) A duplex composite pulse:

\[ \text{Fig. 55.} \]

c) A triplex composite pulse:

\[ \text{Fig. 56.} \]

114. Development within the thesis. — The thesis of a simple rhythm may contain:

a) A single basic pulse:

\[ \text{Fig. 57.} \]

b) A duplex composite pulse:

\[ \text{Fig. 58.} \]

c) A triplex composite pulse:

\[ \text{Fig. 59.} \]

115. Development within both arsis and thesis.

\[ \text{Fig. 60.} \]

(1) Or, more exactly, the development of the time element within the Simple Rhythm. (Tr.)

(2) In vol. II, ch. 15, Dom Mocquereau makes his thought more precise, by using the term Elementary Rhythm, for the equal form, and Simple Rhythm for the unequal. (Tr.)
We shall give, later, all the possible forms of these developments.

116. The composite pulse, while it contains several simple pulses, must be considered as a single unit in the rhythm. It is a complex unit of a superior order to the simple unit.

117. This grouping of two or three simple pulses into a single complex unit can be explained:
   a) when it occurs at the arsis, by the single impetus, more or less vigorous, which sets them all in motion;
   b) when it occurs at the thesis, by the prolongation, the thetic extension, which applies to the whole group.

118. Thus, a man who plans a jump, takes his spring with greater or less impulse according to the distance to be covered, and it is the distance of the goal to be reached which determines the amount of energy he puts into his spring.

In rhythm, the same law applies:
A weak impulse or élan exhausts its power after covering a single note and the fall occurs instantly on the note which follows:

\[ \text{Fig. 6} \]

An élan of ordinary power gathers up two notes and falls on the third:

\[ \text{Fig. 6} \]

An élan which is still more vigorous and sustained gathers up three notes and finds its repose on the fourth:

\[ \text{Fig. 6} \]

Thus, the grouping of two or three individual pulses so that they make up a single composite pulse, arsis in character, is due to the greater or lesser energy of the élan. It is only another way of saying that the formation of these composite pulses is due to rhythm itself, to the rhythmic movement.

119. The élan might be still more vigorous, but in that case, a certain renewal of élan would take place after covering the three notes as above: and the élan is frequently renewed in the greater developments of rhythm and melody, two, three, four times, and the upward spring revived, but in these cases we are no longer dealing with Simple, but with Composite Rhythm. (See ch. VI).

120. The thesis, like the arsis, can be extended over a group of notes, and even be renewed to cover two or three composite pulses, as we shall see in the chapters which deal with Composite Rhythm (No 135 et seq.).

121. Note. In the analysis of rhythm by composite pulses, each composite pulse, whether it be duplex or triplice, is considered as a unit, a single step in the rhythmic movement, and consequently, as rhythmically indivisible, since the two notes or the three which compose this pulse

\[ \text{Fig. 6} \]

are united intimately within the compass of a single arsis or a single thesis as the case may be:

\[ \text{Fig. 6} \]

in such a manner that they are inseparable. This fact becomes self-evident when we add a melody to the rhythmic figure:

\[ \text{Fig. 6} \]
and still clearer when, to melody and rhythm, we add words:

\[ \text{Dómi-nus es} \]

\[ \text{Dómi-nus es} \]

Fig. 67.

§ 2. The rhythmic Ictus may be placed at the Arsis or at the Thesis.

122. A duplex or triplex composite pulse placed at the arsis of a rhythm raises a new and interesting problem.

Evidently, since a composite pulse \[ \begin{array}{c} \hline \hline \hline \end{array} \] can be placed either at the arsis or at the thesis of a rhythm, the rhythmic ictus which begins each composite pulse will be found now at the arsis, now at the thesis.

That it should be found at the thesis of the rhythm, is but natural. In all our examples so far, the rhythmic ictus has coincided with the thesis.

But that the ictus should be placed at the arsis seems to imply a manifest contradiction. What sort of an élan could be the élan of a rhythmic ictus, or to put the matter crudely, how can we conceive an élan of a thesis? We have, here, a contradiction.

123. Let us explain the mystery. The various types of analysis to which a melodic phrase can be subjected, will give us the key:

a) Analysis by elementary rhythms.

b) Analysis by composite pulses.

c) Rhythmic analysis, properly so called, phraseological, by means of the arsis and the thesis.

124. In the analysis by elementary rhythms, the rhythmic ictus is always thetic because it marks the terminating point of each simple rhythm; it plays no other part than this. In this form of analysis, or dissection, the composite pulse is not considered as an indivisible rhythmic entity, but is broken up into its elements, of which some are arsic and some thetic.

Here, the final pulse of each measure, (the eighth note) fulfils the function of arsis, while the first and second pulses of the measure, (the quarter note) play the role of thesis. Each little rhythm divides the measure in two parts. This, then, is elementary rhythmic analysis.

There are times when such analysis is justified and corresponds to objective reality, but very often it is impossible to dissect the composite pulses in this manner, or if the attempt be made, the result will be a distortion or destruction of the rhythmic pattern designed by the composer. A composite pulse, whether duplex or triplex, wholly arsic in character is a case in point. Here we should put aside the system of analysis by elementary rhythms, and substitute an analysis by composite pulses, or, better yet, a rhythmic analysis, properly so called, that is the analysis by arsis and thesis.

125. Rhythmic analysis by group pulses. The rhythmic analysis by group pulses, considers the composite pulses, duplex or triplex, as a single pulse, rhythmically indivisible. In this form of analysis we indicate by an ictus all the beginnings of the composite pulses; we do not distinguish yet whether, in the greater rhythm, these groups shall be at the arsis or at the thesis; we move from group to group by means of a series of ictus and thus bind together the metrical groups or composite pulses.
126. The simple rhythms developed according to the present analysis

\[ \text{\textcopyright http://ccwatershed.org} \]

do not give us an arsis at the first group, since all the groups are now treated like a series of down beats.

The notes 1 and 4, beginnings of each group pulse, carry an ictus:

\[ \text{\textcopyright http://ccwatershed.org} \]

In this system, therefore, we use the term \textit{rhythmic analysis by group pulses}.

127. This process is inferior to the \textit{rhythmic analysis} by arsis and thesis; but, though inferior, it is legitimate, for it is based on the fundamental truth that rhythm moves by steps of two pulses or of three (N° 84). This conception is basic in the analysis of rhythm, but the process does not suffice, it is incomplete. It does not correspond in a satisfactory manner to concrete rhythmic reality, nor does it give us a perfect comprehension of true rhythmic movement, of the broader flights that constitute the truly great melodic phrases.

However this analysis is already a step in the right direction and better than the \textit{elementary analysis}, because it realizes the \textit{synthesis of the composite pulses} and renders palpable to us their rhythmic indivisibility. \textit{It creates a unity, binary or ternary, broader, more powerful than the almost infinitesimal unity of the rhythm by simple pulses; and we are led on toward a more adequate grasp of the vaster rhythmic systems.}

128. \textit{Rhythmic analysis strictly speaking by élans and repos.} — The \textit{analysis by composite pulses} does not solve the problem of the \textit{élan} of a rhythmic ictus nor the \textit{élan} of a thesis. Such a problem presents itself when we attempt to \textit{rhythm} the following motive, as it should be rhythmed, by élan and repos:

\[ \text{\textcopyright http://ccwatershed.org} \]

that is to say if we attribute the élan or arsis to the first group and the thesis or repos to the second group.

It is clear that, in this case, the expression \textit{rhythmic ictus} loses the \textit{exclusively thetic sense} that it had in the preceding forms of analysis; for here, the rhythmic ictus itself, (sharing the fate of the arsic triplex group, of which it is the beginning) has become arsic in character. The ictus of the next groups (the quarter note) on the contrary, is purely thetic in character.

129. Therefore we must propose as a rule the following, that:

\textit{Outside of the elementary rhythmic analysis, or the analysis by composite pulses, the rhythmic ictus is either arsic or thetic according to the part played by the group to which it belongs.}

130. We are thus brought back to this question: How can a rhythmic ictus, which by its very nature seems essentially thetic, find itself at the arsis?

There are several answers possible:

1. Because the group of which it forms a part is itself totally arsic.

2. Because, in the \textit{perfect rhythmic analysis}, the composite pulse has the function of a \textit{single rhythmic pulse} and in consequence, can be placed (like the simple, basic pulse) now at the arsis, now at the thesis.
3. Because the rhythmic élan is powerful enough, energetic enough to gather up and carry two or three notes or syllables instead of only one (1);

4. Because, finally, — and this is the fundamental reason — each time that a group, (whether duplex or triplex)

\[\text{Fig. 74.}\]

is at the arsis of a rhythmic movement, the ictus of this group fills a double function:

- It is the thesis of a preceding élan, expressed or implied.
- It is at the same time an arsis, being the point of departure for the arsical group of which it forms a part.

But already this new conception carries us into composite rhythm, and what we are merely suggesting here can only fully be elucidated in the later chapters.

§ 3. — Practical Application of simple Rhythm with Arsis containing a duplex or a triplex Group.

131. Before studying the following exercises the student should read carefully the foregoing directions (No. 105-111), in order to apply them to this new study.

(1) This enlarging of the rhythm is found constantly in modern music: the measures of 6/8, 9/8, 12/8 are nothing but the enlargements and syntheses of the 3/8 measure.

A metrical analysis of the 6/8 measure gives us:

\[
\begin{align*}
\text{Fig. 75.} \\
\end{align*}
\]

A rhythmical analysis on the contrary gives us:

\[
\begin{align*}
\text{Fig. 76.} \\
\end{align*}
\]
Exercise VIII.
Simple Rhythm (duplex grouping at arsis), weak ictic cadence, second pulse of arsis strong.

(M.M. $\frac{4}{4} = 132$.)

Exercise IX.
Simple Rhythm (triplex grouping at arsis), weak ictic cadence.

(M.M. $\frac{4}{4} = 132$.)

Exercise X.
Simple Rhythm (triplex grouping at arsis), strong ictic cadence.

(M.M. $\frac{4}{4} = 132$.)

Exercise XI.
Simple Rhythm (triplex grouping at arsis), weak ictic cadence. 2nd and 3rd pulses of arsis strong.

(M.M. $\frac{4}{4} = 132$.)

http://ccwatershed.org
§ 4. — Feminine or post-ictic Cadences.

132. The thesis, whether duplex or triplex, is inconclusive when its form is distinct (No 38 a)

[Diagram]

The impression that a complete rhythm should produce of arriving at its term is only conveyed when it reaches that term on an ictic note, namely on the first note of a composite pulse. We are now applying the rule formulated above (Nos 82, 83): the close of the rhythm belongs to the thesis and to the thesis alone.

133. Cadences such as the above are called feminine cadences; whereas those which end on the first pulse of a measure, the ictic pulse, are called masculine cadences.

[Diagram]

Masculine Cadences: $\text{A. Thesis} | \text{Th.}$ or $\text{A. Thesis} | \text{Th.}$

Feminine Cadences: $\text{A. Thesis} | \text{Th.}$ or $\text{A. Thesis} | \text{Th.}$

We may keep to these names, though we should really prefer ictic cadence for the masculine cadence and the term post-ictic cadence for the feminine cadence, the latter being but a prolongation of the thetic ictus.

134. — To complete a rhythm after a feminine cadence

[Diagram]

a new ictus is needed

[Diagram]

And this brings us to the subject of composite rhythm which we shall study in the following chapter.
CHAPTER VI.

COMPOSITE RHYTHM.

ARTICLE 1. — RHYTHM-INCISE.

135. Definition. — A rhythm is composite when it has more than one arsis or more than one thesis; in other words, more than two group pulses, simple or composite.

136. Formation. — Composite rhythms may be formed in two ways; by the fusion of several elementary rhythms, or else by their mere juxtaposition.

§ 1. Formation of rhythm-incises by the fusion of simple rhythms.

137. Here is a series of infinitesimal rhythmic units:

\[
\begin{align*}
&\begin{array}{c}
\text{Fig. 82.} \\
\end{array}
\end{align*}
\]

In the analysis pictured above, each thesis marks the ending of a rhythm; consequently, there are as many simple rhythms as there are theses, that is to say, three.

Each one of these little motives or rhythmic words has its personal life, its individual musical being, yet each remains alone, isolated from its neighbor, in the same sense that the individual ictus were isolated before (No. 47). Rhythm should so act upon these fragments as to bind them together and fuse them into a new rhythmic entity of a higher order, greater in length and in musical content. This greater rhythmical entity is the incise or phrase-member.

138. A natural rendering of this series of little rhythms, however, will hardly correspond to the distinctions pictured above, for such an elementary analysis into rhythmic fragments is speculative, true in theory but, in practice, almost fictitious.

What really happens is this:

The voice, having alighted on the thesis of the first rhythm, does not wait for the following arsis to begin a new flight, but springs up from the very point of its rhythmic touch.

Thus a ball, vigorously thrown, drops to earth and rebounds at once under the same impulse that gave the original motive power; thus, the action of his foot in the stride of a man; thus a bird, in its highest flights, taking its momentum from the resistance of the air, each stroke of its wings coinciding exactly with an impulse of higher ascent; thus, two arches of a bridge, which on either side, take their thrust from a central pillar and are supported thereon.

Such analogies may help us to understand the formation of those greater rhythms which result from the fusion of several simple rhythms.

139. Let us make this clear by an example. When we have a single rhythm to analyse, there is no difficulty, since the movement flows inevitably from arsis to thesis.

\[
\begin{align*}
&\begin{array}{c}
\text{Fig. 83.} \\
\end{array}
\end{align*}
\]

When the thesis has been reached, the movement ends, since the thesis is the place of alighting and of rest.

But, after this first rhythmic step, on the contrary, if we must continue onward, what happens?

The thesis, which was our definite repos, a moment ago, is now no more than a place of fugitive and passing support, from which we spring upward in a new élan; an élan that carries us on to a second thesis.

Thus, instead of having two distinct rhythms:

\[
\begin{align*}
&\begin{array}{c}
\text{Fig. 84.} \\
\end{array}
\end{align*}
\]
we have a single rhythmic entity, a rhythmic-incise which results from the linking together of two simple rhythms. We must therefore write it as follows:

\[ \begin{align*}
\text{A} & \\
\text{B} & \\
\text{C} & \\
\end{align*} \]

*Fig. 85.*

This is the smallest *composite* rhythm.

The note B, relatively to the élan which precedes it, keeps its character and function of *arrival*, of *thetic fall*; but in relation to what follows, the note B is the *beginning* of a fresh élan resulting in a new thesis (C), which is the definite repos of this little incise.

Thus, according to our point of view, each one may consider this central note of support (B) as the ending of one rhythm or as the beginning of another; but actually the note fills a double function, for it supports two rhythms and upon that note their fusion takes place.

It is by this process that several simple rhythms, equal or unequal, are linked together or fused so as to form a composite rhythm.

140. The same process applies to a series of simple rhythms developed, that is made up of composite pulses duplex or triplex.

These, too, can be rhythmically fused.

\[ \begin{align*}
\text{A} & \\
\text{B} & \\
\text{B} & \\
\text{C} & \\
\end{align*} \]

*Fig. 86.*

and several points of support or fusion can be used in the central part of an incise (B) which resemble the supporting piers of a bridge.

141. What shall we call this central ictus of the note B? Should it be an arsis or a thesis?

Theoretically either name fits it equally well, since this ictus plays a double role.

**Practically**, however, in fused rhythms the first pulse, A, coincides usually with the arsis and the last pulse, C, with the thesis; as to the B groups of the centre, they receive from the *melody itself* their arsical or thetic character, as we shall see when we approach the study of melodic forms. There are cases when they are incontestably arsical, other cases when they are certainly thetic: occasionally their character is not clearly defined, and we are free to follow our own taste.

142. Here are various rhythmic patterns which may present themselves for an incise-rhythm composed of three metrical groups.

\[ \begin{align*}
\text{Arsis} & \\
\text{Arsis} & \\
\text{Thesis} & \\
\text{A} & \\
\text{B} & \\
\text{C} & \\
\end{align*} \]

= 2 arsis, one thesis. (1)

*Fig. 87.*

\[ \begin{align*}
\text{Arsis} & \\
\text{Thesis} & \\
\text{Thesis} & \\
\text{A} & \\
\text{B} & \\
\text{C} & \\
\end{align*} \]

= 1 arsis, two thesis.

*Fig. 88.*

\[ \begin{align*}
\text{Arsis} & \\
\text{Thesis} & \\
\text{Arsis} & \\
\text{Thesis} & \\
\text{A} & \\
\text{B} & \\
\text{C} & \\
\end{align*} \]

= 1 thesis, 1 arsis, 1 thesis.

*Fig. 89.*

In this last example, the first arsis is implied.

(1) To understand clearly the sense and use of these curves, consult Chapter IX, No 181.
§ 2. — Formation of rhythm-incises by the mere juxtaposition of elementary rhythms.

143. Rhythm-incises are often formed by the mere bringing together of simple rhythms, each rhythm retaining its own arsis and thesis.

a) Each of these simple rhythms may be composed of similar groups: each rhythm may end with a masculine cadence:

```
          A R S I S
               T H E S I S
                     1

Fig. 90.
```

or the first rhythm may end with a feminine cadence:

```
          A R S I S
               T H E S I S
                     1

Fig. 91.
```

b) Again the rhythms may be composed of groups that are unlike:

```
          A R S I S
               T H E S I S
                     1

Fig. 92.
```

but the succession of arsis — thesis is regular in both cases; each arsis being followed by a thesis, another arsis by another thesis.

These rhythms, while remaining distinct, should be united closely in practice, the elements of union being: the melodic sense, the dynamics, and the words.

144. Variable rhythmic forms applied to the same metrical groups. There is nothing that prevents the following metrical pattern:

```
          1
          1
          1
          1
```

Fig. 93.

from being gathered up into a single fused rhythm, instead of being treated as two simple rhythms in juxtaposition.

```
          1
          1
          1
          1
```

Fig. 94.

for the second group need not necessarily play the part of thesis, nor the third, the part of arsis.

In this case the first two composite pulses may be arsic or even the first three. (See No. 172, Exercise XVI).

In practice, the rhythmic character of each of these composite pulses is determined by the rise or fall of the melody and by the words, which indicate clearly whether the distinct form is required and whether the fused form is more appropriate.

ARTICLE 2. — RHYTHM-MEMBER; — RHYTHM-PHRASE; —

THE GREATER RHYTHM.

§ 1. — Grouping of the incises into members and phrases.

145. Just as elementary rhythms, in uniting, form rhythm-incises, so the incises themselves unite to produce phrase-members; and these, in turn, unite to form complete phrases and periods. This is the greater rhythm.

As illustration let us use the text of the antiphon already quoted (No. 27).

In this example we see the increasing power of rhythm as it enfolds, vivifies and gathers up the fragments into a living phrase.
146. As the rhythms grow greater so also grows the importance of the final thesis of each rhythm. This thesis exerts an irresistible attraction on the whole incise, on each kòlon, and it is towards this final thesis that the rhythmic movement tends as towards a goal. It acts as a magnet drawing all things to itself. It is this final thesis which, under divers forms — masculine or feminine — limits and distinguishes the individual rhythms. These distinctions are made perceptible to the ear and clear to our musical sense by means of the rhythmic touches of the melody, however fugitive may be their character, but the distinctions are still more apparent when the repos of the rhythm adds a certain length to a note or to a syllable.

We have already seen that length at the thesis defines a rhythmic pattern and limits it. We must add that, in all natural rhythm, the duration of a repos depends upon the importance of the rhythm itself, and is in proportion to it.

§ 2. — Dynamics in composite rhythm.

147. In the composite rhythms, the dynamic element functions with as great a freedom as in the simple rhythms, but as its field of action is greatly enlarged, its vivifying power and synthetic effect become more apparent. The various crescendo and diminuendo extend over an entire incise, throughout a whole member, but it is, above all, amid the broad undulations of the full Gregorian phrase that the dynamics hold sway with freedom, breadth and majesty.

Once more, the melodic direction and the words influence the distribution of the dynamics; they determine, also, the place of the principal accent of the phrase-member and the general accent of the entire phrase.

148. The Principal Accent. — Each member has its principal accent to which all the other accents as well as the ictus of the whole member, are subordinated. It occurs on the note or syllable at the climax of the crescendo. As regards the rhythm, its place varies.

149. The General Accent. — Each phrase, moreover, has its general accent which dominates all the others. It, too, occurs on the most prominent note of the entire phrase.

For the moment, these general principles are enough, for their practical application will appear in the study of melody and text.

§ 3. — Practical application of composite rhythms formed by fusion or by juxtaposition.

150. The student should read the directions given in No 104 and the following paragraphs before undertaking to sing the exercises which follow.

**Exercise XII.**

One arsis, two thesis.

\[\text{aeiou, aeiou.}\]
EXERCISE XIII.

One thesis, one arsis, one thesis.

EXERCISE XIV.

One arsis, one thesis; one arsis, one thesis.

EXERCISE XV.

Three arsis, one thesis.

EXERCISE XVI.

Two arsis, two thesis.

EXERCISE XVII.

One arsis, three thesis.

ARTICLE 3. — PAUSES.

151. In Gregorian music, as in all other music, there are pauses, though the rests are never marked in the neumatic notation.

As the natural place for a pause is at the end of a phrase or of a phrase-member, we shall speak of them briefly at this point.
Two principles will suffice:

1. "Pauses are elements of rhythmic composition in the same degree as are the sounds which they replace." (1)

2. Pauses have exactly the same quantitative value as notes or syllables that are expressed.

This is a law that applies to music of all times. It is true of Greek music; and also true of measured and polyphonic music; and in our own modern music we have our pauses: our rests, half rests, quarter rests, etc., equivalent to whole notes, half notes, quarter notes, etc. (2)

Later we shall show the application of these two principles to the Gregorian melodies.

(1) Gevaert, Musique de l'antiquité, II, p. 66.
(2) Paleographie Musicale, VII, p. 261 et ss.

CHAPTER VII.

RHYTHMIC FIGURES IN GREGORIAN CHANT.

ARTICLE I. — FIGURES IN SIMPLE RHYTHM.

152. Simple or elementary rhythm has but one arsis and one thesis.

<table>
<thead>
<tr>
<th>Numerical Order</th>
<th>Number of Pulses</th>
<th>Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 basic pulses</td>
<td>Arsis — Thesis</td>
</tr>
<tr>
<td></td>
<td>1 pulse at the arsis, 1 pulse at the thesis.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3 basic pulses</td>
<td>Fig. 96.</td>
</tr>
<tr>
<td></td>
<td>1 pulse at the arsis, 2 pulses at the thesis.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4 basic pulses</td>
<td>Fig. 97.</td>
</tr>
<tr>
<td></td>
<td>2 pulses at the arsis, 1 pulse at the thesis.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5 basic pulses</td>
<td>Fig. 98.</td>
</tr>
<tr>
<td></td>
<td>1 pulse at the arsis, 3 pulses at the thesis.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6 basic pulses</td>
<td>Fig. 99.</td>
</tr>
<tr>
<td></td>
<td>2 pulses at the arsis, 3 pulses at the thesis.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7 basic pulses</td>
<td>Fig. 100.</td>
</tr>
<tr>
<td></td>
<td>3 pulses at the arsis, 3 pulses at the thesis.</td>
<td></td>
</tr>
</tbody>
</table>
153. The smallest of these rhythms, therefore, comprises two pulses and the largest comprises six.

With the same number of basic pulses, however, several different rhythmic designs can be formed according to the position of the thesis.

Thus, with 3 pulses we can obtain 2 rhythmic designs: see Nos. 2 and 3.

Thus, with 4 pulses we can obtain 3 rhythmic designs: see Nos. 4, 5, 6.

Thus, with 5 pulses we can obtain 2 rhythmic designs: see Nos. 7, 8.

154. In addition, each composite pulse, be it duplex or triplex, may present itself under any one of its three forms: distinct, contracted or mixed (No. 39). Thus, Rhythm No. 9 composed of six basic pulses, may appear under each of the following forms:

![Fig. 101](http://ccwatershed.org)

We draw attention to this fact once for all, since the details of its application will be embodied in our study of long rhythms formed of three, four or five composite pulses.

ARTICLE 2. — VARIOUS DESIGNS IN COMPOSITE RHYTHM.

155. A rhythm is composite when it has several arses and several theses.

A. Rhythms of three composite pulses.

<table>
<thead>
<tr>
<th>Numerical Order</th>
<th>Number of Pulses</th>
<th>Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>4 basic pulses</td>
<td></td>
</tr>
</tbody>
</table>

![Fig. 102](http://ccwatershed.org)
156. We give here the principal rhythmic combinations, but with the same number of basic pulses, other combinations are possible.

157. ARTICLE 3. — RHYTHMS OF FOUR COMPOSITE PULSES.

<table>
<thead>
<tr>
<th>Numerical Order</th>
<th>Number of Pulses</th>
<th>Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>6 basic pulses</td>
<td>Fig. 108</td>
</tr>
<tr>
<td>29</td>
<td>7 basic pulses</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>8 basic pulses</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>9 basic pulses</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>10 basic pulses</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>11 basic pulses</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>12 basic pulses</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 109.

It will be seen that the largest rhythm of five composite pulses contains fifteen basic pulses. Rhythms of six composite pulses and even more are often found. What we have said will explain their composition and interior division. Thus, the largest possible rhythm of six composite pulses would contain 18 basic pulses, and the largest of seven composite pulses would contain 21.

Aristoxenus concedes composite groupings of 25 units in artificial rhythm; this is his extreme measure. For Gregorian Chant we would hesitate to set a limit, since the phrase-members (built up by a succession of composite pulses) vary greatly in length.
PART ONE. — CHAPTER VII.

159. This theoretic outline will give the student an elementary idea of the structure of the Gregorian rhythms, from the simplest to the more complex. Let him have patience, for soon these rhythmic diagrams, now so cold and inert, will take on life, animation and beauty as the dry bones of rhythm are adorned with melody and combined with words. Then the vitality, the charm and the exquisite variety of the rhythms themselves will appear.

160. But before we pass to the study of Melody and Rhythm united, we must go still deeper into the nature of rhythm itself and show:

1. The reality and special nature of sonorous rhythmic movement. From this study we shall draw up for choir masters precise rules of chironomy or the art of expressing by gesture the movements of melody and rhythm;

2. The differences and likenesses that exist between rhythm and measure.

Lastly, a word on syncopation will close the First Part of our work.

CHAPTER VIII.

RHYTHMIC MOVEMENT.

ARTICLE 1. — REALITY OF RHYTHMIC MOVEMENT.

161. In our day, the reality of rhythmic movement in music has been questioned. This is perhaps due to the fact admirably brought out by M. Lionel Dauriac, that “since the constitution of the rational sciences of nature, such as mechanics and astronomy, the idea of movement has been associated exclusively with the idea of space. This connection of ideas is far closer now than it was in ancient times, particularly in the days of Aristotelian physics. In modern philosophy, to move signifies to ‘change place’; whereas in the philosophy of Aristotle, to move meant merely ‘to change’. To move from one place to another was simply one kind of movement but not the only kind (1). Indeed, to a man of that time nothing was more real than rhythmic movement whether presented to the eye as in dancing or to the ear as in poetry and music. All the rhythmic theories of antiquity were summed up in a single idea repeated under endless forms: the beautiful ordonnance of movement. Rhythm, melody, in a word, music, was the science of beautiful movement.

162. It was because they had penetrated to the very depths of things that the Greeks and Latins gave to poetry, music and dancing the name of arts of movement.

These arts by their very nature, are arts of change. Their existence is a successive unfolding. They flow in relation to time, as though drop by drop.

I outline a gesture with my hand; a dancer, with his whole body, carries out a graceful curve; in both cases there is movement, and in each case the one who moves advances from one point to another by passing through all the intermediary points. This is visible movement, or the passing (in space) from one place to another.

The voice articulates a phrase, declaims a verse, or sings a melody: it moves in its own way and in a sense no less real. It advances from the first articulated sound to the final syllable, passing, successively, through each intermediary syllable.

Its movement might be compared to walking or dancing and is not unlike the movement of a ball that rebounds, for the voice springs, rises, drops, springs up again, touches one support after another, rests on one thesis after another, before reaching its final thesis which closes the phrase, the melody and the rhythm.

Evidently, the movement is no longer local, nor visible. It is sonorous and vocal, but nevertheless real. It fulfills all the conditions of an actual movement, namely, the passing from one state to another. The voice thus passes from note to note, from a short one to a long one, etc. (1)

ARTICLE 2. — NATURE OF VOCAL MOVEMENT.

163. Vocal movement is real, but is of a very superior nature to a mechanical or bodily movement. "Man has a voice, and that voice is the most energetic and pure expression of the life that is in him; it is the most profound and intimate resonance of his being... The human voice is so essentially a part of the vital principle, that it is universally identified with it in every language, or seriously recognized in its intimate analogy. The word is but a breath, but this breath is the spirit, the soul, and the immaterial principle of life itself. Form, palpable and visible, is indeed a condition of humanity, but movement is its very essence, and the voice is movement. Movement is immaterial and the sound of the voice is both immaterial and impalpable." (2)

164. This explains the subtlety, the freedom, the power and the infinite shades of vocal rhythm. It explains, moreover, how the rhythmic movements themselves, and the ictus or rhythmic touches that define the steps of the rhythm are often of the same nature as the voice itself, that is delicate, impalpable, imponderable. In order fully to understand these truths, we should apply them to a Gregorian melody. This we shall do later. But what we already know of rhythm permits us to lay down these principles.

165. This imponderability of melody and rhythm is difficult to understand or to explain today when music is made subject to force, to modern measure. The same questions are raised again and again:

How is it possible that the ictus of rhythmic groups — which corresponds to the first beat of a measure — should be anything but strong?

Are they not the firm and solid points of support upon which the whole structure of rhythm rests?

Does not the ictus after all, correspond to the strong pulse, or, in modern music, the down beat? How is it possible that this "down beat" should be weaker or lighter than the "up beat"?

And to add force to their argument, comparisons are drawn from the movements of bodies or heavy weights striking the earth with a more or less violent noise: the stroke of a hammer on the anvil, or the loud cadence of a marching regiment.

Such arguments are defective in so far as the examples are taken from purely material things; whereas we are concerned with music, vocal or instrumental, above all, with Gregorian music, the noblest, the most spiritual that exists, and we must dominate matter.

166. It is true that the fall of a heavy inert weight must of necessity be rude and noisy, like a hammer striking the anvil; but there is nothing in the rhythmical cadences of music akin to this heavy fall. Moreover nature herself gives us gentler examples. The lighter the falling body, the less heavy its fall. The flight of a bird which takes, at each stroke of its wings against the air, a new and silent élan; the waiving fall of the light snowflakes that descend slowly and finally touch the earth, these provide a closer analogy to the imponderable reality of vocal movement and rhythm.

But even these images are too material to express the exquisite delicacy, the spirituality, as it were, of the Gregorian rhythmical flow.

(1) Aristoxenus made the same comparison when he wrote: "The voice moves in singing, as the body moves in walking or dancing." (ARISTOXENUS, Rhythm. Etym., edit. Feussner, 111.)

(2) H. CHAIGNET, Le principe de la Science du Beau, p. 388.
The vocal movement, especially of Gregorian melody, borrows as little as possible from the material world. It moves, but invisibly; it advances, but imponderably. "The Beautiful is light" says Nietzsche (1); "all that is divine walks with delicate feet"; and what is more pure, more divine than the art of Gregorian Chant? It would be closer to the truth to say that the melodies fly, soaring on slow strokes of graceful wings. But none of these comparisons touch the reality, because they are still too material.

167. The voice indeed moves neither accidentally nor mechanically; its risings and fallings are of a more spiritual than material nature, moved, as it is, by a vital and spontaneous power, a power both free and intelligent, that imparts to it something of its own immateriality.

The artist, in singing, gives out his soul, externalises his thought, his feelings, down to the finest shade. Master of his own voice, he controls and directs with complete freedom its various qualities of duration, force, pitch and expression. He broadens at will the length of his élans and repos, he distributes the intensity of sound in its infinite shadings, as a painter distributes his colors; he spreads out the contours of his melody, according to the demands of order, and of just proportion which constitute one of his finest faculties, his esthetic sense. We are already far beyond the mechanical movement of the hammer on the anvil, far beyond the corporal movement of the bird spreading or flapping its wings.

168. Metrical force is too often brutal; it represents, in any case, something mechanical or animal; we cannot avoid it entirely since we are made up of body and soul, but let us have as little as possible. Let us be on our guard; for force, in rhythmics, brings us close to matter, the hammer and anvil, the piston rod of the locomotive. The use of force in the Gregorian rhythm, which is so ethereal, so virginal, should always be tempered by the immaterial spirit which gave it birth.

(1) Quoted in the Revue Musicale, II, p. 75.

ARTICLE 3. — TERMINOLOGY OF THE VOCAL MOVEMENT.

169. When, therefore, we speak of the movement of rhythm, the movement of a phrase, whether in music or speech, we are not using a metaphor or a symbol. The movement, though imponderable, is nevertheless real.

But local movement, because of the very fact that it is material and appears to the eye, is easier to describe, and it is natural to take it as an example in explaining vocal movement.

This is precisely what the Greeks did. As they so often used simultaneously the three arts of movement — poetry, music and dance — they made use of but one terminology of rhythm. They took from the local rhythmic movement of dancing two expressions, clear and illuminating, which they applied to sonorous rhythmic movement, whether vocal or instrumental.

170. In the dance, they called elevatio (aris) the ascending movement, the élan of the body; and for the alighting, the repos of the body at the term of its movement, they used the word positio, depositio (thesis).

Consequently, in music (vocal or instrumental) and in poetry, they called aris, elevation, élan, all sounds and syllables which went with the élan of the body, and thesis, deposition, repos, the sounds and syllables that were sung at the very moment when the dancers touched the earth whether for mere support, (a touch from which to spring up again), or whether to end their dance in a final thesis. It is therefore from the movements of dancers that these terms aris and thesis have come down to us. We call the beginning of a rhythmic movement aris and the end of the movement we call thesis.

When poetry or music were performed without dancing, the terms aris and thesis were not modified; for the rhythm still corresponded to bodily movements of rise and fall made by the coryphei, the conductor of the chorus who, with the hand or foot, indicated the rhythmic undulations.

171. We have thus gone back to the origin of these two historic terms. We need not complicate matters with later
contradictory meanings that have been attributed to them. Above all, if we are to preserve faithfully their original meaning, we must set them free from any idea of strength or weakness. The words mean: arsis, elevation; thesis, fall, nothing more.

172. It was this fact which made it possible later, to apply the terms to melody, with great exactitude of language. The melodic arsis is an ascent of the voice in the realm of pitch, and the thesis is a descent. Here again, the idea of strength or weakness is completely absent.

CHAPTER IX.

PLASTIC EXPRESSION OR CHIRONYMY OF RHYTHMIC MOVEMENT.

ARTICLE 1. STATEMENT OF THE QUESTION.

173. Not content with possessing a precise terminology by which to describe the phenomena of rhythmic movement, the ancients went further: in order to give it visible form, to invoke the aid of the eye, they expressed it by movements of the whole body in the dance, and by gestures of the hand in conducting. These gestures of hand or foot outlined the rise and fall of the rhythm, following the flights and falls of the dancers. The raising of the hand or foot corresponded to the arsis of the rhythm, and the fall, to the thesis. Nothing could be more natural, for, as Nietzsche points out, (1) the motive itself, melodic or rhythmical, is but "the gesture of musical emotion".

174. The plastic expression of rhythm through gestures of the hand, that is chironomy (χειρόνομος, hand, νόμος, rule), has always been in use. We refer the reader to an excellent article by Dom Ambrose Kienle on the historical aspect of the subject, published in the Vierteljahrsschrift für Musikwissenschaft, Leipzig, Breitkopf and Härtel, 1885, p. 158 (2). Gregorian chant, it will be seen, was rendered under the direction of a primicerius or prior scholae, whose hand outlined the movement of melody and rhythm.

175. Hucauld advises the choirmaster, in his Commemoratio brevis, to indicate the steps of the rhythm by some sort of percussion made with the hand or foot, when training young children in the technique (disciplina) of rhythm and in its practice (canendi aequitas sive numerositas).

"The custom of outlining the melody and rhythm when directing a choir may seem strange to us, adds Dom Kienle, but it is charac-

(2) French translation of this article in Musica Sacra of Ghent, October 1885, p. 19. Also in Paléographie Musicale, Vol. I, p. 98, note 5.
teristic of a certain spontaneity that belongs to the period and it is an excellent means of bringing about good choral singing...

“A choirmaster instructing others in the interpretation of the chant instinctively resorts to gesture when words fail to convey his meaning. It is the intuitive method in music. Under the conductor’s hand the melody becomes visible, plastic, almost tangible, until we begin to wonder whether gestures that are so natural and expressive could not be organized according to certain fixed laws; whether, despite their subjective irregularity and variety, they could not be classified under rules that would be as objective as those which govern proportion and beauty in the plastic and choreographic arts. We imagine that the gestures of the Roman choirmaster, in his day, whether tonal or rhythmical, must have been such: delicate, distinguished, typical, making use of equal gestures for forms that were equal, and the whole structure based on certain fundamental forms and gestures which were sufficiently free and flexible to translate each interior impulse of the director, however delicate or intense” (1).

176. In these lines the problem is set forth clearly. Our task is to solve it. And, although the reader has but a vague general knowledge of rhythm, although the subject of melody and text has not yet been touched upon, enough has been said to enable him to follow us in an attempt to formulate certain basic principles of Gregorian chironomy, and to apply them practically to the various rhythms already studied.

ARTICLE 2. VARIOUS TYPES OF CHIRONOMY.

177. The fundamental movements on which our chironomy is based must have nothing in common with those stiff, angular gestures for beating time taught in the average text book of solfeggio, nor is our purpose the mere indication of measures. We must start from the broad principle that our chironomy, like the graphic notation of sounds, must picture precisely, not mere measures and their succession, but the rhythmical and melodic movement of the phrase as a whole. From this principle we must never depart.

(1) A. Kienle, loc. cit.

When there are several possible ways of analysing a musical phrase, as indeed is often the case, the question arises: which one of these should our chironomy follow? The question makes us realize that there are as many different chironomies as there are varieties of musical analysis.

178. a) When the director taps each separate note, each individual ictus, there is a chironomy of the individual ictus

![Fig. 110.]

a process which is detestable, the gesture of hammer and anvil.

179. b) When the hand outlines each separate elementary rhythm by a corresponding rise and fall, we have a chironomy of elementary rhythms:

![Fig. 111.]

Once more, the system is far from happy, being too choppy, producing a breathless and halting impression.

180. c) It is possible to achieve a rhythmic chironomy of composite pulses if the director’s hand outlines a series of curves linked together at the ictus of each composite pulse.

![Fig. 112.]

This chironomy is already an improvement on those which have preceded it. The effect is more connected, more fused. Yet, while it indicates clearly each step of the rhythmic movement, it is of the earth earthy and crawls along, step by step, without taking flight freely with the melody and the rhythm.
181. d) When the director's hand indicates each rhythmic ictus but follows, also, all the rises and falls, the arses and theses of the composite pulses, then we have a rhythmic chironomy of phrase members.

1. Two arses, one thesis.

![Diagram of arses and thesis](Fig. 113)

2. One arsis, two theses.

![Diagram of arsis and theses](Fig. 114)

This chironomy is adequate, it is perfect; and if well carried out by the hand, it can picture the most delicate and subtle nuances of the liturgical melodies.

182. e) Finally, there is a phraseological chironomy, broad noble and powerful, which gathers up in a single arsic gesture an entire antecedent, a whole protasis; and then, by a slow, broad descent of the hand, outlines an entire apodosis. Because of its very breadth and power, we cannot often use this form of chironomy, especially in view of the fact that choirs are rarely at this height but require, on the contrary, more help in the details of the rhythm.

183. To sum up: the aesthetic value of each type of chironomy in itself, has exactly the same value as the musical model, that is to say it has the virtues or faults of the musical analysis of which it is the plastic expression.

Nevertheless, all are possible, all may be useful, even good, even artistic, in certain special cases which we shall indicate, provided they be used with discretion and judgment. It is the conductor who must choose, among these various forms and systems, the chironomy which will best suit the object he has in mind. He may use each in turn, passing from one system to another according to the needs of his choir, but guided above all, by the feeling and sense of the words, melody and rhythm; and this feeling he must communicate to his choir by the look in his eyes, by the gesture of his hand, so that they become, with him, one mind, one soul, and thus reproduce faithfully the most delicate shades of his thought with art, fidelity and love.

Such conducting is, of course, the very summit of art. It presupposes an extremely able director, penetrated through and through with the science and art of Gregorian chant, and assumes a choir with a long and thorough experience in the singing of the liturgical melodies, capable of the greatest suppleness in responding to the slightest indication from the choirmaster.

Few choirs are at this point of perfection, and we must often limit ourselves to the simpler and more detailed gestures of one of the chironomies described above.

184. In such cases, the best chironomy for guiding the voices is the rhythmic chironomy of phrase members (181), in which the hand outlines in detail each arsis and thesis contained in the phrase member. It is this form of chironomy which we shall study and apply practically. We may also turn, occasionally, to the chironomy of composite pulses (180) which is still simpler and, as it were, a preparation. The two forms complete one another mutually.

ARTICLE 3. ANALYSIS OF SIMPLE MOVEMENT AND ITS CHARACTER

§ 1. Movement in space.

185. That we may grasp fully the significance of the gestures of chironomy and their exact concordance with the sound-movements of melody and rhythm, we must form an exact idea regarding the nature of movement in space, of visible movement. This, in turn, will throw light on the whole subject of rhythmic movement in itself.
186. *Movement* is the ending of a state of repose, of immobility, just as repose is the ending, the stopping of a movement. All *movement* presupposes a preliminary state of repose. It is evident, therefore, that in order to set a material thing in motion, some motive power is required, either external or internal.

187. Let us take a simple example:

A ball on the ground is in a state of repose, but if the stroke of a club lifts it, projecting it forward and upward, the ball is set in motion by this stroke. It springs up, describes a curve and then drops; but the very point at which it touches the ground, this "fectus" that marks its fall, is also a point of departure for a new upward spring. Thus, progressively, from élan to élan, from ictus to ictus, the ball moves forward under the impulse given it by the original stroke of the club; each succeeding ictus gradually exhausts the original motive power until at last the ball comes to its final point of repose.

![Fig. 115.](http://ccwatershed.org)

188. In this succession of movements, let us consider only the first. It will serve as model for all *simple movements*, regardless of the nature of the thing that moves. Even the movement of sound will come under this elementary law.

In the first movement of our ball, we distinguish three moments or phases:

![Fig. 116.](http://ccwatershed.org)

*a) The point of departure, or élan.*

*b) The space covered by the ball in motion.*

*c) The stopping point where the ball drops.*

189. The mere fact of analysing this simple movement into three separate moments or phases does not interfere with the intrinsic unity of the movement in itself.

Evidently, the *point of departure* is essential to the movement and inseparable from it, being its beginning. It is, in itself, both movement and motive power.

It is equally clear that the *stopping point* is essential to the movement inasmuch as it is the movement's end, its point of arrival.

Let us return to *a) the point of departure.* How was the ball set in motion?

By the force of an external motive power, the stroke (fectus) of the club (Fig. 117), in other words by the impulse given it by a movement exterior to itself, a movement which, also, had its own point of departure (a), its curve through the air (b), and its stopping point (c), the latter coinciding exactly with the *starting point of the ball* (A). It is the shock caused by the arrival of the club that sets the ball in motion and determines its movement. As for the club itself, its motion is given it by the will of the player.

![Fig. 117.](http://ccwatershed.org)

190. This two-fold character attached to the precise point where the ball begins to move is important for us to notice:

1. This spot marks the *end* of the preliminary movement which set the ball in motion, the thesis, or thetic ictus of that motive power exterior to the ball (c).

2. It marks the *beginning* of the movement of the ball itself, the arsis, or arsic ictus which has set it in motion.
This point: \( \frac{A}{C} \) unites two movements and can be considered, according to the point of view, either as an ending of the movement of the club or beginning of the movement of the ball, since the arrival of the first and the beginning of the second are simultaneous. In other words, the ball begins its arsic flight at the precise moment when the thetic ictus of the club propels it.

191. Consequently, we see that in spacial movements, there is often fusion or rather the linking together of two movements at a precise point. Each time the ball falls and rebounds, the same rhythmic phenomenon recurs. It is precisely the type of fusion that we have described in the formation of composite rhythms (130).

Thus this simple example of movement in space throws light on the more subtle truths of sound movement, and can be applied to the voice in singing and to the gestures of our chironomy.

§ 2. Simple gestures and their application to simple rhythms.

192. A simple gesture is a movement in space, and must follow the laws of spacial movement. The following rhythm is a good example.

\[ \text{Fig. 118.} \]

It begins with a duplex group of arsic character. This group, like the ball of our example above, requires some impulse to set it in motion. In this case the original motive power will not be given by a club but by a direct command of the singer, which, like a preliminary rhythm, moves with lightning speed from brain to muscles, setting in motion the vocal mechanism for the emission of sounds.

193. This preliminary silent rhythm, spontaneous and intellectual in nature, should be represented by a gesture expressing clearly this impetus which precedes the emission of sounds. The gesture is indicated by dotted lines in the figure below:

PLASTIC EXPRESSION OF RHYTHMIC MOVEMENT.

This figure shows the two distinct rhythms: the first, shown in the dotted curve, represents the silent rhythm, the subjective motor-rhythm, which, while silent up to its point of arrival (c), sets the other rhythm in motion. The second, represented by the filled-in line, is the rhythm of sound.

194. Both rhythms require a gesture. The hand of the conductor moves in curves, free from all rigidity, similar to the curves on the diagram. Starting from the point of repose (a) it moves in the curve of the dotted line, passing through the point (b) then turning back and rising toward (c) which is the ending of the preliminary silent rhythm. At this point (c) we have an ictus which fills a double function and links the two rhythms, since this ictus marks the ending of our motor-rhythm and the beginning of our vocal rhythm (A). The gesture of the conductor should follow the curve of the diagram without pausing, and his hand will guide the voice in its arsic flight, an arsis which takes in the whole group of two notes. Then, still following the curves of the diagram, the hand descends until it arrives at the thetic ictus which concludes the rhythm. As the final ictus is on a long note, the hand will prolong the thetic gesture accordingly.

We have described simple movement and the simple rhythmic gesture by which to express it. This fundamental gesture is one which the teacher should possess and use with ease in order to impart it to his pupils with the study of musical rhythm.

195. Note. We have now explained the curious problem of the élan of a rhythmic ictus (122). We have shown how an ictus which in elementary rhythm, was necessarily thetic in character, can become arsic in composite rhythm. We have seen how the ictus can fill a double function in central groups, being at once thetic and arsic in character (190). But the difficulty remained in regard to the initial rhythmic ictus. The problem is solved
when we have once grasped clearly the existence of a preliminary motive power which gives the original impetus to all movements, whether they be in the realm of space or of sound, and this preliminary motor-rhythm (whether it be material and external or silent and subjective), will end precisely at the point where the other rhythm begins to move. Thus the ictus of ending (or thesis) of the elementary rhythm (which is represented by the silent motor-rhythm) becomes an ictus of élan in the new rhythm where it is considered as the first pulse of a composite group (125).

![Fig. 120.](http://ccwatershed.org)

The fusion of the two movements at B explains how the ictus (or thesis) of an elementary rhythm (simplex time) can become the first note of a group, duplex or triplex, (in composite time) and be transformed into an arsis under the demands of the greater rhythm.

196. b) Arsic triplex group. The rhythmic movement is represented in the same way where there are three pulses at the arsis.

![Fig. 121.](http://ccwatershed.org)

but with this difference: the hand must outline a larger curve than for a duplex group in order to allow time for the three simple pulses to be sung, distributed, as it were, at equal distance along the curve of the gesture.

197. c) The simplex arsis. A simple rhythm beginning with a simplex arsis.

![Fig. 122.](http://ccwatershed.org)

PLASTIC EXPRESSION OF RHYTHMIC MOVEMENT. 125

is outlined by the same gesture which serves for a simple rhythm beginning with a duplex composite pulse.

![Fig. 123.](http://ccwatershed.org)

It is really an analogous rhythm with the difference that a note has been omitted at the beginning.

![Fig. 124.](http://ccwatershed.org)

The rest and the dotted line preceding the simplex arsis shows that the vocal movement does not begin until the hand has traced part of the initial curve.

The rest and the dotted line require explanation.

The principle is that a simplex arsis always presupposes a rhythmic ictus, expressed or implied, immediately preceding, upon which it is supported, just as in walking the lifted foot presupposes the support from which it started. In the following examples, showing respectively a duplex and a triplex arsis, the ictus is expressed.

![Fig. 125.](http://ccwatershed.org)

Whereas in the figure given below, the arsis is simplex and the ictus is implied.

![Fig. 126.](http://ccwatershed.org)

198. In sound movement, this suppressed or implied ictus is very common, because a musical phrase may begin at any point
in a composite pulse, and may even begin on the thesis of a rhythm (1).

If the voice, in these cases, takes certain liberties, it remains dependent on the physical being of the singer, and on that interior rhythm which is subject to the ordinary laws of movement in space. Consequently, while the voice freely breaks loose from these laws, there remains behind this apparent freedom, the sense of movement in our inner consciousness which silently compensates for any deficiency felt by the ear, by means of the interior rhythm alive within us. This instinctive compensation, or process of supplementing, becomes visible when we join the gesture to the voice in the unfolding of the rhythmical and melodic designs.

The best modern theorists admit that when a melody begins on a downbeat there is always an implied anacrusis before it, and this anacrusis is equivalent to our arsis, or élan.

199. d) The rhythmic starting point, arsic or thetic. We have said that a melodic start on an arsis or up-curve, always presupposes a preliminary thesis or arrival of the motor-rhythm. Therefore, to include in a single statement the whole question of rhythmical beginnings, we need only say that every starting note, in the movement of sound, be it arsic or thetic, always presupposes this preliminary motive power.

If this starting point be an élan, an arsic composite pulse, the preliminary gesture of our chironomy will be thetic. In order to rise, one must start from below. The hand moves from left to right.

If, on the contrary, the starting point is a thetic composite pulse, the preliminary gesture of our chironomy will be arsic, for, in order to alight, one must start from above. The hand still moves from left to right.

200. The fundamental reason for all this is that the preliminary movement to which we give visible form is but an outward expression of the inward movement felt by our whole being which begins with the beginning of life itself — for life is movement.

In all this, there is an organic unity.

First, at the base of all else, there is the general rhythmic sense which animates our whole being.

Then, that spontaneous motor-rhythm which precedes, prepares and presses forward toward the sound-rhythm that is to come: and this silent motor-rhythm is in closest accord with the sound-rhythm which it prepares; the gesture of our chironomy is merely its plastic representation.

Finally, comes the movement of sound, rhythmic and melodic, which, in turn, is represented faithfully by the gesture of the choirmaster.

201. e) A series of simple gestures and their graphic representation. Before undertaking the study of composite gestures, we should familiarise ourselves with the simple ones, which, when they succeed each other in regular sequence can be represented by the figure eight (8) in a horizontal position, with the loop on the left side higher than the loop to the right.
The student should practise this gesture, rhythmically, until it is perfect.

**ARTICLE 4. — COMPOSITE GESTURES.**

202. *Simple gestures* having been made clear, we can consider *composite gestures*. We shall no longer speak of the preliminary *motive gesture*, which is always implied.

- *a) Composite arsis gestures.* As the simple arsis has been indicated by the following graphic curve outlined by the hand,

![Fig. 130](http://ccwatershed.org)

the double arsis is shown by the same curve repeated, the second rising higher than the first.

![Fig. 131](http://ccwatershed.org)

The loop represents the point of fusion of the two rhythms. If there were a triple arsis the same curve would be repeated three times, on a slightly higher plane each time.

203. *b) Thetic composite gestures.* The double thesis is represented as follows:

![Fig. 132](http://ccwatershed.org)

After the arsis (note 1-2) the hand curves downward on the first thesis (3), rises gently on note 4 and glides smoothly along
the last thesis (5). A succession of three theses is not unusual in the broad rhythms of the Gregorian melodies.

204. A rhythm may have a composite arsis and also a composite thesis, and the gesture must follow the flow of such a rhythm.

![Fig. 133](http://ccwatershed.org)

The distinction between the gesture for a composite arsis and that for a composite thesis is self-evident, since a *loop* always indicates a new arsis, a fresh élan, while a descending curve that undulates is the sign for a new thesis. When the gestures are properly made, no confusion is possible.

205. The best way to grasp the principles of chironomy, and the quickest, is to study the diagram on the opposite page, with the explanation. As the student advances in the study of rhythm and of choir direction, he will understand its importance and the significance of its arrangement. He should refer to it constantly because it pictures various undulations, rhythmic and dynamic, which are found with only slight variations, in all Gregorian phrases.
CHAPTER X.

RHYTHM AND MEASURE.

ARTICLE 1. — THE DIFFERENCE BETWEEN RHYTHMS AND MEASURES.

206. It is now easy to grasp the profound differences that exist between a rhythm and a measure, the latter being equivalent in Gregorian chant to a composite or group-pulse (duplex or triplex) (217).

![Diagram of rhythm and measure](http://ccwatershed.org)

The points of distinction stand out clearly in the following diagram:

![Diagram of rhythm and measure](http://ccwatershed.org)

207. First difference: Each elementary rhythm is placed astride of the bar line, whereas each measure is enclosed within the limits of two bars.

208. Second difference, a consequence of the first: each elementary rhythm ends on the first pulse of the measure, on the rhythmic ictus beyond the bar line; whereas each measure begins on the rhythmic ictus just mentioned, and ends inconclusively before the next ictus, ending as it does inside the bar line.

These two points of difference are but the exterior and graphic manifestation of a distinction which is essential and profound.

209. Third difference: Rhythm is an organism, complete, self-sufficient and perfect. This is particularly true of composite rhythm and the broad rhythm of a complete phrase. Rhythm is an entity with an individual life, its members properly proportioned and functioning harmoniously, and to this life nothing is lacking. The rhythm has its beginning, its flight (arsis) and its ending (thesis) and it gives the impression of an organic whole, complete in itself, and arriving at a solid point of repose for its ending, whether that point be one of momentary and passing support or of permanent and final conclusion.

A measure — or composite pulse — on the other hand, is incomplete, rhythmically speaking. It is only a part of a rhythm, an isolated unit which has no fixed place in the rhythm as a whole. It is like a stone, cut and polished, awaiting its place in the general structure. It is like a human limb which, if detached from the body, is deprived of all movement and life.

210. In the following diagram, we have a measure of two pulses and another of three (A Fig. 136). Let us see the various characters which rhythm can impart to this little group.

![Diagram of rhythm and measure](http://ccwatershed.org)

In line B, the rhythm gives it the character of an élan, an arsis, a beginning.
In line C, the rhythm makes of it a resting place, an arrival or feminine thesis.

In line D, the rhythm places the measure in the center of a rhythmic member where it may become either an arsis or a thesis according to the requirements of melody and text.

211. Fourth difference: Rhythms are indivisible, and the two moments which make up a rhythm are inseparable as the act of inhaling and exhaling when we breathe. One follows the other of necessity. In the same way, the continuity of arsis and thesis in a rhythm cannot be broken; the thesis, or repos, being the indispensable complement of the arsis-élan. Thus a ball, when thrown in the air, must drop to its cadence, its thesis.

A measure, on the contrary, is divisible, though it need not always be divided. In the examples used above, the pulses making up the measures (duplex or triplex) were closely united so as to form a metrical entity, that is to say, a single composite pulse, and this form was imposed by the rhythm itself. But in the example below, one of the duplex measures will be broken up into two sections by the rhythm. Such divisions occur frequently.

![Fig. 137. Duplex Measure belonging to two rhythms](image)

In this example, the fifth measure belongs to two rhythms: its first note is the thesis of the preceding rhythm, while its last note is the arsis of the rhythm that follows.

Rhythm can do what it likes with the measures; it can unite or separate the elements at will, and all this quite simply and naturally.

**ARTICLE 2. — THE RELATION BETWEEN RHYTHM AND MEASURE.**

212. A measure, in itself, is nothing. It owes its existence solely to rhythm. Like footprints in the sand which assume the passage of a man, so the measures in music assume the rhythm which has created their form. The forward movement of rhythm may be compared to the steps of a man and the first pulse of each measure to the trace of his footprints.

213. But this first pulse of a measure, this ictus, is the last pulse of a rhythm (elementary or composite). In other words, the true characteristic of this ictus which begins a measure, whether it be strong or weak, is that it is a point of arrival, rhythmically, before becoming a point of departure metrically. Wherever, then, the rhythm stoops and touches ground, wherever it leaves a footprint no matter how faint, there, at that point, we have the beginning of a measure. Rhythms and measures are linked and interwoven.

![Fig. 138. Measure of composite pulse of composite pulse](image)

214. Rhythm generates the measures and determines their duration. The steps of the rhythm may be in duplex or in triplex time; they may be always of equal length, as in measured music; or they may be of unequal length, as in the free rhythm of Gregorian chant. In all these matters, rhythm is the master who varies the length of these strides at will.

215. This law of movement by duplex or triplex steps is often explained by assuming a metrical necessity — so-called — of a purely dynamic nature. It is claimed that the ear demands the periodic recurrence of a strong beat every two or three pulses to enable it to group measures the disordered mob of individual sounds and scattered units. This is the common theory. But, in reality, the thing which the ear craves is not force but a sensation of periodic repose, whether the latter takes the form of length or merely of a delicate sense of support, a certain feeling of poise which is needed every two or three pulses. It is this sensation of poise or of repose, not a sensation of force, which guides the ear in its grouping of individual pulses by twos and threes; it is this sensation, this inner necessity, that leads to the
formation — not of mere measures — but of living and complete rhythms created out of the scattered dust of the basic pulses.

216. Measures, thus conceived, have a character wholly at variance with that which modern writers would give them, and which assumes the following traits:

a) A strong first beat, or downbeat, a metrical ictus;

b) which recurs every two or every three pulses;

c) and which must appear at equal distances from each other. Of these three traits, only the second can stand before the light of facts, and, even so, must be transformed and re-stated.

For where these modern writers see only an up-beat, a last pulse of a measure, there we see a beginning, an élan, a first pulse (be it simple or composite) of a rhythm.

Where the modern writers see a strong beat, a downbeat and a first beat of a measure, there we see an arrival, and ending, a point of repose and a last pulse of a rhythm.

217. Since, in Gregorian chant, the measure can never exceed three basic pulses, we prefer to call it what, in reality, it is: a composite pulse, duplex or triplex, of the rhythm. The term measure may be used by those who prefer it, but only if it be understood in the following sense:

A measure is nothing more than a part of a rhythm, being merely the space contained between two rhythmic ictus, and is therefore incomplete rhythmically, beginning as it does, on one ictus and ending before arriving at the next.

![Measure](https://example.com)

*Fig. 139.*

- The ictus of beginning on the first pulse of the measure, is also an ictus of ending, the point of arrival of the preceding rhythm. The ictus can be strong or weak according to the character of the phrase and the rhythm as a whole.

- This ictus occurs every second or third pulse and between these points of support a lift or élan is necessary.

c) This ictus appears at equal distances in the type of rhythm known as measured, and at unequal, irregular distances in the type known as free rhythm, which is the rhythm of Gregorian chant.

Consequently this conception of the relation between measures and rhythm applies with equal force to both types mentioned above, — to free rhythm and to measured rhythm — provided the latter keeps within the bounds of the ordinary laws of normal movement. That rhythm can break loose from the laws of a calm, serene, and well-ordered movement, we are well aware. We know that it is capable of expressing all the feelings that sway the human heart, from that quality of ordered impulse and serenity which distinguishes the Christian soul in the singing of the divine office, all the way to the extreme manifestations of passion, violent and chaotic. For "there is no element in art where the relation is closer between the thing to be expressed and the means of expression than is the case with rhythm; the relation appears boldly and stripped of all artifice, since movement is a form of expression which is understood by every living being.

Rhythm, indeed, possesses endless resources with which to translate the violent, disturbing shocks of passion. But nothing more clearly proves the existence of the fundamental laws of rhythm than these very disturbances; for the sense of shock is produced by the very fact that a rhythm has deliberately broken away from the law that normally governs its flow. The unnatural gait of a lame man, laboriously limping in triplex time shocks us only because our standard is fixed by the gait of a normal man who walks in duplex time.

CHAPTER XI.

SYNCOPE.

218. Though syncopation is never found in Gregorian chant, a clear idea of its nature will throw further light on what has been said already, and will prevent the student from falling into errors of interpretation.

219. Syncopation can be defined as an interruption of the regular succession of arses and theses in the rhythmical flow. Such interruptions can be produced in various ways.

a) Syncopation between the arsis and thesis of a rhythm by fusing the two into a single note.

The following series of simple rhythms, for instance:

\[ \begin{align*}
\underline{a} & \underline{e}, \underline{a} \underline{e}, \underline{a} \underline{e}.
\end{align*}\]

would be syncopated if presented as follows:

\[ \begin{align*}
\underline{a} & \underline{a}, \underline{a}.
\end{align*}\]

If the above rhythms be syncopated as those in Fig. 141, the effect is produced in both cases, not by the suppression of a strong beat, but by the suppression of the thetic ictus, be it strong or weak. The relative intensity of the ictus cannot here be in question, since we are not considering a matter of degree in the force of an ictus, but its complete suppression. The suppression of the thetic ictus is what causes the syncopation.

220. The common theory regarding syncopation is that it depends upon the supposed intensity of the first beat of the measure, and can only occur (in modern music or in polyphony) when there is an intensive first beat. This in an error, for syncopation can be produced as easily in a series of rhythms with light ictus (A) as in a series with strong ictus (B).

\[ \begin{align*}
A & \quad B
\end{align*}\]

\[ \text{Fig. 142.}\]

In this case the syncopation is brought about by the suppression of the rhythmic ictus of thetic nature on the first pulse of each measure. This suppression produces a fusion of the arsis and the thesis of the rhythm. The effect on the ear is to deceive our expectation of a normal pulse. It produces a rhythmic shock, which is the essential character of all syncopation. One can compare this shock to a false step in walking, or to the sensation of the walker who does not find a solid place to lay his foot at the normal distance of his stride, and is forced to reach out further for a foothold.
more. Intensity does not enter into the question, and the syncopations are gentle and almost hidden, giving the impression of a mere intertwining of the rhythms among themselves, which effect, if it be not carried to excess, is agreeable and adds a certain variety and grace to a melody.

222. Another manner in which the normal rhythmic flow can be interrupted is as follows:

b) Syncopation between the thesis and arsis in rhythms of three pulses. This disruption takes place when the ordinary length and weight belonging to the arsis and thesis respectively is inverted. In elementary rhythms, the regular order, as we know, is as follows: One pulse at the arsis and two at the thesis:

![Fig. 143.]

The following figure shows an irregular arrangement, namely: two pulses at the arsis and only one at the thesis.

![Fig. 144.]

The second pulse of the triplex measure (Fig. 144) which normally belongs to the thesis of the rhythm, as in Figure 143, now becomes the starting point of an arsis, which is thus anticipated by a pulse, and breaks the normal sequence. The syncopation, in this case, is caused by the fusion of the second note of the normal thesis (Pulse 2 of the measure) with the note of normal arsis (Pulse 3 of the measure). Once more we feel a sense of shock, of unpleasant surprise, similar to the sensation in walking when, after the thesis of one footstep, the next is interrupted by stumbling against an obstacle placed in our way too soon, so that the foot has no time to rise or to stride forward.

Even should the long note of Figure 144 be split up into two distinct pulses, each one with its individual ictus:

![Fig. 145.]

the grouping would remain irregular, with two notes at the arsis and only one at the thesis, and the syncopated effect would be practically unchanged. However, during the course of a melody, effects such as these may be tolerated occasionally, on condition that the disposition of notes, words, the pronunciation of the vowels and a skillful rendering shall combine to conceal the irregular grouping of the pulses. The effect upon the ear, in such cases becomes:

![Fig. 146.]

![Fig. 147.]

223. Thus, even without fusion, the grouping of individual notes can create the impression of a syncopation when the manner of their grouping contradicts those fundamental laws of rhythm which we have described in the previous chapters.

224. For a measure of three pulses, in simplex time, the only natural grouping is as follows:

![Fig. 148.]

namely: one pulse at the arsis and two at the thesis.
In composite time, we can have the following arrangement:

![Diagram](http://ccwatershed.org)

Fig. 149.

provided that the three individual pulses shall form a single composite or group-pulse.

225. Syncopated effects are wholly foreign to the spirit of Gregorian art, whether in the center of phrases or at the cadences. The shock, the agitation produced by a syncopation is positively repugnant to the perfect order and peace which is the essential character of the liturgical melodies (1).

(1) See an excellent article by M. G. Bas: *La sincope e l'accompagnamento del canto gregoriano*. Rassegna Gregoriana, Luglio-Agosto. 1907. Col. 303.
"LE NOMBRE MUSICAL GRÉGORIEN"

A STUDY OF

GREGORIAN MUSICAL RHYTHM

BY

DOM ANDRÉ MOCQUEREAU

OF SOLESMES

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CONTENTS.

PART II. MELODY.

1ST APPLICATION TO RHYTHM.

CHAPTER I.

MELODIC SIGNS.

Origin, Names and Forms of Notes and Neums.

Article 1. Grammatical Accents and the Melody of Speech 144
Article 2. Neum-Accents evolving from acute and grave accents. 146
  1. Names and Forms of single Notes and Neums . 146
     A. Chironomic notation 146
     B. Diastematic notation 147
  2. Exercise I. Look up and name single notes in book of
     Gregorian Chant 150
  3. B. Neums of two notes 150
  4. Exercise II. Look up and name neums of two notes 151
  5. C. Neums of three notes 151
  6. Exercise III. Look up and name neums of three notes 152
  7. D. Neums of four notes and more 153
  8. Unity of Neums 154
  9. Exercise IV. Look up, name and write neums 156
  10. 3. Liquescent Neums 156
  11. Exercise V. Look up and name liquescent neums 157
  
Article 3. Notes and Neums derived from Apostropha-accent 157
  1. The Apostropha in Neumatic notation 157
  2. The Strophicus 159
  3. The Pressus 161
  4. The Oriscus 163
  5. The Salicus 164
  
Article 4. The Quilisma 165
  
  Exercise VI. Look up and name various forms of the stro-
  phicus, pressus, oriscus, salicus and quilisma 166

Article 5. Variety of Neumatic Notations. Unity of Melodic
  Tradition 166

CHAPTER II.

RHYTHMIC SIGNS IN THE ANCIENT MANUSCRIPTS.

Article 1. Their purpose and the general Rhythmic Tradition 168
Article 2. The Rhythmic Signs of St. Gall 170
  1. The Rhythmic Signs proper 171
     A. Modifications 171
     B. Additions 174
CONTENTS.

CHAPTER V.
THE GREGORIAN ELEMENTARY PULSE.
Rhythmic Value of Punctum and Virga.

Article 1. Indivisibility of Gregorian Basic Pulse 222
Article 2. Notation of Elementary Pulse: Punctum, Virga. 225
   1. Purely Melodic Significance of Punctum and Virga 225
      Quantitative and dynamic identity of two signs 225
   2. Use of Punctum and Virga in Recitation 228
   3. Substitution of Virga for Punctum in Melodic Changes 233
   4. Free use of Punctum and Virga 234
      A. To represent single notes between neums 234
      B. Same freedom in formation of neums 236
      C. Same freedom in relation of neum to neum 237
   5. Substitution of Virga for Punctum in Sequences 239
   6. Punctum and Virga used simultaneously in two part-Organum 241
   7. Testimony of Manuscripts written in neum-points. Punctum
      and Virga written as one sign. Conclusion 242

CHAPTER VI.
NEUMS, THEIR RHYTHM AND EXECUTION.
The Isolated Neum.

Article 1. General Principles Applicable to all Neums 245
   1. The Gregorian Neum, its Character 245
   2. Time Value of Notes in Neums 246
   3. Position of Rhythmic Ictus 249
   4. Fundamental Distinction between Rhythm-neums and
      Time-neums 251
      A. Rhythm-neums 252
      B. Time-neums 253
Article 2. Isolated Rhythm-neums and their Rendering 254
   1. Rhythm-neums of Two notes 254
   2. Rhythm-neums of Three notes, (four Pulses) 255
      Exercise XVII. Rhythm-neums, three Notes, four Pulses (1) 257
      Exercise XVIII. Rhythm-neums, three Notes, four Pulses (2) 258
   3. Rhythm-neums of Four notes : (five Pulses) 258
      Exercise XIX. Rhythm-neums, four Notes, five Pulses 259
      Exercise XX. Rhythm-neums, three Notes or four freely
      combined (forming groups of four Pulses
      or five) (1) 260
      Exercise XXI. Rhythm-neums freely combined (2) 261
   4. Rhythm-neums of five Notes (six Pulses) 261

http://ccwatershed.org
CHAPTER VII.

RHYTHM AND EXECUTION OF NEUMS IN PHRASES.

Article 1. General ideas on junction and disjunction of Neums.

Article 2. Junction of Neums.

1. Simple Juxtaposition of Neums.
   A. Meaning of Juxtaposition.
   B. Juxtaposition of Neums as shown in MSS.

2. The Linking of Neums.
   A. Linking Rhythm-neums ending on short ictic note.
   B. Linking after a Time-neum.


Article 3. The Disjunction of Neums.

1. Mora Vocius means of disjunction.

2. Disjunction of Neums in MSS.

CHAPTER VIII.

STUDY AND EXECUTION OF THE APOSTROPHA-PRESSUS.


Article 2. Proof of Fusion, two Notes of Pressus, Pressus by Apposition.

1. Fusion proved by Equivalents.

2. Romanian Abbreviation $\& = conjunctura$.

3. Diaeresis of the Pressus.

CONTENTS.

Exercise XXII. Rhythm-neums of five Notes six Pulses.
5. Rhythm-neums of six Notes, seven Pulses.

Exercise XXIII. Rhythm-neums of six Notes, seven Pulses.

1. Corollary. Notation of Neumatic Group is Rhythmic.

Article 3. Isolated Time-neums. Their Rendering.

1. The Time-neum.

2. Time-neums of two Notes and of three.

3. Time-neums of four Notes.

Exercise XXIV. Time-neums of two Notes and of three.

Exercise XXV. Time-neums of four Notes.

4. Time-neums of five, six or more Notes.

Exercise XXVI. Time-neums of five Notes.

CHAPTER IX.

STUDY AND EXECUTION OF THE STROPHICUS.

Article 1. The Isolated Distropha and Tristropha.

Exercise XXXIII. The isolated Distropha.

Article 2. Repercussion of Distropha and Tristropha.

Exercise XXXIV. Repercussion of Distropha and Tristropha.

Article 3. Combination of Strophicus and Virga.

1. Virga preceding Strophicus.

2. Virga between two Strophicus.

Exercise XXXV. Combination of Strophicus and Virga.

Article 4. Strophicus preceded or followed by Neums at same Pitch.

1. Strophicus preceded by Neum ending at same pitch.

Exercise XXXVI. Strophicus preceded by Neums at same Pitch.

2. Strophicus followed by Neum at same Pitch.

Exercise XXXVII. Strophicus followed by double Repercussion.

Exercise XXXVIII. Strophicus followed by Repercussion with Epimema.

Exercise XXXIX. Strophicus followed by Repercussion with simple Ictus.

Exercise XL. Strophicus followed by Note with light ictic Touch.

Exercise XLI. Strophicus followed by Note of Repercussion without rhythmic Ictus.

3. Strophicus preceded and followed by Neums at same Pitch.

Article 5. Strophicus followed by Quilisma.

Exercise XLII. Strophicus followed by Quilisma.

Article 6. Strophicus: aesthetic standpoint; Notation.
CONTENTS.

CHAPTER X.
THE APOSTROPHA-ORISCUS AND ITS EXECUTION.

Article 1. Melodic character of the Oriscus .... 387
1. Oriscus on note higher in pitch than the preceding one .... 387
2. Oriscus at same pitch as preceding note .... 390

Article 2. Execution of the Oriscus .... 392
1. Oriscus and preceding Neum .... 392
2. Position of Rhythmic Ictus with respect to Oriscus .... 394

Exercise XLIII. Oriscus as Transition between Neums. 398

CHAPTER XI.
THE SALICUS AND ITS RENDERING.

Article 1. Rendering of first form of Salicus .... 401

Article 2. Interpretation of second form of Salicus .... 410

Exercise XLIV. Two forms of Salicus .... 410

CHAPTER XII.
THE QUILISMA AND ITS RENDERING.

Article 1. Position of Quilisma in Musical Scale .... 412

Article 2. Interpretation of Quilisma .... 414
1. Byzantine Quilisma .... 414
2. The MSS. Retroactive Effects of Quilisma .... 415
3. The Latin Authors .... 418

Article 3. Rules for Rendering Quilisma .... 420

Exercise XLV. On the Quilisma .... 423

APPENDIX

RULES FOR RENDITION OF NEUMS.

LEGATO STYLE. SMOOTH VOCALIZATION.

Exercise XLVI. Pattern of two notes .... 429
Exercise XLVII. Pattern of three notes .... 429
Exercise XLVIII. Pattern of four notes .... 430
Exercise XLIX. Pattern of five notes .... 430
Exercise L. Pattern of six notes .... 431
Exercise LI. Pattern of seven notes .... 431
Exercise LII. Pattern of eight notes .... 432
PART II.

MELODY.

ITS APPLICATION TO RHYTHM.

1. Up to this point, the only matter which we have used to explain the fundamental principles of the science of rhythm has been a series of sounds all at the same pitch, grouped into incises, members and phrases.

Now we must go forward and consider a new element; one which is more interesting and more complex, namely, melody; melody alone, without words; the more complicated relation of text to melody and to rhythm being reserved for later study. This new melodic material, when applied to the various rhythmical designs already studied, will add to them a fresh grace and beauty which the bald rhythmical design cannot provide when detached from its melodic context.

Even in this second part, however, the student must not expect to reach the full unfolding of the Gregorian musical phrase. A preliminary understanding is needed of the melodic and rhythmical elements which compose that phrase: the notes, the groups, their value and rendition. This section of the book is devoted, then, to a study of these primary elements.

First of all, we must learn to recognize the graphic signs which represent the various sounds of the Gregorian melodies. These signs are of two kinds:

Melodic signs, which suggest intervals.

Rhythmic signs, which indicate those elements which are related to rhythm: signs which influence duration or intensity, and consequently affect the rhythmic movement itself, in its élan and repos.
CHAPTER I.

MELODIC SIGNS.

Origin, Names and Forms of Notes and Neums.

ARTICLE I.

GRAMMATICAL ACCENTS AND THE MELODY OF SPEECH.

2. — The melodic signs are derived from the melody of speech, or rather from the accents used in ancient times to denote, graphically, the inflexions of the voice in speaking.

Language, in fact, has a melody of its own, but the intervals of its rise and fall, being spontaneous and vague, do not follow the exact pitch of any musical scale, and consequently, elude any accurate graphic representation. For this reason, the grammarians of ancient times confined their efforts to a vague indication of direction, marking the rise and fall of the isolated word by means of graphic signs which noted the higher or lower pitch of the various syllables, without attempting to indicate the exact degree of elevation or fall, thus leaving to the individual orator full liberty in developing the melody of his phrase or period.

3. — Two fundamental signs were sufficient:

a) The acute accent (acutus), to mark a rise of the voice, represented by an ascending stroke, (Fig. 1) \.

b) The grave accent (gravis), to mark a fall of the voice, represented by a downward stroke (Fig. 2) \.

4. — As the same syllable sometimes carried two inflexions of the voice, a combination of both simple accents provided for this case:

a) The circumflex accent (Fig. 3) \., an acute followed by a grave, and

b) The anticircumflex accent (Fig. 4) \., a grave followed by an acute.

5. — The meaning of these grammatical accents, from the very beginning, was merely melodic (See Paleographie Musicale, I, p. 97), that is to say, the grammarians attached to them no idea of duration or force. They belonged solely to the realm of pitch (See Part I, 13, 14). The accent was not long; it equalled, in time value, one basic pulse, whether high or low in pitch, and nothing more. Where the writers wished to indicate that a syllable had the value of two pulses — a duplex composite pulse — they placed over that syllable two simple accents forming a neum: either the circumflex or the anticircumflex.

Ex: Römä = Röömä = Röämä.

6. — Finally, a third simple accent, the apostropha (\), passed into musical notation and was the origin of all neumatic signs which were derived neither from the acute accent nor from the grave. Therefore, with the exception of the quillisma, of which we shall speak further on, the whole system of musical notation known as neumatic accentuation was generated by three simple primary signs, three accents borrowed from the grammarians.

The acute and grave accents expressed melodic direction, while the apostropha had a special meaning which will be explained later.

This brief explanation of the accents will suffice for the moment (1). Let the student bear in mind, however, that the acute accent represents a single basic pulse and a rise in pitch. We shall deal more comprehensively with the question of accents in words,

(1) The Latin grammarians, it will be remembered, distinguished eleven accents:

<table>
<thead>
<tr>
<th>Accent</th>
<th>Neumatic Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td>1 Acute</td>
</tr>
<tr>
<td>Grave</td>
<td>2 Grave</td>
</tr>
<tr>
<td>Circumflex</td>
<td>3 Circumflex</td>
</tr>
<tr>
<td>Anticircumflex</td>
<td>4 Anticircumflex</td>
</tr>
<tr>
<td>Long</td>
<td>5 Long</td>
</tr>
<tr>
<td>Short</td>
<td>6 Short</td>
</tr>
<tr>
<td>Apostropha</td>
<td>7 Apostropha</td>
</tr>
<tr>
<td>Hyphen</td>
<td>8 Hyphen</td>
</tr>
<tr>
<td>Hypodiaetole</td>
<td>9 Hypodiaetole</td>
</tr>
<tr>
<td>Daseia</td>
<td>10 Daseia</td>
</tr>
<tr>
<td>Simile</td>
<td>11 Simile</td>
</tr>
</tbody>
</table>

Of these eleven accents, six are used in neumatic notation. Numbers 1, 2, 3 and 4, indicate pitch; No. 7 is the apostropha, and No. 5 the sign of prolongation in Romanian notation.

So prevalent was the custom in the Middle Ages of writing music by means of accents, that the author of Musica Enchiriadis used the daseia and the simile turned about in all directions, and reversed, as a basis for the Daseian notation. Thus we know of eight different accents which have been used to express musical tones.
and their value, whether of intensity or quantity, in the third part of this book (1).

ARTICLE 2.

NEUM-ACCENTS EVOLVING FROM THE ACUTE AND GRAVE ACCENTS.

§ — Names and Forms of single Notes and of Neums.

A. Chironomic notation.

7. — When the acute and grave accents became neums or musical notes, their form was scarcely modified (except that of the grave accent in special cases), but they were given new names which their very shapes suggested.

The acute accent became the virga of the neums (Fig. 16) \( / \) and the grave accent when used by itself, took the form of a dot and was called a punctum (Fig. 17).

8. — When the grave accent was united to the acute accent, it kept approximately its original form:

The circumflex accent (an acute plus a grave accent) became the elvis : (Fig. 18) \( \wedge \)

The antcircumflex (a grave plus an acute accent) became the pes or podatus : (Fig. 19) \( \hat{\wedge} \)

9. — In music, evidently, there are many more combinations of accents than there could be in language, and therefore we find neums of three notes, four notes, five notes, and even more.

Neums of three notes: (2)

**Composed of Accents:**

Torculus (torquere, to twist)  (Fig. 20) \( \wedge \) Grave, acute, grave
Porrectus (extended)?  (Fig. 21) \( \hat{\wedge} \) acute, acute, acute
Scandicus (scandere, to ascend)  (Fig. 22) \( \hat{\wedge} \) grave, grave, acute
Climacus (\( \chi \ell\mu\xi \) ladder)  (Fig. 23) \( \hat{\wedge} \) acute, grave, grave

etc., etc., etc.

(1) *Nombre Musical grégorien*. Vol. II, 1927 (Tr.).

(2) We are using for the neums the names which have been adopted during the past thirty years. Some of these names should be corrected, particularly that of the porrectus, but for convenience we retain them for the present.

This notation (1) is called chironomic (\( \chi\mu\mu\nu\), hand; \( \nu\omicron\nu\omicron\), rule) because the accents are merely graphic signs to represent the ascending or descending gestures of the hand in outlining the melody.

10. — Examples of chironomic notation:

![Image](fig24)

*Fig. 24.* Zurich. Cant. Library, N. 71. Gradual of Reinina, Switzerland, fol. 26, X11th century. Neum-accents.

![Image](fig24)

*Fig. 24a.* Zurich. Cant. Library, N. 55. Gradual from the neighbourhood of Reinina, fol. 8, X11th Century. Neum-accents.

B. Diastematic notation.

11. — This chironomic musical notation had a grave intrinsic defect from the beginning: it indicated a rise or fall of the voice, without showing the precise musical interval. A pupil, seeing the neums, could make no practical use of them (Fig. 24), since

(1) See *Paléographie Musicale, Notation chironomique*, vol. I, p. 98 et seq.
they required a master's interpretation; he had to sing the melody and show by example what the writing itself could not sufficiently indicate. The pupil had to listen and commit to memory, with infinite patience, all the Gregorian melodies of the liturgical year. The neumatic accents served only to guide and refresh his memory. Under such conditions it required long years of study to master the full musical repertory of the Church.

A great task therefore confronted the musicians, that of perfecting the chironomic notation and making it, at sight, a clear and intelligible thing. Little by little the efforts made in this direction brought about improvements. When writing out the neums, the copyists began to place the notes at different heights, in proportion to the differences of interval. The very first attempts at diastematic notation (διαστηματικά, intervals) can be found even in the most ancient neumatic manuscripts.

12. — Then came further experiments, this time with lines. First a single horizontal line was traced and the notes were distributed above and below. Later, for greater precision, a second, third and fourth line were added: thus the musical staff was discovered.

13. — Finally the invention of the clefs (II, 131) brought notation to its perfection (1). When the neum-accents, slightly modified, were placed on the staff, it became an easy matter to read the intervals.


![Image]


Fig. 26. London, British Museum, Add. MS. 12194, Gradual of Sarum, fol 102v, XIIIth century. Neum-accents on lines.

16. — Before studying and singing the intervals, we should learn to recognize the graphic form of notes and neums both as they appear on the staff in Gregorian notation and also in their transcription into modern notation. The following table shows all the simple notes, even those derived from the apostropha (II, 25 et seq.); also the sign for the quilisma and for the punctum with ictus (1).

A. Single notes.

<table>
<thead>
<tr>
<th>Name</th>
<th>Form</th>
<th>Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Punctum square form</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Punctum with ictus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Punctum diamond-shape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 The same with ictus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) We know that the laws of rhythm require an ictus, or point of support occurring once in every two or three basic pulses. This rhythmic support must clearly be represented in the notation of Gregorian chant which cannot escape this essential law. These rhythmic subdivisions are shown in long groups by the episema (I, 67). The student is already familiar with this little vertical line placed under notes which have the ictus. In the Solesmes editions the episema is marked only where the form of the neum itself fails to indicate clearly the place of the ictus.
PART II. — CHAPTER I.

5. Virga

6. Apostrophæ

7. Scissura

8. Quissisa

Fig. 27.

In the Solesmes editions of the Vatican chant the *episema* is indicated thus:

Fig. 28.

Whatever their form may be, all the notes in the above table have the same value, that of one basic pulse.

EXERCISE I.

17. — Look up and name the various forms of the single note in a book of Gregorian chant, such as the Solesmes edition of the *Vatican Kyriale*, or the *Liber Usualis*.

18. — B. Neums of two notes.

<table>
<thead>
<tr>
<th>Name</th>
<th>Form</th>
<th>Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pes or Podosus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clivis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 29.

EXERCISE II.

19. — Look up and name neums of two notes.

20. — C. Neums of three notes.

<table>
<thead>
<tr>
<th>Name</th>
<th>Form</th>
<th>Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>Podosus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Torculus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. — a) *Podatus*. The lower note of this neum is sung first, whereas in the clivis the upper note is sung first.
MELODIC SIGNS.

name of the fundamental neum itself, to which is added a qualifying term. These qualifying terms are three in number: flexus, resupinus, subpunctis.

a) Flexus (bent). This qualification is given to neums which normally end on a high note but to which a lower note is added: thus, the porrectus, scandicus and salicus.

b) Resupinus (bent upward). This qualification is given to neums ordinarily ending on a low note, but to which a higher note is added: thus, the torculus and climacus.

c) Subpunctis. This qualification is given to ascending neums which, ending with a virga, are followed by a series of descending diamond-shaped notes: thus, the podatus, porrectus or scandicus.

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When there are two punctums, the term is subbipunctis.

<table>
<thead>
<tr>
<th>Name</th>
<th>Form</th>
<th>Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Persubbipunctis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Forrecticussubbipunctis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Scandicus subbipunctis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 37.

When there are three, the term is subtripunctis.

<table>
<thead>
<tr>
<th>Name</th>
<th>Form</th>
<th>Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. Persubtripunctis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Forrecticussubtripunctis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 38.

Those who wish to study the subject in greater detail should consult the Paléographie Musicale, Vol. II, p. 31.

§ 2. — The Unity of Neums.

23. — We must know exactly how the neums are formed in order to distinguish between the notes that should be closely related in singing, and those that should be separated (1). We have seen that notes can be combined to form a neum in three ways:

a) by a graphic line of ligature.
b) by a succession of diamond-shaped notes.
c) by the mere placing of two or more neums side by side and close together.

(1) "Qualiter ipsi soni jungantur in unum, vel distinguantur ab invicem." HUCBALD Cf. Gerbert, Scriptores, I, p. 118.

24. — In the three cases, the relation of the notes to each other and their grouping, is indicated clearly in the writing but by different devices:

1. The ligature:

Fig. 39.

Here it is the line itself which connects the notes and thus marks the group.

2. The subpunctis:

Here the relation of the notes is brought out by a single stroke of the pen starting at the virga and descending toward the right, with the pen slightly lifted between each punctum. The dependence of these descending notes upon the original virga is clearly indicated and their grouping is suggested.

Fig. 40.

3. The uniting of several neums: When several neums are placed side by side and close together, their melodic relation and close union is indicated. They form one composite neum and are sung as a unity.

<table>
<thead>
<tr>
<th>Name</th>
<th>Form</th>
<th>Transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pers and clivace unite to form a scandicus subbipunctis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Podatus and clivae united</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Clivae and podatus united</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Pers subbipunctis and clivae united</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 41.

Fig. 42.

Fig. 43.

Fig. 44.
MELODIC SIGNS.

moment of transition from one syllable to another, these semi-vocal or liquecent sounds are used and are indicated as follows in the notation:

1. PECTORAL 

2. CLIVUS

3. TORQUE

4. SCANDICUS

5. CLIVUS, CLIMACUS and PECTORAL

6. CLIMACUS

7. CLIVUS and PORRECTUS

8. TORQUE and PECO SUBPUNCTUS

9. CLIVUS, CLIMACUS and PECTORAL

10. PECTORAL SUBPUNCTUS

---

EXERCISE V.

27. — Look up and name the various liquecent neums. These will be found only at the junction of two syllables; consequently the semi-vocal sound is always at the end of a neum, never in the center.

---

ARTICLE 3.

NOTES AND NEUMS DERIVED FROM THE APOSTROPHA-ACCENT.

§ 1. — The Apostropha in neumatic Notation.

28. — The apostropha is another sign borrowed from the grammarians, a sort of grammatical accent. Already, the writers of musical notation had borrowed from language various signs to indicate the rising and falling inflexions of the voice; once more, they borrowed from the same source a supplementary sign to show certain peculiarities of rhythm, and certain vocal effects used in the chant of the Church.
The apostropha is therefore of primary importance in the system of neumatic notation.

29. — Nature of the apostropha. — The neumatic apostropha is essentially an added note, a note in apposition, joined to something, and, consequently, is never found alone. Indeed, this is the precise characteristic of the grammatical apostropha as defined by Diomedes, Donatian and Priscian: « Apostrophos, circuli pars dextra, sed ad summam litteram consonantem adposita, cui vocalis est substracta ».

30. — The name and often the exact form of the apostropha have been preserved in the neum called strophicus, which includes:

\[
\begin{align*}
\text{The Simple Apostropha} & : \quad \uparrow \\
\text{The Distropha} & : \quad \uparrow \uparrow \\
\text{The Tristropha} & : \quad \uparrow \uparrow \uparrow \\
\end{align*}
\]

Fig. 53.

31. — When used to form a pressus, the apostropha takes new forms under which it is difficult to recognize its relation to the grammatical sign; yet it is usually from the apostropha that the pressus is derived. Many a sign listed by good copyists under the name of pressus — consists of an apostropha added to a note or neum, and this apostropha doubles the value of the note to which it is attached.

32. — The oriscus polator, also, is but an apostropha added to a neum.

33. — Among the different schools of neumatic writers not all were equally faithful and consistent in preserving the primitive form of the apostropha. Its characteristic feature, the little curved line or comma — circuli pars dextra (2) — underwent changes similar to those which modified the form of the acute and grave accents. At an early date, the stropha was altered to a greater or lesser extent and disfigured in various ways, yet without altogether obliterating its original form. Certain writers went so far as to substitute a punctum or a virga for the apostropha. But in spite of these alterations or substitutions, a careful comparison of the manuscripts always enables us to recognize the apostropha in the three uses to which it is put in Gregorian music: in the strophicus, the pressus, and the oriscus.

§ 2. — The Strophicus.

34. — This generic term includes the stropha itself, the distropha and the tristropha.

The apostropha (Fig. 54) — (1) never occurs alone, but always depends upon a note or neum; nor can it be used separately for a syllable.

\[
\begin{align*}
\text{Fig. 56.}
\end{align*}
\]

A stropha at the end of a neum is sometimes written like an oriscus in manuscripts where the notation is on a staff, a case with which we shall deal later.

\[
\begin{align*}
\text{Fig. 57.}
\end{align*}
\]

35. — The distropha (Fig. 58) — — . The stropha may be repeated, and is then called a distropha or bistropha:

\[
\begin{align*}
\text{Fig. 59.}
\end{align*}
\]

(1) Modern editions of the liturgical melodies do not always distinguish the apostropha from the punctum (Fig. 55) — but since 1903 the Solesmes books have used the form shown in Fig. 54 which is similar to the primitive form.
PART II. — CHAPTER I.

The distropha is rarely found alone or set to a syllable (1), the bivirga being used in such cases.

38. — The tristropha (Fig. 61). When the stropha is repeated three times it is known as a tristropha.

This neum is the usual graphic formula for representing three notes at the same pitch. Unlike the distropha, the tristropha is often set to a single syllable.

37. — Repetition of the distropha and tristropha. These neums can be repeated as follows:

(1) Examples are found occasionally, however, thus:

or can be combined with other notes and neums:

§ 3. — The Pressus.

38. — Apart from the rhythmic signs, of which we shall speak later, the neumatic musical writing had no way of representing the lengthening of a note or the doubling of its value, except by a repetition of the original graphic sign.

39. — Thus, in the neumatic manuscripts, a virga was placed before a clivis, porrectus or climacus to double the value of the first note of the neum. The neums thus noted were classified under the generic term of pressus and eventually became identified with the pressus in many minds.

40. — But this was not the true origin of the pressus. In order to double the value of a note, a sign was added after that note, which was none other than the apostropha, though its form varied slightly with countries, schools and individual writers.

The pressus-clivis (Fig. 68) / was often written thus (Fig. 69) \ or / of which the exact transcription on the staff is:
In practice, it is equivalent to:

\[ \text{Fig. 71.} \]

41. — When the writers wished to double the second note of a climacus:

\[ \text{Fig. 72.} \]

they added an apostropha to that note, while preserving the original form of the neum,

\[ \text{Fig. 73.} \]

or a sign very similar to the apostropha and clearly derived from it.

Sometimes the group was divided and written thus:

\[ \text{Fig. 74.} \]

an equivalence which, when sung, produces the same effect.

42. — In the Gregorian notation of the present day, the pressus is formed by the meeting of two neums and the actual fusion of two notes at the same pitch, as in the following examples:

\[ \text{Fig. 75.} \]

When we speak of « a pressus of two neums », therefore, we mean that the two are so closely united at the point of junction as to form, not two neums, but one single neum, by the fusion of two notes at the same pitch. (See Chapter VIII).

\[ \text{Fig. 76.} \]

The distinctive character of the apostropha when used in the pressus is one of complete fusion with the preceding note so as to form a single prolonged sound.

43. — A pressus may occur on any tone of the scale.

§ 4. — The Oriscus.

44. — The oriscus \( \text{♯} \), also, is an apostropha placed after certain neums, but unlike the pressus, it never fuses with the preceding note. The word oriscus is a diminutive derived from \( δροῦ \), a limit or boundary, and, in fact, the oriscus appears at the end of a neum, not elsewhere. In order clearly to distinguish between the pressus and the oriscus, the Solesmes books give the oriscus the following form: (Fig. 77) \[ \text{Fig. 77.} \]

The other editions represent it by a square note: (Fig. 78) \[ \text{Fig. 78.} \]

The oriscus may occur on any tone of the scale.
§ 5. — The Salicus.

45. — The origin of the salicus still remains an open question; probably it was related to the apostropha. For the present, we are concerned only with the graphic signs for the salicus and shall discuss its interpretation later. The salicus — from salire, to leap, to spring — is an ascending neum like the scandicus.

As a rule, it contains three notes: (Fig. 80) or 

sometimes four notes: (Fig. 81) 

rarely five notes: (Fig. 82) 

a. The salicus of three notes.

46. — The central note with its distinctive graphic sign should be particularly noticed.

The salicus of three notes, in the notation of today, appears under two forms.

1st form: the first two notes are at a different pitch and are separated by a space.

2nd form: the first two notes are at the same pitch.

\[
\begin{array}{c|c}
\text{First form} & \text{Second form} \\
\hline
\text{ Fig. 83.} & \\
\end{array}
\]

b. The salicus of four notes.

47. — Usually, this salicus ascends by intervals of a second, and is written as follows:

\[
\text{ Fig. 84.}
\]

c. The salicus of five notes.

48. — This form is very rare. It follows the same progression as the form given above.

\[
\text{ Fig. 85.}
\]

ARTICLE IV. — THE QUILISMA.

49. — The quilisma is a neum that stands quite apart, of whose origin we know nothing.

It appears under many forms: we give, below, the form that appears in the German, Italian, French and English neum-accents.

\[
\text{Quilisma-rodatus} = \quad \text{or} \quad \\
\text{Quilisma-torculus} = \quad \text{or} \quad \\
\]

\[
\text{ Fig. 86.}
\]

50. — The quilisma is always the central note of a rising melodic figure. It never stands alone in modern Gregorian notation, but is always preceded by a note or neum which has the character of a support or starting-point for the whole ascending movement. The rising melody includes the note of the quilisma itself and continues beyond it.

The support or starting-point may be a single note:

\[
\text{Neum composed of: punctum+quilisma-rodatus} \\
\]

\[
\text{ Neum composed of: punctum+quilisma-torculus} \\
\]

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or it may be a neum:

\[
\text{Neum composed of: clivis + quilisma + praeculator} = \text{[diagram]}
\]

\[
\text{Neum composed of: torculus + quilisma + torculus} = \text{[diagram]}
\]

\[
\text{Neum composed of: climacus + quilisma + secundinus} = \text{[diagram]}
\]

\[\text{&c., &c., &c.} \]

\[\text{Fig. 87.}\]

**Exercise VI.**

51. — Look up and name the various forms of the *strophicus, pressus, oriscus, salicus* and *quilisma*.

**Article V. — Variety of Neumatic Notations.**

**Unity of the Melodic Tradition.**

52. — The neum-accents which we have described gave rise to many Gregorian notations, often differing greatly from one another. The *Paléographie Musicale*, Vol. III, p. 79, gives a historical account of these schools of musical writing with photographic facsimiles. For the present we need only point out that there were two main currents, one traditional, the other tending towards innovation.

53. — The first of these currents takes the neum-accents at their source, in their chironomic state, and carries them on through their successive graphic modifications down to the Gregorian notation of our own time but *without essentially changing their primitive form*. In this current, we might distinguish several different schools, but we are confining ourselves to a general outline.

54. — A second current, one of *innovation*, grew out of the original neum-accents. Breaking away from tradition by a series of gradual but radical transformations, this current changed the forms, broke up the neums and reduced the accents to mere superimposed dots. Again, there are different schools within this general current, each one with its peculiarities of writing and its distinctive traits, which we are still far from understanding completely.

55. — The writers of the school of Metz use a mixed notation composed of accents and dots.

56. — This amazing variety of musical notations is easily explained. The writers of music, left to their own initiative, struggled to find a clear way of expressing the traditional chants and of writing down the intervals correctly. They invented all sorts of devices to improve and gradually to perfect the notation. The fact that the graphic results varied so radically is the best proof that the writers worked in complete independence.

But it is important to bring out in bold relief this striking fact: the systems of notation which were utterly different from a graphic standpoint agree fundamentally in doctrine. They hand down to us a *single melodic tradition*, which can be none other than the *Roman Gregorian tradition* (1).

57. — We have seen the melodic signs which indicate the various notes and neums in Gregorian chant. These elementary conceptions will be completed later by the study of intervals and of the modes. Meanwhile, we must speak of the *rhythmic signs* used in the most ancient manuscripts.

CHAPTER II.

RHYTHMIC SIGNS IN THE ANCIENT MANUSCRIPTS.

ARTICLE 1.

THEIR PURPOSE AND THE GENERAL RHYTHMIC TRADITION.

58. The original neum-accents and other neums derived from them are far from perfect when considered as signs to indicate melodic intervals. They are still more imperfect, perhaps, when considered as signs to indicate rhythm.

A neum in itself determines nothing, whether it be written with or without a staff. The neum, isolated from its context, reveals neither the duration, the intensity nor the rhythmic movement of the notes. It is only by its position in a melody or by its relation to the text that a neum manages to suggest certain rudiments of rhythm, which, for a practical rendering, are totally inadequate. Consequently, from their very origin, or at least from the time of the earliest manuscripts that remain today, we find these neums accompanied by certain signs: horizontal lines, supplementary letters or modifications in the essential form of the neum itself. These modifications or additions completed what was lacking to the neum itself, and determined, at least approximately, the intervals, or the duration of the notes; they suggested, at times, the intensity, and even certain delicate shades of interpretation.

59. Universal rhythmic tradition. While it is true that the graphic form of the rhythmic signs varied according to the different schools of writing, as was the case with the melodic signs, yet, in spite of this freedom and variety of form, it is easy to discover a primitive and universal rhythmic tradition which affirms itself with a wealth of evidence and an authority equal to that which reveals the unity of the melodic tradition.

60. Nevertheless, we must admit that the primitive tradition as regards the figuration of rhythm was maintained with less constancy than the melodic tradition (1). Already, the manu-

scripts of the tenth and eleventh centuries reveal inequalities in the manner of representing, with greater or less fidelity and with forms more or less perfect, the characteristics of the original rhythm.

61. The manuscripts which use the notation of St. Gall are by far the most intelligible and perfect. This writing spread throughout the greater part of Germany and a number of these manuscripts still exist.

62. Scarcely inferior to these are the manuscripts of Metz. This system of notation spread over a large area with Metz as its center, and extended into northern Italy, notably into Como. The codex of Laon, No. 239 (Lib. grad.) Xth Century, is the manuscript of this type of writing which is most faithful to the rhythmic tradition, yet, even here, we find a slight falling off in the graphic expression of the primitive rhythm. The manuscripts of Vercell (No. 188), and of Milan (No. E. 68), are extremely important, but here the decline in the notation of rhythm becomes more evident and already foreshadows the approaching decadence of Gregorian chant, a decadence which was brought about principally by the neglect of the rhythmic signs, the understanding of which was slowly vanishing.

In spite of all this, the rhythmic concordance between the two schools — that of St. Gall and that of Metz — is remarkable. This fact is a challenging proof that a single rhythmic system prevailed from the very beginning in the whole Catholic world, a system carried out to the finest details, even though very imperfectly written.

63. Other representatives of the same schools of writing failed to cling with equal fidelity to the rhythmic tradition; far from it, indeed, for while they used the same signs, they wrote them in a haphazard way and with little understanding of their meaning. Yet, even so, these precious fragments of a dying tradition bear witness to the existence and vitality of the tradition itself and bring valuable evidence to the work of restoration.

64. Several other schools of musical writing in Italy, in France, in Aquitaine, etc., offer indisputable proofs of the same tradition, and a more profound study of the documents is bringing to light, day after day, new evidence and more solid proofs. This is not

the place to go into details, though a few characteristic examples will be given later.

65. There are a great number of manuscripts which have preserved little of the rhythmic indications; others which have kept absolutely nothing. But it would be an error to cite these manuscripts as bearing witness against the general rhythmic tradition, particularly in view of the positive testimony of the rhythmic manuscripts of the different categories. In regard to the vital question of rhythm, they are silent, and these non-rhythmic codices can be considered — in relation to the rhythmic codices — exactly as we should consider a text lacking all punctuation and accents in contrast with a text carefully accentuated and punctuated. Thus we have the primitive Hebrew texts of the Bible, for example, contrasted with the same texts adorned with dots to indicate the vowels or Massoretic accents which define and establish the punctuation, the accentuation, the expression and even the sense itself. On the one hand we have precision, on the other uncertainty; here perfection, here imperfection; but nowhere is there a contradiction (1).

66. Since the two principal groups or families of rhythmic manuscripts are those of St. Gall and Metz, these must serve to establish the basic principles of Gregorian rhythm (2). It is necessary, then, that the student should know and recognize the signs used by these schools. Indeed, these are the only two schools which have preserved in its plenitude the full rhythmic system of antiquity. The others have retained only fragments.

ARTICLE 2.

THE RHYTHMIC SIGNS OF ST. GALL.

67. In the School of St. Gall, two kinds of rhythmic signs were used:

a) Rhythmic signs, properly so-called.

b) A system of lettering.


(2) Other groups of manuscripts have been discovered in recent years which bear witness to the same rhythmic tradition, notably at Chartres, Nonantola, Benevento, Aquitaine. (Tr.).

§ 1. — The rhythmic Signs proper.

68. These may be divided into two classes:

a) Signs which modify the form of the neum.

b) Signs which affect them by adding something to the original form.

A. Modifications.

69. The characteristic feature of this series of signs consists in various slight modifications of the lines essential to the neum itself. These lines are lengthened, thickened or twisted in different directions, but without adding any supplementary lines.

70. In general, these modifications indicate a slackening of speed, a rallentando, a slight delay on a point of support, brief or relatively long as the case may require. This interpretation of the signs is reinforced and made evident in the light of the Romanian letters.

71. The punctum planum. The punctum (- -), according to the manuscripts, can be lengthened more or less (- - -). It is then known as the punctum planum or the virga jacens. The latter term is used by the theorists to describe the graphic form of the sign, but not its melodic function, since, unlike the true virga which always indicates a high note, the virga jacens, like the punctum itself, is used to indicate a relatively low note. Hence the expression: punctum planum exactly describes the written figure.

The rhythmic significance of these two forms of the punctum is particularly clear when they appear in neumatic passages. The contrast desired by the writer is evident (See Fig. 83).

Apart from such cases, the punctum planum is often a mere graphic licence without rhythmic intention. It is the form commonly used in passages of recitation and wherever the punctum occurs alone. When writing rapidly, the scribe allowed his pen to drag slightly along the parchment between one punctum and the next, instead of lifting his pen and pricking each punctum neatly so as to leave a small round dot scarcely visible to the eye.
72. The pes quadratus (square). Here, the first stroke of the podatus was modified as follows: ✓. It can be translated thus: (Fig. 83) . There is a delicate pressure on the first note which is slightly lengthened by means of the horizontal epigema.

73. The pes quassus ✓, from quatio, to shake or strike (I). The first note of this form of the podatus is still longer than in the pes quadratus, and it is often translated by two notes in the manuscripts with lines.

\[ \text{Fig. 89.} \]

In proses and sequences where syllabic texts are adapted to melodies which were originally pure vocalises, the pes quassus is often used to carry three distinct syllables.

74. Note. The pes quadratus and the pes quassus are sometimes used the one for the other, whence we may infer that there was some likeness between them. They were not so alike, however, as to be equivalent, as the Einsiedeln Ms. 121 attests. Here, the Offertory Benedixisti. ✓. Ostende (p. 9) is thus noted:

\[ \text{Fig. 90.} \]

(1) The pes quassus is thus represented in the oldest German Ms., as well as in those of St. Gall, Monza, Bobbio, etc. Certain chants of more modern neums, Wolfenbuttel, Ottobeuern, Leipzig, X1th-X11th centuries, give the form ✓, like a guillemus with two little hooks. In fact this form of the pes quassus is very like the guillemus in Ms., of German origin, as for example the British Museum Ms. 24680, in which the guillemus itself always has three hooks. This similarity has been the cause of several mistakes, and will be made the subject of special study elsewhere.

75. The fact that the first note of the podatus should be lengthened in each case is confirmed by the evidence of the letter ✓ = tenete, which is often written above this note (See II, 93). To this length, we must sometimes add intensity, since the letter ✓ = forte often occurs on this note (See II, 102).

76. The torculus ✓ appears under the following forms:

1. ✓ Pes quadratus flexus. First note sustained (Fig. 91) ✓
2. ✓ Pes quassus flexus. First note sustained (See Fig. 91).
3. ✓ Torculus. In this prolonged torculus a ritardando affects all three notes. (Fig. 92) ✓

77. The porrectus, when written as follows ✓ is sung with greater breadth.

78. Each punctum of the ordinary climacus ✓, can be replaced by a punctum planum:

\[ \text{Fig. 93.} \]

and we find the punctum planum used as follows:

\[ \text{Fig. 94.} \]

79. The clivis is rarely altered in its essential outline, but rhythmic indications are expressed by means of additional signs.

N^702. — 12
B. Additions.

80. The Episema. This second category of rhythmic signs, properly so-called, consists in the addition of a little line to the ordinary neum and even to neums already modified as we have described them above. We call this line an episema (ἐπισήματος, marked with a sign). See Part I. 67. The episema can occupy different positions in relation to the neum, and its form is slightly modified accordingly. Yet, whether the line be simply horizontal, whether it be slightly arched, vertical or reduced to a sort of punctum, it remains an episema and can be recognized as such.

81. Meaning of the episema. The Romanian episema is almost always an indication of length. Consequently, a note which bears an episema attracts the rhythmic ictus. Should there be several notes in succession all bearing an episema, then the musical context will determine the ictic note. In the St. Gall notation, then, all the notes bearing an episema are prolonged but not all of them carry the rhythmic ictus.

82. The rhythmic value of the episema varies greatly, and lends itself to the expression of the most delicate nuances. When it appears above a clivis \( \mathcal{F} \), for instance, it may double the value of the first note, or again, it may indicate merely a delicate touch, or the least lingering of the voice.

This remark applies to all the rhythmic signs, whether they be modifications of the neum or additions to it, whether they be letters or other signs. The reason is this: the sign, like the neum itself, is influenced by its position. The character of the note to which it is attached, the place of the rhythmic sign in the neum, the relation of the neum to the text, the nature of the rhythm of which it forms a part, the movement and expression of the musical phrase as a whole — all these are the factors which either increase or diminish the value of the rhythmic sign.

83. The episema is attached to the head of the virga in the following neums:

RHYTHMIC SIGNS IN THE ANCIENT MANUSCRIPTS.

\[ \text{Virga with episema:} \quad \mathcal{F} \]

(The latter usually doubles the value of the note)

\[ \text{Podatus with episema:} \quad \mathcal{F} \]

(Rhythmic ictus on the second note)

\[ \text{Clivis with episema on the first note:} \quad \mathcal{F} \]

\[ \text{Torculus with episema:} \quad \mathcal{F} \]

\[ \text{Porrectus with episema on the last note:} \quad \mathcal{F} \]

\[ \text{Scandicus with episema:} \quad \mathcal{F} \]

\[ \text{Climacus with episema:} \quad \mathcal{F} \]

Fig. 95.

84. The episema is attached to the grave accent (punctum):

\[ \text{At the end of the punctum planum:} \quad \mathcal{F} \]

Fig. 96.

\[ \text{At the base of the down-stroke in the clivis:} \quad \mathcal{F} \]

Fig. 97.

\[ \text{At the base of the downs-stroke in the torculus:} \quad \mathcal{F} \]

Fig. 98.

\[ \text{And in the same manner for the composite neums:} \quad \mathcal{F}, \mathcal{F} \]

Fig. 99.

85. The influence of the episema does not extend further than the note to which it is joined. In the following clivis \( \mathcal{F} \), only the
first note, the \textit{virga}, is lengthened, and carries the ictus. But in a \textit{clivis} such as this: \textcircled{2} the second note or grave accent, carries the ictus.

86. These rhythmic additions or modifications affect the note or group, lengthening the note or retarding the movement of the group in an agogical sense. On the other hand, there are no signs of abbreviation in the manuscripts, which fact leads us to the conclusion that the notes without any signs are ordinary notes of normal length, basic pulses, and that there are no shorter notes than these.

This explains why certain ancient and excellent manuscripts, such as No. 339 of St. Gall, neglect the \textit{Romanian letters} and confine themselves to the rhythmic signs only (See 91 to 114). It was because the rhythmic modifications with the episematic additions were sufficient in themselves to express the Gregorian rhythmic tradition in a clear graphic form. Yet, as we shall see, the rhythmic letters should not be neglected as an additional aid.

§ 2. — The \textit{Romanian Letters}.

87. In many of the manuscripts of the St. Gall school, the neums are accompanied by various letters (See the reproductions in the \textit{Paléographie Musicale}, Vol. IV, particularly the manuscript of Einsiedeln, Ms. 121).

88. Their origin. A chronicler of St. Gall, Ekkehart the Younger († 1036) attributes the invention of these letters to Romanus, a cantor sent from Rome to St. Gall about 790 (1). Hence the name \textit{Romanian} was given to this system of lettering. Although the story of their origin is now contested, the term may be retained for convenience sake.

89. Their meaning. The existence and meaning of this system of lettering is beyond dispute, since an authoritative interpretation of them is given in a letter written by Notker, a monk of St. Gall, who died in 912. Copies of this letter have come down to us in the St. Gall manuscript 381 and in the Bamberg manuscript lit. 5 from Reichenau (p. 28). It is given again in an abbreviated form in the Leipzig manuscript 371 (1). We shall use this last manuscript, since it is clearer than the original text of Notker.

90. Their object. The Romanian letters were invented and used to supplement what was insufficiently clear in the neumatic notation, namely the intervals and the rhythm. Consequently, two systems of lettering were in general use.

\textbf{FIRST SYSTEM.}

The seven melodic Letters.

91. These letters are intended as a guide to indicate the interval, but such indications are vague, approximate, and fail to fix the interval with precision.

The list of these melodic letters follows:

- \textcircled{1} — \textit{Ut altius elevetur admonet}.
- \textcircled{1} — \textit{Levare neumam}.
- \textcircled{1} — \textit{Sarsum scandere}.
- \textcircled{1} — \textit{Ut in gutture garruletur gradatim}.

A fall in pitch:

- \textcircled{1} — \textit{Ut deprimatur}.
- \textcircled{1} — \textit{Jasum vel inferius insinuat}.
- \textcircled{1} — \textit{Ut equaliter sonetur}.

\textbf{SECOND SYSTEM.}

The seven rhythmic Letters.

92. These letters fall into three classes:

\begin{itemize}
  \item \textcircled{2} — \textit{Trahere vel tenere}.
  \item \textcircled{2} — \textit{Exspectare}.
  \item \textcircled{2} — \textit{Mediocriter moderari melodiam}.
\end{itemize}

Acceleration:

- \textcircled{2} — \textit{Ut cito vel celeriter dicatur}.

Intensity:

- \textcircled{2} — \textit{Ut cum fragore feriatur}.
- \textcircled{2} — \textit{Clange significat}.

93. \textit{Prolongation}. The \textcircled{2} signifies a holding of the voice and is used interchangeably with the \textit{episema} : the \textit{clivis} \textcircled{2} with a \textcircled{2} is often found instead of the \textit{clivis} with episema \textcircled{2}, and vice versa.

(1) These texts are all published in the \textit{Paléographie Musicale}, Vol. IV, p. 10.
There are gradations in the lengthening of the note in question, for the  may double its value. The  is also equivalent to the , which has the same meaning exactly.

94. As a rule, however, the  occurs between two groups, two incises or two phrase members, to show that they should be separated by a slower movement of the voice, the mora vocis.

95. When used alone, the letter = placed beside a note or a neum denotes that the movement should be retarded slightly, but when it is joined to another letter it falls under a third system of lettering (II. 106).

96. Swiftness. The letter  generally denotes a certain lightness, swiftness and animation. A careful study of the different contexts in which this letter occurs has enabled us to ascertain its function and to assign to it two different meanings, the one positive, the other negative.

97. When used positively, the letter  denotes a momentary acceleration of the normal movement of the composition, in which case this single letter expresses what, in modern music, is indicated by the terms: animato, accelerando, più mosso, stretto. In modern music, as in the Gregorian melodies, these agogic modifications of the normal pace do not change the fundamental value of the notes in their relation to the rhythm but simply impart greater life and animation to the phrase.

98. When used negatively, the  cancels the effect of the episema or the  (tenete). In these cases, the  immediately precedes or follows these signs of length. Its object, then, is to hold the rhythm at a normal pace as against exaggerated effects of accelerando or rallentando which the musical context might suggest; or else, to re-establish the normal movement after an interruption. This negative use of the letter  may be compared to the use of the natural  which cancels an accidental  and restores the note in question to its normal pitch (1).

99. Thus neither meaning of the  — positive or negative — changes the fundamental value of the notes or groups; whereas the  (tenete), and the episema can double the value of a note occasionally and, in consequence, can modify the skeleton of the rhythm and the function of a note within the rhythm. The  has no such power, nor does it ever reduce a note to half its value. The  when acting negatively, prevents an error, a slackness or dragging of the tempo; when acting positively, it stimulates and quickens the rhythm, giving life and animation yet without changing anything essential in the metrical pulse.

100. An argument in favor of this interpretation is the capricious use of the letter  in many of the best manuscripts. Even the most careful masters of notation freely use or omit this letter in passages which, apart from this, are identical. If the  implied some fundamental change in the time value of the notes or neums to which it is added, the best writers of notation would have treated it less carelessly, for where the essence of rhythm was concerned, they were scrupulous in placing the necessary letters and signs. Thus the  (Fig. 100)  and the equivalent episema  were rarely lacking in cases where these signs indicated the doubling of a note.

101. Moreover, this interpretation brings the various St. Gall manuscripts into complete accord; on the one hand, those which use both letters and signs; on the other, those which employ the signs only. For, if the letter  changed the fundamental time value of the notes, how could we explain its omission (and that of all the Romanian letters) in a great number of excellent manuscripts of this school? We should be forced to assume a contradiction between the manuscripts. But if we consider the letter  as simply indicating an agogic shade of animation, the problem is solved and the apparent contradiction vanishes. The case of the  is different. Its influence on the rhythm is greater; moreover it has an equivalent in the episema in the manuscripts without letters, whereas the  has no equivalent in such manuscripts. The same is true of the melodic letters: , , , , and . Evidently, the lack of these letters will not affect the intervals of the melody itself; their absence will simply embarrass the reader who is left to face an undecipherable notation, lacking, as it does, a precious melodic guide. The same is true of the letter  in the realm of rhythm.

(1) See D. Baralli, Rassegna Gregoriana, February 1906, col. 66 et seq.
There is, indeed, no greater difference between the two types of manuscript, those which make use of letters and those which omit them, than there is between two editions of the works of Bach or of Palestrina, one of which would be printed without any marks of phrasing or expression while the other would be edited with the annotations of an expert in the art of these masters, bringing out the beauty of their works.

102. Intensity. Notes marked with the letter $f$ are always strong. This letter is not used in the St. Gall manuscripts, though in the Bamberg manuscript (lit. 6), from Reichenau, it appears frequently.

103. The letter $k$ also denotes intensity, but is rarely used.

104. The letter $\check{p}$ indicates intensity, but other meanings are attached to it, as, for instance, perfecte, parum.

105. Despite its ingenuity, the system attributed to Romanus did not succeed in correcting the faults of a notation that was radically inadequate. In a further effort to express the intervals and rhythm more accurately, he added still another system of lettering, the purpose of which was to increase or diminish the value of the former letters.

THIRD SYSTEM.

Modifications of the former Letters.

106. $\check{v}$ — $u$ bene extollatur, vel gravetur, vel teneatur.
   $\check{v} = Valde$.

$m = Mediocriter$.

107. The meaning of the letter $\check{v}$ is perfectly clear. We find:
   $\check{v}l = bene levare$; $\check{v}v = bene teneatur$, et c.

108. The letter $v = valde$, is rarely used. It is equivalent to $\check{v}$.
   $\check{v} = iusum, inferius valde$.

109. The letter $m$, already found in the second system, is often joined to other letters, thus: $\check{m} = attius mediocrier$; $\check{m} = celeriter mediocrier$; $\check{m} = inferius mediocrier$; $\check{m} = tenete mediocrier$.
   The other letters mentioned by Notker may be ignored as being either very rare or quite obsolete. Moreover, they have no bearing on rhythm. (1).

110. Note. As a rule letters added to a neumatic group only affect a single note in that group: this note is indicated by the position of the letter. For example in the clivis and the podatus in the following letter:

\[ \check{n} \check{v} \]

(Fig. 101).

the first note of each neum is long, whereas, in the following podatus, the second note is long. (Fig. 102)

111. There are exceptions to this rule: $c$ or $t$ may extend over a whole series of neums:

\[ \check{n} \check{n} \check{n} \check{n} \check{n} \]

(Fig. 103).

When this is the case, all the neums are accelerated or retarded. In the following example:

\[ \check{c} \check{c} \check{c} \check{c} \check{c} \]

(Fig. 104).

the letter $c = equaliter$, one of the melodic signs, is extended over the five punctum to show that they are to be sung on the same pitch.

112. Rhythmic letters and rhythmic signs are often applied simultaneously to the same neum:

Clivis (Fig. 105) $\check{c}$, first note light (celeriter), second note lengthened by the episema.

Climacus (Fig. 106) $\check{c}$, first note light, second note normal, third note sustained or lengthened.

113. On the other hand, all the notes of a neum may be modified by the Romanian signs. For instance, the torculus, in its lengthened form $\check{c}$ where all the notes are sung more slowly; the scandicus (Fig. 107) $\check{c}$ where the four punctum planum with their episema are sung slowly and emphasized; the climacus (Fig. 108) $\check{c}$ which is sung with a progressive ritardando on the last four notes.

114. Abbreviations. The St. Gall manuscripts give abbreviations which Notker does not mention:

$\check{a} = conjunctura$ — slurred.
the long signs of the former are equivalent to the long signs of the latter. This agreement between the manuscripts of the two schools is demonstrated by thousands of examples.

119. We repeat, in this connexion, what we have said already in reference to the St. Gall notation and the punctum planum (II, 71), namely, that the rhythmic meaning of the various forms of the punctum is plain only in those neums where a contrast between two forms is intended by the writer. Apart from these cases, the Metz writers used the following long punctum  which, under ordinary circumstances, had no rhythmic meaning. (II, 71).

120. This ambiguity in the meaning of similar signs is characteristic of an age when oral teaching played so important a part. It is not surprising, therefore, to find that the most perfect notation of the ninth, tenth and eleventh centuries is most imperfect from the point of view of the modern student. In order to decipher the manuscripts, we must do more than look merely at the outward form of the melodic and rhythmic signs. We must consider the context, ascertain the laws which govern the use of the rhythmic signs, and discover the reason for these laws. More than this, we must become familiar with the idiosyncrasies of the different copyists and learn diligently to compare the manuscripts. Only then can we hope to discover their meaning.

§ 2. — The Metz Lettering.

121. Unfortunately there is no Notker of the Metz school to help us decipher the meaning of the Metz letters. Nevertheless, it is possible to interpret them with certainty, for the most part, by comparing them carefully with the St. Gall documents and with the Romanian lettering. As far as the rhythmic letters are concerned, this certitude is absolute.

At Metz, as at St. Gall, two systems were in use:

**FIRST SYSTEM.**

The melodic Letters of Metz.

122. They are as follows:

Rise: $f$ or $s = sursum$ (as at St. Gall)
This complete agreement between the two schools suggests that the letter \( \n \) indicates *length*, and might well stand for the word: *auge, auge* or *ample.*

125. *Celeriter, naturaliter.* Notker's letter \( \varepsilon \) (*celeriter*) occurs in the Laon manuscript 239 but an \( \n \) is often used as equivalent. The two letters, \( \varepsilon \) and \( \n \) always correspond to notes and neums which, in the St. Gall writing, were normal or else were marked with a \( \varepsilon \). What word does this \( \n \) stand for?

There is good reason to think that it stands for *naturaliter.* In *Laudunensis* 239 we find this letter used alone or followed by an \( \underline{\nu} \) (\( \underline{\nu} \varepsilon \)) or else by a \( \varepsilon \) (\( \varepsilon \varepsilon \)). In the codex No. 91 of Angers the \( \n \) is never used alone but always with the \( \underline{\nu} \) (\( \underline{\nu} \varepsilon \)), and once we find an \( \underline{\nu} \varepsilon \varepsilon \). Consequently, both the function of this letter in the rhythm and the different forms of abbreviation in the manuscripts, point to the word *naturaliter* in contrast to the \( \varepsilon \) (*ample, auge*), which indicates length or ritardando and which can even modify the normal value of a note.

126. Furthermore, the evident equivalence and the substitution one for the other of the \( \varepsilon \) and the \( \n \) in manuscript 239 of Laon, is a fresh proof of the true significance of \( \varepsilon \) in the manuscripts of St. Gall, as we have already described it (II. 96 *et seq.*). The school of Metz strongly confirms this interpretation.

127. There is however an exception to this rule in Laon Ms. 239: for whenever the sign used by the scribe expresses rather more than he wishes to convey, the \( \varepsilon \) is used to qualify the sign in question, and reduce it to the required value. In this case the *celeriter* must be taken literally, nor is the \( \n \) ever substituted for it. An example will make this clear.

(The Metz school uses the same sign for the *pressus* (II, 38) as for the *salicus* (II. 46). Now the *pressus* is a doubled note, whereas the central note of the *salicus* is sustained and lengthened, but not doubled as a rule. Since the effects produced are closely akin, the same sign is used in the Metz codices, especially in Laon Ms. 239. But in order to reduce it to its real value, the scribe often adds the \( \varepsilon \) to the *salicus*, which letter signifies *celeriter* in this context. The \( \n \) is never attached to the *salicus*; it would be a contradiction, for the \( \n \) would mean that full value must be...
given to the pressus-salicus, whereas the contrary is intended. The \( \epsilon = \text{celeriter} \), is the right sign to use, having a positive meaning of animation. The same meaning must be given to the \( \epsilon \) which in the St. Gall Mss. is sometimes found above the pressus.

**Exercise VII.**

128. Look up the following rhythmic signs in the Solesmes books:

a) The *dot* after the note: \( \cdot \). 

b) The *perpendicular episema* above or below a note: \( \cdot \). 

c) The *horizontal episema* over a note: \( \cdot \). 

or neum: \( \cdot \).

The student is now ready to proceed to the study of intervals and modes, to place the rhythmic signs on the staff and to sing our first rhythmic exercises with their melody.

### CHAPTER III.

NOTES AND INTERVALS.

129. This chapter is made up of two parts:

1. *The reading of notes* on the staff. Before attempting the singing of exercises, the student should be able to *read* the notes of Gregorian chant as quickly as the letters in a book.

2. *Rhythmic solfeggio* and the study of intervals.

**ARTICLE 1. THE READING OF NOTES ON THE STAFF.**

§ 1. — The alphabetic Names of the Notes used in Gregorian Chant.

130. The Gregorian system of music comprises eighteen tones, which early masters designated by letters of the Roman alphabet as follows. Under each letter we give the corresponding modern name of the note.

<table>
<thead>
<tr>
<th>1 2 3 4 5 6 7</th>
<th>8 9 10 11 12 13 14</th>
<th>15 16 17 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>A B C D E F G</td>
<td>a b c d e f g</td>
<td>aa bb cc dd</td>
</tr>
<tr>
<td>sol la si do re mi fa sol</td>
<td>la si do re mi fa sol</td>
<td>la si do re</td>
</tr>
<tr>
<td>( \sharp ) ut</td>
<td>( \natural )</td>
<td>( \flat )</td>
</tr>
</tbody>
</table>

*Fig. 311.*

La was originally the lowest note, sol was added later, and was represented by the Greek gamma. The first and lower octave was indicated by *capital* letters: the middle one by *small* letters, and the few notes in the upper octave by double letters. There were other systems of lettering and naming the notes, but the above will suffice for our purpose.

§ 2. — Clefs derived from Letters.

131. The system of naming notes by letters was for a long time used for teaching purposes only, and was rarely employed for notation. But the invention of the staff gave them a new
function. Guido d’Arezzo placed these letters on certain lines of the staff, thus giving the key to Gregorian notation, and fixing the intervals in the scale beyond any doubt.

132. All the letters in turn figured at the beginning of the lines, but only two are still in actual use in Gregorian notation: the C or ut, and the F or fa.

1. The ut or do clef = \( \text{do do do do} \) is usually on the fourth line (1), but occasionally it is found on the second and third :

\[
\begin{align*}
\text{Ut clef} & \quad \frac{4^{th}}{\text{line}} \\
\text{do do do do} & \\
\text{Ut clef} & \quad \frac{2^{nd}}{\text{line}} \\
\text{do do do do} & \\
\end{align*}
\]

Fig. 112.

The ut clef at the beginning of a line shows that the note ut, or do, occurs on that line.

2. The fa clef = \( \text{fa fa fa fa} \) usually occurs on the third line :

\[
\begin{align*}
\text{Fa clef} & \quad \frac{3^{rd}}{\text{line}} \\
\text{fa fa fa fa} & \\
\end{align*}
\]

Fig. 115.

(1) The numbering of the lines begins from the bottom :

\[
\begin{align*}
\text{Staff} & \quad \frac{4^{th}}{\text{line}} & \text{space} & \frac{3^{rd}}{\text{line}} & \text{space} & \frac{2^{nd}}{\text{line}} & \text{space} & \frac{1^{st}}{\text{line}} & \text{space} \\
\end{align*}
\]

Fig. 113.

Between every two lines is a space. When the range of the melody exceeds that allowed by the four lines, short additional lines are drawn for the notes requiring them; these are known as leger lines.

\[
\begin{align*}
\text{Leger line above} & \\
\text{Leger line below} & \\
\end{align*}
\]

Fig. 114.

sometimes on the fourth line:

\[
\begin{align*}
\text{Fa clef} & \quad \frac{4^{th}}{\text{line}} \\
\text{fa fa fa fa} & \\
\text{Fig. 116.} & \\
\end{align*}
\]

occasionally on the second line:

\[
\begin{align*}
\text{Fa clef} & \quad \frac{2^{nd}}{\text{line}} \\
\text{fa fa fa} & \\
\text{Fig. 117.} & \\
\end{align*}
\]

133. In modern notation the sol clef only is used and it is placed on the second line of a five line staff:

\[
\begin{align*}
\text{sol sol sol sol} & \\
\text{Fig. 118.} & \\
\end{align*}
\]

§ 3. — The Names of the Notes and their Position on the Staff.

134. We owe the name of the notes also to Guido d’Arezzo, who took them from the initial syllables of the verses and hemistichs of the hymn for the feast of St. John the Baptist, Ut queant laxis.

\[
\begin{align*}
\text{Ut queant laxis} & \quad \text{Resonare fibris} \\
\text{Mira gestorum} & \quad \text{Famuli tuorum} \\
\text{Solve pollut} & \quad \text{Labili reatum} \\
\text{sanci Ioannes}. & \\
\end{align*}
\]

Ut. This syllable has been replaced by do since the seventeenth century, when it appears to have been introduced by G. M. Bononcini 1673 (1). The ut may be retained in the chant provided the u be pronounced like the Italian “u” and the English “oo”.

St. This syllable was introduced into the scale at a later date, having been chosen because it is formed by the two initial letters

(1) RIEMANN Dictionnaire de Musique, Art. do.

N° 702. — 13
of the concluding words of the hymn quoted above: Sancte Ioannes (1).

132. The position of the notes in the scale. The following table shows the names of the notes and the places they occupy on the Gregorian staff.

![Diagram of the Gregorian scale]

We speak of the scale in use to-day because the ancient theorists did not admit the principle of the si flat in the lower scale, and preferred to transpose. Thus instead of writing:

![Diagram of the old and new notation]

Note. The flat sign is cancelled by the natural sign which raises the si to its original pitch.

In the modern editions the effect of the flat persists to the end of the word in which it is used, or until a bar of division occurs: a simple comma does not cancel its effect.

137. In the Gregorian melodies these two forms of "si" never occur in immediate succession either in descending or ascending passages, a rule which the early writers expressed thus: "Utrumque signum in eamdem neumam non jungas" GERB. Script. II. Guido, p. 8-9.

§ 4. — Rhythmic Signs used on the Staff.

138. We find on the staff the following signs; they all refer to rhythm, except the "guide".

A. Rhythmic signs affecting the notes.

139. 1. The dot after a note doubles its value.

![Diagram of a dotted note]

The dotted note is represented in modern notation by a quarter note (I. 38).
140. 2. The _horizontal episema_ over a note \( \uparrow \) lengthens it slightly (agogically).

141. 3. The _perpendicular episema_ \( \uparrow \uparrow \) marks the position of the rhythmic ictus.

142. 4. The _guide_ is put at the end of a line to show the first note of the next.

___

Fig. 124.

B. **Rhythmic signs of division.**

\[\begin{array}{cccccc}
1 & 2 & 3 & 4 & 5 \\
\hline
\end{array}\]

Fig. 125.

143. 1. The _comma_ merely shows a breathing place; its value is taken from the preceding note.

144. 2. The _quarter bar (divisio minima)_ marks the incises or small members of the phrase and does not necessarily indicate a breathing place.

145. 3. The _half-bar (divisio minor)_ marks the larger members of the phrase, those which are composed of one or two incises. Here a breath is necessary, but the time for it must be taken from the preceding note.

146. 4. The _full bar (divisio major)_ closes the phrases, and a breath must be taken.

147. 5. The _double bar (duplex linea)_ marks either the end of the melody or the end of one of its principal parts.

**Exercise VIII.**

_The Reading of the Notes._

148. Before attempting any _rhythmic solfeggio_, the students will name the notes in certain passages of the _Graduale_ or _Antiphonale_. We suggest the following order of exercises:

---

**NOTES AND INTERVALS.**

\(\text{Ut Clef.} \) 4th line: _Kyrie fons bonitatis_, etc.

\(\text{Fa Clef.} \) 3rd line: _Credo No. III. or Vidi aquam_, etc.

\(\text{Fa Clef.} \) 2nd line: _Asperges me_ (7th mode) Offert. _In virtute._

\(\text{Fa Clef.} \) 3rd line: _Agnus Dei X; Gloria in excelsis XI; Sanctorg XI_, (Vatican Edition).

\(\text{Fa Clef.} \) 4th line: Offert. _Veritas mea_, etc.

The singing of the following exercises should be constantly varied by a return to the _simple exercise of naming_ the notes. The student should also review the earlier exercises on names of neums and forms of notes.

**ARTICLE 2. INTERVALS.**

§ I. _Definition of an Interval._

149. The name _interval_ is given, in music, to the difference of pitch between two musical tones, one high and the other low, and the distance between them (1).

When the voice passes from one tone to another, it creates a series of ascending or descending intervals.

150. The general gamut of sounds used in Gregorian chant is already known to us (II, 130). Within this general gamut the series of tones forming scales recur more than once. When one of these series of seven or eight tones is grasped and can be sung correctly, it is easy to repeat the series at a higher or lower pitch.

This full range (fifteen to eighteen tones) is not used as a whole in the melodies, but the tones of the general gamut serve to form eight modes or scales (2) which will be considered later. We shall use the first Gregorian mode for the exercises in intervals which follow, rather than the modern scale, in order to form the ear of the student to the progressions and final cadences of the liturgical melodies.

The first mode comprises eight notes. Its range on the general

---

(1) _Boece_; "Intervallum est soni acuti gravisque distinctio".

_Riemann_; "Word used to express the relation between two sounds, from the point of view of pitch, the number of vibrations, and length of the vibratory waves". Dictionary under the word _Interval_.

(2) The pitch of all these modes is relative, not absolute. (Tr.)
gamut is from re-D to re-d, and two extra notes, mi above, and do, below, are often included. Its final note is re-D.

Fig. 126.

151. There are several kinds of interval: seconds, thirds, fourths, fifths, sixths, sevenths and octaves.

§ 2. — Interval of a Second.

152. When the tones succeed each other from one degree of the scale to the next, that is, when they proceed by conjunct degrees, their relation in regard to pitch is called a second, an interval so called because it comprises two consecutive degrees in the scale.

153. In Gregorian chant, there are two kinds of seconds:

The major second, consisting of a whole tone,

The minor second, consisting of a half-tone (1).

In the scale given above, the half-tones occur between mi and fa, and si and do, while between the other notes there is a full tone. When the si is flattened, the half tone falls between la and si flat, while between si flat and do there is a whole tone.

154. Instructions for reading exercises. The exercises that follow should be rendered in three different ways, or rather, in three stages.

(1) In modern music there is also an augmented second: do-re, a tone and a semitone, and a diminished second: do-re', which, on a tempered instrument, becomes an identical sound.

NOTES AND INTERVALS.

a) Rhythmic reading. This consists in an exact analysis of each rhythm as it is indicated by the chironomic curve above the staff. The notes should be named, not sung, while the rhythmic movement is traced, very exactly, by the hand. (See below No. 156) (1).

b) Solfeggio. After this rhythmic reading, the tones should be sung by name (do, re, mi, etc.) with perfection of pitch, of rhythm and of intensity.

c) Vocalisation. The names of the notes may then be replaced by vowels, using the same exercises but dropping the initial consonant. Thus instead of singing do, re, mi, fa, sol, la, si, sing: o, e, i, a, o, a, i. Next comes the study in detail of each vowel, beginning with a as being the easiest to sing: and practising the others in the following order a, è, é, i, o, ò, u. Lastly, each note should be sung to a particular vowel (2). The Italian pronunciation should be used when singing the vowels, and a consonant may be added, thus: la, le, li, ... ma, me, mi, ... pa, pe, pi, ... etc.

155. DYNAMICS. Special attention must be given to the increase or decrease of intensity according to the dynamic shading indicated in each exercise, a shading that gives life to the melody.

General rule: The intensity increases as the melody rises and decreases as it falls. This is the natural process.

The rule applies with greater force to phrase members, and to phrases. Some of the exercises given below consist of one or two short incises only, and are too slight to have a dynamic movement of their own: they may be interpreted in several different ways. Take for instance the first exercise given in II. 157.

(1) "Hanc (aequitas canendi, rythmus seu numerus) magistri scholarum studiose inculcare desinentibus debent, et ab initio infantes eadem aequitatis sive numerositas disciplina informare, inter cantandum aliqua pedium manu, vel qualitate alia percussione numerorum instruere." (GERBERT. Script. I. p. 228).

(2) This process is merely a suggestion. Each teacher should follow the system of vocal formation which he has found, by experience, to be the most successful.
singing and thus he will arrive at a sense of the phrase even at first sight of a melody.

156. CHRONOMY or rhythmic gestures.

a) Simple or elementary rhythms. The gesture must reproduce the graphic line exactly — indicating the élan and repos.

b) Composite rhythms; incises and members. The gesture representing composite pulses may be used at first (I, 180, c) The hand traces curves which are linked together, and the loops which link them correspond to each rhythmic ictus (p. 117, Fig. 112),

c) Once this method of indicating the groups has been grasped, the more perfect rhythmic chironomy according to incises and members should be adopted (I, 181, Fig. 113 and 114).

It is important to remember that the gesture of the hand must outline both the melody and the rhythm of the music.

A melodic or dynamic élan will be shown by an arsic movement of the hand.

A melodic descent and dynamic decrease will be shown by a thetic gesture.

The application of these principles will be found in the exercises. Doubtful passages, where either an arsis or a thesis could be used, will be noted as they occur. The chironomy is fully indicated in the transcription into modern notation.

Exercise IX.

Intervals of a Second. 1.


One duplex arsis, and one duplex thesis.

Each incise may be given three different dynamic interpretations, or accentuations: a, b, c, (II. 155).

The transcription into modern musical notation will solve all difficulties of execution, whether dynamic or chironomic. The gestures are clearly indicated; the dynamics also, except where the melody, by its very nature, permits of several interpretations.
The above transcribed in modern notation:

**Exercise X.**

*Intervals of a Second. 2.*

158. *Rhythmic analysis.* Composite rhythms: We must remember that a rhythm is *composite* when it contains more than one successive arsis or more than one successive thesis: (I. 135).

---

**NOTES AND INTERVALS.**

a) Design of the first eight incises: one arsis (duplex group), two theses (duplex group); *diminishing intensity.*

\[ \text{Fig. 132.} \]

b) Design of the last eight incises: two arses (duplex), one thesis (duplex); *increasing intensity* up to the middle of the incise where the rhythmic accent occurs, after which the *intensity diminishes.*

\[ \text{Fig. 133.} \]
The same exercises transcribed in modern notation:

The two interpretations are equally good in themselves. If a choir needs to be awakened and enlivened, the former is preferable (two arses, one thesis). The two arse loops one above the other, traced vigorously, are excellent as a means of rousing the choir from slackness and lethargy.

Whereas if I wish to obtain from the singers greater legato and delicacy, my hand will gently follow the falling undulation of the melody in a thetic gesture.

Students should understand and practise these different ways of indicating rhythm — since alternatives such as these will frequently present themselves to one who directs the Gregorian melodies.

Exercise XI.

Intervals of a Second. 3.

159. Note. The chironomy of the last eight incises may be varied slightly as follows: the first composite pulse may be thetic instead of arsic, thus:

The intensity varies with the melody and with the place of the principle accent in the incise. See the transcription in modern notation given below.
PART II. — CHAPTER III.

The above transcribed in modern notation:

§ 3. — Intervals of a Third.

162. An interval which covers a distance of two seconds is called a third.

163. The major third is composed of two whole tones.

The minor third is composed of one tone and a half-tone.

EXERCISE XII.

Intervals of a Third. 1.

PART II. — CHAPTER III.

The intensity of each incise may be distributed in each of the three ways that follow, without in any way affecting the rhythm or the chironomy.

\[ a \) ~ \]
\[ b \) ~ \]
\[ c \) ~ \]

Fig. 136.

The above transcribed in modern notation:

NOTES AND INTERVALS.

EXERCISE XIII.

Intervals of a Third. 2.

165. Rhythmic analysis. Composite rhythms formed by the juxtaposition of two simple rhythms (I. 143).

The first simple rhythm: an arsis (triplex group) and a thesis, (triplex group feminine cadence) (I. 132-133).

The second simple rhythm: an arsis (duplex), a thesis (duplex group, masculine cadence) (I. 132-133).

The dynamic shading, as indicated, should be followed carefully.

The above transcribed in modern notation:
The augmented fourth is made up of three full tones, hence it is also known as a Tritone:

```
\begin{music}
\cbar
\cbar
\cbar
\end{music}
```

*Fig. 138.*

The use of this interval is subject to restrictions: its harshness is sometimes corrected by flattening the si, though the ancient composers did not condemn the tritone but used it constantly.

**Exercise XIV.**

*Intervals of a Fourth. 1.*

168. **Rhythmic analysis.**

The *first six divisions* are short members of a phrase, each composed of two rhythmic incises:

- 1st. rhythm; a composite rhythm: made up of two arses, (triplex and duplex) and one thesis (duplex).
- 2nd. rhythm: a simple rhythm: one arsis and one thesis — both duplex.

The *last six divisions*; an incise or short member formed by the juxtaposition of two simple rhythms: one arsis (triplex) and one thesis (duplex). The teacher should choose whatever vowels he thinks best.
The above transcribed in modern notation.

§ 5. — Intervals of a Fifth.

170. When two notes are five degrees apart, the interval is called a fifth.

171. The perfect fifth, practically the only one used in Gregorian chant, consists of three tones and one half-tone. Ex:

\[ \text{Tone Tone \frac{1}{2} Tone Tone} \]

Fig. 139.

The diminished fifth consists of two tones and two half-tones, but is rarely, if ever, found in pure Gregorian chant.

\[ \frac{1}{2} \text{Tone Tone Tone Tone} \]

Fig. 140.

EXERCISE XVI.
Study of Fifths.

172. Rhythmic analysis.

a) The first five divisions ascending: members of the phrase, each made up of two incises, or two composite rhythms in juxtaposition.
PART II. — CHAPTER III.

Member

1st. incise: composite rhythm; three arses and one thesis (all duplex).
2nd. incise: composite rhythm; one arsis, triplex, and two theses, duplex.

b) The next five divisions descending: members of the phrase each composed of two rhythms in juxtaposition.

Member

1st. rhythm: composite rhythm; one arsis and two theses (all duplex).
2nd. rhythm: simple rhythm; one arsis and one thesis, both duplex.

c) The last division: Two rhythms in juxtaposition.

Member

1st. rhythm: a composite rhythm; three arses, one feminine thesis (re-mi), all duplex groups.
2nd. rhythm: a simple rhythm; one arsis (fa-mi), one thesis, re, all duplex groups.

The above transcribed in modern notation.

§ 6. — Intervals of a Sixth.

173. When two notes are six degrees apart, the interval between them is called a sixth.

174. The major sixth consists of four tones and one half-tone; it is rarely found in the Gregorian melodies.
CHAPTER IV.

THE MODOES.

178. The study of the Gregorian modal system has made so little progress, and the results proposed are still so inconclusive that for the present we can do no better than to explain the theory of the eight modes taught for centuries past: it is clear, simple, and sufficient for all practical purposes. Besides, in a method like this, intended as a guide to the official editions of the chant, one must of necessity conform to the modal system used in the books. Only an outline of the theory will be given here.

ARTICLE 1. THE ELEMENTS WHICH CHARACTERIZE AND DISTINGUISH THE MODOES.

179. Five principal elements enter into the constitution of the different modes:

1. The choice of a group of tones forming a fragment of the general gamut (II, 135).

Only a relatively small number of tones taken from the general gamut are used in a given melody, and, often the range of the Gregorian pieces is very limited. The composer choses from the general scale a longer or shorter series of notes as the compass of his melody.

He may select at will:

a) The low notes, for example from la-A to la-a.

b) Or the middle notes, for example from mi-E to mi-e.

c) Or else the upper notes, for example from sol-G to sol-g.

We see at once that all melodies based exclusively upon a particular fragment of the general scale will have a special physiognomy, a characteristic mode or manner of being by which the ear can distinguish them.

This first selection of a series of sounds introduces a second element.

180. 2. The different distribution of the tones and half-tones in each mode or manner.

Thus, if the scale selected moves from re-D to re-d:

re - mi - fa - sol - la - si - do - re
the half-tones will occur between the second and the third, and
between the sixth and seventh notes of this scale.

But if it moves from mi-E to mi-e :

\[ mi\_fa - sol - la - si\_do - re - mi. \]

then the half-tones occur between the first and the second notes,
and between the fifth and sixth, of this new scale.

This displacing of the tones and half-tones in each scale is one
of the chief causes of the differentiation of the modes, though it is
not the only one.

181. 3. *The selection of a final note on which the mode must end.*

According to the teaching of the ancient writers, the last note
of any musical composition had to be heard before a judgment
could be formed as to the nature of the mode: "Quid tonus vel
modus? — Est regulâ que de omni cantu in fine djudicât".
(Odo, Gerb. *Script. I*, p. 257). And it is, in fact, the final
which gives the characteristic feature of the mode more clearly
than anything else.

182. 4. *The selection, from among the series of tones chosen,
of certain reciting tones, and more especially of a note called the
dominant.*

The composer selects certain reciting tones about which the
contours of the melody entwine themselves. One of these tones
is so characteristic that it has been called the *dominant*, not
because it occurs more frequently than the others, but because its
influence is felt with a mysterious power even in melodies where
it occurs rarely. It is evoked, so to speak, by the sound of other
notes, it dominates them and encompasses them. When psalmody
follows the antiphon, this tone asserts itself persistently, and gives
the whole piece a distinctive character. We shall see later that
by changing the dominant a scale may assume an utterly different
physiognomy.

183. 5. *Melodic formulae characteristic of certain modes.*

Modes are also distinguished by certain typical formulae which
constantly recur in intonations and cadences; these formulae will
be described in their proper place and time.

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**ARTICLE 2. THE BREAKING UP OF THE FUNDAMENTAL SCALE.**

184. Before we come to the breaking up of the scale into eight
modes, we must explain the more ancient division into four modes.

§ 1. — Primitive Division of the Scale into Four Modes.

185. The theorists of ancient times count four main divi-
sions of the fundamental scale, based on the finals *D-re, E-mi,
F-fa, G-sol.*

Ré is the final of Protus = First Mode.
Mi is the final of Deuterus = Second Mode.
Fa is the final of Tritus = Third Mode.
Sol is the final of Tetrardus = Fourth Mode.

186. The range of these four modes, if combined, would
include almost the whole of the general scale. They are made
up as follows:

\[
\begin{array}{cccccccccc}
A & B & C & D & E & F & G & a & b & c \\
\vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\
\end{array}
\]

---

**Fig. 145.**

http://ccwatershed.org
187. The above table shows the internal division of the modes.

Starting from the final of each mode, an ascending fifth is counted, which will be in the middle of the scale.

For the Protus the central fifth is from re to la.

For the Deuterus, from mi to si.

For the Tritus, from fa to do.

For the Tetrardus, from sol to re.

188. Usually it is within the compass of the central fifth that the melody unfolds, perhaps a little above or below. It is extremely rare to find a Gregorian melody the range of which covers the whole compass of eleven notes. Often the whole melody develops within the small range of the central fifth. Sometimes the lower fourth is added to the compass; or else the melody uses the notes of the upper fourth, and omits those of the lower fourth.

There are therefore high melodies and low melodies: and this results in a further subdivision of the four primitive modes into the eight (1) as we know them today.

§ 2. — Breaking up of the Scale into eight Modes.

189. This new series of scales is simply a subdivision of the four original modes, as the following table shows:

<table>
<thead>
<tr>
<th>Old Terminology</th>
<th>Present Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protus</td>
<td>Deuterus Authentic</td>
</tr>
<tr>
<td>High Melodies</td>
<td>1st Mode</td>
</tr>
<tr>
<td>Protus Authentic</td>
<td>Common Fifth</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
<tr>
<td>Low Melodies</td>
<td>2nd Mode</td>
</tr>
<tr>
<td>Protus Plagal</td>
<td>Common Fifth</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
<tr>
<td>Deuterus</td>
<td></td>
</tr>
<tr>
<td>High Melodies</td>
<td>3rd Mode</td>
</tr>
<tr>
<td>Deuterus Authentic</td>
<td>Common Fifth</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
<tr>
<td>Low Melodies</td>
<td>4th Mode</td>
</tr>
<tr>
<td>Deuterus Plagal</td>
<td>Common Fifth</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
<tr>
<td>Tritus</td>
<td></td>
</tr>
<tr>
<td>High Melodies</td>
<td>5th Mode</td>
</tr>
<tr>
<td>Tritus Authentic</td>
<td>Common Fifth</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
<tr>
<td>Low Melodies</td>
<td>6th Mode</td>
</tr>
<tr>
<td>Tritus Plagal</td>
<td>Common Fifth</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
<tr>
<td>Tetrardus</td>
<td></td>
</tr>
<tr>
<td>High Melodies</td>
<td>7th Mode</td>
</tr>
<tr>
<td>Tetrardus Authentic</td>
<td>Common Fifth</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
<tr>
<td>Low Melodies</td>
<td>8th Mode</td>
</tr>
<tr>
<td>Tetrardus Plagal</td>
<td>Common Fifth</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 146.

This table requires explanation.

190. Authentic and plagal Modes. The eight modes group themselves two by two — each original mode giving rise to two modes, the one low and the other high. The higher modes are called authentic, that is to say principal, superior, master modes. In the nomenclature handed down to us by the oldest writers, these authentic modes are the uneven ones: 1, 3, 5, 7.

The lower modes are called plagal, that is oblique, derived, or inferior modes and these are the even modes: 2, 4, 6, 8.

191. The internal arrangement of each mode: The central fifth is common to each pair of modes, while the upper fourth belongs only to the authentic mode, the lower fourth only to the plagal.

192. *The finals of the modes.* In each pair of modes, the final remains the same for the authentic mode as for the plagal.

Re is the final for the first and second modes,
Mi, for the third and fourth modes,
Fa, for the fifth and sixth modes,
Sol, for the seventh and eighth modes.

In the above table the finals are indicated by the vertical line over the first note of the central fifth.

193. *The dominants of the modes.* In the authentic modes the dominant is a fifth above the final: in the preceding table it is indicated by a hollow note:

<table>
<thead>
<tr>
<th>Final</th>
<th>Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st mode</td>
<td>re</td>
</tr>
<tr>
<td>3rd mode</td>
<td>mi</td>
</tr>
<tr>
<td>5th mode</td>
<td>fa</td>
</tr>
<tr>
<td>7th mode</td>
<td>sol</td>
</tr>
</tbody>
</table>

194. The dominant of the third mode was regular in ancient times; it was formerly si, as we can still see in the psalmody of the Introits at Monte Cassino and at Benevento in Italy. But the mobility of this note (sometimes natural, sometimes flat), its proximity also to ut, gradually attracted to this latter note the dominant — or at least the reciting tone in psalmody. But the si remained in the body of the melody both as a reciting tone or as a passing tone, without being affected by the change which had taken place in the psalmodic recitation tone.

The si, thus retained, is of great importance in preserving the character of this mode. Gregorian good taste demands it — in accordance moreover with the words of an eleventh century writer (1). "Decidedly the third mode has an attraction toward the second ninth (si natural) because it is a fifth above the final of the mode, but especially because it tends, by an interval of a fourth, toward mi, the highest note of the mode."

195. *The plagal modes.* Two of these have their dominant a third above their final:

<table>
<thead>
<tr>
<th>Final</th>
<th>Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Mode:</td>
<td>re</td>
</tr>
<tr>
<td>Sixth Mode:</td>
<td>fa</td>
</tr>
</tbody>
</table>

and the other two, a fourth above the final:

<table>
<thead>
<tr>
<th>Final</th>
<th>Dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth Mode:</td>
<td>mi</td>
</tr>
<tr>
<td>Eighth Mode:</td>
<td>sol</td>
</tr>
</tbody>
</table>

196. The finals and dominants of the modes may be memorised as follows:

<table>
<thead>
<tr>
<th>Modes:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finals:</td>
<td>re - re, mi - mi, fa - fa, sol - sol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominants:</td>
<td>la - fa, do - la, do - la, re - do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

197. The ambitus or range of a scale does not, in itself, suffice to characterise a mode. Thus the first and eighth modes have the same range (D-re to d-re) yet they are utterly different in character:

a) The finals are different: that of the first mode is re, that of the eighth, is sol.

b) The dominants are different: that of the first mode is la, that of the eighth, is do.

c) The internal structure is different: the first mode being made up of a fifth plus a fourth, whereas the eighth mode consists of a fourth plus a fifth.

---

(1) "Sane secundam nonam idem adamavit (tertius modus), quia ad ejus finem diapente est: maxime autem ideo, quia ad acutissimam ejus, id est e, diatessaron reddit." GERBERT, Script. I, p. 264.
The ambitus of the Gregorian melodies. There is great variety in this matter. Some melodies use the full range of the mode itself (eight or nine notes). Others unfold within a compass of four, five or six notes only. Others, again, extend beyond the regular range of the mode, either above it or below it. Finally there are a few melodies which use all the notes contained in the combined range of the authentic and plagal modes (eleven notes), and, in rare cases, even this limit is exceeded.

Note. The ambitus of each authentic mode, according to the theorists, extends from its final to the octave above: thus, Mode I: re to re; Mode III: mi to mi; Mode V: fa to fa; Mode VII: sol to sol. Below each of these finals, we find and interval of a major second, except in the fifth mode (excepto trito) (1) where we find a minor second. In order to avoid the use of this half-tone (mi-fa) the melodies descended a minor third to re, because anything remotely resembling the leading-tone of modern music was rejected as an imperfection and a fault in the Gregorian melodies, especially a half-tone placed below the final of an authentic mode. The writers agree on this point. Guido d’Arezzo (2) says: “Propter subjectam semitonii imperfectam.” Another writer says: “quia semitonii imperfectio non patitur si non fieri descensum competenter.” (3) Another writer adds: “Sed si descendit, potest ad D grave (re), ut dictum est, attingere.” (4).

In all our solfeggio exercises this rule is carefully observed, that the pupil may accustom his ear to the nobility and grave dignity of the Gregorian modality.

Transposed Modes. Melodies based on la, si and do.
The notes re, mi, fa and sol are not the only ones on which a Gregorian melody can end. We find la, si and do also used as finals.

Thus a mode can be based on each of the seven tones of the scale. The theorists, however, did not treat the scales based on la, si and do as separate modes, since their system — being one of relative pitch made a parallel between the modes based on la, si and do and those based on re, mi and fa; and, provided the si flat were used throughout in the scales of re, mi and fa, the relative intervals were identical, as will be seen in the diagram below.

In theory, then, the three “transposed modes” may be considered as equivalent to the normal modes, but we must add that the facts do not always correspond to the theory. Our knowledge on this point is still limited.

---

(2) Memineris quod... tons authenti xix a suo fine plus una voce descendunt. Ex quibus authentus tritus (fifth mode) rarissime id facere propter subjectam semitonii imperfectionem videtur. Gerb. Script. II, p. 13.
(4) Gerb. Script. III, p. 112. The ancient writers have left us many texts supporting this doctrine, and to this rule, all the genuine Gregorian melodies conform.
CHAPTER V.

THE GREGORIAN ELEMENTARY PULSE.

Rhythmic Value of the punctum and the virga.

200. With the knowledge that we have acquired regarding the origin of Gregorian notation and the formation of the neums, regarding the intervals and the various modes, we may safely apply the rhythmic principles set forth in the first part of this book to notes, to groups of notes, and even to the formulation of general rules of interpretation.

The first thing to study is the elementary or basic Gregorian pulse, whether it be represented by a note or a syllable.

The indivisibility of this elementary pulse was laid down as a principle at the very outset (I, 38). To this principle we must return.

ARTICLE 1.

INDIVISIBILITY OF THE GREGORIAN BASIC PULSE.

201. The indivisibility of the elementary or basic pulse in Greco-Latin music of all epochs is a striking historical fact. Gregorian Chant inherits this characteristic. Aristoxenes defines the elementary pulse of Greco-Latin music several centuries before our era in words which apply, point by point, with equal force to the basic pulse of Gregorian Chant: "The primary pulse or unit is that which cannot be divided rhythmically in any manner whatsoever; on which cannot be placed either two tones or two syllables or two gestures" (1).

It is the minimum duration, the primary element; the unit in arithmetic, the point in geometry, the letter in writing, the short syllable in speech (I, 33 et seq.).

(1) Louis Laloy, Aristoxène de Thurata, p. 296.

202. To poets and musicians of antiquity, the short syllable was the type or norm of the primordial unit, a proof of the decisive influence of language on music. The idea of dividing a short syllable or an elementary pulse never entered the mind of a Greek or early Gregorian musician. For such a thing to be considered possible, we must await the birth of the organum and diaphony in the Middle Ages.

203. The ecclesiastical theorists do not conceive the possibility of dividing the elementary pulse; indeed, on the contrary, its indivisibility is implicitly contained in all their teachings. When they speak of the duration of notes their comparisons are borrowed from the rules of prosody:

"Sicque opus est ut quasi metricis pedibus cantilena pludatur". (Guido d’Arezzo, Metrol. Ch. XV; and other texts.)

Now in metrical feet, there are two fundamental values:

The short or indivisible elementary pulse (\(\cdot\)).

The long pulse (\(\cdot\) ) which has twice the value of the short pulse.

204. We may well accept the comparative value proposed by Guido d’Arezzo wherever the neumatic notations and the influence of the prose texts allow it, and admit as the basis of Gregorian musical rhythm:

A short note, single and indivisible: \[\text{\(\short, \cdot\)}\]

A long note worth double the value of the short note,

\[\text{\(\long, \cdot\cdot\)}\]  \(\text{\(\text{Fig. 148.}\)}\]

and we may admit this all the more readily because, in practice, prosody itself tempered the rigorous exactitude of these two values.

In support of this well known fact, we will cite a single text:

Quintillian, after having drawn attention to the weight and gravity of a phrase containing a series of long syllables and to the swiftness which the short syllables convey, adds: "It is important to notice the fact that there are syllables which are longer than the long ones, and syllables which are shorter than the short ones; for while it is true that they are supposed to contain not more than two pulses nor less than one (which is the reason why all syllables have a proportional relation to one another in verse) yet, in spite of this fact, there is hidden in
the pronunciation I know not what difference, yet a true difference of more or of less." (1).

205. In reality, the conventional proportion of long and short syllables varied considerably in so far as they were applied to verses sung, verses recited, or ordinary speech.

The prosody of sung verse held more strictly to these proportions: the long syllables really equalled the value of two elementary pulses; the short syllables equalled the value of one, since the broader and more definite movement of the musical setting of words required this strict proportion. In ordinary speech, however, there was more freedom, and the long syllables were uttered more slowly than the short ones without actually doubling their value.

"As regards verses recited and declaimed, their delivery was of an intermediate character where the relative values of long and short syllables were observed only approximately. Thus were read the verses of Homer, and the fastidious prosodists would not allow themselves to count two pulses to those long syllables which had not really that full value; so that, in a line that moved rapidly, the dactyls (-υυχ) produced almost the effect of trochees (-υυ)" (2).

206. The flexibility of the mutual rhetorical values is also shown by the frequent use of the irrational pulse: certain long syllables were held a little less than the time of an ordinary long syllable, and certain brief syllables were held a little longer than the time of an ordinary short one; a fact which demonstrates "a momentary lapse in the poetic convention, a return to the prosody of speech". (LALOY, op. cit., p. 300).

207. This tendency of metrical prosody to approach, in practice, the freedom of ordinary speech, shows itself with even greater suppleness, with greater freedom, in the Gregorian musical rhythm. The scanty information on this point given

us by the mediaeval theorists is supplemented, fortunately, by the neumatic notation itself and by the effect of the liturgical text upon the melody.

208. We may safely base the whole structure of Gregorian musical rhythm on these two time values: a short pulse and a long one: the first, an elementary or basic pulse, the second, a duplex composite pulse (I, 38) the value of which is twice that of the elementary pulse; and on this foundation rests the whole melodic system of antiquity.

ARTICLE 2.

NOTATION OF THE ELEMENTARY PULSE: PUNCTUM AND VIRGA.

§ 1. — Purely melodic Significance of the Punctum and Virga.

Quantitative and dynamic Identity of the two Signs.

209. The masters of prosody used two signs to represent the fundamental prosodic values: one sign for the short syllable (.), another for the long (•).

The question arises at once: did the masters of Gregorian notation likewise use certain signs to represent long notes and others to represent short notes when writing the melodies? If so:

- did their punctum (•) mean a short note (•)?
- and their virga (/) mean a long note (•)?

Such a theory has been affirmed but without foundation, and we must answer the question in the negative.

210. The truth in the matter is that the difference in form between the punctum and the virga does not represent a distinction either of duration or of intensity. Both these signs, in themselves, represent the value of a single elementary pulse. The difference in form is simply a melodic indication, a question of pitch only.

The punctum always represents a note that is relatively lower; the virga, one that is relatively higher.

211. We have said "in themselves", because both the punctum and the virga can be prolonged, but this added length is due to the position or function of these notes in the phrase, or else to the rhythmic additions or modifications already enumerated (11, 67 et seq.).

(1) "Sit in hoc quoque aliquid fortasse momenti, quod et longis longiores, et brevibus sunt breviore syllabae; ut, quamvis neque plus dubius temporibus, neque uno minus habere videantur (ideoque in metris omnes breves longaque inter se obsessae sunt pares), lateat tamen nescio quid, quod supersit aut desit..." QUINTILLIAN: Instit. orat. IX, 4.

(2) L. LALOY, Aristoiotet, p. 293.
212. The ancient manuscripts give abundant proof of this theory. The older the manuscript, the more favorable is the evidence on this point, and it is therefore to these documents that the scholar should turn in order to find the truth on this fundamental matter.

As for the theoretical writers, either they are silent on this point or they treat of a rhythmic difference between the punctum and the virga in relation to measured music with its fixed proportional time values and treat of the graphic signs which denote these values, all of which is totally inapplicable to the free Gregorian rhythm.

213. The origin of the punctum and the virga in itself provides a strong presumption in favor of the purely melodic significance of these signs, which are derived, as we know, from the grave and acute accents. These accents indicate a melodic inflexion of the voice; the grave accent being a falling inflexion, and the acute accent, a rising one. It is this essential quality of the accents that commended them to musicians for the representation of high and low notes. Thus, these two signs, when they became musical tones, kept their original meaning. This fact appears clearly in the entire Gregorian repertory written in neum accents. The evidence is absolutely conclusive. A few illustrations follow:

214. The antiphon, Prudentes virgines from the Antiphonary of Hartker (1).

In this antiphon there are:

a) Punctums.
b) Virgas.
c) Neums.

It is best to examine each in turn.

215. a) Punctums 2, 8, 12, 15, 22, 27 and 28: Each punctum represents a note which is lower than the one which precedes or follows it.

216. b) Virgas 1, the first note of the antiphon, is higher than the note which follows.

217. Virgas 3 and 4: These notes are higher than the preceding ones. In syllabic chant, a series of ascending notes is always represented by virgas, because the relation of punctum to virga has been established by the first or lowest note of the ascending melody.

218. Virgas 9, 10, 13, 14 and 20, illustrate the application of the foregoing rule.

219. Virgas 6, 7, 10, 11, 17, 18 and 21: In syllabic falls and descending passages of a syllabic chant the intervals of the melody are generally indicated by virgas because the relation of pitch between virga and punctum is counted from the last or lowest note of the descending melody.

220. c) Neums. In the case of a neum, the relation of pitch between its notes is established without regard to the notes which may precede or follow the neum. Thus, No. 5 is a podatus: do-re. The first note, do, is represented by a grave accent (equivalent to a punctum) despite the fact that the pitch is equal to that of the preceding note (do); the do of the podatus is considered in its relation to what follows, the re of the neum itself, to which it is attached and which is a higher note. Thus the do is represented by a grave accent or punctum, because it is lower than re.

We are struck at once by the uncertainty of the neumatic notation. Without the aid of oral tradition it would be impossible to know whether the first note of this podatus should be sung higher, lower or in unison with the preceding virga (No. 4).


http://ccwatershed.org
It is here that the melodic letters came to the singer’s assistance. In the MS. of Hartker, the podatus in question is often accompanied by one of the following letters: l (levare), s (sursum), a (altius), indicating that it should be sung; in these cases, at a higher pitch than the preceding virga (Note 4).

221. The same principle applies to the clivis (No. 19). The neum begins with a virga (la), a note which is lower than the si preceding it; but the clivis is considered as a whole, and the la considered in its relation to sol (the second note of the neum), is higher; thus the neum is composed of an acute followed by a grave accent.

If we wish to analyse all the antiphons and other melodies of the Gregorian Antiphoner and Gradual, we shall find, throughout, the application of these same rules.

§ 2. — Use of the Punctum and Virga in Recitation.

222. There are certain melodic settings which show us the relative use of the punctum and virga so clearly that no possible uncertainty can remain.

When a musical composition contains a brief passage of syllabic recitation, each syllable is set to:

a) a punctum when the note is lower than the preceding note or neum.

b) a virga when the note is higher than the preceding one.

The early manuscripts are faithful to this rule as the following examples demonstrate:

223. Alleluia Verses in the second mode:

Recitation A

---

Recitation B

Recitation C

Recitation D

Recitation E

Recitation A and C. A series of punctums represent the single syllables of the words sanctificatus illuxit, and venite gentes et adorate because they occur on the reciting tone re and fa which are lower than the notes mi and sol which precede them.

Recitation B. Here, on the contrary, we find a series of virgas representing the single syllables because the reciting tone, re, is higher than the do which precedes them.

224. Gradual-Responsories in the second mode.

Beginning of the Ἐ.

Recitation D

Recitation E

Recitation D. Why do we find the syllables on la indicated by a series of punctums? Because this tone is reached from above, descending from the si of the torculus (sol si la).
Recitation E. Why do we find the syllables on re indicated by a series of virgas? Because this tone is reached from below, by an ascending neum, the podatus (do re).

225. The purely melodic function of the punctum and virga should be fairly clear from a study of the examples given above, but the following fact is decisive. The writers employ one or other of these signs, not merely when they occur in different recitations as is the case in A, B, C, D, E, — but in identical passages in the same melody according as these recitations are approached in an ascending or descending direction. In the former case the virga is used, in the latter case, the punctum.

226. Gradual-Responsories in the second mode.

Recitation F

R. G. Angelis...

ut cu-stó-di-
ant

tec

» Díce re-fugium...
a ge-ne-ra-ti-
ó-ne

» Nimis...
ní-mis confor-
tus est

» Ab occáliis...
et ab a-li-
nis

» Justus...
mul-tí-pli-
cá-bitur

» Exsultábat...
lae-
ta-
búntur

» Ne a-vértas...
quó-ni-
ám trí-
bulor

Recitation G

R. G. Tecum...

an-te lu-
ferum

Fig. 152.

The two musical examples, F and G, represent a recitation on the same tone but approached from a different direction. In F, the reciting tone is higher than the torculus which ends the preceding phrase, a fact which explains the use of virgas in all responsories of this melodic type. In G, the same reciting tone is approached from above, which accounts for the use of punctums instead of Virgus.

227. Gradual-Responsories in the fifth mode.

The same variations and the same system is employed in the following recitations:

Recitation H

R. G. Christus... F. Propter quod De-us ex-al-tá-vit il-

> Ecce sacérdos... F. Non est in-

> Exul... F. Sed sic e-

Recitation I

R. G. Propitius esto... F. Ad ju-


In the examples H and I, we have two intonations which lead up to the same recitation tone, and both, by an ascending progression. The reciting tone at the summit of this melodic progression is always indicated by a series of virgas.

228. This same reciting tone, however, can be approached by means of other intonations, of which we give several examples under J, K, and L.
THE GREGORIAN ELEMENTARY PULSE.

§ 3.—Substitution of the VIRGA for the PUNCTUM because of melodic Changes.

230. This substitution is found not only in recto tono recitation but it occurs constantly in the living flow of the Gregorian melodic phrase itself, as we are about to show.

231. The first example is a typical antiphon of the fourth mode in A, fourth member of the phrase:

The melodic cadence of these antiphons is altered slightly when the last word of the text is a proparoxytone.

Line 1. The word, *ei* is paroxytone. No. 7 is the note *la* which is written as a *punctum*, being the last note of a descending melody (II, 210).

Line 2. The word, *redemptio* is proparoxytone. In this case, the note *la* is written as a *virga* instead of a *punctum* because the melodic descent continues to *sol* (the first note of the *podatus*). The last syllable (No. 9) of which the pitch can hardly be doubtful, is usually expressed musically by a *punctum*, though sometimes also, by a *virga*.

232. Similar changes are found in typical antiphons of the seventh mode.
PART II. — CHAPTER V.

In the first member, see Nos. 8, 9, 10.

\[ \text{Propter f\'dem casti-tatis} \]

Fig. 155.

and in the fourth, Nos. 7, 8 and 9.

\[ \text{Gr\'ati-as ti-hi ago D\'omi-ne} \]

Fig. 156.

§ 4. — Free Use of the PUNCTUM and the VIRGA.

A. To represent single notes between neums.

233. There are other cases where the punctum is substituted for the virga and vice versa, but where these substitutions are not caused by a modification in the melody. They are caused by the position of certain notes in relation to other notes or neums, so that their pitch may be considered in relation to what precedes or what follows the intermediary note. 

THE GREGORIAN ELEMENTARY PULSE. 235

St. G. 339.

\[ \text{Com. Jerusalem ... a De-o tu-o.} \]

Eins. 121.

\[ \text{... a De-o tu-o.} \]

Fig. 158.

Line 1, syllable o of Deo: The St. Gall manuscript 339 gives a punctum for this note because the writer considered this fa in its relation to the preceding torculus, and, from this point of view, fa was a descent from sol.

Line 2, the same syllable: The Einsiedeln manuscript 121, on the contrary, gives a virga for this same note because the writer considered this fa in its relation to the following neum, and, from this point of view, fa was a higher note than the mi of the pes subpunctis resupinus.

234. Two more examples:

Eins. 121.

\[ \text{Ry. G. Tollite.} \]

\[ \text{Off. Benedixisti.} \]

Eins. 121.

\[ \text{St. G. 339.} \]

\[ \text{St. G. 339.} \]

Fig. 159.

Fig. 160.

235. There are countless examples of this sort where the writers were free to choose between a punctum and a virga. Their object was to make clear the melodic context and therefore each writer chose the sign which seemed to him to be the clearest. One chose a punctum, another a virga, but this choice
was quite uninfluenced by questions of intensity or duration, in a word, of *rhythm*.

**B. Same freedom in the formation of neums.**

236. The calligraphic liberty displayed in the use of these two signs for single notes between two neums, appears also in the internal formation of the neums themselves. Here again, we find numerous examples of the free interchange of the grave accent, or *punctum*, and of the *virga*.

237. The following manuscripts of the St. Gall school show three different ways of writing the first two notes of the group over the syllable, *tu*:

R. G. *Jacta*.

St. G. 359, 339.

\[\text{cogit\-tum tu\-um}\]

Eins. 121 — St. G. 376, 375, 340.

\[\text{cogit\-tum tu\-um}\]

Bamb. lit. 6.

\[\text{cogit\-tum tu\-um}\]

*Fig. 161.*

Line 1: a *podatus*.

Line 2: two *punctums*.

Line 3: two *virgas*.

238. Another example of the same kind: a *podatus* replaced by two *virgas*.

**C. Same freedom in the relation of one neum to another.**

239. Moreover, substitutions of this sort take place not only in the case of single notes, not only in the case of notes forming part of a neum, but they affect the relation of neum to neum. These exchanges between *punctums* and *virgas* modify the neums themselves, breaking them up or linking them to others, and thus we have the phenomenon of a *graphic linking or fusion of neums* regarding which more will be said later.

The following examples will illustrate our meaning:

240. A cadence of frequent occurrence in Tracts of the second mode:

\[\text{Fig. 162.}\]

Here, the difference of notation implies no melodic or rhythmic change, although the first line contains three neums and the second only two. The lines are equivalent to one another.

In the first line, the second neum is a *podatus*: the *fa* is a *grave* accent because this note is considered in its melodic relation to the second note of the same neum, *sol*.

No 702. — 16
In the second line, however, the note which corresponds to this grave accent forms an integral part of the preceding porrectus as its last note; consequently, its melodic relation is established with the preceding mi, and the fa is expressed by a virga.

241. Offertory, Tollite.

![Musical notation]

Here again, we have a complete equivalence, both melodic and rhythmic. The substitution of the grave accent for the acute occurs on la, third note of the torculus in line 1, and the la virga, first note of the pressus in line 2.

242. A final example of this kind, shows three equivalent notations:

Ry. G. Qui sedes.

Eins. 121.

![Musical notation]

et veni.

St. G. 339.

![Musical notation]

et veni.

Vercelli 124.

![Musical notation]

et veni.

Fig. 164.

Here, the notes, fa mi fa sol and the various manners of grouping them, are worthy of attention, and particularly the notes fa sol.

In line 1, these notes are represented by two punctums.

In line 2, by two virgas, the first of which belongs to the preceding porrectus.

In line 3, by a podatus (grave accent) and a virga.

243. Examples such as these abound, and they prove conclusively that the use of the virga and punctum (or grave accent) had literally no bearing whatever on the question of Gregorian rhythm.

§ 5. — Substitution of the virga for the punctum in the Notation of Sequences, with and without Words.

244. The early sequences, we know, were composed on the melodies of the prolonged vocalisations on the last syllables of the Graduals. Some writers, especially Notker, conceived the idea of adapting words to these melodies, the distinctive feature of which was that a separate syllable should correspond to each note of the vocalisation. The same process was applied to the vocalisations of the Alleluia Verses.

An interesting fact, in this connection, is that the melismatic notation and the syllabic notation of identical melodies follow different rules as regards the use of the punctum and the virga. These writers used the system that we have explained in connection with the antiphon, Prudentes Virgines (II, 217, 219, 220).

In the syllabic chants, the melodic rise and fall is indicated, always, by virgas.

In the melismatic chants, on the other hand, the rise and fall of the melody is indicated by punctums.

Here, then, in identical melodies, we have two different ways of writing the notes, a perpetual interchange between the punctum and the virga, in contrast to each other.

245. The following examples are taken from the sequence Johannes Jesu Christi (Codex Bamberg lit. 5), with the exception of Example B which is from the sequence of the Holy Innocents,
"Laus tibi Christe, cui sapit", in the same codex. (See also St. Gall 546.)

§ 6. — **PUNCTUM and VIRGA used simultaneously in two-part ORGANUM.**

246. The following proof of the rhythmic equivalence of the two signs has been developed fully in the *Patéographie Musicale*, Vol. I, pp. 151-152, Plate XXIII, but the evidence is so striking that we reproduce it here.

The example is taken from a page of Manuscript 130 (148) of Chartres. The eleventh century folio (no. 50) contains five Alleluia Verses set to a double line of neums. Immediately above the text we find the liturgical melody, and above this again, we find the second voice, which moves along — note against note — almost always in contrary direction.

One of these Verses is reproduced below:

\[
\text{Alle-lú-ia.} \quad \text{Di-} \quad \\
\text{sanci-fi-cátus illúxit no-} \quad \text{bis, ve-} \\
\text{ni-te gentes et ado-ráte Dómi-num, qui- a hódi-} \quad \text{descén-} \\
\text{dit lux ma-} \quad \text{gna super terram.} \quad \text{Fig. 167.}
\]

\[
\text{effusí-óne} \quad \text{testimó-ní-o} \\
\text{Je-su Christo} \quad \text{atque cu-ram} \\
\text{súscí-tas} \quad \text{amó-re} \\
\text{Fig. 166.}
\]
247. This "organum" contains precious information regarding the relative time-value of the virga and the punctum whether these be used alone or combined in the formation of neums (1); throughout the composition, the punctum in one voice corresponds to the virga in the other; the podatus to the clivis; the torculus to the porrectus; the scandicus to the climacus. It is hard to conceive of a more categorical refutation of the theory which would interpret the virga as a long note and the punctum as a short one. To follow such a theory logically, we should have to translate the notes and neums which correspond, as follows:

\[
\begin{align*}
\text{Virga} & = \cdot \\
\text{Punctum} & = \circ \\
\text{Podatus} & = \circ \\
\text{Clivis} & = \circ \\
\text{Torculus} & = \circ \\
\text{Climacus} & = \circ \\
\text{Porrectus} & = \circ \\
\text{Scandicus} & = \circ \\
\end{align*}
\]

Fig. 168.

What becomes of the rhythmic relation of the two parallel voices if an eighth note corresponds to a quarter note and vice versa, from beginning to end? The two voices correspond only if there be perfect identity of duration between the various neumatic signs.

§ 7. — Testimony of the Manuscripts written in Neum-Points.

The Punctum and Virga reduced to a single Sign.

248. The principles set forth above apply to all the schools of writing in neum accents, that of St. Gall as well as the French, English, Italian, and other systems. As for the dots or neum-points of Metz and Aquitaine, these also, in their own way, are equally clear as to the identical duration that must be accorded the punctum and the virga.

(1) Similar examples may be found in the Winchester Troper (Corpus Christi College, Cambridge Ms. 473). Henry Bradshaw Society, Vol. VIII, 1907. Introd. pp. XXXVII ff., and Pls. 23, 24, 25.

If the form of these two signs really constituted an element of difference in the Gregorian rhythm, we should find some equivalent distinction in the manuscripts written with neum-points, whether of the Metz or Aquitanian school. But we find nothing of the sort. On the contrary, we find that the distinction has disappeared between the two signs, the writers of this school having, admittedly, reduced the two signs to one sign: the punctum.

This transformation was once considered, as a serious rhythmic modification of the primitive neumatic notation. Such an opinion might have been sustained in the past, but today, it is no longer possible, for we have the testimony of several manuscripts of Metz which demonstrate the rhythmic tradition almost as clearly as do those of St. Gall.

249. Perhaps, it may be argued, this rhythmic precision in the manuscripts of Metz was due, precisely, to a desire on the part of the writers to preserve a difference of time value between the punctum and the virga? No, for, on the contrary, they recognize no distinction! They use in the formation of their neums, two forms of punctum, the one short, the other long (II, Fig. 109), but the two forms serve to transcribe both the virga and punctum of the St. Gall manuscripts. Their short punctum expresses the ordinary punctum and virga of St. Gall, while their long punctum expresses the same signs with episma or with one of the Romanian letters indicative of length.

250. To sum up, therefore: all attempts to identify the punctum with a short note and the virga with a long one, must be abandoned definitely in the light thrown on the matter by the manuscripts. The testimony of these documents is so precise, so conclusive, it is repeated so often under so many forms by each different school of writers, that any vague texts of authors who are sometimes quoted in favor of a contrary opinion can never prevail against this overwhelming body of evidence.

Moreover, among all the texts, there is not one which definitely contradicts the explanation given above. Indeed, should such a text be discovered, it would have to be discarded, because any rhythmic teaching which is in manifest contradiction to the
unanimous testimony of the manuscripts must of necessity be 
considered erroneous.

251. From this chapter, we may draw the following practical 
conclusion:

_The Punctum and the Virga are each equivalent to an elementary 
pulse of the rhythm, whether used alone as single notes or combined 
with other signs to form neums._

In other words: the primitive form of the punctum and virga 
was never intended to represent length or brevity. Differences 
of duration should be sought elsewhere, for we must not infer 
from the equivalence of these two elementary signs, that all 
notes are of equal length in Gregorian Chant. The writers had 
other ways of indicating differences of duration, of intensity, 
and even the place of the simple ictus; and one of the objects 
of the present volume is to explain some of these means. We 
already know something of the rhythmic additions and modifica-
tions used at Metz and St. Gall, but there were other 
expedients, some of which applied to the syllabic chants, others 
to the melismatic. The latter must be studied first.

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CHAPTER VI.

NEUMS, THEIR RHYTHM AND EXECUTION.

The Isolated Neum (1).

ARTICLE 1.

GENERAL PRINCIPLES APPLICABLE TO ALL NEUMS.

§ 1. — The Gregorian Neum: its Character.

252. If we examine a page of Gregorian music, one fact 
stands out clearly. At times, the neums are grouped closely 
about the words, while, at others, they break away from the text. 
Long vocalisations of ten, twenty, thirty, forty notes rise from 
a single syllable and unfold in free, luxuriant melody. These 
vocalisations must have a definite rhythm of their own. Whence 
is it derived? We answer, from the inner structure of the 
melismas themselves, showing the distinction between phrases, 
members and incises, indicating even the groups of two, three 
or four notes which, in turn, can be analysed into basic pulses.

253. The _neum_ itself is a melodic group that can be compared 
to the word in language. Though an isolated word be taken out 
of its context, it retains its _form_, its individuality, and, despite 
the several syllables which compose it, retains its _unity_ as a word. 
Moreover, it has a meaning and expresses an idea. It may also 
have a melody and a rhythm, as we shall see later.

The same is true of the _neum_ even though it be isolated from 
its melodic context. Like a word, it retains its _form_, its individual-
ity and autonomy. The several notes which enter into its 
structure do not disturb its _unity_. Finally, the neum, in its own 
way, expresses a _musical idea_, melodic and rhythmic, which 
differs from that of other neums.

(1) Although Dom Mocquereau employs the two terms, "neum" and 
"group" interchangeably, when writing of the neumatic notation, we have 
decided for greater precision to use the term "neum." Each time the graphic 
sign itself is referred to, and the term "group" only for _rhythmic_ subdivisions. 
This distinction will be maintained from this point to the end of the book.
NEUMS, THEIR RHYTHM AND EXECUTION. 247

Fig. 169.

A neum of three notes is equivalent to three full basic pulses.

Fig. 170.

The same rule applies to the other neums.

258. The fact that a basic pulse may be slightly altered agogically, lengthened or shortened, was explained in Part I (34 and 35). We shall see the application of this principle in what follows.

The slight shortening of the basic pulse is not indicated by any special sign in the notation of the neums. It is implied by certain general rules governing the movement of the phrase as a whole, rules which will be explained later.

The lengthening of the pulse is also implied in similar rules, but there are cases where a sign applied to certain notes or neums which require greater breadth of treatment draws the singer’s attention to these delicate agogical shades. This sign is the little line or horizontal episema marked above or below the note in question.

Fig. 171.

a) The first note of the neum alone is lengthened.
b) The second note of the neum alone is lengthened.
c) Both notes are lengthened.
d) All three notes are lengthened.

These “nuances” applied to the execution of neums are all taken from the rhythmic manuscripts.

§ 2. — Time Value of Notes in Neums.

257. Each note forming part of a neum is equivalent to one basic pulse. Thus, a neum of two notes is equivalent to two basic pulses.
259. The primitive form of a neum may be modified more radically:

1. By the addition of a note at the same pitch: punctum, virga, apostropha or oriscus,
   a) before the neum,
   b) after the neum.

2. By the addition of a rhythmic dot to the last note of the neum (punctum mora). This dot doubles the value of the note to which it is attached. The effect of this length is to distinguish the neum from the one that follows it, phraseologically.

3. By the addition of two dots, one dot after each note of the podatus and clivis. Such cadences close members and phrases.

260. The value of each note and of each rhythmic dot is approximately that of one basic pulse. Consequently, a neum of two notes with one dot equals three basic pulses. A neum of two notes with each note dotted, equals four basic pulses. A neum of three notes with one note dotted, equals four basic pulses, and so on throughout the various neums (Fig. 174).

§ 3. — The Position of the rhythmic Ictus.

The following notes have a rhythmic ictus:

261. 1. All notes marked with a vertical episema. (No exceptions). (This sign is the distinctive mark for the rhythmic ictus in the notation of the Solesmes editions).

262. 2. All long notes. (No exceptions).

The following are classed as long:

a) All notes with dots, which are equal to the quarter note of modern music.

b) All Pressus. (See Chapter VIII for the execution of this neum).

c) All notes lengthened by an oriscus (See Chapter X for the execution of this neum).

263. 3. The first note of a neum, whatever its form. Exception: when this note is immediately preceded or followed by a pulse marked with the episema. Whenever the episema conflicts with other ictic signs, it takes precedence over them.
264. The reservations implied in the above rule give rise to the following exceptions:

*Exception a.*: The first note of a neum can have no rhythmic ictus when the basic pulse which immediately precedes that neum has an episema or an ictus. Evidently, two rhythmic ictus cannot follow each other on consecutive pulses. For instance:

![Figure 179](http://ccwatershed.org)

*Do,* the first note of the *climacus,* has no rhythmic ictus since the note *st,* immediately preceding, bears the ictus. The reason why the ictus falls on the *st,* will be explained later under the *Linking of Neums* (II, 323).

*Exception b.*: Likewise, the ictus is transferred from the first note of a neum to the second note when the second note bears an episema. For instance, in the case of the *do virga* in the last climacus of Fig. 180:

![Figure 180](http://ccwatershed.org)

In the above example, *re* (first note of the *clivis*) has no ictus in virtue of both exceptions (*a* and *b*): the first note of the neum is both preceded (*exception a*) and followed (*exception b*) by an ictic note.

*Exception c.*: The first note of the *podatus* and of the *clivis* lose the ictus when the second note of these neums is prolonged; whether it be doubled by a *pressus* or an *oriscus,* or whether it be doubled by a dot.

![Figure 181](http://ccwatershed.org)

*Exception d.*: The *salicus* in its first form (II, 46), has the ictus on the second note of the neum.

![Figure 182](http://ccwatershed.org)

This ictus is indicated sometimes by a vertical episema, sometimes by a horizontal one (See Chapter XI).

265. The culminating *virga* of a neum always has the rhythmic ictus.

*a*) When this virga is in the center of a neum (Fig. 183).

![Figure 183](http://ccwatershed.org)

*b*) When it is at the end of a neum (Fig. 184).

![Figure 184](http://ccwatershed.org)

The ictus of this culminating *virga* is subject to the same exceptions as those which affect the first note of a neum (II, 263, rule 3).


266. The rhythmic study of neums is necessarily based upon a clear distinction between *rhythm-neums* and *time-neums.* The distinction arises from the rhythmic value of the last note of the neum. It holds good as regards all melodies of the Gregorian repertory.
A. Rhythm-Neums.

267. A rhythm-neum is one which contains within itself all the elements that constitute a complete rhythm (simple or composite), namely, as a minimum, one arsis and one ictus thesis. In other words, the rhythm-neum must have an ictus on its last note, be that note long or short.

268. a) The final ictus or touch may coincide with a long note (See above 262). Such a neum has its élan and repos; (one of each when the neum is a simple rhythm, several élans and repos when the neum is longer and forms a composite rhythm).

The following are all simple rhythm-neums:

![Simple Rhythm-Neums](image)

Such rhythms belong at the close of an incise, member or phrase. "Thus:

![Examples of Asperges Me](image)

The torculus in the above examples are both rhythm-neums.

B. Time-Neums.

270. A time-neum (or measure-neum) is one which has no rhythmic ictus on the last note.

![Examples of Time-Neums](image)

The three neums in Fig. 188 — podatus, climacus, podatus — are all time-neums, and would remain so even were they to be sung without words.

271. A time-neum cannot give the impression of a definite ending; it is always "post-ictic" (i, 132-134). It calls for N° 702. — 17
something further to complete it in the way of melody and of rhythm: a final ictic note, at the very least, on which the definite thesis of the entire rhythm may rest.

We must apply to the study of time-neums all that has been said in Part I regarding measures or composite pulses. The time-neum is only a fraction of a rhythm, an isolated unit which demands its complement (I, 209-210). It has, in itself, no distinctive position in the rhythm but can become arsio or thematic according to the melody and general character of the phrase from a rhythmic standpoint.

272. These two ways of treating neums: as complete autonomous rhythms or as mere composite pulses, apply to all neums without exception, as we shall explain.

ARTICLE 2.
ISOLATED RHYTHM-NEUMS AND THEIR RENDERING.

273. A neum is said to be rhythmic when its last note has a rhythmic ictus (II, 267). For the moment, we are considering only those cases where the ictus coincides with a long note (II, 268).

§ 1. — Rhythm-Neums of two Notes.

274. Neums of two notes usually form a duplex composite pulse:

Fig. 190.

but occasionally, they are treated otherwise, namely, as rhythm-neums:

1. A dot or an oriscus added to the last note doubles its value:

Fig. 191.

The neum is now composed of three pulses. In such cases, the clavis or podatus is always preceded by another group with which it is closely connected (See II, 323: The Linking of Neums).

2. The last note of a neum may become the first note of a pressus:

Fig. 192.

3. Each note of a neum may be lengthened by a dot:

Fig. 193.

This often happens at the end of members and phrases. Such neums have a total value of four basic pulses.

These neums of two notes form such small rhythmic entities that it is unnecessary to embody them in special exercises of application.

§ 2. — Rhythm-Neums of three Notes forming Groups of four Pulses.

275. A neum of three notes is rhythmic when a dot is added to the last note, thereby doubling its value. This note then carries the thematic touch of the rhythm. The following are rhythmic designs of such neums:

Fig. 194.

Fig. 195.

(See I, 118, fig. 62. Also Exercises VI, VII and VIII, p. 87-88).
The neums given above all consist of four basic pulses: two at the arsis and two at the thesis.

276. The distribution of the dynamics, in isolated groups, is generally decrescendo ———, whatever their form or melodic direction. At first, the student should sing them accordingly, but later he may also sing them crescendo ———, because the same neums are susceptible of acquiring a different intensity when embodied in a melodic phrase. It is for this reason that we do not indicate the intensity in the exercises of this chapter, nor is anything said about the dynamics applied to the phrase as a whole (I, 147-149) which includes not only groups and individual rhythms but incises, members and phrases. We do not wish to divide the student's attention by the consideration of several things at once. For the moment, he should concentrate on the correct rendering of the isolated rhythmic neum and its chironomy. However, a student who has mastered the early exercises and is familiar with the rules regarding the dynamics of the phrase, may be allowed to apply them, but without the help of special diagrams.

277. The following directions apply to this exercise and all those which follow:

1. Name all the neums.

2. Sing the exercise as a solfeggio using the names of the notes and make the rhythmic gestures following the graphic outline given over the modern notation. These transcriptions into modern music are given in order to help the student, at first, but as soon as he has learned the rhythmic gestures and has some experience in reading the Gregorian notation, he should apply the gestures to the exercises in the ancient notation.

3. Repeat the exercise as a vocalise, with the utmost smoothness, using each of the vowels in turn (1).

(1) These exercises are intended for pupils whose voices have already acquired some flexibility by the faithful practice of Gregorian vocal exercises. The "Gregorian solfeggi", with directions for their use, are placed in the appendix, since to insert them here would interrupt the presentation of the neums. But the flowing, legato style is so essential to the proper rendering of the Gregorian melodies that we must urge the student to use these solfeggi as vocal exercises and practise them faithfully. It is only by going over them again and again, even after the pupils have acquired a certain art, that the grace and flow of the voice will be maintained and a good and edifying interpretation of Gregorian chant will be made possible.
Exercise XVIII.
Rhythm-Neums of three Notes forming Groups of four Pulses. II.

II. Mode.

The above in modern notation.

§ 3. — Rhythm-Neums of four Notes forming Groups of five Pulses.

278. These neums are rhythmic when their last note is prolonged by a dot. Each neum forms a simple rhythm of five basic pulses, three pulses at the arsis and two at the thesis. The directions for the distribution of intensity (II, 276) apply to these neums also.

NEUMS, THEIR RHYTHM AND EXECUTION.

The rhythmic design follows:

(Fig. 196.

(See I, 118, fig. 63. Also Exercises IX and X, p. 88-89).

Fig. 197.

Follow the directions given in paragraph 277. In singing these exercises, Nos. XIX, XX, XXI, XXII, and all others which contain a combination of duplex and triplex composite pulses, great care must be taken not to sing the triplex pulses as though they were modern triplets, but to give its full value to each individual pulse of the triplex composite group.

Exercise XIX.
Rhythm-Neums of four Notes forming Groups of five Pulses.

Follow the directions given in paragraph 277.
The above in modern notation.

**Exercise XX.**

Rhythm-Neums of three Notes and of four freely combined.

I. Forming Groups of four Pulses and of five.

IV. Mode.

The above in modern notation.

**Exercise XXI.**

Rhythm-Neums of three Notes and of four freely combined.

II. Forming Groups of four Pulses and of five.

V. Mode.

The above in modern notation.

§ 4. — Rhythm-Neums of five Notes forming composite Groups of six basic Pulses.

279. The rhythmic design of these neums follows:

Fig. 198.
Exercise XXII.
Rhythm-Neums of five Notes forming composite Groups of six Pulses.

I. Mode.

A

\[ \begin{array}{cccc}
\cdot \quad \cdot \quad \cdot \\
\cdot \quad \cdot \quad \cdot \\
\cdot \quad \cdot \quad \cdot \\
\cdot \quad \cdot \quad \cdot \\
\cdot \quad \cdot \\
\end{array} \]

B

\[ \begin{array}{cccc}
\cdot \quad \cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \\
\end{array} \]

C

\[ \begin{array}{cccc}
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \\
\end{array} \]

D

\[ \begin{array}{cccc}
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \\
\end{array} \]

E

\[ \begin{array}{cccc}
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \quad \cdot \\
\cdot \\
\end{array} \]

The above in modern notation.

280. The Placing of the Ictus. The general laws of rhythm require a subdivision of all such neums. Considered apart from any melodic context, they are usually grouped as follows:

a) Initial ictus: on the first note of the neum (II, 263).

b) Final thetic ictus: on the long note at the end (II 262 a).

c) Ictus of subdivision: on the third note of the neum. It can be placed nowhere else, since two rhythmic ictus cannot fall on consecutive pulses (I, 84).

Thus, the six basic pulses form three duplex composite pulses.

281. Intensity and its distribution in the rhythmic accentuation of neums. As we advance in this study, we deal with longer neums which have already become little incises. We can now apply practically the rules regarding the distribution of dynamics in composite rhythm explained in Part I (147-149); the accentuation of incises, members and phrases; the place of the arsis and thesis in the melody and, consequently, the chironomy (I, 202-205).

The general rule, as we know, is that the intensity follows the melodic design, increasing with the rise of pitch and decreasing with the fall. Therefore, the culminating point of the intensity belongs to the highest ictic note in the neum, namely:

1. On the first note of each neum in line A. Then with diminishing intensity.

2. On the first note of each neum in line B. Although this note is no higher than the following ictic note, it is both initial and ictic, qualities which attract the intensity of the dynamic accentuation. After that note with diminishing intensity.
3. On the third note of each neum in line C, this being the highest ictic note. The intensity of these neums is: \( \text{\textemdash} - \text{\textemdash} \).

4. On the last note of each neum in line D. The intensity is crescendo. Such neums, however, often form part of a longer phrase and may need to be sung decrescendo because of the context. The pupil will do well, therefore, to master the various shades of intensity in singing each of these neums.

5. The two ictic notes at the same pitch in the neums of line E create a doubt regarding the place of the principal accent. We are free to choose either the first note of the neum or the third, and to distribute the intensity accordingly.

Had one of the two ictic notes been marked with the Romanian episema, as in Fig. 199, then there would have been no freedom of choice, because the episema indicates a certain accentuation as well as prolongation and a note thus marked attracts the principal accent of the neum.

\[ \text{Fig. 199.} \]

282. Slight variations of pitch, such as the intervals of a second in the last neum of line E, affect the intensity very little. Their dynamic character is determined by their place and function in the phrase and by the melodic context.

283. Rhythm and Chironomy. Once the place of the various ictus has been determined with the place of the phraseological accent, it is easy to indicate with precision the rhythmic arses and theses of these neums and outline their chironomy. According to the melodic form of the neum, we can distinguish several categories, as follows:

Lines A and B: One arsis, two theses. (I, 150. Exercise XII, p. 99).

\[ \text{Fig. 200.} \]

The first duplex composite pulse is an arsis, while the second and third, follow the melodic and dynamic descent, forming two theses.

Line C: The analysis of these neums is: two arses, one thesis. The culminating point of the melody and principal accent fall on the central subdivision of the composite rhythm; the rhythmic movement naturally follows the rising melody and dynamic crescendo, which gives us two arses and one thesis:

Rise of the rhythm and chironomy:

Rise of the intensity:

Rise of the melody:

\[ \text{Fig. 201.} \]

All the orders concur — melodic, dynamic, rhythmic and chironomic — each in its sphere, to form the unity of these neums by a single impulse and direction.

Line D: The rhythmic analysis is: two arses, one thesis; the chironomy follows the melodic rise, even though the intensity may vary according to the phraseological context.

Line E: Two rhythmic analyses are possible according to the place given the principal accent:

a) When it is placed on the first note of the neum: one arsis, two theses.

b) When it is placed on the third note: two arses, one thesis.

§ 5. — Rhythm-Neums of six Notes forming Groups of seven basic Pulses.

284. This neum may be subdivided in two ways:

\[ \text{Fig. 202.} \]
Exercise XXIII.
Rhythm-Neums of six Notes forming Groups of seven Pulses.

VI. Mode.

The above in modern notation:

\[
\begin{array}{cccccc}
A & B & C & D \\
\end{array}
\]

This is what we mean by a **rhythmic notation**, in contrast to the **metric notation** which follows:

\[
\begin{array}{cccc}
A & B & C & D \\
\end{array}
\]

§ 6. — Corollary.

The Notation of the neumatic Group is rhythmic.

285. Notation by means of neums is essentially **rhythmic** and not **metric**. These terms require an explanation.

By a **rhythmic notation** we mean a system of writing which combines the various elements that constitute a rhythm into the closest possible **graphic unity**.

Such a concept is realized by the ordinary writing of words. The literary word represents a **single thought**; when uttered, it has a **single melody** and a **single rhythm**; when written, all the syllables are drawn together in a **single group**. We do not write the word with bars between the syllables: *justi- | fici- | ti* | o, nor: *justificati | o*, but simply: *justificatio* in one **graphic group**.

This is precisely the system used by the masters of Gregorian notation. The *neum*, for them, was a word: a melodic and rhythmic unity. All the sounds that made up that musical word they gathered into a single graphic design — the neum, which they wrote without bars:

286. We begin to understand, now, what is meant by a **metric notation**. It does not suggest to us the unity of rhythm, but its object is to draw attention to minute details such as measures and composite pulses, often to the detriment of the rhythm itself which is obscured, broken up, disintegrated.

Modern musical notation has been thus crippled ever since the invention of bars. The bar breaks up the unity of the rhythmic and melodic word; hacking the members ruthlessly to pieces; and though there is sometimes an attempt to repair these fractures by means of ligatures, the result is like putting bandages about a broken limb: they cannot hold the fractured parts together.

Between the two graphic systems, there can be no possible hesitation: the **rhythmic notation** is by far the better. The principal thing that procures a good rendition is rhythm; therefore a notation that guides the singer clearly and promptly in discerning the rhythm is essential. Now it is precisely the writing of the notes in rhythmic groups that obtains this result so effectively. This rhythmic grouping, therefore, should be retained as being one of the most precious qualities of the neumatic notation (in other ways so defective).
The greatest care should be taken to reproduce it exactly in modern musical transcriptions. The grouping by measures, or rather by composite pulses, was used by the Gregorian writers, but, as we shall see, it was used in special circumstances where this type of notation was appropriate. This brings us to the study of time-neums.

ARTICLE 3.

ISOLATED TIME NEUMS AND THEIR RENDERING.

§ 1. — The Time-Neum.

287. A neum becomes a composite pulse or time-neum when its last note does not carry a rhythmic ictus (II, 270). Such a neum cannot terminate a rhythm because it lacks an ictic thesis. It calls for at least another note to follow upon which the rhythm may rest. Consequently, even though theoretically, in abstracto, we wish to study the time-neum by itself, practically, it cannot stand alone.

288. Time-neums can be studied in two settings:

1. In melodies with words, where a neum without a final ictus leads directly to a new syllable surmounted by a note or neum. (Fig. 205).

![Fig. 205](http://ccwatershed.org)

2. In melismatic chants where a neum without a final rhythmic ictus leads on directly to another neum with an ictus on its first note. (Fig. 206).

![Fig. 206](http://ccwatershed.org)

All neums marked with an asterisk are time-neums. The last example (two climacus) illustrates both the forms in which we are studying the time-neum.

Since the juxtaposition of neums belongs to the next chapter, we shall speak now only of time-neums in melodies with words, or of the same neums with simple change of vowel.

§ 2. — Time-Neums of two Notes and of three.

289. The neum of two notes forms a duplex composite pulse; the neum of three notes, a triplex composite pulse.

EXERCISE XXIV.

Time-Neums of two Notes and of three.

![Exercises](http://ccwatershed.org)

N=702. — 18
The above in modern notation:

Each of these rhythms, if taken alone, is a simple rhythm, but when we link them together, two by two, by simple juxtaposition, they become composite-rhythm incises (I, 143, fig. 92).

In singing these exercises, great care should be taken to give the value of three full pulses to the groups of three notes, and not to reduce these groups to triplets.

§ 3. — Time-Neums of four Notes.

290. These four notes or basic pulses form two duplex composite pulses.

EXERCISE XXV.

Time-Neums of four Notes.

The above in modern notation.

The rule of subdivision is so natural in time-neums of four notes that it is scarcely necessary to mark the ictus, since it can be placed only on the third note of the neum.

The intensity and chironomy follow the melody.

§ 4. — Time-Neums of five, six or more Notes.

291. These neums, like the foregoing, must be subdivided, but they present such varied problems that it is not easy to establish absolute rules for the placing of the ictus. In doubtful cases, the general rhythmic and melodic context will prevail, the ictus falling preferably on modal notes. In such cases, the Romanian rhythmic signs and those of Metz and other schools are of the greatest help. In the final analysis, the correct placing of the ictus in delicate cases is the work of an editor and not of the individual singer. A good notation should spare the singer this labor, and our aim is to help him to make intelligent use of the notation put before him.

The following exercises will provide practical experience in singing the various rhythmic combinations which can occur with time-neums of five notes.

EXERCISE XXVI.

Time-Neums of five Notes.
NEUMS, THEIR RHYTHM AND EXECUTION.

b) three duplex composite pulses:

\[ \text{Fig. 208.} \]

These neums being rarely found in Gregorian chant it is unnecessary to embody them in an exercise.

202. — Time-neums of six notes can be grouped as follows:

a) two triplex composite pulses:

\[ \text{Fig. 207.} \]
CHAPTER VII.

RHYTHM AND EXECUTION OF NEUMS IN PHRASES.

293. Having studied the isolated rhythm-neum and time-neum, in the preceding chapter, we must now consider what we are tempted to call the social aptitudes of these neums. For, like the words of a sentence, the neums are not meant to stand alone. Their natural environment is the phrase itself within which alone they can play their proper part, use their faculties and fulfill their functions. According to the requirements of the musical phrase, these neums are joined, associated with one another, or else they are disconnected, and by this system of junction or disjunction of neums, the manuscripts make plain the distinction between the members and the phrases which compose a melody.

ARTICLE 1.

GENERAL IDEAS ON JUNCTION AND DISJUNCTION OF NEUMS.

294. The Institutum Patrum contain some suggestions on this new aspect of the neums: "Caveamus etiam ne neumas conjunctas nimia morositate (disjungamus) vel disjunctas inepta velociitate conjungamus". (Gerbert, Script. I. p. 7). (1).

(1) Here are several other texts dealing with the cohesion or distinction of notes and neums:


Odo? (Gerb. Script. I. p. 275): "Ad cantandi scientiam nosse quibus modis ad se invicem voces jungantur, summa utilitas est."


St. Bernard? Tractatus de ratione cantandi antiphonarum. Supplementum Patrum, J. Hommy, p. 7: "Dignum siquidem est ut qui tenet regulae veritatem, praetermissis aliorum dispensationibus habeant etiam rectam canendi scientiam, repudiatis eorum licentiis, qui similitudinem magis quam naturam in cantibus attendentes, cohabentia disjungunt et conjungunt oppositis; sicque omnia confundentes, cantum prout libet, non prout licet, incipiant et terminant, deponent et elevant, component et ordinant."

Id. p. 9: "Praemunitos autem esse volumus, eos maxime qui libros notaturi sunt, ne notulas, vel conjunctas disjungant, vel conjungant disjunctas; quia per huysmodi variationem gravis cantum poscit ornit dissimilitudo."

See also Tractatus de ratione cantandi Graduale, p. 27: "Sicut notatores antiphonariorum praemunimus, ita et eos qui graduale notaturi sunt praemunimus, et hos et illos obsercamus, et obtestamur, ne notulas conjunctas disjungant, vel conjungant disjunctas."
neum; by placing these neums close together in a single but not continuous line. Disjunction, on the contrary, was indicated, as a general rule, by leaving spaces between the notes or between the neums.

297. It was natural that the scribes should have adopted this system. The same thing applied to the writing of language when it developed sufficiently to distinguish the words yet without giving a hint as to the punctuation. Yet such a system of indefinite, approximate spacing and binding together is extremely primitive. It is no more satisfactory than the neumatic notation without rhythmic signs. Neither system could show unaided the intervals of the melody on the one hand, nor the rhythmic value of the notes on the other. The presence of a master had to supplement the vagueness of the notation both for the intervals and for the junction or disjunction of the neums.

298. Had the copyists been careful and consistent in the application of this method, primitive though it was, some information would have resulted; but, unfortunately, the advice of the theorists was too often disregarded. Certain manuscripts, mostly French, give some clear indications on the disjunction of neums by means of blank spaces between incises, and between the members of the melismatic melody; but, even here we are appalled by the uncertainties that remain, the careless mistakes, the contradictions and the variants.

The truth of the matter is that little heed was paid to these conventions of spacing in the majority of the manuscripts. Indeed, it could hardly be otherwise. We must remember that one scribe wrote the text, and another the music. The former would be careless about leaving sufficient space to place the vocalisations between the various syllables of the text. Thus, when the syllables of the text were written too close together, the music-scribe was forced to an embarrassing choice: he could crowd a long series of neums into a narrow space; he could arrange the neums in undulating lines one above the other, on the top of the text; or he could write the neums in the margin of the page where they piled up in endless files. On the other hand, when the syllables of the text were spread out too much, the music-scribe

was forced to separate his notes and neums across the width of the page, with blank spaces between, which had no phraseological significance. All these irregularities in the writing made it impossible to discern the distinctions, and as a result, the problem of the junction or disjunction of neums is the most serious one which confronts the Gregorian student of rhythm, particularly in the melismatic chants.

299. The imperfection of this system of blank spaces to indicate disjunction, as well as the difficulty of applying it consistently, was all too apparent to the copyists themselves. Even as they had set to work to remedy the difficulties involved in writing intervals and suggesting rhythmic values by the addition of signs and letters to the notation, so now they used similar methods for the divisions of the phrase. The improvement was easy to make since the letters and the rhythmic signs of length led directly to the desired result, namely, a clear indication of the different divisions of the melodic phrase. These signs, placed at the end of an incise or phrase member, give a fairly accurate impression of these phraseological divisions, and they diminish the hesitation of the singer.

300. In spite of these various signs, however, the work of establishing and reconstituting with certainty the perfection of the Gregorian phrase with all its divisions and subdivisions, has been, we admit, a long and arduous task, requiring the most accurate comparison between the different manuscripts, in order to overcome the imperfections of the system itself as well as the careless application thereof by the copyists. In order to present adequately to the reader the research work carried on at Solesmes, it would be necessary to publish the complete apparatus of criticism and control for an exact edition of the liturgical melodies. Such a task would be beyond the scope of the present work, but in the course of this chapter enough will be said to give the reader a general idea of the comparative methods used, with the rules for rendering the chant which are derived therefrom.

301. In the pages which follow, we shall refer more and more to the rhythmic manuscripts. The neumatic signs written above the staff entitled: "Manuscripts of St. Gall", "Manuscripts of
Metz" (meaning the system of notation of the Metz school), "French manuscripts", etc., represent the result, the summa of the comparative work which has been done on a whole group of manuscripts of the school referred to.

Three rhythmic manuscripts of St. Gall for the Liber Gradualis are the only ones that have been published so far. They are: St. Gall 339 and 339; also Einsiedeln 121. In addition to these published codices, we shall refer to those of St. Gall 376, 375 and 349; also the three codices of Bamberg lit. 6, 7 and 8; with a few others which will be named as they appear. Certain letters, rhythmic signs and abbreviations may appear among our examples which do not exist in the three published codices. In this case, the student will understand that these signs exist in one or the other of our unpublished manuscripts. Each one throws light on the other. It would be impossible here to quote all the documents in detail, one by one, to note each variant and discuss its value. Such a study will be made elsewhere.

302. Since the joined neums are used more frequently than those which are disjoined; since they are also relatively easy to distinguish, we shall study them first.

ARTICLE 2.

JUNCTION OF NEUMS.

303. Neums are united in three ways:
1° By simple juxtaposition.
2° By linking.
3° By fusion.
Each of these will be described.

§ I. — Simple Juxtaposition of Neums.

A. Meaning of Juxtaposition.

304. Juxtaposition is the characteristic relation between time-neums. As we saw in Chapter VI, art. 3, the last note of a time-neum leads directly on to the following note or neum without any prolongation or mora vocis.

Examples in the form of vocalisations:

```
\[\text{Asperges me.} \quad \text{Vidi aquam.}\]
```

The time-neums (marked with an asterisk) are united to the following neums by mere graphic juxtaposition.

Examples with words:

```
\[\text{Asperges me.} \quad \text{Vidi aquam.}\]
```

In accordance with the prevailing rule, (II, 263) the rhythmic ictus falls on the first note of each neum.

305. In the general outline of the phrase, melodic and rhythmic, each time-neum must be considered as a single composite pulse, duplex or triplex, which finds its complement or point of support in the note or group which follows it. A series of ternary groups in modern music as they appear in a measure of \(\frac{15}{8}\) time, for instance, give some idea of the correct rendering of these Gregorian time-neums.

```
\[\text{Asperges me.} \quad \text{Vidi aquam.}\]
```

Fig. 211.
The mere graphic juxtaposition of these neums in the notation is no obstacle to their close union in the phrase provided we treat each group of notes as a single pulse in the rhythm. This is as true of the chant as of modern music. These groups are linked together in melismatic passages by the rhythmic and melodic context. When words add their own element of union to that of the music, the bond is still more intimate.

B. Juxtaposition of Neums as shown in the Manuscripts.

We can recognise juxtaposition by various indications:

306. 1. By the mere proximity of the neums. The manuscripts which use no rhythmic signs adopt this method which is primitive, incomplete and uncertain, all the more so because the scribes were careless in its application. It would be imprudent to base any positive conclusions upon this evidence alone. The rhythmic manuscripts are far more exact.

307. 2. By the mere absence of any letters indicative of length at the end of the neums, in the rhythmic manuscripts. This is a sign that is almost infallible for indicating the intimate juxtaposition of the neums. The following examples are characteristic:

Several St. Gall Mss.  
Tract. De profundis  
Lib. usualis  
1904

St. Gall Mss.  
Tract. Qui regis  
Seb. IV. Temp.  
Adventus

In singing these neums, should we make a mora vocis between any of them? After the pes subbipunctis, for instance, or after one of the clivis? The St. Gall neums above the staff answer the question: they show no sign of length at the end of the pes subbipunctis or any one of the clivis, and therefore these neums should be sung as well as written in close juxtaposition, without a pause.

RHYTHM AND EXECUTION OF NEUMS IN PHRASES. 281

This second indication is still a negative one, but the third provides us with positive information:

308. By the presence of certain significant Romanian or Metz letters. These letters are:

\(\varepsilon = celeriter.\)

\(\phi = statim.\)

\(\gamma = conjungatur.\)

\(\eta = naturaliter.\) (peculiar to the Metz notation).

All the signs and letters listed above can be relied upon.

309. The use of the letter \(\varepsilon = celeriter.\)

Often we find the passage given under Fig. 212 written as follows:

Laon 220  
\[\text{fig.} \]

St. Gall 376  
\[\text{fig.} \]

Several St. Gall Mss.  
\[\text{fig.} \]

Tract. Qui regis  
\[\text{fig.} \]

\(\text{Fig. 213.}\)

The \(\varepsilon = celeriter\) over the three clivis in lines B and C, shows that the three neums are closely united.

The \(\text{simul} = \text{together},\) written over the \(\varepsilon\) (Line B) only emphasises the \(\varepsilon\) itself and is really superfluous. One manuscript and one only, gives this word.

310. What is far more significant is the writing of the three clivis as a single neum in the manuscript of Laon. The same notation is also found in the St. Gall codices.

The letter \(\eta = \text{naturaliter}\) at the end of these neums (1) forbids any separation between them, or any pause (mora vocis), whether after the pes subbipunctis or after the clivis. The effect desired by the composer, evidently, was that of a slow trill of four beats increasing in speed until the trigon was reached (the pressus in the staff notation).

(1) The \(\eta\) is found at the end of the first neum, also, (the pes subbipunctis) in the Laon manuscript of the Tract De Profundis.
A mora vocis might well be placed after the trigon-pressus do-sol and the trigon-pressus do-la. What do the manuscripts tell us?

314. Those which use the system of blank spaces give us no definite information.

315. The St. Gall documents are more precise. The third punctum of the trigon do-sol is written without any indication of length. This gives us a first hint, but, better still, the sign statim which immediately follows the neum is decisive. It forbids a pause of any sort and implies the close juxtaposition of the trigon and distropha.

316. Manuscript 239 of Laon confirms the above interpretation by using a short clivis instead of a long one (II, Fig. 109).

317. This melodic incise is repeated twice. Each time it must be sung in the same manner, for the rhythmic notation of the two incises is identical. It is true that there is no statim marked after the second trigon-pressus do-la, but this sign is not indispensable. The other rhythmic signs hold good, and thus, the two incises interpret each other.

318. The letters, &, abbreviation for conjunctim, will be discussed later (II, 419).

Exercise XXVII.

Neums united by simple Juxtaposition. 1.

319. Rhythmic analysis. Each incise is formed of one composite rhythm. The ascending figures of the melody include the first eight rhythm-incises. Each of these incises may receive two dynamic treatments, as follows:

A

B

Fig. 216.

etc.
1. If we place the principal accent of the incise on the first note of the scandicus, the whole motif will be sung decrescendo. The rhythm and chironomy will be: one arsis, two theses. (Fig. 216 A) The student should bring out this rhythm and accentuation in the rendering.

2. If we place the principal accent of the incise on the first note of the torculus resupinus or porrectus praepunctis, then the motif will be sung crescendo, then decrescendo. The rhythm and chironomy will be: two arses, one thesis. (Fig. 216 B).

The exercise should be practised with both these dynamic arrangements.

320. The descending figures of the exercise, the last eight rhythm-incises, may be given similar dynamic treatment, but the constant descent of the melody leads us to place the principal accent on the highest ictic note of each incise, namely, the first note of the porrectus. From that point, a continued decrescendo is obligatory as indicated in the modern transcription. The rhythm and chironomy will be: one arsis, two theses.

Throughout the exercise, the first neum is a triplex composite pulse which is joined to the following one by juxtaposition.

In singing the exercise, various vowels should be used according to the needs of the pupils.

I. Mode.

```
| a | a | a | a |
| a | a | a | a |
| a | a | a | a |
```

Exercise XXVIII.

Neums united by simple Juxtaposition. 2.

321. The intervals are the same as those of the preceding exercise but the rhythm is different. The incises may be accented
in several ways, but the most natural analysis is given: the principal accent is placed on the second neum (the clivis) so that the rhythmic movement and chironomy is: two arses, two theses. The arrangement holds good throughout the exercise.

I. Mode.

The above in modern notation.

---

EXERCISE XXIX.

Neums united by simple Juxtaposition. 3.

322. This exercise is a combination of the two preceding ones and is intended to familiarize the pupil with free musical rhythm, the rhythm of Gregorian chant.

I. Mode.

The above in modern notation.
§ 2. — The Linking of Neums.

323. The linking of two neums takes place when the end of one neum and the beginning of the next adhere so closely as to form, together, one composite pulse, duplex or triplex. It is the most intimate union possible without there being a real fusion of the notes. This union through linking is of such capital importance that it must be explained in detail.

Both rhythm-neums and time-neums may be linked to the following neum.

A. Linking of rhythm-neums which end with a short ictic note.

324. This manner of linking neums has been explained (II. 269), but the following example will illustrate the point:

What rhythm should we give this little phrase-member? The modern musician would answer without hesitation, that it should be sung as it is written, and rhythmed by simple juxtaposition, as follows:

The rhythmic ictus would be placed on the first note of each metric group, and these notes would be stressed at the expense of the others. In such a rendering, there is nothing contrary to the laws of rhythm. Indeed, the modern musician can hardly judge otherwise, since nothing in his training prepares him to suspect that the neumatic notation in this example could suggest a different rhythm.

Is the rhythm proposed by the modern musician the one which the unknown composer would have given to his melody? Would a Gregorian musician agree with the interpretation of the modern one in this matter? This is the point we must investigate.

325. Before the notation given under A, the Gregorian musician might hesitate; but he would know that while neums may represent mere composite pulses (time-neums), the same forms also represent rhythm-neums, complete in themselves, having an élan and a repos. Since there is nothing in the notation of Example A to show us which of these two interpretations is correct, how is the problem to be solved?

The manuscripts of St. Gall and of Metz give us the following information:

<table>
<thead>
<tr>
<th>Metz Mas.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
</tr>
</tbody>
</table>

St. Gall Mas.

C F7. G. Mode V.

Fig. 219.
The St. Gall notation is clear on this point; each neum save the first must be treated as a rhythm-neum:

The punctum planam which ends each climacus (3, 4, 5,) indicates a slightly sustained note, with a shade of length which attracts the rhythmic ictus. On the other hand, the letter c (celeriter) over each virga of the same neums, has a negative meaning (II. 96); it warns us not to pause upon these top notes, not to stress them, but to glide over them lightly (leggieramente) as a consequence of the rhythmic ictus on the preceding pulse.

The entire torculus r is lengthened, slargendo, and has a rhythmic ictus on the first note and the third; the latter prepares a light rendering of the climacus that follows it.

The long clivis (r) at the beginning of the phrase is the only time-neum in the whole passage. The first note of this clivis should be sustained and lengthened.

The Metz notation agrees with that of St. Gall: the clivis is long; so is the torculus which has the letter c (augeto) over the center of the neum. The three climacus, in each case, have the first two punctums brief, and the third, long. This long punctum on the last note of the neum indicates a rhythmic support at this point, thus confirming the indications given us by the St. Gall manuscripts. The meaning of the long punctum in the Metz manuscript might be doubtful if taken alone, but when compared with the St. Gall notation, the meaning is clear.

This is the traditional rhythmic interpretation of the passage in question. Such an interpretation, however, can be given it only by means of the linking of neums, a fact which requires some explanation.

An analysis of this phrase, group by group, gives us as many simple rhythms as there are neums, (always excepting the first clivis which is a time-neum). Each rhythm, isolated from the others, would have two notes at the arsis and one at the thesis.

Moreover, each rhythm would have two ictic notes: the initial arsic ictus on the first note of the neum, and the final thetic ictus on the last note of the same neum.

As long as we consider each rhythm separately, each neum taken out of its musical environment, no difficulty arises in relation to the position of these two ictus; but the difficulty is apparent as soon as we try to unite the rhythms to form a rhythm-member. When one rhythm-neum is immediately followed by another, two consecutive pulses would appear to bear a rhythmic ictus, a thing which is contrary to the laws of natural rhythm.

The difficulty could be solved by doubling the thetic note:

but this length would be excessive, because the final note of the climacus (Fig. 219), though it be indicated by a punctum planum, is never accompanied by either of the Romanian or Metz letters meaning length, in this particular melisma. Moreover, such exaggerated separation of the neums would mar the unity of the phrase.

One ictus or the other must yield and be suppressed. Which one shall it be? Evidently, the arsic ictus on the first note of each climacus, for in order to retain the rhythmic character of each neum as plainly indicated in the manuscripts, we must hold firmly to the thetic ictus on the last note of the neum. The true Gregorian style appears in this, as well as an exact interpretation of the manuscripts. Any other interpretation would bring us back to a grouping by mere juxtaposition (B. Fig. 218).

The clear Gregorian notation of this passage is manifestly the following:

http://ccwatershed.org
The ictus which has been suppressed on the first note of the \textit{climacus} falls back upon the last note of the preceding neum. We have, in this case, an example of that \textit{rhythmic fusion} between thesis and arsis with which we are already familiar (I. 139-141). The result is the \textit{linking together these neums}, a linking which takes place \textit{within the composite pulse}.

332. The following diagram will make the matter plain, since it gives in detail, the relation of the rhythms to the composite pulses:

\begin{figure}
\centering
\includegraphics[width=0.8\textwidth]{composite-pulse-diagram}
\caption{Composite Pulse Analysis}
\end{figure}

In this diagram, we notice:

1. that the simple rhythms are astride the bars; they bind the measures together. (I. 206 and 213).

2. that, on the notes marked with an asterisk, there is fusion between the \textit{thetic} ictus of one rhythm and the \textit{aristic} ictus of the next; the end of one rhythm and the beginning of the next coincide at this point by rhythmic fusion as described in Part I (139-141, and 187-191).

3. that the metrical groups (3, 4 and 5) are composed of notes taken from two distinct neums, the \textit{first} note of the triplex group being the \textit{last} note of one neum, while the other two notes are taken from the neum that follows. This is what is meant by the \textit{linking of two neums inside a single composite pulse of the rhythm}.

333. This linking of neums influences profoundly the whole theory and practice of Gregorian rhythmic. We see, now, in its true light the supposed axiom of certain theorists of today who claim that the first note of each neum should bear an ictus and should be stressed.

RHYTHM AND EXECUTION OF NEUMS IN PHRASES. 293

The analysis and diagram will aid the reader to understand the rule given already (II. 264), namely:

\textit{The first note of a neum can have no rhythmic ictus when the basic pulse which immediately precedes that neum has either an episteme or an ictus, because two rhythmic ictus cannot follow each other on consecutive pulses.}

We see this rule written plainly on the face of the manuscripts, having rhythmic signs.

334. \textit{Arguments in support of this notation.} Such a system of notation is contrary to modern custom, but it has advantages, as we shall see.

Yet, it may be asked, why should we break away from the conventional system of musical notation universally accepted today, with its single method of grouping notes into mere composite pulses or \textit{measures}?

\begin{figure}
\centering
\includegraphics[width=0.8\textwidth]{composite-pulse-diagram-2}
\caption{Composite Pulse Analysis}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=0.8\textwidth]{simple-pulse-diagram}
\caption{Simple Pulse Analysis}
\end{figure}

Moreover, is not the result of this system equivalent to the other (Fig. F. 222)? Is not the position of each rhythmic ictus the same? Are not the metrical groups identical? If so, why are we not conforming fully with the rules of Gregorian rhythm when we interpret this phrase by simple juxtaposition as above? Finally, is not the notation of Fig. 224 more intelligible to modern musicians than that of Fig. 222?

335. Unquestionably, it is more intelligible, but it has the grave drawback of breaking up the \textit{rhythmic grouping}, so sought after in the Gregorian notation, and substituting a \textit{metrical grouping} (time-groups); thus contributing to a rendering that will be more \textit{metrical} than rhythmic, and robbing the phrase of its true character and charm.

The modern musician who sings from the notation given in Fig. 224 H would instinctively stress the first note of each group, because these notes would appear to him to represent the
beginning of a measure. He could hardly conceive of them as the last pulse of a rhythm which, in reality, is what they are (I. 213).

336. The contrary impression is given by the Gregorian rhythmic notation of Fig. 222. It suggests a different conception and leads to wholly different practical results. The singer, instead of reinforcing the ictic note, will bring out the sense of an ending of the melodic and rhythmic curve by the very softness of the ictic note, ever so slightly lengthened. Indeed, the close of a rhythmic motif, short or long, is sensed in advance by the ear, foreshadowed by a decrescendo, and the last ictic note is the one which carries the least intensity.

337. Thus, should we adopt the defective notation by metrical groups of Fig. 124 H, two supplementary signs would be required to correct and complete the rhythm: the ligature to tie the measures together and give the phrase its true rhythmic form, with the decrescendo sign to carry the voice gently to the cadence of each thesis.

338. There are special cases, however, where the modern system of notation is possible, and in these cases, clearer because of our musical customs. We shall speak of these cases later (II. 350).

339. The necessity of linking the neums is proved not only by the rhythmic signs themselves, but such an interpretation follows inevitably from the fact that certain melodic passages in the manuscripts are written at times in a single neum, while at others, the same passage is written in two neums or in three.

340. For instance, a passage from the Offertory Reges Tharsis is noted in the codices:

\[ \text{Fig. 225.} \]

b) in a single neum: (1) \[ \text{Fig. 226.} \]

If we are tempted to give the two neums of Fig. 226 a) the rhythm of simple juxtaposition, with a rhythmic ictus on the first note of each neum, basing this interpretation on the pretext of preserving the material form of each neum, we can discover the fallacy of such reasoning by turning to Fig. 226 b). In the neum of six notes which interprets the same motif, we are free to place the ictus of subdivision either on the third note of the neum or on the fourth (II. 284). Which shall we choose?

341. The modern musician might reason thus: the mere fact that this long neum can be broken up into two parts, each one of three notes, is a clear sign of the place where we should set the central ictus; and he would transcribe the passage as follows:

\[ \text{Fig. 228.} \]

342. The Gregorian musician would reason thus: the breaking up of one neum into several indicates nothing definite; we are free to rhythm this motif either by juxtaposition of time-neums, as above, or, on the contrary, by linking of rhythm-neums. Preferring the latter, we place the central ictus on the note, si:

\[ \text{Fig. 229.} \]

1. Because the metrical grouping, in this case, is far less in the spirit and usage of the neumatic notation than the rhythmic grouping.

2. Because the framework of the descending melody needs the rhythmic support of the notes, do, si, sol.

(1) While the transcriptions on the staff generally give a si as the third note of the terculeu, the Italian manuscripts give a do at this point, thereby producing a pressus:

\[ \text{Fig. 227.} \]
3. Because the rhythmic manuscripts mark the last note of the torculus (si) with a Romanian episema, suggesting an ictus on si (Fig 226 a).

343. The Offertory Inveni gives us another example of the same melisma with an additional note. This passage is written in three different ways:

a) in a single neum, with the final virga resupina: St. Gall Mss.

\[ \text{Fig. 230.} \]

b) in two neums: St. Gall Mss. 375 and 340, the latter without the c.

\[ \text{Fig. 230.} \]

c) in three neums: Monza Ms. and Novalesa Ms.

The three notations are equally good provided the principle of the linking of neums be observed in their interpretation.

Type a is preferable, perhaps, because the unity of the single graphic sign pictures to perfection the melodic and rhythmic unity of the whole passage.

Type b requires one linking of neums to preserve that unity.

Type c requires a twofold linking of neums to attain the same result. The three neums are treated rhythmically by means of an ictus on the last note of each one, a form of notation which is characteristic of the Gregorian manuscripts. (1)

344. It might be objected that these variants in manuscripts of different origin prove that the copyists intended to emphasize a change of rhythm whenever they altered the grouping of the notes in the neums. Such a supposition falls before the fact that all these variants in the writing are found in the same manuscripts for identical melodic passages in the notation of the most careful scribes. (1)

Could there be more conclusive evidence of the fact

(1) Thus Harter, that incomparable master of notation, so scrupulously exact in every detail, took liberties of this kind on every page of his Antiphoner (See Palæogr. Mus. Series II. Vol. I). In the Verses of the Responsorial psalmsody, for instance, where each mode has its fixed melodic formula of cadence and where, consequently, there is no possibility of the slightest intention of noting a variation of melody or of rhythm, this is how Hartker wrote the final pentasyllabic cadence of Modes I, III, IV, V, and VII:

\[ \text{Fig. 231.} \]

\[ \text{Fig. 232.} \]

\[ \text{Fig. 233.} \]

\[ \text{Fig. 234.} \]

\[ \text{Fig. 235.} \]

\[ \text{Fig. 236.} \]

This use of the pressus makes it imperative to group the notes two by two.
that no rhythmic importance was attached to these purely graphic variants in the notation?

345. The equivalence of these forms is extremely suggestive. It demonstrates that a graphic separation between neums in the notation is not, in itself, a sufficient guide for the rhythmist or the singer; and that when neums are thus separated in the notation, they must be united in practice either by mere juxtaposition or else by linking. Finally, it demonstrates conclusively the need of precise rhythmic signs to guide the singer in editions of the chant intended for general use.

B. Linking after a Time-Neum.

346. This new manner of linking will be understood from what has been said of the previous manner. It differs in one point only: the rhythmic ictus, instead of falling on the last note of the first neum, falls on the penultimate note. The two neums thus linked form a triplex composite pulse.

Examples:

Metz MSS. \[
\frac{\text{A}}{\text{B}} \frac{\text{C}}{\text{D}}
\]

St. Gall MSS. \[
\text{E} \quad \text{F}
\]

R. G. Mode II. \[
\text{G} \quad \text{H}
\]

etc.

Fig. 237.

The first neum (pes subbipunctis) forms two duplex composite pulses, but the second of these (la-sol), adheres to the following podatus in such a manner that the first note, la, of the podatus forms a triplex composite pulse in combination with the last two notes of the pes subbipunctis.

In modern notation, this motif may be written a) with a ligature to bind together the composite pulses, and b) with bars to indicate the measures;

a) \[
\text{I} \quad \text{II}
\]

b) \[
\text{I} \quad \text{II}
\]

etc. etc.

Fig. 238.

347. The central rhythmic ictus of the pes subbipunctis has been placed on the note, la. It might well have been placed on sol, for the rhythmic manuscripts are silent on this point. Yet what we might call their negative testimony favors an ictus on la: the very lack of an episema or punctum planum suggests an ictus thrown back on the preceding note. Again, we could argue that this melody is in the fifth mode and that la, being a modal note, attracts the rhythmic ictus; a presumption which is reinforced by the rest of the phrase which swings from la to do and from do to la in a manner that pleads for an ictus on la rather than on sol.

348. The whole of this cadence follows:

Fig. 239.

We have here an illustration of the two forms of linking already described.

A. The triplex group — la-sol-la — is an example of linking after a time-neum, the two neums cleaving together by means of a triplex composite pulse.

B. The duplex group — la-do — is an example of linking two neums by means of a rhythm-neum and a simple ictus.

349. Another example of neums linked together by a composite pulse:

Metz MSS. \[
\text{I} \quad \text{II}
\]

St. Gall MSS. \[
\text{I} \quad \text{II}
\]

Alle-là-ia. ..la.

Fig. 240.

The first clivis (sol-fa) combined with the first note of the second clivis (sol) form a triplex composite pulse by linking the two
neums. In modern notation, the groups would be written thus:

Fig. 241.

350. We have already pointed out the disadvantages of a system of notation which indicates merely the composite pulses of the rhythm (II. 334-337). In certain cases, these disadvantages disappear; indeed, the early manuscripts suggest this type of notation, as the following example shows:

Laon 220

St. Gall Mus.

Mode II. Tract.

This melodic formula is noted in two ways by the St. Gall manuscripts. The two are equivalent on condition that form a) be interpreted by linking the two neums (clivis and podatus). The rhythmic effect is as follows:

Fig. 242.

a fact which the writer has brought out unmistakably in the notation of Fig. 242 b).

The three neums of Fig. 242 a) (clivis, podatus, clivis) are reduced to two (porrectus, pressus) in Fig. 242 b); the clivis and the first note of the podatus, of form a), in form b) are drawn together in a porrectus while the pressus is noted and stands alone. The writer himself took over the task of linking the neums and the singer merely renders the time-neums (porrectus-pressus) as they are written, namely by juxtaposition according to modern usage. In this particular case the notation is excellent,
since it does not lend itself to the false conception mentioned above (II. 335) of suggesting stressed notes where stress would be out of place. On the contrary, this melodic figure demands a gentle crescendo which culminates on the pressus, and this is precisely the effect suggested by the notation in time-neums. Consequently, it is to be preferred to the other, all the more so because:

a) The best manuscripts use this notation,

b) It is in conformity with modern custom,

c) It leads to a correct interpretation.

351. The Metz manuscripts also, use two notations, the first of which is the more common (See above Fig. 242. Laon Ms. 239) It is the exact equivalent of the St. Gall notation a), with this significant difference, however: the clivis and podatus adhere graphically, forming a single neum. In the second notation, b), a porrectus and pressus correspond to those of the St. Gall Ms. (See II 394, Fig. 278).

352. Similar examples of linking occur in melodies with words, and of these we shall speak when we treat the text in Part III.

§ 3. — Fusion of Neums. The Pressus.

353. A third way of uniting neums is by fusion. This fusion occurs when there is a pressus. The last note of one neum unites with the first note of the next neum forming one long note equivalent in duration to two basic pulses.

Effect. Fig. 244.
In such cases, the rhythmic ictus falls on the last note of the first neum (the first pulse of the pressus). Consequently, the first note of the second neum loses:

1. Its rhythmic ictus.
2. Its individual ictus (I 28-30) by virtue of this fusion of two notes into a single prolonged sound (See infra Chapter VIII).

ARTICLE 3. THE DISJUNCTION OF NEUMS.

§ 1. — The Mora Voci as a Means of Disjunction.

334. The effect of disjunction or distinction of neums in the course of a phrase is produced by a delay or pause of the voice (mora vocis) on the last note of the neum (II. 296). Since length attracts the rhythmic touch, it is on this note that the ictus of the rhythm alights. After this slight pause on the ictic note, the singer proceeds to the following neum. It is thus that the ear perceives disjunction.

This description will apply to the rhythm-neums which we have studied (II. 273 & what follows).

335. A dot after a note is the sign of disjunction in our editions.

Example:

\[ \text{Fig. 245.} \]

Exercises No. XVII, XVIII, XIX, XX, XXI, XXII, XXIII, are all examples of the distinction between neums.

336. The duration of the mora vocis varies. a) As a general rule it doubles the normal value of the note, particularly when it appears at the end of an incise with a masculine cadence (See A and B Fig. 245), or at the end of a member or phrase.

337. b) The mora vocis can triple the value of a note, at the end of a phrase or of an important section. In either case (a and b) the mora dot indicates the lengthening of the note.

338. c) On the other hand, the mora vocis may be nothing more than a slight agogic nuance of length at the end of certain incises with a feminine cadence. In such cases, the mora dot must not be used for it would suggest an exaggerated pause. The horizontal episema above one of these notes, or both, is sufficient to suggest this delicate slackening of the pace, the rendering of which demands taste and intelligence on the part of the singer.

339. This slight agogical mora vocis does not disconnect the neums in the strict sense of the word. Indeed, it helps to unite them. Moreover, while the mora vocis is the typical means of distinction between neums, it must not separate them, nor isolate the individual groups of notes, but, on the contrary, while making them distinct, yet do so in such a fashion as to unite them (1).

The detailed study of the various mora vocis, their time value and rhythmic meaning, will be undertaken later when we treat of the members and phrases. For the moment, it is enough to have mentioned the mora vocis as the priticipal means of disjunction.

§ 2. — Disjunction of Neums in the Manuscripts.

340. How do the manuscripts indicate the disjunction of neums in the melismatic melodies? To begin with, we know that there can be no disjunction or distinction where we see juxtaposition, linking or fusion of neums in the manuscripts. This negative information already solves a great many cases.

341. We must remember, furthermore, that the mere fact of a graphic separation of the neums as they are written is not sufficient evidence to prove a disjunction of neums with mora vocis, for we have seen that there can be a disjunction of the graphic forms combined with an intimate rhythmic junction through juxtaposition (II. 304).

\[ \text{Fig. 246.} \]

There must be some precise sign, in addition to graphic distinctions in the writing of the neums, some positive mark of disjunction, and this is not always easy to discover.

These positive signs are of different sorts: blank spaces, rhythmic signs and letters. They are of different degrees of clarity, taken by themselves, but fortunately they complete one another.

The neumatic notation before the invention of the staff is here alone in question, for after the changes of Guido d'Arezzo the notation retained nothing, or pitifully little of the rhythmic indications given in the ancient manuscripts (1) : all this was lost when the melodies were transferred to the staff. The staff notation which saved the melodic tradition, annihilated the rhythmic tradition. For the latter, we must go back to the early sources.

362. a) Blank spaces. This separation of neums by blank spaces is the least reliable sign of disjunction. We have spoken of it above (II. 296-299). The inconsistent use of the blank spaces by copyists with the uncertainty that resulted, compels us to search for more positive evidence.

363. b) Rhythmic signs. Such evidence is provided by the rhythmic signs in the manuscripts of St. Gall and of Metz. Since the disjunction of neums belongs to the rhythmic order it is not surprising to find these signs of the greatest assistance on this point.

An episma or ictic note at the end of a neum. It has been shown that neither the episma nor the punctum planum are sufficient in themselves to indicate a perceptible mora vocis in the rhythm, with a disjunction of neums (II. 325-326 and 340). In many cases the episma merely expresses a rhythmic point of support. When, however, the more trustworthy manuscripts use this episma or punctum planum and follow it with a blank space, then the note so marked is in all probability ictic, doubled in length and with mora vocis.

(1) We can cite a manuscript with lines, however where the vertical episma is attached to the note to indicate rhythmic subdivisions and the mora vocis, just as these signs are used in our editions. This manuscript will be dealt with in Part III where we shall treat of the text with the melody.

It must be thus interpreted in the following passage:

\[ \begin{array}{c}
\text{A} \\
\text{\episma} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\end{array} \]

Fig. 247.

The episma on the last note of Neums A and B (the only neums which concern this study) indicate a mora vocis at this point. Laon Mss. 239 adds a \(\text{\episma}\) (tenete) to the last note of Neum B.

364. Nevertheless, the rhythmic signs lack precision and sometimes lend themselves to several interpretations. For instance:

\[ \begin{array}{c}
\text{Laon 239} \\
\text{\episma} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\end{array} \]

St. Gall Mss.

\[ \begin{array}{c}
\text{\episma} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\end{array} \]

Rf. G. Conversare

Fig. 248.

Should A, B and C be joined or disjoined?

The few French manuscripts which indicate disjunction of neums by blank spaces are indefinite and inconstant on this point. Those of St. Gall and Laon, as we see them above, indicate merely that all four notes of each neum (A and B) should be sung broadly. Beyond that hint, they offer no further clue to the rhythm. This leaves us free to choose between two interpretations, as follows:

1) Disjunction after each of the neums A and B, thus:

\[ \begin{array}{c}
\text{A} \\
\text{\episma} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\end{array} \]

\[ \begin{array}{c}
\text{A} \\
\text{\episma} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\text{\neum} \\
\end{array} \]

no-

bis.

Fig. 249.
and compared. Those used in one system of notation must be closely compared with the corresponding signs used in other systems. Only in this way do these precious rhythmic signs interpret and complete each other.

367. The rhythmic letters which indicate disjunction are: \( \underline{\text{e}} \), \( \underline{\text{o}} \), and \( \text{\.} \).

The \( \underline{\text{e}} = \text{tenete} \) (common to the manuscripts of St. Gall and Metz) and the letter \( \underline{\text{o}} = \text{augete} \) (used in the Metz documents): when these letters are found so close to the last note of neum as almost to adhere to it, the presumption is in favor of disjunction at this point.

The letter \( \text{\.} = \text{expecta} \), settles the question clearly: wherever this letter appears, either in the text or in the melody, it marks the limit of an incise or phrase member. It is the most compelling of all the signs of disjunction, and, consequently, of a \textit{mora vocis}. It is the converse of the sign \( \underline{\text{e}} = \text{statim} \), which indicates, infallibly, a junction of neums.

Often the letter \( \text{\.} \) is used to explain and define the meaning of other letters, the \( \underline{\text{e}} \) and \( \underline{\text{o}} \) of the Metz manuscripts. For example:

368. Example A. — Introit \textit{Aqua sapientiae}.

\[
\begin{align*}
\text{Laon} & \quad \begin{array}{c}
\underline{\text{e}} \\
\underline{\text{e}} = \text{tenete} \\
\\text{\underline{.} = \text{statim}} \\
\text{\underline{o}} = \text{augete}
\end{array} \\
\text{St. Gall} & \quad \begin{array}{c}
\underline{\text{e}} \\
\underline{\text{e}} = \text{tenete} \\
\\text{\underline{o}} = \text{augete}
\end{array} \\
\text{Intr.} & \quad \begin{array}{c}
\underline{\text{e}} \\
\underline{\text{e}} = \text{tenete} \\
\\text{\underline{o}} = \text{augete}
\end{array} \\
\text{\underline{.} = \text{statim}} \\
\text{\underline{o}} = \text{augete}
\end{align*}
\]

Fig. 251.

The letter \( \text{\.} \) which appears below the last note of the \textit{torculus} (\textit{la-re-do}), is found in two manuscripts of the St. Gall school (St. Gall 376 and Einsied. 121); it defines the time-value of the episma (late note of the \textit{torculus}) and lengthens it considerably.

The letter \( \underline{\text{e}} = \text{tenete} \) (Laon Ms.) indicates a disjunction at this same point by means of \textit{a mora vocis}. The letter \( \underline{\text{e}} \) as it is used in the Laon manuscript, does not always indicate a double note, but when the \( \underline{\text{e}} \) of Laon corresponds to an \( \text{\.} \) of St. Gall, we may double the value of the note in question, without hesitation.
PART II. — CHAPTER VII.

369. — Example B. — Gradual Ex Sion.

Laon 239.

St. Gall Mss.

Grad. Ex Sion.
ordinavé-runt

Fig. 252.

The letter $\wedge$ which appears after the first *pes subbipunctis* (trigon) is found in Bamberg lit. 6 only. The letter $\wedge$ is found joined to the second *pes subbipunctis* in the manuscripts of Bamberg lit. 6, St. Gall 359, and Einsied. 121. *Disjunction* is clearly indicated, therefore, at the latter point.

After the first of these neums, Ms. 239 of Laon gives no rhythmic letter, but two long punctums, represent the last notes, of the neum; after the second *pes subbipunctis*, we find an $\wedge$ = *auge* which refers to the last note of the neum and doubles its value. Here, once more, the two families of manuscripts interpret and complete one another.

370. Example C. — Alleluia Pascha nostrum.

Laon 239

St. Gall

All. Pascha
Allelu-ia

Fig. 253.

The letter $\wedge$ at the end of the *first incise* belongs to the Bamberg manuscript (lit. 6); the Laon manuscript confirms this interpretation by a letter $\wedge$ applied to the last note of the neum.

The letter $\wedge$ at the end of the *third incise* is found in three manuscripts: Bamberg lit. 6, St. Gall 373 and Einsiedeln 121. Whereas the Laon manuscript gives merely two long punctums at this point.

RHYTHM AND EXECUTION OF NEUMS IN PHRASES. 309

After the double bar, the rhythm of the *pes subbipunctis* is uncertain, as is the case with this same neum in Fig. 252. However, the *auge* of the Laon manuscript indicates a distinct broadening out on the last notes. Should we assume that a doubling of the do is intended? The absence of an *$\wedge$* at this point in the St. Gall Mss. leads us to the conclusion that a mere agogic nuance of length is intended, an ictic support slightly prolonged.

371. Example D. — Gradual Specie tua.

Paris, Bibl.
Mazarine 354.

Laon 239.

St. Gall 259. — 240. — 375.
Eins. 121. — Bamberg, lit. 6.
R. G. — Specie tua
et manus-cu-tum-nem

Fig. 254.

The comparative study of this melisma as it appears in the different families of manuscripts points toward the *disjunction* of all these neums by means of a *mora vocis*.

The French documents which indicate *disjunction* by blank spaces, testify quite generally in favor of this interpretation. But what is decisive is the letter $\wedge$ placed after all these neums in the manuscript 359 of St. Gall, (probably the best manuscript of all) in the notation of the verses of the Gradual-Resp. *Specie* and *Diffusa est*. Nor does the $\wedge$ appear in this manuscript alone: Einsiedeln 121 and St. Gall 376 use this letter three or four times applied to the same melisma, while Bamberg lit. 6 and St. Gall 340 use it once in the same context. In those manuscripts of St. Gall where the letter $\wedge$ is lacking, blank spaces are inserted with the utmost care at the corresponding points of the melody. As to the Laon manuscript 239, this melisma appears but once, and then the letter $\wedge$ *tenete* is attached to the last note of each neum (1).

(1) The notation of this melisma is taken from the Grad-Resp. *Respite*, because the corresponding melody of the Grad-Resp. *Specie tua* is lacking in the manuscript of Laon.
372. We must not leave the subject without adding that there are *rhythmic variants* in the manuscripts just as there are melodic variants, a fact which should not surprise us in the one case any more than in the other. By following our usual method of study and comparison of manuscripts, the traditional interpretation gradually becomes clear. When, in the course of our researches, we find that the rhythmic interpretation of certain melismas varied in different places, we must admit that the same is true of the melodic text. The variants are no greater in the one than in the other. In either case a choice must be made before a practical rendering is possible. The study of these exceptions and doubtful cases does not belong to this outline. Our purpose has been to explain in a general way the principles which govern the *function* and *disjunction* of neums; with the signs by which these things can be recognized in the manuscripts. Such general knowledge will be sufficient for the average student. The practical application of these principles to special problems is the work of experts in rhythm. The solution of such problems concerns the editor rather than the pupil.

**Exercise XXX.**

Juxtaposition and Linking of Neums.

373. The exercises on *rhythm-neums with mora vocis* (II. 277, 278, 279), have already given the student a clear idea of the *distinction* of neums, but we must return to this subject:

The following exercise is designed to give experience of the two processes: juxtaposition and linking of neums, in such a manner that the student may pass easily from one process to the other. For this purpose we give each melodic incise twice: the first time, in *metrical notation* (II. 286), where the neums are all to be sung in simple juxtaposition; the second time, in *rhythmic notation* (II. 285), where they are to be linked together smoothly.

V. Mode.
CHAPTER VIII.

STUDY AND EXECUTION OF THE APOSTROPA-PRESSUS.

374. The pressus, strictly speaking, is an apostropha (II, 38-42).

The apostropha — nota appositionis — can be apposed either to a single note or to the final note of a neum in two ways:

1. By fusion with the note in question, thus forming a single tone of double value. The apostropha itself loses its individuality, its separate ictus, to become part of a long note. Such is the case with the apostropha-pressus.

2. By separation from the preceding note, clearly indicated in the notation. In practice, this graphic separation should be brought out clearly by singing each apostropha as a note of repercussion. The apostropha thus retains its individual ictus. Such is the case with the strophicus and also, to a certain extent, with the oriscus.

Fusion, in the first case, repercussion in the second, are the terms which best define the two processes.

The arguments in support of the repercussion of the strophicus will be presented in the next chapter. For the moment, we must demonstrate the fusion of the apostropha-pressus with the preceding note.

ARTICLE I. — PRESSUS-MAJOR. — PRESSUS-MINOR.

375. Most of the lists or catalogues of the neums, after enumerating and illustrating the various neums, close with these words: Pressus-minor et pressus-major, non pluribus utor.

The graphic signs for the pressus as shown by these lists, vary according to places and epochs, but those of St. Gall and of German origin give the following forms:

a) Pressus-minor \( \uparrow \)

b) Pressus-major \( \uparrow \)

Fig. 255.

The word pressus describes the effect that this neum should produce when sung: theoretically the note is strong, emphasized and long (pressus from premo) (1).

376. Melodic and rhythmic value of these two forms of the pressus. Strictly speaking, the sign for the pressus (leaving aside any additions or accessories) is the undulating line ~ Fig. 256, which is derived from the apostropha.

377. The pressus-major, in reality, is composed of three signs: A virga, (either simple \( \uparrow \)) Fig. 257, or with episema (\( \uparrow \)) Fig. 258; An apostropha-pressus (\( \uparrow \)) Fig. 259; A dot (\( . \)) which follows each pressus.

The whole figure comprises three notes of which the first and second are in unison. In reality it is a clivis the first note of which is doubled in value, making three pulses in all.

Fig. 260.

378. The pressus-minor (Fig. 253) comprises two notes only, the apostropha-pressus and the dot, thus making two pulses in all. The only difference between these two figures is that the pressus-major includes the note of apposition whereas the pressus-minor is separated and stands alone. When the pressus-minor is united to the note that precedes it, there is no longer any difference between the two forms of pressus; their quantitative value is identical. Indeed we find the same melody written sometimes with the pressus-major, sometimes with the pressus-minor.

Example : A B C

Fig. 261.

(1) The expression "pressus accentus" was already known to the ancient grammarians; it is used by Frobus and by Audax:

Krol. Grammatici latini, IV. PROBUS, Instituta artium, p. 116, "...si quidem ab hac vete his vel ab his veltus presso accentu pronuntiatur, at vero ab hac vete his vel ab his veltus acuto accentu tenuantur..."

Krol. Gramm. lat. VII. AUDAX, p. 353, "Praespositionibus quot accentus accident? Tres: producimus, pressus et acutus quo competentibus praespositionibus adnotabinus... Quare hoc monemus, quod, quando ante cum casu suo et presso accentu pronuntiatur, praeposito nuncapatur..."
379. As evidence in support of this quantitative and dynamic identity of the two figures, the fact is significant that the two Romanian letters \( \& \) and \( \gamma \) were used alternately and with their usual meaning, on each of the two types of pressus.

\[ \begin{array}{cccc}
\& & \gamma & \gamma \\
\end{array} \]

Fig. 262.

380. The qualifying terms "major" and "minor" would seem to refer merely to the relative size of the graphic figure itself, whereas their significance, purely in the melodic order, will appear as the use to which they were put becomes plain.

A careful examination of the best manuscripts of the school of St. Gall (St. Gall 359, 339, 373, Einsiedeln 121, etc.) brings out the fact:

1. That the pressus-minor is employed each time that this sign is joined in unison to the last note of a neum. See (Fig. 261) where the pressus-minor is apposed to a clivis.

Other examples:

Analysis of the neumatic Accents:

- **Clivis, pressus and punctum.**

- **Pressus and copula.**

- **Torsus, pressus and punctum.**

- **Pressus, pressus and punctum.**

Analysis of the square Notation:

- **Two clivis making a pressus.**

- **Torsus and clivis making a pressus.**

- **Pressus and clivis making a pressus.**

This precise use of the two forms of the pressus could be illustrated by innumerable examples.

381. 2. The pressus-major is used wherever the note which precedes the pressus is not in unison with the note immediately before it.

Examples:

A. — The pressus-major on \( \text{mi} \) is higher by a third than the \( \text{do} \) of the preceding clivis.

![Image](http://ccwatershed.org/fig264)

B. — The pressus-major on \( \text{la} \) is lower than the \( \text{si} \) of the preceding podatus.

![Image](http://ccwatershed.org/fig265)

382. Exception. The sign for the pressus-major is found even when the preceding note is in unison with the pressus, but this occurs only where the pressus-major corresponds with a new syllable of the text.

Example:

- **All. 2\textsuperscript{nd} Mode.**

![Image](http://ccwatershed.org/fig266)

- **\( \tilde{y} \). Video... et Je-sum stan- tem**

- **Intr. Os Justi.**

![Image](http://ccwatershed.org/fig266)
ARTICLE 2.

PROOF OF THE FUSION OF THE TWO NOTES IN THE PRESSUS.

THE PRESSUS BY APPPOSITION.

383. The essential characteristic of the pressus is the fusion of two notes into one.

We must prove the truth of this assertion.

The writers of the period give us no information whatever, but the manuscripts are more enlightening: they instruct us in two ways:

1. By equivalent notations;
2. By a Roman abbreviation which we shall study.

§ 1. — Fusion proved by equivalents.

384. First equivalence. Between a clivis with episema and a pressus-major. Let us consider, first, this simplest equivalence, and the one which is, perhaps, most frequently used:

![Fig. 267.](http://ccwatershed.org)

The equivalences 1 and 2 explain each other. The clivis I with episema contains two notes only, la-fa, but the first of these is long. The pressus 2, if it be a true equivalence of the clivis, must contain two tones; the note represented by the virga and that represented by the pressus must fuse into a single sound with the value of two pulses.

In modern notation: ![Fig. 268.](http://ccwatershed.org)

385. The graphic adhesion of the apostropha-pressus to the virga, in the notation of St. Gall, confirms this theory of fusion, but graphic adhesion is not essential.

STUDY AND EXECUTION OF THE APOSTROPHA-PRESSUS. 319

When the apostropha is separated from the virga, as in Example 3, the argument derived from graphic adhesion no longer holds; yet the fusion of the two notes exists, nevertheless, otherwise the equivalence would be defective.

386. As for the clivis with episema \( \text{ī} \), any doubt as to its time value (whether its length be merely an agogic prolongation or a doubling of its value) vanishes at once in view of its equivalent \( \text{ī} \). In this case, the episema doubles the length of the virga: otherwise there would be no equivalence.

387. Second equivalence. Between a virga and clivis forming a pressus by apposition and the pressus-major.

![Fig. 269.](http://ccwatershed.org)

Here the equivalence exists only on condition that the two virga be fused in the execution, which is a fresh proof of the fact that graphic separation is not, in itself, conclusive evidence of a vocal repercussion of the two notes; and, furthermore, that a simple apposition of two notes is a sufficient indication of the pressus.

388. Third equivalence. Between a clivis followed by a clivis and a pressus on the second note of a climacus.

![Fig. 270.](http://ccwatershed.org)

a) Climacus with an apostropha-pressus on the second note. The graphic separation of the apostropha might throw some doubt on the question of correct interpretation, did we not already know that this separation in the writing does not necessarily imply a repercussion.

b) Clivis, pressus-minor and punctum. This equivalent clearly indicates fusion and definitely establishes the rhythm of the neum.
PART II — CHAPTER VIII

320

c) Clivis and clivis forming a pressus. Here, the two clivis are drawn with a single stroke of the pen.

d) Clivis and clivis forming a pressus. Here again we may have a graphic separation of the two clivis which does not prevent their fusion when the various equivalences make such an interpretation evident.

Apposition of a punctum and a virga; of a climacus and a porrectus.

First example:

Grad. Æ. Gloriousus and Inveni.

<table>
<thead>
<tr>
<th>Manuscript</th>
<th>Sample Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

In examining the column Gloriousus, we notice that all the manuscripts quoted use the simple apposition of punctum and virga, save that of Einsiedeln 121, which substitutes a pressus.

In the GradualResp. Inveni, on the other hand, the pressus is more in favour: in line B, three Mss. use the pressus; in lines A and C, four Mss. use the porrectus.

These equivalences are significant, and they become even more striking when we find them used in the same manuscript for the same melodic passage. The three codices of group B use apposition for the Gloriousus, and the pressus form for the Inveni; whereas Einsiedeln, group C, choses the pressus for the Gloriousus and the porrectus, (or rather the clivis and virga) for the corresponding phrase of the Inveni. The fact that these signs are interchangeable and that they are constantly substituted for one another, proves that the apposition of neums is a graphic form of the pressus quite as reliable as the pressus sign itself.

390. Second example. Equivalence between the pressus and the apposition of a pes subbipunctis and a climacus.

Alleluia. Beatus vir.

Here we have the same equivalences as in the preceding case: the four Mss. of groups A and B use the sign of the pressus, whereas the three Mss. of group C favour the climacus apsposed to the last punctum of the preceding neum.

391. So far, the effect of fusion has been produced as follows:
First equivalence: between the virga and the pressus:

Second equivalence: between two virga and a pressus:

Third equivalence: between the second note of a clivis or grave accent and the pressus:

Fourth equivalence: between the punctum and the virga:

392. Let us now see whether this same effect of a pressus is produced when two virga meet in unison at the summit of two neums:

http://ccwatershed.org
Presumptive evidence points to an affirmative answer:

a) Theoretically, a graphic separation does not preclude fusion;

b) As a matter of fact, the second equivalence $\frac{\flat}{\flat}$ has already been proved an example of the fusion of two virga by simple apposition;

c) Evidently, there is no reason why two virga should not fuse, since the punctum (or grave accent) can unite by fusion with the virga, the clivis and the porrectus.

The equivalent notations will confirm this presumption.

393. Fifth equivalence. Fusion of the podatus with the clivis.

First example: Intonation of the great "O" Antiphons of Advent. The Ms. of Monza 12/75, F. 108-109, gives thirteen antiphons of this type, the first ten of which are written as follows:

$$
\begin{align*}
\text{A} & \quad \text{O sa-pi-entia...} \\
\text{B} & \quad \text{O rex pacific...} \\
\end{align*}
$$

The last three, thus:

$$
\begin{align*}
\text{C} & \quad \text{Eight times with } \Downarrow \\
\text{D} & \quad \text{Four times without } \Downarrow \\
\end{align*}
$$

The melody is identical in each case: in A, the fusion of the two notes on fa is evident on account of the pressus; in B, the same fusion is plainly indicated by the apposition of a podatus and a clivis, for the melodic equivalence is evident.

Hartker of St. Gall, provides a third notation for twelve of these antiphons "O":

$$
\begin{align*}
\text{A} & \quad \text{O quantus luctus (Feast of St. Martin); this notation makes use of the Romanian abbreviation which fully confirms the fusion of the two notes on fa. (Cf. Fig. 311).}
\end{align*}
$$

394. Second example. A cadence from the Tracts of the 2nd Mode.

Laon 289.

St. Gall.

A \quad 1

B \quad 2

This example has already been cited (Fig. 244) to illustrate the linking of neums, in notation A, and their simple juxtaposition in notation B.

In Fig. 278 B, the two notes in unison of the pressus-major are certainly fused; if the forms — podatus and clivis — in A are equivalent, which is undoubtedly the case, then the final virga of the pes and the initial virga of the clivis must be fused in a single note of double value; otherwise it would be impossible to explain the constant interchange of these two neums in the best codices.

395. The use of the episema on the podatus and virga of the notation of example A brings out an interesting point. Their use in this case is a striking proof that the Romanian episema had not an absolute value but merely a relative one, which can only be determined after a careful study of the various equivalences and of the melodic context, by a scholar possessing tact and taste. If each note or neum marked with an episema should be interpreted materially as a note of double value, the result would be absurd. For instance, in the cadence of Fig. 278, the following would be the result:

$$
\begin{align*}
\text{A} & \quad \text{O quantus luctus (Feast of St. Martin); this notation makes use of the Romanian abbreviation which fully confirms the fusion of the two notes on fa. (Cf. Fig. 311).}
\end{align*}
$$

What, then, becomes of the equivalent version under B, with its two simple pulses on the note sol? In the present case, these rhythmic signs (episema) added to the notes have the same meaning as a rallentando, a ritenuto, a slargando in modern music, in other words, an agogic sign. The same is true of the $\Downarrow$ (tenete) in the writing of the school of Metz illustrated by the Ms. of Laon (Fig. 278).
396. Sixth equivalence. Fusion of a podatus and a porrectus. Since this equivalence is of the same nature as the one which precedes it, we merely transcribe it without further comment.

St. G. 339. — Bamb. lit. 8.
St. G. 339. Eins. 121.
R. G. Inveni.

manus e- nim

397. Seventh equivalence. This is one which occurs frequently: a torculus replaces a pes and clivis that form a pressus; once more, by fusion of the two virga.

First example: Communion: Video.

Several Ms.
Einsi. 121.
St. G. 339.

fā-ci- unt

Fig. 281.

The fusion of the podatus and clivis is indicated not only by Einsiedeln and other manuscripts, but above all by the torculus which is used in certain codices. The equivalence between these signs is easily explained. At first the torculus was lengthened as a whole, then the length became unduly concentrated on the central note of the neum, which note was doubled, until, finally, the central note of the torculus became the equivalent of two notes and could be written as such; it could even be transformed into a pressus.

398. Second example with quilitis-torculus.

Several Ms.
Bamberg.
The Ms. of St. G.

All. 8th mode.

Alleluia...

Fig. 282.

The commentary on Fig. 281 applies perfectly to this new example.

399. Eighth equivalence. The fusion of one porrectus with another.

Einsi. 121, and all the St. G. Ms.

A

Com. Tū puer...

pa-ra-re vi-as e-jus

B

All. f. Inveni...

ser-pērhi-

vām me- um (bet)

Fig. 283.

These two liturgical pieces have the same melody although the notation differs slightly. A comparative study of the two neumatic notations gives us the following result:

1. The virga which precedes immediately the first porrectus of line A should be fused with the first note of this neum; because in line B, these two notes are combined by means of a pressus-major.

2. The two porrectus of line A should be fused for the same reason.

NOTE. For the Alleluia of the second Mode (line B), several families of manuscripts adopt the same notation that is used in line A, namely, two porrectus which, by fusion, form a pressus.

400. Ninth equivalence. Fusion of a podatus and a climacus. This equivalence is rare.

First example:


Einsi. 121.
St. G. 339, 376, 340, 375
and Bamb. lit. 6.

Dōmine Jesu...ne stā-tuas

Fig. 284.
Here the fusion of the two virga (podatus and climacus) is a certainty since a real pressus is used in the corresponding passage in Ms. 121 of Einsiedeln.

In cases such as this, the neumatic writing indicates fusion by means of apposition; the use of the pressus sign followed by two or three notes is extremely rare.

401. Second example:

Offert. Elagerunt. \( \text{\textit{\textit{\textit{V}}} \cdot \text{Viderunt}} \).

All the Mss. of St. G. use the pressus \( \text{\textit{\textit{\textit{V}}} \cdot \text{Viderunt}} \).

\( \text{\textit{\textit{\textit{V}}} \cdot \text{Viderunt}} \).

Fig. 285.

Here we have a pressus in all the Mss. of St. Gall showing that the fusion of the two virga (podatus and climacus) is obligatory in the Guidonian notation.

On the note la, a second pressus will be noticed in the neumatic writing, which is represented in the notation on lines by the fusion of a punctum and a clivis. (See cf. fourth equivalence, 389, 390).

402. Tenth equivalence. Fusion of a scandicus and a climacus.

\( \text{\textit{\textit{\textit{V}}} \cdot \text{Viderunt}} \).

Fig. 286.

The square notation in this example corresponds to three ancient neumatic forms:

1. To the apposition of two virga. In this case, the square notation is almost an exact transcription of the ancient neums. Three examples from the manuscripts follow:

All the Mss. of St. G.

\( \text{\textit{\textit{\textit{V}}} \cdot \text{Viderunt}} \).

Fig. 287.

403. 2. To a Trigon-prabipunctis.

All the Mss. of St. G.

\( \text{\textit{\textit{\textit{V}}} \cdot \text{Viderunt}} \).

Fig. 289.

404. 3. To a Pressus \( \text{\textit{\textit{\textit{V}}} \cdot \text{Viderunt}} \).

In this melodic figure, the use of the pressus is extremely rare, a fact the reason for which we have explained above (II, 400): the real pressus, being composed of two notes only, is the equivalent of a clivis and not that of a climacus which contains three notes. That is why most of the manuscripts replace the pressus either by a trigon or else by the mere apposition of two virga.
PART II. — CHAPTER VIII.

405. The comparative table which follows will give some idea of the variants in the writing, all of which call for the same rendering, namely, a fusion of the two notes in unison.

Alleluia. Laetatus sum.

Alleluia.

A. St. G. 376.

B. St. G.

C. St. G. 340.

D. Mss. of Monza.

E. Turin G. V. 20.

Fig. 292.

A. The Codex, No. 376 of St. Gall uses the *apostropha* for each of the notes *mi fa sol-sol* toward the end of the melisma of the Alleluia and also at the end of the versicle.

B. Almost all the other Mss. of St. Gall prefer the *trigon*.

C. Ms. No. 340, however, uses two notations: a *trigon* on the one hand and two *virga*, on the other.

D. The two Mss. of Monza use two *virga* in apposition.

E. Turin uses apposition twice, under two forms, and once, the *pressus*.

406. The simple apposition of two notes in unison is so often the normal form of a *pressus*, even in the best neumatic manuscripts, that we can see no reason why the following form Fig. 293. should not be considered in the same light as corresponding to the *pressus* in the preceding cases. The fact that the *pressus* is composed, normally, of two notes, not three, suffices to explain the constant use of *apposition* for this melodic indication.

407. Eleventh equivalence. This equivalence is one which demands deep study and presupposes a profound knowledge of the manuscripts in general; a mere suggestion is all that we can give in this place, that the reader may know that such an equivalence exists:

The *Romanian episema* note, the supple and flexible value of which varied according to the melodic context, could at times represent a note whose *duration was really doubled* (II, 82), in which case the *pressus* could be substituted. We find such interchanges:

a) in the Mss. of St. Gall, but rather rarely,

b) in the other families of Mss. quite frequently.

408. Interchange of the *episema* and the *pressus* in the Mss. of St. Gall.

Laon 239.

| ![](http://ccwatershed.org) |

St. Gall Mss.

Offert. *Mirabilis*.

| ![](http://ccwatershed.org) |

Ale- [lui] A B

Fig. 294.

The Mss. of St. Gall use merely an *episema* on the *sol*, while Laon uses the letter *a* = *augete* attached to this note. Einsiedeln, alone, uses the *pressus*, and this doubling of the note seems excessive; in this case a mere rhythmic support with an agogical prolongation might well have been sufficient.

409. Interchange of the *Romanian episema* and the *pressus* in the other families of Mss.
Apart from the codices of St. Gall, a study of the other manuscripts in the aggregate, provide us with facts that are still more clear and decisive. We find that the pressus frequently replaces the Romanian episema, with greater unanimity among the writers, particularly as regards descending neums. This is a fresh proof that the episema in the writing of St. Gall, is the graphic expression peculiar to that great monastery and to those churches which imitated it, of a universal tradition which we find expressed by means of other graphic forms in Gregorian manuscripts taken as a whole.

410. The following table will give the reader a general idea of the facts described above.

**Note.** It must be understood that these interchanges or equivalences transcribed in Fig. 295 are not used regularly nor constantly in all the manuscripts, nor are they to be found always and everywhere in a given manuscript. Our object is merely to demonstrate in this connection, the existence of a rhythmic tradition whose traces are sufficiently abundant and universal throughout the codices to make it quite impossible to question its persistence. This tradition is demonstrated by the transformation of certain Romanian episema into perfectly definite pressus of two notes.

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Fig. 295.

411. First line. St. Gall: Climacus or rather a clivis subpunctis with an episema on its second note.

Laon does not translate this episema by a pressus, but merely uses a long note accompanied by an \[ \text{\textcopyright} \] = augite.

Vercelli, which like Laon, uses the notation of Metz, goes even further: here the pressus by apposition is substituted for the episema; it is formed by the fusion of two clivis of which the first is light, the second, heavier.

Egerton. The form used in this manuscript to denote the pressus is found, once more, in place of the episema.

Various manuscripts of Italian and French origin belonging to the families using neum-accent, write this passage with a real pressus or a pressus by apposition.

The same is true of the Aquitanian manuscripts.

Second and third lines. Torculus subpunctis and pes subpunctis. The same comments apply to this line as to the first (climacus).

412. Two concrete examples from the Gregorian melodies will bring out these facts with greater precision.

Laon 239.

\[ \text{\textcopyright} \] \[ \text{\textcopyright} \]

St. Gall.

Aliel. Laudate pueri.

Episematic reading.

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Pressus.

Fig. 296.

Apart from the codices of St. Gall, many excellent manuscripts using neums without lines, write a simple climacus; the episema is unknown to them. Others, which are very good, substitute a pressus for the episema (line B). As for the manuscripts with lines, these usually choose the pressus, which has been retained in the traditional version in actual use.
413. In the following example, however, it is the version without a pressus which has prevailed, for some reason that is difficult to explain, since the cases are identical.

Laon 269.

St. Gall.

Com. Exsultavit. A

et occur-sus e-i-us.

> > B

e-i-us.

> > C

e-i-us.

Fig. 297.

All the manuscripts of St. Gall place an epísema on sol, and Laon adds an n to this note.

A study of the other schools of writing reveals most interesting facts. Version A with a long note on the sol, appears in manuscripts of neumatic writing that are very ancient and of careful workmanship, but this length is indicated by a real pressus, as in version B. As this notation is found constantly in a great number of documents from various sources — Italy, France, Normandy, England (countries of the Metz tradition), and also Belgium and Aquitania — it is impossible not to recognize, in this pressus, a clear equivalence of the epísema of St. Gall and of the n of Laon. This is an extremely interesting example of that rhythmic tradition — primitive and universal — of which we have already spoken (II, 59 et seq.).

414. On the other hand many excellent and very ancient manuscripts of all countries hold faithfully to the pes subbipunctis of St. Gall and Laon, but without the rhythmic signs and letters which were unknown to them. Naturally, the Mss. with lines follow this model, which fact explains version C, which is actually used more frequently than versions A and B, though this fact adds nothing to its value.

What might the interpretation have been, originally, of this third notation? In spite of the absence of the rhythmic signs, the interpretation can be presumed to have been in conformity with the version of the rhythmic manuscripts, thanks to the oral tradition which compensated fully for what was lacking in the written indications regarding both melody and rhythm. But what guarantee of precision and permanence can such a fragile tradition offer unless it be promptly protected against error and preserved from oblivion by the written sign? It is evident, as regards the case we are studying, that the memory of the prolonged support on the sol was soon lost, and the original interpretation finally disappeared completely for those who had before their eyes merely the version as written under C.

415. The frequent equivalence of the epísema of St. Gall and the pressus having been established clearly, two practical consequences follow:

1. The Roman epísema sometimes has the value, the duration of a long note of two pulses;

2. The pressus, however, always has the value of a single sound worth two pulses; these two pulses do not admit of a repercussion, they must be fused into a single tone.

416. The list of equivalences could be prolonged indefinitely, but these few examples are sufficient to enable us to formulate the following rules, considering the subject from the point of view of the actual square notation of today.

First rule. When two neums meet on the same note, these two notes in unison form a pressus and they should be rendered by fusing the two simple pulses into a single tone of double value.

Note. This rule applies only when the neums are printed close together. A noticeable space between them would indicate that a repercussion should be made on the first note of the second neum. Example:

Repercussion

Fig. 298.
PART II. — CHAPTER VIII.

417. **Second rule.** When there is fusion, the *rhythmic ictus* always falls on the last note of the first neum, that is to say on the first of the two *fused* notes.

\[ \text{Fig. 299.} \]

418. **Third rule.** This concerns the note that *follows* the *pressus*. The length of the *pressus* applies to its first note (the fused note); this note only is of double duration. The note which follows the *pressus* is not, intrinsically, long. Its length depends on its position.

Consequently:

a) If the *pressus*, in the center of a phrase, is followed by a syllable, note, or neum which should be sung immediately by *juxtaposition* or by *linking*, then the third note of the *pressus* is an ordinary short note. See the two notes on *do* in the following example:

\[ \text{Fig. 300.} \]

See the *re* in the following *melisma*:

\[ \text{Fig. 301.} \]

b) If the *pressus* is at the end of a *phrase* or of a *phrase member*, the last note, by the very fact of its position, is a long note; it is followed by a dot indicating length. See the last note of Example B above (Fig. 301).

The same rule applies, ordinarily, to a pressus at the end of an *incise*; but there are exceptions; the notation itself will settle the question by using or omitting the *dot*.

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STUDY AND EXECUTION OF THE APOSTROPHA-PRESSUS. 335

§ 2. — The **Romanian Abbreviation ă = conjugatur**.

419. Among the Romanian abbreviations already mentioned (II, 114) there is one whose sole object is to indicate this fusion of two notes into one, forming a pressus: this abbreviation is the "ă" signifying *conjunctim* or *conjugatur*. It is used only at the point where two neums meet at the same pitch and fuse. Sometimes, but very rarely, it is placed on the *pressus-major* Fig. 302, to indicate the close union of the first two notes. In this case, it is really superfluous since the writing itself clearly indicates the joining of virga and pressus; their fusion is unmistakeable.

**Examples:**

a) *Clavis* and *clivis* forming a *pressus*.

\[ \text{Eins. 121. } \text{\[\text{Fig. 303.} \}\] \]

*Offert. Portas caeli.*

\[ \text{Dó- mi- ni} \]

*b) Torculus and clivis forming a pressus.*

\[ \text{Eins. 121. } \text{\[\text{Fig. 304.} \}\] \]

*Intr. Dicit Deus: Sermone.*

altá- re me- um

*c) Torculus and clivis forming a pressus.*

\[ \text{Hartker St. G. } \text{\[\text{Fig. 305.} \}\] \]

*VÍ. Sancta et immaculata.*

Sancta et
PART II. — CHAPTER VIII.

The same abbreviation is used when the final clivis ♩ Fig. 306 is replaced by a pressus-minor ♩ Fig. 307. The following passage is taken from a responsorial versicle of the 2nd Mode: in Hartker's Ms. it is found more than fourteen times marked with the sign: ♩.

\[
\text{Hartker.} \quad \begin{array}{c}
\text{Fig. 308.}
\end{array}
\]

420. Here is an example of two virga fused by the sign coniunctur.

d) Podatus and clivis forming a pressus.

\[
\text{Hartker.} \quad \begin{array}{c}
\text{Fig. 309.}
\end{array}
\]

\[
\text{Hartker.} \quad \begin{array}{c}
\text{Fig. 310.}
\end{array}
\]

e) Podatus and pressus-minor.

\[
\text{Hartker.} \quad \begin{array}{c}
\text{Fig. 311.}
\end{array}
\]

§ 3. — The Diaeresis of the Pressus.

421. There is a feature of Gregorian composition which at first sight seems to contradict all that we have said regarding the fusion of notes. This is the diaeresis or disjunctio of two neums which form a pressus, an operation which takes place when two syllables of the text have to be assigned to the neums thus separated; or inversely — and this fact might raise a similar difficulty — the crasis or junction of two neums, originally disjoined, into a single pressus on one syllable only.

\[
\text{St. Gall Ms.} \quad \begin{array}{c}
\text{ami-ci tu-i}
\end{array}
\]

\[
\text{St. Gall Ms.} \quad \begin{array}{c}
\text{ce-drus}
\end{array}
\]

Fig. 312.

Should the rhythm of A be the model for B, thus giving the two passages a similar rhythmic treatment? In this case the word cedrus would have to be sung with an ictic repercussion on the second note of the pressus:

\[
\text{Fig. 313.}
\]

422. This argument based on conformity is sometimes valuable, but not always; in the present case it is inapplicable as we shall see by examining this melody more closely and observing the principal modifications to which it is subjected when influenced by different texts (1).

(1) The complete table of the adaptation of various texts to this formula will be found in the Palographie Musicale, Vol. IV, p. 35.
PART II. — CHAPTER VIII.

A

St. Gall. Laon 239.

R. Grad. Tollite.

prin- ci- pes. ... ci- pes.

B


a-mi- ci tu- i. ... ci tu-

C

R. Grad. Domine Deus.

conver- te. ... te

Fig. 314.

The first melody A, is, in our judgment, the original and typical version; to give the arguments in support of this opinion would be beyond the scope of the present work.

As regards versions B and C which are derived from A, it is quite impossible to determine which is the earlier of the two; consequently, we do not know whether the pressus, line C, is a crasis of two separate clivis, line B, or whether, on the contrary, the two clivis of line B are the result of a disjunction or diaeresis of the pressus, line C, which, in that case, would be the more ancient version.

Whatever their date may be, the melodic difference between the three versions remains. Since, therefore, the composer felt at liberty to make melodic changes which necessarily entail rhythmic changes also, (compare lines A and B), there does not seem any valid reason for maintaining the same rhythm for the passage represented by two clivis Fig. 315 in line B, as for the passage represented by the fused clivis in line C.

Thus, in the case under consideration, the subtle and spurious argument based on the unity of similar rhythms is, if not refuted, at least greatly weakened.

423. But there is positive evidence as well: the notation of the manuscripts clearly reveals a difference of rhythm between these two passages. If the square notation leaves a possible doubt regarding the rhythm of the two clivis in line C, because of their exact resemblance to the clivis in line B, this doubt disappears in face of the neumatic notation. Here no hesitation is possible since the two passages are written quite differently.

In B, the two clivis over the syllables ci and tu respectively, are marked with a Romanian episema on the first note; this note, therefore, must bear a rhythmic ictus.

In C, there is only one clivis the second note of which is attached to the pressus; moreover, the first note of the clivis is marked with a c (celeriter) in contrast to the episema, sign of rhythmic support and of length.

The rhythmic indications provided by the Metz Mss. are similar to those of St. Gall.

The two clivis, therefore, should be fused in a single sound on the note that is common to both; in other words they should be sung as a pressus.

424. Another example of the same melodic type.

St. Gall. Laon 239.

A

R. Grad. A summo.

e- ius e- ius

B

R. Grad. Domine Deus.

nos nos

Monza. a) (n v v)

b) (n n y)

c) (n n n)

Fig. 316.

Line A. Separation of the porrectus and clivis that follows it, on account of the two syllables in the text: this melodic version is undoubtedly, the original one.
PART II. — CHAPTER VIII.

Line B. **Crasis** of these two neums in order to form a **pressus**, since there is but one syllable in the text. The neumatic notation uses the special sign of **fusion**, the **pressus** instead of the clivis, just as in the previous example cited (Fig. 316, C). This modification is useful in so far as it makes the notation even more clear, but it is not necessary, because the clivis attached closely to the preceding neum often fulfils the role of pressus. An example of this can be seen in the Mss. of Monza, variant c.

In the more ancient Gregorian compositions, it is rare to find examples of **crasis** or **diaeresis** between neums succeeding each other at the same pitch. In later compositions, they occur more frequently, for instance in the various Kyrie, Gloria, etc. It is quite natural that the **pressus-crasis** which occur in these more modern melodies should be sung as were those of the early melodies, that is by fusing the two notes of junction.

ARTICLE 3. — THE PRESSUS: ITS POWER OF ATTRACTION.

425. In Gregorian chant, the **pressus** are structural points of the rhythm which are vital to the organization of its movement. In view of this quality, the **pressus** have the power:

- **a)** of attracting the preceding notes and neums;
- **b)** of attracting one another.

This inherent quality is confirmed by the notation of the rhythmic manuscripts of St. Gall and of Metz.

§ 1. — Power of Attraction of the Pressus over the Notes which precede it.

426. As a general rule, the rhythmic manuscripts use the normal or brief form for the neums which precede the **pressus**.

Examples:

\[ \text{All.} \quad \text{2nd Mode} \]

\[ \text{2nd Mode} \]

\[ \text{bis} \]

\[ \text{All.} \quad \text{4th Mode} \]

\[ \text{4th Mode} \]

\[ \text{no-} \]

STUDY AND EXECUTION OF THE APOSTROPHA-PRESSUS. 341

\[ \text{Grad.} \quad \text{Tract.}\]

\[ \text{1st Mode} \quad \text{2nd Mode}\]

\[ \text{7th Mode} \quad \text{2nd Mode}\]

\[ \text{Fig. 317.}\]

This retroactive attraction may affect a single note only, if an important point of support immediately precedes it.

Example:

\[ \text{Alle-lú-ia}\]

\[ \text{Fig. 318.}\]

The first **clivis**, on the syllable *ia* — is marked by an **episema** as well as by a **e = tenete**. Laon Mss. 239 on the other hand writes the neum as a long **clivis**: two long **punctums**, with an **e = auge** between them (II, 117, Fig. 109). So subtle a distinction as this can only be shown in the rhythmic manuscripts, and proves how indispensable they are to the strictly traditional interpretation of the Gregorian melodies.

§ 2. — The Attraction of the Pressus for one another.

427. It often happens that two, three, four or more **pressus**, separated by a few notes, succeed one another in the same melody:

\[ \text{Tract.} \quad \text{Tract.}\]

\[ \text{2nd Mode} \quad \text{2nd Mode}\]

\[ \text{R. Grad.}\]

\[ \text{Benedictus Divus}\]

\[ \text{qui facit}\]

\[ \text{Fig. 319.}\]
In singing, these accent-pressus mutually attract each other, and the attraction prevents any pause being made on the connecting notes. It is in cases of this kind that the pressus may be compared to the strong columns on which the structure of the rhythm is based. The intermediate notes are the connecting arches; they should be sung delicately in a single span, so to speak, without either hurry or delay, giving each note the value of a light simple pulse.

428. The trigon and apostropha may also be intermingled with the pressus, and produce effects very similar to those just described.

A single example will suffice:

\[ \text{Tract.} \]
\[ \text{2nd Mode} \]

\[ \text{Fig. 320.} \]

We need not discuss the trigon (\(\cdot\cdot\)), because in the Guidonian, and occasionally also in the neumatic notation, it cannot be distinguished from the pressus.

§ 3. — Exceptions to the Law of Attraction in the Pressus.

429. The exceptions to this law of attraction can only be discovered by a careful study of the rhythmic manuscripts.

\[ \text{Tract.} \]
\[ \text{2nd Mode} \]

\[ \text{me - o - rum} \]

\[ \text{Fig. 321.} \]

Laon Ms. 239 agrees with St. Gall; so does Milan Ms. E 68; in Vercelli Ms. 186 the second clivis is long, but the first varies.

According to rule, the two clivis which precede the pressus should be light, but the rhythmic manuscripts show that only the first is to be so rendered, for the second is marked with the episema or the \(\text{e \text{-tenete}}\). The Metz school and the Italian school of Como agree with this interpretation. The episema over the first note of the clivis serves to draw attention to this delicate distinction which otherwise would pass unnoticed.

Here is another example:

Laon 239

\[ \text{St. Gall} \]

\[ \text{Offert. Populam humiltem.} \]

quó-ni-am quis

\[ \text{Fig. 322.} \]

430. There are also exceptions to the law of mutual attraction between one pressus and another. In point of fact, the written form of a melodic figure or motif fails to give us adequate information regarding its rhythmic interpretation; before making a decision we must consult the rhythmic manuscripts. Take the following musical figure:

\[ \text{Fig. 323.} \]

The motif is developed by repetition in the examples given below; in A it is transposed to other degrees of the scale, in B, it is repeated at the same pitch.

\[ \text{Mazarin 384.} \]

\[ \text{Laon 239.} \]

\[ \text{St. Gall.} \]

\[ \text{Fr. Grad.} \]

\[ \text{Fig. 324.} \]
431. The question arises whether these melodic figures should follow one another with or without a mora vocis; should there be a disjunction between the individual motifs by prolonging the last note of each figure?

Each case must be considered separately, for the composer is free to treat the melodic figures as he chooses; he may join or separate them at will according to the particular expression he wishes to give them and according to their function in the phrase as a whole.

This then, is the evidence which the manuscripts provide as regards the two cases proposed to us above:

432. Example A (Fig. 324). This belongs to the Gradual-responsorships of the fifth mode: Specie tua, Diffusa est, Misit Dominus, Respice.

A fairly long mora vocis, a doubled one, is indicated after each motif.

a) By the blank spaces which occur fairly regularly in the rare manuscripts which use them;

b) By the \( \times \) which follows each motif in the St. Gall MSS., of which the clearest is St. Gall MSS. 339, which is also the most explicit;

c) Lastly, by the \( \varepsilon \) in Laon MSS. 239 which likewise occurs persistently after every motif.

The rhythmic tradition therefore, is plain enough. This magnificent phrase, sung, as we give it in our notation, in accordance with the manuscripts, soars majestically, unfolds itself, and comes to its repose with tranquil serenity.

433. Example B (Fig. 325) on the contrary, should be sung with more vivacity, bearing in mind the attraction of the pressus.

The blank spaces, indeed, become indefinite and variable. Moreover, the virga which in example A begins each motif, is often attached to the preceding group.

\[ \text{Fig. 325.} \]

The rhythmic letters denoting length — \( \times \), \( \varepsilon \) — also disappear. A few \( \varepsilon = \text{celeriter} \) alone remain on the clivis, to show that the first note is light. And in Laon MSS. 239 the clivis of the first group is even joined in a porrectus to the virga which follows it.

The whole tenor of these indications is very plain, and the closest union between the various motifs should be the rule for their interpretation.

434. If we were to give the history of these motifs and their various aesthetic uses, we should have to show how their likeness to one another led to a widespread neglect of tradition in the manuscripts, the result being that the two interpretations, the joined and the disjoined, were utterly confused.

435. The pressus are generally classed among the ornamental neums, which in our opinion, is a mistake. The pressus is not a musical ornament, in the ordinary sense of the word, implying an addition to the essential melody, in order to render it more pleasing and more graceful, which addition could, if necessary, be suppressed without affecting the melodic framework.

On the contrary, the pressus belong to the very structure of the melody; they are long, often strong, rhythmic accents, and they have been compared above to the columns on which the rhythmic edifice is supported.

If they are spoken of sometimes as ornaments, it is because they throw the melody into relief, and are one of the truest elements of its beauty.
Exercise XXXI.

On the Pressus. 1.

436. The rhythmic analysis of Exercises XXXI and XXXII is adequately indicated by the chironomy and dynamics which accompany the transcription into modern music. The pupil should give a detailed analysis of the phrase before attempting to sing it; he is already familiar with this system of dismembering a phrase into its elements. When singing, however, he should synthesize the various elements and unite the rhythmic and dynamic movements into a single harmonious whole. His *nuances* must be real *nuances*, delicately, almost insensibly graduated, both in the rise and fall of the melody. Lastly, his gestures themselves must be restrained and quiet, even in the flights of the melody where he might easily be tempted to exaggerate them.

Mode I.

\[\text{The above in modern notation.}\]
EXERCISE XXXII.

On the Pressus. 2.

Mode V.

The above in modern notation.
CHAPTER IX.

STUDY AND EXECUTION OF THE STROPHICUS.

437. The single apostropha is not used in our books; we find it only in the form of an apostropha-pressas (II, Ch. VIII) or of an apostropha-oricus. The latter will be dealt with in Chapter X. For the moment we shall study the strophicus proper: the distropha and the tristropha.

ARTICLE 1. — THE ISOLATED DISTROPHA AND TRISTROPHA.

438. Their position on the staff. The strophicus generally appear either on do or on fa, that is to say on the note above the half-tone; exceptionally, however, they appear on other notes: re, sol, la or si.

439. Repercussion of the apostropha. Aurelianus Reomaensis, an author of the ninth century, gives precise information on this point. Alluding to the tristropha which occurs at the cadence of the versicles of first mode Introits, as follows,

\[ \text{Glória... Spi-ri-tu-i Sancto.} \]

\textit{Fig. 327.}

he states plainly that this neum must be sung with a threefold repercussion, "terna gratulabitur vocis percussionem" Gerbert. \textit{Script. I}, p. 50a.

He repeats the same doctrine with greater emphasis for the versicles of third mode Introits: "Versus intoituum: \textit{Gloria Patri et Filio et Spiritui Sancto.} Sagax cantor sagaciter intende ut,... duobus in locis scilicet in \textit{decima sexta syllaba},

\[ \text{Gló-rí-a Patri et Fi-li-o et Spi-ri-tu-i Sancto:} \]

\textit{Fig. 328.}
et post in quarta decima

Sic ut e-rat in princi-pi-o et nunc et semper :
1 2 3 4 5 6 7 8 9 10 11 12 13 14

Fig. 329.

trinum, ad instar manus verberantis, facias celerem iecum”. Gerbert. Script. I, p. 57. The text instructs the skilful singer to make the triple repercussion above mentioned on the syllables cto and per, each of which has a tristopho over it; but in this case the percussion is described in detail: the voice must emit three sounds in succession, quick, light and delicate, like three taps of the hand.

The advice is again repeated for the verses of seventh mode Introits.

Spi-rí-tu-i Sancto.

Fig. 330.


440. The existence of notes repeated in this fashion is an undeniable fact: they were called notae repercussae, and this term applied to the distropha and to the tristropha when the notes were all at the same pitch (1).


John Cotton comments as follows on the above passage: “Simpliciem autem neumam dicimus virgilium vel punctum; repercussam vero, quam Berno distrophan vel tristoohan vocat”.

Guido has another passage bearing on the same subject: (Gerbert. Script. II, p. 15ab). “Ac summopere caveat talis neumarum distributo, ut cum neumae tum ejusdem soni repercussione, tum duorum aut plurium connexione fiant, semper tamen etc...”

Arbo’s comment on this text is as follows (Gerbert. Script. II, p. 226b, 227a): “Neumae unius soni sunt repercussione, cum simplices sunt, id est vel una circula (+) vel una jacens (=) vel cum duplicis (-) aut triplicis (+++) in ejusdem soni repercussione, tum duorum aut plurium connexione fiant, Duorum aut plurium sonorum connexione fiant omnes neumae, exceptis praescriptis”.

441. This twofold or threefold repercussion must be light and quick, and therefore it is not easy to sing. It requires a vocal control and delicacy which is difficult to attain in our day, particularly where the choir is large and the singers are lacking in musical experience (1).

Yet these notes cannot possibly be omitted since they represent a rhythmic value of two pulses, or of three; nor can they be reduced to a single basic pulse; such a procedure would destroy the harmonious proportion and balance in the musical construction. What then is the solution of the difficulty?

There is an execution which is simple and logical, which is within the capacity of the average singer and which approximates as closely as possible the traditional rendering. It is this:

a) Retain for the strophicus its full time value as indicated by the notation, namely, two pulses for the distropha, three for the tristropha;

b) Fuse in one long sound the two apostropha or three, as the case may be, and then, by means of a slight vibrato, bring out the distinction between these neums and those which are prolonged by a mere mora vocis, or by the more sustained and compact pressus.

442. Although it is too difficult for the average parish choir, the repercussion of the individual strophicus can well be achieved by skilful cantors or by a well-trained choir, and wherever this rendition is possible it should be encouraged. In ancient music this frequent repetition of notes in unison was greatly appreciated. We still find examples as late as the seventeenth and eighteenth centuries. They ring strangely upon modern ears, but we could soon form our taste as regards this vocal ornament which if gracefully and smoothly rendered, is wholly charming. The following facts confirm the proposed rendering.

443. The inflexion of certain notes in the strophicus. It seems quite certain that the notes of the strophicus were not, originally, all at the same pitch, but were tempered by undulations of the voice, certain notes being inflected, so that instead of repeating

the do or the fa, there was a tendency to sing si or mi, a half-tone below. The manuscripts with and without lines afford manifest proof of this fact, and always by the use of equivalent notations.

Two examples will suffice:

St. Gall 339.
Off. Offering regi.

pró-ximæ ejus, etc.

Einsied. 121.

pró-ximæ ejus, etc.

St. Gall 339.
Re. Hodie scitis.
coram Ephraim etc.

St. Gall 339.
Ephraim etc.

Figure 331.

Figure 332.

444. The explanation is simple, for we must remember that, in those days, the notation was still written in campo aperto. The pupil learned the melodies ex auditu; he had only to repeat what the teacher sang.

But the task of the scribe was far less simple; he had to listen and then record on his parchment the melodies he had heard. When it was a matter of clear intervals — fifths, fourths or even seconds, it was easy enough, but his task became extremely delicate when he tried to set down those subtle and indeterminate intervals which might be due to vibrations or vocal undulations rather than to definite intervals of the diatonic scale.

How were inflexions such as these to be represented in the notation? Perhaps the teacher himself might have been at a loss if asked for a suggestion for the graphic recording of these delicate shades. And so the manuscripts offer evidence as to the

STUDY AND EXECUTION OF THE STROPHICUS.

attempts of various sorts made by the scribes to solve these problems and difficulties; we find variants such as those in the examples cited above, and these at least provide us with precious indications regarding the freedom and flexibility with which the strophicus was sung.

The undulating vibrato which we advised above (II, 441) tends to imitate these inflexions and is approximate to the traditional rendering.

445. The duration of the strophicus. Care must be taken not to prolong the distropha or the tristropha beyond two or three pulses: it would be better to shorten them, for they are light notes and require great vocal agility.

446. The position of the rhythmic ictus. The general rule for all neums applies equally to the distropha and tristropha: the rhythmic ictus falls normally on the first note (II, 263).

But the exceptions to this rule apply also to the strophicus.

The tristropha may, under certain circumstances, have a second rhythmic ictus on the third apostropha (II, 480).

447. Intensity. This again depends, as in other neums, on the position and the function of the strophicus in the phrase, as also on the intensive value of the syllable to which it is assigned.

EXERCISE XXXIII.

The isolated Distropha.

448. This exercise is divided into short members closed by a double bar, in order that the pupil may repeat each member as often as may be necessary. The first incise of the first four members is so arranged as to facilitate the singing of the distropha which occurs in the second incise.

V. Mode.

[Diagram of musical notation]

a-e, a-e, a-e, a-e, a-e, a-e, a-e, a-e, a-e, a-e, a-e, a-e.
ARTICLE 2.

REPERCUSSION OF THE DISTROPHA AND TRISTROPHA.

449. If the quick, delicate repercussion of each individual *apostropha* in a *strophiicus* demands a vocal dexterity beyond the capacity of the average choir, the difficulty disappears when the singers are asked merely to bring out the distinction between the various *groups* of *strophiicus* that follow each other in unison by means of a gentle repercussion on the first *apostropha* of each *neum*. This vocal repercussion applies to groups of two or three pulses, and no exceptional flexibility of voice is required in order to produce this effect, no great virtuosity in vocalization.

As each *distropha* or *tristropha* is renewed delicately on the ictic note, the intensity should be slightly modified by a gentle flexible increase in the volume of sound, in the single sustained breath which carries the whole series of *strophiicus* and unites them. This breath should be controlled and directed with great smoothness, especially on the ictic note, where there is an increase of volume, but without the least roughness or jerkiness.

450. This agreeable repercussion has some analogy to those melodic passages in which a vowel is repeated on a note at the same pitch:

\[
\begin{align*}
\text{Tr. Audi filia.} & \quad \text{tu- um...} \\
\text{Intr. Exspecta.} & \quad \text{cor tu- um...} \\
\text{Ey. G. Diffusa est.} & \quad \text{in lá- bi- is...} \\
\end{align*}
\]

\(\text{Fig. 334.}\)

with this difference however, that in the case of the *strophiicus* the repercussion is of a yet more subtle and delicate character.

451. Above all, the execution of the groups should not be made heavy by undue stress of the ictic note, by prolongation of that note, nor of the whole of the *strophiicus*. In order to measure their precise value, the following exercise will be of help:

First sing:

\[
\begin{align*}
\text{instead of} & \quad \text{Fig. 335.} \\
\end{align*}
\]

First sing:

\[
\begin{align*}
\text{instead of} & \quad \text{Fig. 337.} \\
\end{align*}
\]

then gradually diminish the interval of the second, finally eliminate the *sl* and sing all the notes at the same pitch.
EXERCISE XXXIV.

Repercussion of the Distropha and Tristropha.

V. Mode.

\[ \text{\textit{\textsection V. Mode.}}} \]

\[ a - a - e, a - a - e. \]

\[ a - a - e, a - a - e. \]

\[ a - a - a, a - a. \]

\[ \text{The above in modern notation.} \]

\[ \text{\textit{\textsection I. Virga preceding a Strophicus.}}} \]

453. A single \textit{virga} before a \textit{strophicus} has the value, approximately, of two pulses, as shown by the dot attached to it. We say approximately, because the value of these two pulses should be rather lessened than increased. There must be a repercussion on the first note of the succeeding \textit{strophicus}.

This lengthening of the \textit{virga} is indicated first of all, in the rhythmic manuscripts.

The St. Gall codices always place an \textit{episema} over a \textit{virga} in this position, and Laon MS. 239 often uses the \textit{e = tenete}.

Laon 239.
St. Gall.
Ry. G.

\[ \text{\textit{\textsection Laon 239.}}} \]

\[ \text{\textit{\textsection St. Gall.}}} \]

\[ \text{\textit{\textsection Ry. G.}}} \]

\[ \text{\textit{\textsection Adjuvábit}}} \]

\[ \text{\textit{\textsection Fig. 341.}}} \]

Laon 239.
St. Gall.
Ry. G. 5th mode.
Final Cadence.

\[ \text{\textit{\textsection Laon 239.}}} \]

\[ \text{\textit{\textsection St. Gall.}}} \]

\[ \text{\textit{\textsection Intr. Omnia quae...}}} \]

\[ \text{\textit{\textsection et fac nobis-cum}}} \]

\[ \text{\textit{\textsection Fig. 342.}}} \]

\[ \text{\textit{\textsection Fig. 343.}}} \]

ARTICLE 3.

COMBINATION OF THE STROPHICUS AND THE VIRGA.

452. The \textit{strophicus} and the \textit{virga} may be combined in two ways:
PART II. — CHAPTER IX.

§ 2. — A Virga between two Strophicus.

456. A few examples will suffice:

\[ \begin{align*}
\text{a)} & \quad \begin{array}{c}
\text{Offert. Auidia nostra.} \\
\ldots \text{læque- [e] us... liberá- ti [i l i] sumus}
\end{array} \\
\text{b)} & \quad \begin{array}{c}
\text{Intr.} \\
\text{Tibi dí-xit}
\end{array} \\
\text{c)} & \quad \begin{array}{c}
\text{Offert.} \\
\text{Reges Tharsis}
\end{array} \\
\text{d)} & \quad \begin{array}{c}
\text{Offert. Míhi autem.} \\
\ldots \text{nimis}
\end{array}
\end{align*} \]

Fig. 346.

Here again repercussion is necessary, both on the long virga and on the tristopha which follows it.

457. Intensity. As a general rule, a long virga in this setting is more powerful than the strophicus, so that the dynamic movement may be indicated thus:

\[ \begin{align*}
\text{a-} & \quad \begin{array}{c}
\text{e}
\end{array} \\
\text{a-} & \quad \begin{array}{c}
\text{e}
\end{array}
\end{align*} \]

Fig. 347.

The MSS. of the school of St. Gall use sometimes a virga, sometimes a punctum planum at this point, thus indicating a certain ambiguity as to the intonation.

Laon, MSS. 239, invariably uses a long punctum, and even adds a ✈ tenete to this punctum in noting the Gradual, *Éripe me.*

454. This separation of the virga, graphically in the notation, and practically in the rendering, may also be inferred in some cases by the way the melody is adapted to various texts. A striking example is the intonation of the Gradual *Juravit,* already quoted.

\[ \begin{align*}
\text{Laon 239.} & \quad \begin{array}{c}
\text{r ... ë}
\end{array} \\
\text{St. Gall.} & \quad \begin{array}{c}
\text{r ... ë}
\end{array} \\
\text{R. G.} & \quad \begin{array}{c}
\text{Ju-} \\
\text{rá-} \\
\text{vit}
\end{array} \\
\text{R. G.} & \quad \begin{array}{c}
\text{Exa-} \\
\text{tá-} \\
\text{bo te}
\end{array} \\
\text{R. G.} & \quad \begin{array}{c}
\text{Be-} \\
\text{ne-} \\
\text{di-} \\
\text{ci-} \\
\text{te}
\end{array}
\end{align*} \]

Fig. 344.

The first note of the tristopha is definitely separated from the preceding virga; moreover in the last two examples the tristopha is set to an extra syllable. Consequently we may safely assume that the first example, *Juravit,* requires a repercussion of the tristopha.

455. Indeed, various types of MSS. from Aquitania, Benevento, Spain and Metz write *mi* instead of *fa* as the first note of this passage.

\[ \begin{align*}
\text{Ju-} \\
\text{rávit} \\
\text{Be-} \\
\text{ne-} \\
\text{dicite}
\end{align*} \]

Fig. 345.

The MSS. of the school of St. Gall use sometimes a virga, sometimes a punctum planum at this point, thus indicating a certain ambiguity as to the intonation.

Laon, MSS. 239, invariably uses a long punctum, and even adds a ✈ tenete to this punctum in noting the Gradual, *Éripe me.*
C. The strophicus preceded and followed by neums at the same pitch.

The last example is but a combination of the two former ones. Now it remains to be determined how these passages are to be interpreted.

459. It has been suggested, under pretext of greater facility in the execution, that when three or four notes occur at the same pitch, these should be fused in one long sound, but this view cannot be upheld.

Practical experience has convinced us that the strophicus must be distinguished from the other neums with more precision than has been the case hitherto, and this because of the requirements of ensemble singing that the voices may move in perfect accord, and to avoid inaccuracies of rhythm which shock the ear; finally, in order to achieve an artistic impression true to the pure Gregorian type. This distinction of the strophicus is brought out by gentle, delicate undulations or repercussions of tone. Nothing, indeed, could be more anti-rhythmic, nothing could be further removed from the true Gregorian style, nothing could be more difficult of execution than a long drawn out series of notes at the same pitch, unless these notes be grouped audibly. Otherwise they stand out like solid dykes of sound checking and breaking the undulating flow of the rhythmic movement. Their very aspect, as they appear in the square notation, seems to contradict the doctrine conveyed by the neumatic notation.

Two examples:

Fig. 350.

Fig. 348.

Fig. 349.

Fig. 351.
The mere comparison of the two in regard to notation, proves the superiority of the neum-accents to the staff notation in respect to rhythmic clearness. On the one hand, each neum is distinct; its nature and function are obvious; whereas on the other hand, the neums are confused and their component parts can no longer be distinguished.

The following would be an adequate notation:

\[ \begin{array}{c}
\text{Jubilavit} \\
\text{Fig. 352.}
\end{array} \quad \begin{array}{c}
\text{Fig. 353.}
\end{array} \]

460. We may safely assert as a principle of ancient Gregorian composition that the prolongation of a sound was limited to two simple pulses or to three, after which a renewal was necessary. Whenever a series of four, five or six notes followed each other at the same pitch there was a repercussion. The Gregorian composers would have considered as intolerable an accumulation of notes massed on a single tone without an appropriate rhythmic subdivision.

Since the most ancient practice consisted in the repercussion of each individual note of the distropha and tristropha; since today, a repercussion of each group is accepted, that is the repercussion of the first note of each strophicus, we may safely conclude that a similar repercussion occurred at the meeting point between the strophicus and other neums.

Let us examine the point in the light of the rhythmic notations.

§ I. — The Strophicus preceded by a Neum ending at the same Pitch as the Strophicus.

\[ \text{Fig. 354.} \]

461. As far as the strophicus is concerned, there must be a repercussion on the first apostropha, and the rhythmic ictus falls on this note (II, 446); this is the general rule (to which there are, of course, exceptions).

462. As for the preceding neum, when we study the manuscripts we find that it may be treated according to its position in the phrase,

Either as a time-neum, without a rhythmic ictus on the last note,

\[ \text{Fig. 355.} \]

Or as a rhythm-neum, with a long rhythmic ictus on the last note,

\[ \text{Laon 239.} \quad \text{St. Gall.} \]

\[ \text{Fig. 357.} \]

The \( \wedge \) and the episema which follow the torculus in the St. Gall MSS. and the \( \wedge = \text{tenete} \) added to the last note of the same neum in the Laon MSS. 239 are clear indications of a mora vocis.

In the Solesmes editions, the presence or absence of a dot after the note will indicate the interpretation that is preferred.

Exercise XXXVI.

The Strophicus preceded by Neums at the same Pitch.

V. Mode.

\[ \begin{array}{c}
\text{a- a- e, a- a- e, a- a- e, a- a- e, a- a- a- a.}
\end{array} \]

\[ \begin{array}{c}
\text{a- a- e, a- a- e, a- a- e, a- a- a- a.}
\end{array} \]

N° 702. = 24
§ 2. — The Strophicus followed by a Neum at the same Pitch.

463. Rule: There is always a repercussion on the first note of a neum that follows a strophicus at the same pitch.

464. This rule is manifested with overwhelming evidence by the equivalents of notation that abound in the manuscripts. Thus the same scribe copying a given melody a number of times and in the same manuscript, uses one or the other of these forms indifferently, interchangeably; as they help to interpret one another, they are a source of authentic information for us today. A comparison between documents of the same school among themselves, and a further comparison of documents of one school with those of another, reveals the same variants and equivalents, and teaches the same doctrine.

We select a single example from the eighth mode Tracts.

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STUDY AND EXECUTION OF THE STROPHICUS.

Line A. The St. Gall MS. No 339 generally writes this melody using a distropha for neum 3 and a torculus for neum 4.

Line B. In the Tract Attend, however, the same passage is written with a tristropha for neum 3 and a clivis for neum 4.

We must remember that, for these writers, a repercussion of each note of the apostropha was considered obligatory; the rhythmic ictus, or group-ictus, fell on the first and third notes. If we are to retain the same rhythm and notation in Line A, there must be a repercussion on the first note of the torculus; it is this note that will carry the rhythmic ictus.

465. Why did the writers of the St. Gall school choose notation A for this passage? It seems as though they wished to indicate by the notation the close resemblance between the two melodies in question, which begin differently but soon converge and become identical.

Here are the two melodies:

C  Tr. Ad te levavi.  
    \[\text{no-strum}\]

A  Tr. Vinea.  
    \[\text{di-\text{-}\text{-}c\text{-}to}\]

---

In neum 3, there is a close similarity between the clivis do-si and the distropha do-do with vibrato; beginning with the torculus, neum 4, there is a perfect identity of melody, rhythm and notation.
This identity of the two passages is another proof of the repercussion of the torculus (neum 4, line A).

466. The writer of the Laon MS. No. 239 was unmoved by such graphic considerations. In line C, the melody is written, and rightly so, with a torculus (neum 4); whereas line A is always written with three punctum, a strophicus and a clivis. The same is true for this formula in the St. Gall MS. No. 339 (line B above). Equivalents of this type are so common in other manuscripts that they need not be described in detail.

467. In applying the rule formulated in II, 463, we must distinguish the two following cases:

a) Either the note on which there is repercussion carries a rhythmic ictus, in which case it is simply the application of the general rule which assigns such an ictus to the first note of all neums (II, 263, II, 446). For instance:

![Fig. 360](image)

b) Or the note in question has only an individual ictus, the rhythmic ictus being carried forward on to the second note of the neum, in which case it is an exception to the general rule (II, 264). For instance:

![Fig. 361](image)

We must see how the two cases are worked out in the manuscripts.

468. First case. Repercussion on a note with the rhythmic ictus following a strophicus. The rhythmic manuscripts show that there are in these repercussions the most delicate shades, graded both in length and intensity; from the point of rhythmic support which was long, even doubled, like the pressus, in infinite gradations, to the mere "touch" — simple and subtle — of the lightest of notes.

Here are four examples arranged according to diminishing duration. Rules are powerless to regulate or describe these effects; taste and art alone can reveal them to the singer. Moreover, the beauty of these effects can only be appreciated when embodied in their context in the musical phrase. Yet we cannot pass them by in silence.

469. A strophicus followed by a note of repercussion of double value.

A long clivis at the end of a phrase:

![Fig. 362](image)

A long clivis before a quilsma:

![Fig. 363](image)

The same before a bivirga:

![Fig. 364](image)

![Fig. 365](image)
We make no distinction, here, between the bivirga and the distropha because the modern square notation has not preserved a difference of form. Perhaps it would be more correct to have avoided this confusion, but in practice, we must make a choice, and for the time being it is simpler to conform to the actual notation.

**Exercise XXXVII.**

**Strophicus followed by a double Repercussion.**

V. Mode.

\[ \text{a-a-a-a, a-a-a.} \]

The above in modern notation.

470. A strophicus followed by a note slightly lengthened agogically by means of an episema.

Laon 239.

St. Gall.

R. G. Tu es Deus.

\[ \text{pópulum tu-} \]

\[ \text{um} \]

Fig. 366.

Laon 239.

St. Gall.

Offert. Lætanæ.

\[ \text{corde} \]

Fig. 368.

471. In the last example it will be noticed that Laon uses a third long apostropha (\(\_\)) as equivalent for the first note (virga with episema) of the St. Gall clivis \(\gamma\). This equivalent, which is used in the St. Gall MSS., also clearly proves that there was a repercussion of the first note of a neum following a strophicus.

Laon 239.

St. Gall.

Offert. Difusa est.

\[ \text{in \ldots\ae-\ldots tér-} \]

\[ \text{num} \]

Fig. 369.

**Exercise XXXVIII.**

A Strophicus followed by a Note of Repercussion lengthened slightly by a rhythmic Episema.

II. Mode.

\[ \text{a-a-e, a-a-a-e, a-a-a, a-a, a-a.} \]

\[ \text{a-a.} \]
"The above in modern notation.

A Strophicus followed by a Note of Repercussion with a simple rhythmic Ictus, indicating a mere Touch.

V. Mode.

The above in modern notation.
473. A *strophicus* followed by a neum of which the first note bears a rhythmic repercussion of the most delicate description, like a passing touch, light and caressing (*effleurée, caressée d'un touchement rythmique extrêmement délicat*). The St. Gall MSS, usually represent this nuance by the letter $\infty = celeriter$, while those of Metz use an ordinary neum accompanied frequently by an $\infty = naturaliter$. The neum should be sung legato, lightly and smoothly.

Laon 239.

\[ \text{Laon 239.} \]

\[ \text{St. Gall.} \]

\[ \text{Offert. *Invent*} \]

\[ \text{St. Gall.} \]

\[ \text{Offert. *Justus ut palma*} \]

\[ \text{St. Gall.} \]

\[ \text{Offert. *Diffusa est*} \]

\[ \text{St. Gall.} \]

\[ \text{Offert. *Adductor*} \]

In order to avoid digression, we have not drawn attention to the perfect agreement which exists between the MSS. of St. Gall and those of Metz in each of the examples quoted in this chapter. The student, however, will be impressed by the striking uniformity of the melodic and rhythmic traditions of these two great Gregorian schools.

**Exercise XL.**

A Strophicus followed by a Note with a very light rhythmic Touch.

V. Mode.

\[ \text{Laon 239.} \]

\[ \text{St. Gall.} \]

\[ \text{Comm. *Simile est*} \]

\[ \text{Laon 239.} \]

\[ \text{St. Gall.} \]
The above in modern notation.

475. Second case. Repercussion on the first note of a neum following a strophicus by a note that does not bear a rhythmic ictus, but the mere individual ictus of a basic pulse.

This occurs whenever the rhythmic ictus is carried forward to the second note of the neum; which is the case when at this point there is:

a) a pressus,
b) an oriscus (cf. below No. 477),
c) a simple rhythmic ictus.

476. a) Example of a pressus on the second note of the neum following a strophicus:

Laon 239.
St. Gall.

\[ \text{Intr. Sacerdotes tui.} \]
\[ \text{a-\text{v"{e}r-tas}} \]

Fig. 378.

Laon 239.
St. Gall.

\[ \text{Offert. Diffusa est.} \]
\[ \text{l"{a}-\text{b"{i}-is}} \]

Fig. 379.

Laon 239.
St. Gall.

\[ \text{Intr. Quasi modo.} \]
\[ \text{allel\text{-}lu\text{-}i}a \]

Fig. 380.
The six _apostropha_ of the above example are also found grouped as two _tristropa, _ or even without a break in the series; this plainly proves that each individual apostropha was sung with a distinct _percussion_.

477. _b_) Example of an _oricus_ on the second note of the neum following a _strophicus_. Here we anticipate somewhat (cf. Ch. X).

478. _c_) Example of a _rhythmic ictus_ on the second note of the neum following a _strophicus_.

**Exercise XLI.**

_A Strophicus followed by a Note of Repercussion without a Rhythmic Ictus._

III. Mode.

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http://ccwatershed.org
§ 3. The Strophicus preceded and followed by Neums at the same Pitch.

479. This is a combination of the two cases we have been discussing, and the rules we have given should be applied here.

Verceil 186.
St. Gall.
Rf. G. Probasti.

Laon 239.
St. Gall.
Rf. G. Excultabo te

Fig. 388.

Fig. 389.

ARTICLE 5.

THE STROPHICUS IMMEDIATELY FOLLOWED BY A QUILISMA.

480. A strophicus immediately followed by a quilisma (cf. Chapter on the quilisma).

1. The Tristostra. Here, repercussion on the third apostropha is obligatory (II, 440).
STUDY AND EXECUTION OF THE STROPHICUS.

Example.

Vercell 186.
St. Gall.

\[ \text{fig. 390.} \]

481. 2. The Distropha. There are two possible interpretations:

a) An ictus on the first apostropha:

\[ \text{Fig. 391.} \]

b) An ictus on the second apostropha:

\[ \text{Fig. 392.} \]

482. The first has the virtue of simplicity. In practice, the average choir will unite in one sound the two apostropha of the strophicus, and will apply the general rule for the grouping of notes. The two apostropha become one long note equal to a composite pulse, and this interpretation would permit us to include the four notes fa-fa-sol-la in an enlarged and very broad tripex group as indicated under the 3.

483. In favor of the second interpretation, it is significant that many manuscripts use mi instead of fa as the first note of the passage: (1)

\[ \text{Fig. 393.} \]

(1) Variants of this kind have already been pointed out. (II. 443).

and, consequently, the tonal uncertainty of this note eliminates it as the firm point of support required by the note preceding a quilsima. The firm point of support for this passage should be the second apostropha upon which the rhythmic ictus should fall.

This second interpretation has the advantage of bringing under a single rule all cases where the distropha and tristropha are followed by a quilsima: the rhythmic ictus would always fall upon the apostropha immediately preceding the quilsima.

The teacher is free to select one or the other of these two interpretations according to his taste and the capacity of his choir.

EXERCISE XLII.

The Strophicus followed by a Quilsima. (1)

I. Mode.

\[ \text{Fig. 394.} \]

\( a-a, a-a, a, a-a, a, a-a \)

The above in modern notation.

\[ \text{Fig. 395.} \]

(1) This exercise should not be sung until the chapter on the quilsima has been mastered.
ARTICLE 6.

THE STROPICUS CONSIDERED FROM AN AESTHETIC STANDPOINT:
THEIR NOTATION.

484. We have scarcely touched the surface of this vast subject: the notae repercussae which occur so frequently and are so characteristic of the liturgical melodies, as though woven into the very warp of the phrases, impart an élan, an intensity of expression that flows through the whole composition. This sequence of simple neums harmoniously combined with groups of strophi
cus take on such ample proportions that they constitute whole members, often indeed whole phrases, the entire beauty of which is due to the constant repercussion of the strophi
cus. A few examples follow, selected at random:

Offert. Deus firmavit.

or- bem...

qui non ...

pará- ta se- des tu- a...

Repercussion of the strophi
cus, in its various forms, was an ingenuous and simple procedure greatly in favour among musicians of ancient times as an ornament to the melody. It was a general means of expression which the composer used for the various emotions which may find vent in musical prayer: joy and exultation, as in the Introit, Puer natus est; praise, as in the Offertory, Benedictice; adoration, in the Offertory, Deus firmavit; tender, humble and trustful petition, as in the Introit, Reminiscere.

485. The strophi
cus plays so vital a part in Gregorian chant that it is essential not only to preserve it but to restore it to its original importance.

To accomplish this, the notation of the strophi
cus must be clear, precise and characteristic so that it may stand out from its surroundings and be distinguished at a glance. The neums as they appear in the MSS. without lines, in those of North Italian, German, French, Metz and Aquitanian derivation, are represented by characteristic signs which draw attention to the true character of the strophi
cus. Decadence soon set in, however, on this point as on so many others, and the written form of the apostropha was gradually confused with that of other notes; first in the manuscripts, then in the printed books, to the detriment of a correct and rational interpretation. Fortunately, the tradition was never wholly lost; the strophi
cus continued to be precisely indicated in Germany, even in the printed books, while in France,
the Lyons Gradual, printed in 1738, retained a distinctive sign for the *apostropha* in a number of cases, as for instance:

\[ \text{Exaltabo} \]

In other cases of similar nature, we find three square notes substituted for the *apostropha*, but this Gradual brings us down to the eighteenth century.

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CHAPTER X

THE APOSTROPHA-ORISCUS AND ITS EXECUTION.

486. — The graphic form of the *oriscus* has been presented (II. 44); but we must describe the melodic character of this note and its execution.

ARTICLE 1. — THE MELODIC CHARACTER OF THE ORISCUS.

§ 1. — The Oriscus on a note that is higher in pitch than the preceding note.

487. — Dom Schubiger describes the *oriscus* as "a grace-note higher in pitch than the note preceding it." (i)

This definition seems to contradict what has been said above (II.44), namely that the *oriscus* is like an *apostropha* in unison with the note preceding it. But Dom Schubiger's definition is correct and the apparent contradiction is easily explained. The learned author had in mind the many examples in the ancient St. Gall manuscripts where the *oriscus* appeared in the manner stated, but unfortunately the actual notation in use today no longer makes use of the *oriscus* in such cases.

488. — Examples of an *oriscus* placed a half-tone above the preceding note:

\[ \text{et dedú-cet} \]

\[ \text{us-que} \]

\[ \text{im-plé-vit} \]

(i) **Dom Schubiger.** *Die Singerschule von St.Gallen.* p. 5.
489. — Examples of the oriscus placed a whole-tone above the preceding note:

a) Intr. Loquebar

b) Com. Dicite pulsillanimes.

c) Intr. Dum (cum) clamarem.

d) Off. Sicut in holocausto.

Fig. 397.

490. — It would appear, then, that the oriscus is:

a) A final note of a neum that rises in pitch; and, to complete the statement of Dom Schubiger we must add that the oriscus is generally higher than the note preceding it and the note which follows.

b) A light passing note connected closely with the preceding neum; perhaps it would be more exact to say that the oriscus is an integral part of the neum which precedes it. (1)

The knowledge of this two-fold character will help to explain the nature and the interpretation of the oriscus when it appears in unison with the final note of the preceding neum. (2)

(1) In the examples cited of ascending oriscus, Laon MSS 239 has a special sign for this note; it resembles a St. Gall porrectus small in size with wavy line for its third curve.

(2) The oriscus never occurs alone in modern books, so it will not be discussed here.
§ 2. — The Oriscus at the same Pitch as the preceding Note.

491. — This is usually the case in the notation of today.
The oriscus may appear on any note of the scale but it is most frequently found on the note above the half-tone, that is to say on Fa or Do.

A. — The Oriscus on Fa or Do.

\[ \text{\textit{a) Com. Ecce Dominus.}} \]
\[ \text{\textit{i- la}} \]

\[ \text{\textit{b) R\textit{G. Tollite.}} \]
\[ \text{\textit{ve- stras}} \]

\[ \text{\textit{c) Tract. Domine audivi.}} \]
\[ \text{\textit{umbro- so}} \]

B. — The Oriscus on Sol, La, Ré.

\[ \text{\textit{a) Off. Confortaminii.}} \]
\[ \text{\textit{e- nim}} \]

\[ \text{\textit{b) R\textit{G. Ex Sion.}} \]
\[ \text{\textit{véní- et}} \]

\[ \text{\textit{c) Com. Dicite.}} \]
\[ \text{\textit{confortámi- ni}} \]

The oriscus is found very rarely on si or mi.

492. — In the examples given above we may notice the two-fold character of the oriscus:

A note of transition, — this the oriscus certainly is for it is apposed to the end of a neum and leads immediately either to another neum or to a new syllable.

493. — A note of higher pitch. This characteristic is not apparent at first sight because the notes are written in unison, but a study of the manuscripts reveals a slight downward inflexion of the voice on the note which precedes the oriscus throwing the latter into melodic relief and thus preserving its character.

The neumatic manuscripts indicate this shade of distinction in their own way:

instead of the oriscus,

\[ \text{Fig. 398.} \]

a virga is used:

\[ \text{Fig. 399.} \]

The natural transcription of this equivalence requires a si or a mi before the oriscus and, as a matter of fact, many manuscripts of various sources give this version.

494. — Curiously enough, however, the Antiphonal of Montpellier with its double notation interprets the last two notes of the neums \( \text{\textit{v}} \) and \( \text{\textit{v}} \) as being at the same pitch.

There are many variants on this point both in the neumatic manuscripts and in those with lines.

495. — What causes these variants?

We have pointed out the cause (II. 444) in regard to the apostropha: it is the tonal indecision in the singing of a note that makes it difficult for the listener to hear it with precision and for the scribe to write it accurately. This indecision did not affect the oriscus itself but affected the note immediately preceding it, the last note of the neum, whereas the oriscus remained stable.
According to the interpretation of the individual scribe, this note was recorded as a Fa or a Do, in which case the oriscus appeared to be in unison, (Fig. 400 A) or else as a Mi or Si (Fig. 400 B, C), in which case the oriscus appeared at a higher pitch than the last note of the neum.

496. — In reality, however, this note before the oriscus in neumatic notation in campo aperto must have been neither Fa-Do nor Mi-Si, but a graceful undulation of the voice, far too subtle to be given a fixed place in the inflexible diatonic scale.

Surely the contradiction between the two notations, neumatic and alphabetic, of the Montpellier codex is an indication of this tonal uncertainty.

ARTICLE 2. — THE EXECUTION OF THE ORISCUS.

§ 1. The Oriscus and the preceding Neum.

497. — The theorists give us no information on this point. Once more, we must seek our information directly from the manuscripts.

498. — The neum preceding the oriscus. — The letters and rhythmic signs of the manuscripts of St. Gall indicate that this neum is always brief and light, a fact that is illustrated by the examples given above (Fig. 396), especially in line i and j where the clavis is marked with a c = celeriter. This interpretation is applicable to neums with an oriscus that is distinct as well as to those where it is in unison. This delicate shade of the first case is quite impossible to render to-day, because the notation in actual use suppresses the oriscus or substitutes for it an ordinary note.

499. — The value and rhythmic importance of the oriscus. As to the oriscus itself, it does not appear to have differed in value from an ordinary note. The inference is clear since an ordinary virga was frequently substituted for it even in the manuscripts of St. Gall. It is not, therefore, an ornamental sign but it represents a note of normal value, but very light and with a retroactive effect of slight acceleration on the preceding neum.

The substitution of a virga for an oriscus was less detrimental than now, for the absence of any suggestion of length, even the addition of a positive indication c = celeriter to the preceding neum, made it possible to maintain a correct interpretation. And even where all these indications might be missing, the traditional oral teaching would compensate for the deficiencies of the notation here as in countless other passages. The Guidonian transcriptions seldom pay any attention to this sign, except in Germany, home of correct notation. Its absence does not deprive us of anything essential, it is true, either as to melody or rhythm, but it had practical disadvantages which are one of the countless marks of decadence, one of the fissures as it were in the Gregorian vessel which permitted the leakage and finally the loss of that art and beauty which had been stored up and preserved through the centuries. The sign of the oriscus warned the singer of the extreme softness and lightness of this note in a way which the modern substitutes — the punctum and the virga — cannot do: for, too often, these notes are sung like a pressus with a force and weight that deforms the melody. The oriscus also warned the singer to prepare the emission of the note by a delicate rendering of the preceding neum, and this, the square notation cannot indicate.

It is evident that the reestablishment of this sign will mean the resurrection of these delicate shades of interpretation and we shall adopt it hereafter in all the Solesmes editions: for whatever can aid the singer and lead him to a closer knowledge and more perfect rendering of the rhythm and melody even in their most subtle details, and everything that will prove to our contemporaries that the ancient music of the Roman Church was a veritable art, should be welcomed, treated with respect and maintained with the greatest care.
500. — The Distinct Oriscus (Fig. 396, 397) should present no difficulty provided it be clearly noted. When an ordinary note is substituted for the oriscus, there is no way of distinguishing it from the surrounding notes: in the Vatican Edition this delicate shade of expression is therefore lost to us.

501. — The rendering of the oriscus at the same pitch raises the question as to whether or not the preceding note should be inflected.

It would be in conformity with the early traditions to use this inflection, but in practice, only trained singers should attempt it. In the case of choirs, it is safer to keep to what is written, that is to sing the notes at the same pitch. The two notes should be fused so that they make one long note which, by its delicacy and softness will differ radically from the pressus which is equally long but stronger and more marked. The pressus must never be confused with the oriscus because of this difference in the rendering. The preceding neum must also be sung very lightly in the case of the oriscus.

§ 2. — Position of the Rhythmic Ictus with respect to the Oriscus.

502. — General Rule. The oriscus never takes the rhythmic ictus, because it is always either preceded or followed by a note bearing an ictus, and these cannot follow each other on two simple pulses in immediate succession.

503. — Place of the ictus after an oriscus — 1. The ictus, in this case, falls nearly always on the note immediately following the oriscus:

\[\text{A} \quad \text{B} \]
\[\text{implé- vit} \quad \text{implé- vit} \]

\[\text{C} \quad \text{D} \]
\[\text{umbró- so} \quad \text{tau-ró- rum} \]

504. — 2. It falls — but very rarely — on the second note after the oriscus.

This may happen in two cases:

a) When the oriscus is followed by a salicus, because the latter neum has its ictus on the second note:

\[\text{tu- um} \]

\[\text{Fig. 402.} \]

b) When a musical theme with a spondaic text is altered to fit a dactylic text and an extra note (survenante) is placed after the oriscus to carry the short penultimate syllable:

\[\text{Spondaic form.} \quad \text{A} \]
\[\text{Tr. De profundis.} \quad \text{Y. Fiv- ant} \]

\[\text{Dactylic form.} \quad \text{B} \]
\[\text{Tr. Beat us vir.} \quad \text{Y. Glo- ri- a} \]

\[\text{Fig. 403.} \]

505. — Place of the ictus before the Oriscus. — From what has been said, it is clear that the ictus must fall on one of the two notes which precede the oriscus; the choice being determined by the melody.

506. — The ictus is placed on the note nearest to the oriscus:

a) Whenever this note is fused with the oriscus. (II. Fig. 398)

To this rule there are no exceptions.

b) Whenever, in the melody, the oriscus is higher than the note which precedes it:

\[\text{implé- vit} \quad \text{tau-ró- rum} \]

\[\text{Fig. 404.} \]

(cf. Fig. 396, and Fig. 397 in almost every line.)
507. — 2. The rhythmic ictus is placed on the second note before a *distinct oriscus* in other melodic forms of which the following are examples:

![Diagram](http://ccwatershed.org)

*Fig. 405.*

(cf. also Fig. 396 lines a, b, g, h, i, j)

508. — NOTE. — This second rule may and often should be followed whenever instead of fusing the oriscus with the preceding note, as in the examples (Fig. 406 A) we sound the two notes separately (Fig. 406 B) in conformity with the equivalences noted above. (t)

![Diagram](http://ccwatershed.org)

*Fig. 406.*

(t) There are cases in which the lowering of the note preceding the oriscus adds greatly to the charm of the melody. Some years ago we ventured on an experiment at Solesmes. In the Introit *Gaudamus*, instead of singing the phrase *diem festum* as noted in the *Liber Gradualis* (Fig. 407, A), it is sung according to notation B of the same figure:

![Diagram](http://ccwatershed.org)

*Fig. 407.*

This way of rendering the *clivis-oriscus* was found to be so pleasing that it has been retained notwithstanding the notation. The finished artist would probably sing neither *fa nor mi* on the second note of the *clivis*, but something between the two.

The ictus is thus displaced, as a rule, when the *clivis cum orisco*, becomes a *porrectus*, as above. The rhythmic "touch" when thus thrown back on the first note of the *porrectus* should be very delicate as shown by the *e = celeriter* above it.

509. — In one case only might we be tempted to assign an ictus to the *oriscus* itself; and that is when we can count four notes between the two ictus on either side of it. This generally happens when a short penultimate syllable is interpolated into a melodic motif which normally contains three notes only between the two ictus.

- Normal form, spondaic text.
- Dactylic form.

According to the laws of natural rhythm (I, 43) the four notes *do - si - do - do* should be divided into two duplex groups by means of an ictus which must necessarily fall on the *oriscus*:

![Diagram](http://ccwatershed.org)

*Fig. 408.*

This division, however, may be avoided legitimately by recalling the fact that this little group of notes, ending on the *oriscus*, is always light and should be sung quickly. We apply here the principle according to which *four notes may be reducedagogically to the value of three* - that is of a triplex composite pulse.

N° 702. — 26
Exercise XLIII.

Oriscus as a Transition or Passing Note between Neums. (1)

a) Oriscus on the fa.

I. Mode.

The above in modern notation.

b) Oriscus on the sol.

IV. Mode.

c) Oriscus on the do and on the la.

V. Mode.

(1) Instances of an oriscus serving as transition for a syllable in the text will be dealt with in Part 3.
CHAPTER XI.

THE SALICUS AND ITS RENDERING.

510. — The salicus has already been defined (II. 45) as an ascending group of three, four or five notes. It has two forms, one in which all the notes are ascending:

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Fig. 410.
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The other, in which the first two notes are at the same pitch:

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Fig. 411.
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This latter form is peculiar to the salicus of three notes. We must now determine the interpretation of these two forms.

ARTICLE 1.

RENDERING OF THE FIRST FORM OF THE SALICUS.

511. — The theorists say nothing about the interpretation of this neum, therefore we must turn to the manuscripts and adopt the following rendering.

The word salicus — salire, to spring — suggests its character.

The voice, having merely touched the first note, springs immediately to the second, which carries a special mark; here it is prolonged somewhat like a pressus, but more slightly, more delicately. It is this second note that takes the ictus, and its
prolongation is indicated by the romanian sign, the horizontal episema:

Fig. 412.

or simply the vertical line.

Fig. 413.

In both these examples, the rhythmic ictus falls on the second note of the salicus.

512. — This interpretation is supported by the following facts:
1. Neumatic equivalents in the St. Gall manuscripts;
2. Romanian letters;
3. The use of the same sign for the pressus and the salicus in the manuscripts of Metz, Laon, Vercelli and Milan;
4. Equivalents in the manuscript of Laon;
5. Adaptation of the text to the salicus.

513. — 1. Neumatic equivalents in the St. Gall MSS.
The two higher notes are replaced either by a pes quadratus $\checkmark$, or by a pes quassus $\checkmark$.

$$\checkmark = \checkmark = \checkmark = \checkmark$$

Fig. 414.

The pes quadratus, as we remember, and especially the pes quassus, both require a point of support on the first note, and in the latter this may even entail the doubling of the note (II. 72, 73).

514. — The same equivalents are found in the salicus of four notes:

$$\checkmark = \checkmark = \checkmark = \checkmark$$

Fig. 415.

515. — On the other hand the following equivalent, though very rare, seems to indicate that there could not have been, in practice any very perceptible difference between the two notations: in the case of the salicus, a mere "nuance", a slightly increased support, an added shade of swiftness — nothing more.

$$\checkmark = \checkmark = \checkmark = \checkmark$$

facies nos in voce tubae

Fig. 416.

516. — The replacing of the salicus $\checkmark$ by an ordinary scandicus $\checkmark$ is very rare in the St. Gall MSS: out of hundreds of examples, there are only two or three instances, and these may be attributed to a copyist's mistake. The manuscripts are wonderfully consistent in the use of the salicus and it is evident that the scribes attached great importance to this sign.

517. — 2. Romanian letters. — We must not expect to find many letters over a sign which, for our predecessors, was in itself an indication of support and length. It is nevertheless essential that the letters used should confirm this rhythmic value, as in fact they do.

$$\checkmark = \checkmark = \checkmark = \checkmark = \checkmark$$

Fig. 417.

The $\checkmark = \text{tenete}$ is well-known, and very significant here.

The $\checkmark$, rarely found in Romanian manuscripts, occurs more frequently in Bamberg MSS lit. 6. Noiker thus describes it:
Ut cum fragore seu frendore feriatur efflagitat, and the Leipzig MSS 371: Ut cum fragore feriatur (II. 92).

518. — The St. Gall MSS rarely use a $\checkmark = \text{celeriter}$ over the salicus' note; at least we have only found it there in a few cases. The Metz manuscripts confirm the strength and the length of the salicus.

519. — 3. The use of the same Sign for the pressus and the salicus in MSS of the Metz school of notation.
The Metz pressus takes the form shown in figures 418 and 419. This sign is opposed to the note which it lengthens in two ways:

Laon 239

\[ \text{an ordinary clivis, a pressus and a punctum.} \]

Fig. 418.

Or else separated:

Laon 239

\[ \text{a pes subbipunctis, a pressus and a long punctum.} \]

Fig. 419.

520. — In the Metz notation the same sign is used for the middle note of the salicus, with this difference, that it stands alone, thus it is not opposed to another note.

Fig. 420.

There are, it is true, differences in the way the sign is written in the various manuscripts, and even in the same codex, but we need not enter into such details here. The use of the same sign for the pressus and the salicus would definitely show the strength and the length of the latter, were it not that the same sign is used, in this notation, for the oriscus, which is naturally light. The Metz school seems to have used the same sign for the three neums derived from the apostropha — pressus, oriscus, salicus — whereas the St. Gall school assigned a clearly distinct form to each of them.

521. — In spite of the identity of these signs, it seems quite clear that the copyist of Metz foresaw the difficulty, and took his precautions to prevent the identical rendering of the pressus

and the salicus; the manuscript of Laon very often adds to the salicus, a \( e = celeriter \), which has for its object, the diminution of the sign of length and the lessening of it to the value that exactly suits the salicus.

Laon 239.

St. Gall.

Off. Laetentur.

Laetentur

Fig. 421.

We must not be surprised to find the letter \( e \) over a neumatic sign, indicating length; for the St. Gall codices constantly use this letter over the pressus itself, to indicate that it should be sung lightly.

522. — 4° The equivalents in Laon MSS. — The St. Gall MSS are extraordinarily consistent and persevering in their use of the salicus; on this point, as in so many others, they are masters and models.

The Metz manuscripts are not so consistent, and show a marked decadence: sometimes they lose sight of the salicus which then becomes a mere scandicus. These mistakes are not however, wholly irreparable.

523. — In the first place, the mere comparison with the St. Gall MSS would justify our replacing all the Metz scandicus by the salicus, in accordance with the original tradition. But we may go further.

We find, after comparison of identical melodic passages in the Metz MSS, and even in a single manuscript, Laon for instance, that these variants are the result of careless copying; since for the same neum, and in the same melody, they use sometimes the salicus, sometimes the scandicus, where St. Gall uses the former only. We are therefore entitled to restore the salicus in every case.

524. — But what is even more important; such restoration is not always necessary, for the faulty scandicus in the Laon MSS
are sometimes made to equal the original *salicus* by giving the
neum a special form, namely by adding the letter $\alpha = \text{augete}$ to
the middle note:

\[ \text{Fig. 423.} \]

thus creating an equivalent, and again confirming the strength
and length of the middle note:

Examples:

Laon 239.

\[ \text{St. Gall.} \]

\[ \text{Off. } \text{Deus firmavit.} \]

\[ \text{tu es} \]

\[ \text{Fig. 423.} \]

Laon 239.

\[ \text{St. Gall.} \]

\[ \text{Off. } \text{Tui sunt.} \]

\[ \text{tu fun- diisti} \]

\[ \text{Fig. 423.} \]

Laon 239.

\[ \text{Einsiedel. 121.} \]

\[ \text{Br. G.} \text{Prope est Dominus.} \]

\[ \text{o-mnis ca-ro} \]

\[ \text{Fig. 425.} \]

525. — It would seem that St. Gall uses the same device as
Laon when the tradition of the *salicus* has been lost; here is one
last example of significant equivalents:

THE SALICUS AND ITS RENDERING.

Turin G. V. 20.

Monza C. 12/75.

The St. Gall ms. et Einsiedel. 121.

Bamberg lit. 6.

Laon 239.

\[ \text{Intr. } \text{Circumdederunt.} \]

\[ \text{in-voc- ca- vi} \]

\[ \text{Fig. 426.} \]

The Turin and Monza MSS have a *salicus*; St. Gall and
Einsiedeln have two long *punctums* and a $\approx = \text{tenete}$ over the
middle note, as in the earlier example from Laon MSS 239. The
latter also has two long *punctums* here with an $\alpha = \text{augete}$;
while Bamberg has three *virgas* in succession, the middle one
with a Romanian *episema* as a sign of strength and length. All
four notations are equivalent to one another proving that in the
*salicus* we must look for nothing but the relative strength and
length required for a correct interpretation.

526. — 5° Adaptation of the text to the *salicus*. *Diaeresis of the salicus*. — The foregoing conclusions are confirmed by the
rules for Gregorian composition relative to the *salicus*.

By the term *diaeresis* we understand the division and distribu-
tion of a neumatic group over several syllables, which normally
would be assigned to a single syllable (cf. *Palaographie Musicale*,
Vol. III, p. 73).

When the number of syllables requires it, the composer uses
the *diaeresis* of the *salicus*; he assigns a syllable to the second
note, which thus begins a neum and takes the rhythmic
ictus. The breaking-up of the original neum does not in any
way affect the rhythm; in either case, the ictus falls on the
same note.
For instance:

Tract. viih Mode.

diaeresis

in cor- nu in ló-co ú-béri
- -
- vi-
- nect-
- ró
- tor et
di-
- semper
- et ex-
- al-
- to
- bo
eum

nos autem
qui hás-
- bit
- tat
cx., cx.

Fig. 427.

Notice in the above example that the pes quadratus is used instead of the salicus: the first note of these two podatus is strong and has length.

527. — Further examples of the diaeresis, but with an ordinary podatus.

If. G. viih Mode.

diaeresis

in ae-
tér-
num
- -
sunt in pa-
ce

Fig. 428.

528. — What we have said of the salicus of three notes, applies to the salicus of four or five notes: namely that the salicus note is marked with a rhythmic ictus, slightly lengthened.
ARTICLE 2.

INTERPRETATION OF THE SECOND FORM OF THE SALICUS AT THE SAME PITCH.

529. — There are two possible interpretations:

a) The salicus treated as in the preceding example: first note light, second note stronger than the first, and given a repercussion, the ictus remaining on the second note.

\[ \text{Fig. 431.} \]

b) or the uniting of the first two notes into one, like the pressus.

\[ \text{Fig. 432.} \]

In this case the rhythmic ictus is on the first note, but the singers’ attack must be very gentle, in order to allow an easy increase of strength on the central note which remains the most important. There are good reasons in favour of both interpretations, though in practice we adopt the second as being the easier of the two. Those who prefer the first interpretation are free to choose it.

EXERCISE XL.IV.

On the Two Forms of the Salicus.

\[ \text{1. Mode.} \]

\[ \text{2. Mode.} \]
CHAPTER XII.

THE QUILISMA AND ITS RENDERING.

330. — We already know the form of the quilisma (II. 49). It remains for us to speak of its place in the musical scale, of the notes that surround it, and of its interpretation.

ARTICLE 1.

POSITION OF THE QUILISMA IN THE MUSICAL SCALE.

331. — The quilisma, as we know, is invariably preceded, in our actual notation, by a note or a neum. (1) It occurs between two notes which are:

a) a minor third apart — the half-tone being after the quilisma.

(1) Exceptions to this rule however are found in the neumatic manuscripts. In Harriker’s Antiphonar the quilisma is sometimes assigned to a syllable without a supporting note or neum. (Fig. 434 A)

Among the twelve great “O” antiphons only four end thus; the sign is that of the quilisma, but what is its meaning in this context? In other cases, there can be no doubt but that it is a real quilisma, as in (Fig. 434 B). Here the elision accounts for the quilisma being made the beginning of a neum. As a matter of fact, this is not an exception to the rule, and we should do well to revive this way of writing the quilisma.

A half tone before the quilisma.

b) The quilisma between two notes forming a Major third.

c) Between two notes forming a fourth; in this case which is rare, the quilisma is a major or a minor third above the first note.

The quilisma is never found between two notes separated by an interval of a fifth.

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ARTICLE 2.

THE INTERPRETATION OF THE QULISMA.

532. — We have three sources of information on this point.
a) Byzantine sources,
b) the Latin Authors,
c) and lastly the manuscripts.

§ 1. — The Byzantine Quilisma.

533. — The origin of this expression is evidently Greek, though its etymology gives us nothing very precise: κυλίνθω, the act of curling or twisting. There are two opinions as to its musical significance.

The first opinion considers the Byzantine quilisma not as a real note but as one of the important mute signs that refer to the chironomy rather than to the voice, and indicate not the sound, but the tempo. (1)

The Gregorian quilisma however is certainly a real note, an intrinsic part of the melody itself. If then the first opinion of the Byzantine quilisma holds good, there is no possible resemblance to be established between the oriental and the western signs.

The second opinion (2) makes of the Byzantine quilisma the sign not only of a note but of a whole series of notes — a whole melisma of which it is a shorthand abbreviation. This opinion tells us nothing about the value of the quilisma which, as used in the West, represents one note and no more.

Therefore we must abandon hope of any practical help from this source until further discoveries are made.

It is useful to begin with the codices, as they throw light not only on the quilisma itself, but also on the notes which precede it.

§ 2. — The MSS. The Retroactive Effects of the Quilisma.

534. — The Latin quilisma has a retroactive effect, and even prolongs the note or neum preceding it.

To this rule there is no exception: it is proved in one way or another by those manuscripts of every country which have preserved the rhythmic notation, whether wholly or in part (1).

535. — The many devices used by the different schools of notation to indicate the slowing up of the note preceding the quilisma fall into three classes.

1° The use (in the St. Gall and Metz MSS) of rhythmic signs, and letters that indicate length.

Although the notation of these two schools are so utterly dissimilar, they are in entire agreement as to the use of these signs, instances of which may be counted by the hundred.

536. — 2° The doubling in the notation of the note preceding the quilisma.

Two well-known manuscripts, the Monza C 12/75 (XIth century) and the Vienna Bibl. Imp. 1845 (XIth century) generally write a double note before the quilisma, that is to say, repeat the last note of the neum immediately preceding the quilisma. For purposes of comparison, the St. Gall notation is given also.

(1) J.-B. Rebours, Traité de Pratique, p. 11.

THE QUILISMA AND ITS RENDERING.

b) an ordinary torculus  \( \checkmark \) before a quilisma becomes:
\[
\begin{align*}
\text{Fig. 443.}
\end{align*}
\]

The same device is used by Italian, Lombard, Aquitanian and Spanish MSS. The St. Gall notation also employs it, at least for the podatus, for instead of the podatus \( \checkmark \) or \( \checkmark \), it always gives two punctum planum before a quilisma \( \checkmark \).

538. — The last two devices, of doubling and dividing are more or less frequent in the manuscripts; they grow scarcer as time goes on, though they are common enough in later manuscripts to uphold the primitive tradition which is so clearly expressed in the St. Gall and Metz MSS. We should not be surprised at such a state of things, nor think that it argues against the tradition. Everything is explained by the progressive decadence of Gregorian chant. We would do well to read over what has already been said about the use of the rhythmic signs in the MSS (II. 59-65).

539. — These first indications gleaned from the MSS lead to the following conclusion:

In the melodic and rhythmic entity formed by the quilisma and the notes preceding it, the note immediately before the quilisma is, from the rhythmic and the melodic point of view, more important than the quilisma itself. The latter, consequently, is simply an ornamental note.

540. — The history of the quilisma during the period of greatest decadence fully confirms this deduction.

One of the most significant and most common characteristics of this epoch was the total omission of the quilisma. The loss would be inexplicable if a fundamental or lengthened note, had been in question. There are many instances of such omissions.

Where however, the quilisma note itself has been retained, it appears as the middle note of the neum of which it formed part, though this again does not imply that it had been originally strong or long (cf. Rassegna, I. c. col. 243-244).
The manuscripts have given us some hints as to the interpretation of this mysterious sign; we must now consult the Latin writers.

§ 3. — The Latin Authors.

541. — The passages which bear upon this subject may be divided into two categories.

a) The texts directly referring to the *quilsima*, i.e. those in which the term is expressly used;

b) The texts which, according to modern commentators, contain more or less transparent allusions to the *quilsima*.

We give them all in a foot-note, for we cannot undertake to discuss these obscure texts, which after all only furnish matter for speculation and conjecture (1).


*Notker*, 9th-10th century. — In the letter to *Luitpert* is the explanation of the Romanian letters g, g = ut in guthure gradatim garruletur genuine gratulatur.


*Aribon*, 11th century, commenting on the above text, says: \(" Quod dicit: \(" aut tremualum habeat") puto intelligendum sic esse. Tremula est neuma quam gradatam vel quilsima dicimus, quod longitudinem de qua dicit \(" duplo longiorum") cum subjecta (plana) virgula denotat, sine quae brevitatem, quae intimatur per hoc quod dicit, \(" vel duplo breviorem") insinuat." *Gerb. Script.* II, p. 215\(^d\).


*Engelbert d'Amont*, † 1331. — \(" Unisonus vero non est aliqua conjuncto 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, qua vocatur quilsima." *Gerb. Script.* II, b. 319\(^f\).


542. — The least obscure definition of which any practical use can be made, is perhaps that of *Bernon*'s: \(" Quilsima quae nos gradatas neumas dicimus." *Aurelian*'s term \(" adclivanum") has the same meaning, so that the *quilsima* may be looked upon as a kind of ascending *portamento*. This is a plausible interpretation, for it agrees with the data furnished by the MSS. As a matter of fact an ascending *portamento* invariably requires the lower note to be sustained, for the voice rests on it before gliding smoothly upwards, and this is just what the MSS indicate.

These scanty references in mediaeval writers will not perhaps content all our readers, and those who wish are free to treat the *quilsima* as an ordinary note, light, and without any *portamento*. This makes an easier rendering, which is a point worthy of consideration. Even in this case however, the lengthening of the notes preceding the *quilsima* must be maintained, for this is an ascertained fact.

543. — We have not found anything in the manuscripts to authorize the note before the *quilsima* being interpreted as a sort of *grupetto*. 

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PART II. — CHAPTER XII.

Now that we have discussed these preliminaries, we may pass on to the practical rules for execution.

ARTICLE 3. — RULES FOR RENDERING THE QUILISMA.

544. — Some general rules.
1° The note preceding the quilisma is always to be slightly lengthened and sustained; it will always take the rhythmic ictus.

545. — 2° The quilisma-note which is always light, will never have the rhythmic ictus.

546. — 3° This note is to be treated either as a portamento or as a mere passing note. In time value, it is equivalent to one simple pulse. A heavy long drawn-out portamento would be quite contrary to the idea of this vocal embellishment, which requires a graceful rendering.

We will now give particular rules for each case.

547. — A. A single note before the quilisma.

\[\text{\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{fig444.jpg}
\caption{Fig. 444.}
\end{figure}}\]

Here we only have to apply the three preceding rules literally. To call attention to the point of support on the punctum, an episema may be added (Fig. 444 b, c), but the quilisma sign is in itself a sufficient indication.

548. — B. Two notes before the quilisma.

\[\text{\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{fig445.jpg}
\caption{Fig. 445.}
\end{figure}}\]

550. — In practice, not one of these precious indications must be neglected. They may be made to agree by writing the first note of a duplex neum with an episema, or even a rhythmic dot (Fig. 445 and 6). The holding of this note should not be exaggerated by the singer.

551. — C. Three notes before the quilisma.

\[\text{\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{fig448.jpg}
\caption{Fig. 448.}
\end{figure}}\]

Both are lengthened, but the lengthening is approximate, for there was a certain freedom in the interpretation, which explains the variants in the MSS.

549. — Some MSS, it will be remembered, double the note immediately preceding the quilisma :

\[\text{\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{fig446.jpg}
\caption{Fig. 446.}
\end{figure}}\]

Therefore according to rule 1 (II, 544), this note must be long and take the rhythmic ictus. However, the St. Gall MSS. do not all use this doubling. On the contrary, they appear, as in the case of the clivis, to attach greater importance to the first note, for they write an episema or a over it. We sometimes find, in like cases, that the virga before the clivis is doubled :

\[\text{\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{fig447.jpg}
\caption{Fig. 447.}
\end{figure}}\]

or what amounts to the same, the pressus is used :

\[\text{\begin{figure}[h]
\centering
\includegraphics[width=0.4\textwidth]{fig447a.jpg}
\caption{Fig. 447a.}
\end{figure}}\]
These three neums, *torelius*, *porrectus*, *climacus*, are rendered in accordance with the usual rule: the rhythmic ictus falls on the first and third note of each neum, and all three notes are slightly retarded.

552. — D. *Four or more notes before the quilisma*.

![Fig. 449](http://ccwatershed.org)

The same remark applies to this case: the usual rules are followed.

553. — E. *A strophicus before the quilisma*.

![Fig. 450](http://ccwatershed.org)

Instances of this are very rare; however, as some rule must be given for its rendering, we repeat what has already been said (II, 480-483).

554. — First example. *Tristropha* (Fig. 450). — The neumatic notation of this *strophicus* implies the repercussion of at least the last *apostropha* marked with an *episema*: it thus supports the *quilisma*. The *tristropha* is then treated as a neum of three notes, with a rhythmic ictus on the first and third (II, 480).

![Fig. 452](http://ccwatershed.org)

555. — Second example. *Distropha* (Fig. 451). — Of the two *apostrophas* the one immediately preceding the *quilisma* is the more important, and the *episema* over it requires the rhythmic ictus according to rule I (II, 544). If the three *fa* are given with repercussion the rendering will be:

![Fig. 453](http://ccwatershed.org)

If the two *strophicus* are united in a single sound, we shall have

![Fig. 454](http://ccwatershed.org)

which does not agree so exactly with the neumatic notation, but is a little easier to sing (II, 481).

**Exercise XLV.**

**On the quilisma.**

One note before the *quilisma*.
The above in modern notation.

Three notes before the quilisma.

The above in modern notation.

Two notes before the quilisma.
PART II. — CHAPTER XII.

A *strophicus* before the *quillum*.

\[
\begin{align*}
\text{a a a a a a a e.}
\end{align*}
\]

The above in modern notation.

With this exercise the second part of our book ends. The practical rendering of the rhythm of neums, melodic groups and melismas has been discussed in greatest detail and we have tried to give with all possible clearness the secrets of the *Gregorian musical "nombre"*. In the Second Volume, as announced in Volume I, 22-25 we shall study these same neums in their relation to the *liturgical texts* which almost always accompany them. This study will be the object of Part III.

APPENDIX.

(II. 277)

RULES FOR RENDITION OF NEUMS.

LEGATO STYLE. SMOOTH VOCALIZATION.

556. — The Gregorian style is fundamentally legato. Even brief, simple neums, even elementary exercises must take on this character.

The individual notes of a neum are intimately related. Long neums with rhythmical subdivisions are no exception to this rule. The singer must attack and articulate each note distinctly but unite all the notes by a perfect legato. The phrase will then give the impression of one produced by a cellist with a single stroke of a bow upon the string.

557. — The dynamic or intensive force of a neum is variable. It will be sung *crescendo* or *decrescendo* according to its position in the phrase and according to its relation to the text. As a general principle, however, the neum will be sung *crescendo* in ascending passages and *decrescendo* in passages that descend. Whatever may be the melodic pattern, the union of the notes must be brought out and the dynamic shading will serve merely to intensify and underlie the legato character of the music.

558. — So essential is this legato character to a correct interpretation of the Gregorian neums that means of obtaining this art are suggested below, even though we may be trespassing in the field of solfeggio.

The technique of legato singing is the same for all types of music and for all styles and periods as is explained by the authors of singing methods. We may borrow from their works since we have the luxury of choice.

M. Théophile Lemaire in "Le Chant et ses Principes" (1) gathers together the teaching principles of the great masters of song. We apply these principles and use some of these exercises

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with such modifications as are required by their application to Gregorian music.

559. — "The sense of union between tones" according to Lemaire, "depends on the manner of passing from one sound to the next. That their binding together may be mellow, to obtain this perfect union, the singer, after inhaling, controls the body of air to be emitted with extreme regularity. The voice, thus supported, passes from note to note smoothly as though slipping from one to the other, producing a continuous, uninterrupted sound. Yet each note must be articulated distinctly, evenly, as a unit despite the union of all, and, of course, absolutely true to pitch. There must be no careless dragging of the voice between notes (no scooping) that would make for confusion of sound, but, on the contrary, the voice must be kept at once firm and flexible."

560. — "It is essential to sustain the column of air as sounds rise progressively and to control it firmly in descending passages to avoid the danger of weakness and flabbiness." (op. cit. p. 89).
"Perfect legato in a succession of sounds is one of the greatest beauties of song. It confers on the melody a character of limpidity and grace." op. cit. p. 89.

This character is essential to Gregorian music. In order to acquire this art of legato singing, vocal exercises are indispensable.

561. — "To obtain the best results, we reduce the problem to its simplest expression. To sing two notes in succession well should be easy, but, unfortunately, this is not the case. On the other hand, a student who succeeds in singing two notes perfectly will find little difficulty in singing three, four, five, up to an octave, with equal success."

The following exercises should be studied in the order suggested below.

1. Pattern of two notes.
2. Pattern of three notes.
3. Pattern of four notes.
4. Pattern of five notes.
5. Pattern of six notes.
6. Pattern of seven notes.
7. Pattern of eight notes.

EXERCISE XLVI.

Pattern of two notes.

The same exercise in modern notation.

562. — "Begin by studying the first rhythmic figure alone, the torculus — repeating it several times with breath well sustained, so that the notes will be united smoothly without jerk or jar."

"Sing on the vowel a, fairly open, round and resonant, slowly so that each note may sound clear and neat, well articulated, without dragging. As soon as the student can sing this first rhythmic figure adequately, add the second, uniting it to the first on a single breath and moving at the same tempo as before. Repeat these two rhythmic figures until a satisfactory rendition has been obtained, then add the third, fourth, etc., proceeding in the manner described above."

563. — When this first exercise has been mastered, proceed to those which follow, studying them in the same manner as suggested for the first.

EXERCISE XLVII.

Pattern of three notes.
The same exercise in modern notation.

Exercise XLVIII.
Pattern of four notes.

The same exercise in modern notation.

Exercise XLIX.
Pattern of five notes.

The same exercise in modern notation.

Exercise L.
Pattern of six notes.

The same exercise in modern notation.

Exercise L. I.
Pattern of seven notes.
EXERCISE LII.

Pattern of eight notes.

The same exercise in modern notation.

564. — "These exercises should be sung on all vowel sounds: a, o, oo, ai, ee, etc. and at various pitches in such fashion that the whole extension of the voice is covered. Keep well within the easy range of the voice, beginning on a tone about one third above the lowest note of the range, then transposing the exercises ascending by chromatic steps, being careful not to exceed the natural compass of the voice, allowing the student to sing only those tones that he can reach easily.

565. — "The exercises should be sung piano, then mezzoforte, then forte but never fortissimo. As the student gains in experience he will obtain mastery over his voice and be able to give it the expression he wishes. The teacher should begin the study using the vowel that produces the best tone quality in the particular voice and later matching up the other tones and vowels."

566. — "Repeat the exercises giving a slight shade of crescendo to ascending passages and a discreet decrescendo to the descending ones.

567. — "Vowel colour should be modified slightly as follows: In passages rising to a high pitch, gradually close the vowel, though not to the point of making the timbre really dark. In passages where the pitch is low, open the vowel to bring back the tone coloring to its original sound. These modifications of vowel sounds give the voice an apparent equality of timbre which, in reality, is an art of inequality. This a will come close to the sound of o in the ascent, but, in the descent, will resume its original color; ai will approach er; o will approach oo ".

"Should the singer neglect to make this modification, all the vowels in the high passages will sound shrill, metallic; in the lower passages, vowels given the same colour as in high passages, will sound dull, muffled, hollow " (op. cit. p. 108-110).

568. — The exercises should be sung slowly at first, then the tempo can be increased gradually, as the student gains ease and vocal control, up to about M.M. \( \frac{\text{3}}{\text{4}} = 152-160 \). Greater speed than this will never be required in Gregorian Chant. If the student wishes to continue the exercises at a faster pace to obtain greater flexibility and control for his own satisfaction, that is another matter and will do no harm on the principle that he who can master the more difficult things will easily accomplish the simpler ones. But he will never need so rapid a pace for the Gregorian melodies.

569. — The rhythm and time must be maintained scrupulously, neither hastening nor retarding the pace. The ictus indicating the grouping of the notes should be rendered as in any music of legato character, namely with infinite gradations of nuances.

a) Sometimes our ear is made aware of the subdivisions of the rhythm by a shade of intensity given the ictic note itself.

b) At other times the subdivisions are veiled in mystery, hidden in the smooth legato of the phrase, and are perceived intuitively through the context.

c) In most cases, however, these secondary subdivisions disappear utterly, absorbed in the flow of the legato phrase and in the powerful undulations of the music as a whole. The ictic " touch " is then so tender, so caressing, as to become imponderable, a spiritual rather than a material force. The interior senses alone perceive it, if it be perceived at all.

All these delicate shades and distinctions are highly characteristic of Gregorian Chant. They must be brought out even in

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simple exercises, and they reign supreme in the phrases of the melodies themselves.

570. — The student should begin by giving the ictus a delicate shade of emphasis that can be heard. It will serve to sustain the voice as it passes from note to note. Gradually he should diminish the force of the ictus until, finally, it disappears materially, remaining merely a mental support, an intuition, a feeling for form. By following this process the singer will attain complete control of his voice and will use one or the other of these ways of treating the ictus according to the norms of good taste, of art and the laws of expression.