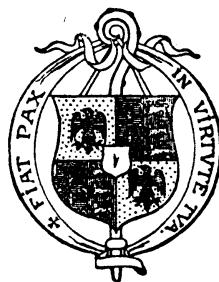


**“LE NOMBRE MUSICAL GRÉGORIEN”**  
*A STUDY OF*  
**GREGORIAN MUSICAL RHYTHM**  
*BY*  
**DOM ANDRÉ MOCQUEREAU**  
*OF SOLESMES*  
**VOLUME I - PART I**

*ENGLISH TRANSLATION BY AILEEN TONE*



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## 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, monastic 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, marred 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 fascinated by the charm of this free rhythm, supple and undulating, for which our modern education had so little prepared 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 "*Mélodies grégoriennes*". 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 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 knowledge; 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 interpretation with failures which threw discredit on the cause of Gregorian Chant, on its promotores 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 rendition 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? Undoubtedly.

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

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 ciceronien prose, is subject to the law: *Sunt quaedam latentes sermonis percussionses et quasi aliqui pedes* (Quintillian. Or. ix.).

(1) In an article from "*Harvard Psychological Studies*" (vol. I) containing sixteen experiments in rhythm made in the psychological laboratory of Harvard College, Professor Robert Macdougall expresses himself in the following terms: "I conclude therefore (i. e., from the positive evidence of the experiments) that the numerical limit of simple rhythmic groups is soon reached and that only two rhythmical units exist, of two or three beats respectively, that in all longer series a resolution into factors of one of these types takes place".

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 rhythmical divisions, incises, members, phrases; they carried their analysis farther and included the smallest subdivisions.

Hucbald (840-930): *Veluti metricis pedibus cantilena plaudatur... plaudam pedes... more metri diligenter mensurandum sit, etc...* Gui (1050): *Ut quasi metricis pedibus cantilena plaudatur, etc.*

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

$$\begin{aligned}
 \text{aequa : } & \left\{ \begin{array}{l} 1-1 \\ 2-2 \\ 3-3 \\ 4-4 \end{array} \right. & \text{dupla : } & \left\{ \begin{array}{l} 1-2 \\ 2-4 \\ 3-6 \\ 4-8 \end{array} \right. & \text{tripla : } & \left\{ \begin{array}{l} 1-3 \\ 2-6 \end{array} \right. \\
 \text{sesquialtera : } & \left\{ \begin{array}{l} 2-3 \\ 4-6 \end{array} \right. & \text{sesquitertia : } & \left\{ \begin{array}{l} 3-4 \\ 6-8 \end{array} \right.
 \end{aligned}$$

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 vincita* of the Greeks and Latins by the minute rules given by Denys of Hellicarnassus, Cicero and Quintillian 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, Aribō, 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 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*, *strophicus*, *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 convoke 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 *ictus!*... 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 unrhythymical rendering of the Plain Chant before its restoration. " <sup>1</sup>

<sup>1</sup> Canon Gaborit, choirmaster of Poitiers' Cathedral, in *La Tribune de Saint Gervais*, 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-accents, 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 Rhythmics*, 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 rhythmics* most in conformity with: *a*) the fundamental laws of rhythm, *b*) the tradition recorded in the manuscripts, *c*) the teaching of mediæval 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 instil 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 discentibus debent, et ab initio infantes eadem aequalitatis sive numerositatis disciplina informare, inter cantandum aliqua pedum manuumve, vel qualibet alia percussione numerum instruere; ut a primævo usu æqualium et inæqualium distantia calle eos (*f. pateat, eos*) laudis Dei disciplinam nosse, et cum supplici devotione scienter Deo obsequi” (Gerbert. Scriptores. I. 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 Scholæ 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.

(2) *La Revue Critique*, Sept. 1899, p. 252.

This does not mean that the comparative study of literary or musical languages cannot be of use to us. On the contrary; but, we must not imagine that all we may find in modern music must necessarily be found in music fifteen centuries old. The history of rhythm, in the arts whether of speech or of sound, shows it to be in a state of continual transformation. *Except for two or three great and immutable principles* from which it can never diverge, rhythm is, in all else, subject to the unconscious and impersonal influence of men, of schools, and of peoples. Let us therefore build our *Gregorian rhythmics* on these great general principles, but let us guard against taking from modern rhythmical facts and theories anything that is beside the point. We have seen so many changes in the modality, harmony and rhythm of music, that we cannot be sufficiently on our guard against things that may indeed be transformed again some day or even disappear. Let us not renew, in our times, the errors of harmonists of the middle ages, who, wishing to reduce to their childish theories of harmony and their narrow and ephemeral theory of measure, the free Roman melody, brought it finally to its ruin.

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## PART ONE.

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### THE ORIGIN OF RHYTHM

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## PART ONE.

### THE ORIGIN OF RHYTHM.

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#### 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 divers 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.

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 one 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. 22-23.

**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.

2nd. <i>Intensity or dynamics</i>	{ strong sounds weak sounds
3rd. <i>Pitch or melody</i>	{ high sounds low sounds
4th. <i>Timbre or phonetic quality</i>	{ The timbres are innumerable

Consequently we have four *kinds* of phenomena.

14. The ensemble of the laws which regulate the use of duration, dynamics, melody and timbre can be classified as follows :

1st. *The Quantitive Order* comprises all the phenomena of duration : length or brevity. This is the most important.

2nd. *The Dynamic Order* comprises all phenomena and manifestations of intensity, strength or weakness, indicated principally by the *crescendo* and *decrescendo* of the phrase.

3rd. *The Melodic Order* concerns the intervals of the sounds, high or low ; the scales, and the melodic systems or modes.

4th. *The Phonetic Order*, in instrumental music, embraces all the *differences of timbre* among the instruments ; in vocal music, the *differences of timbre* among the vowels, the combination and repetition of which, as in rhyme, may lend to the rhythm an added charm and beauty.

15. *The Pitch* of sounds comes from the rapidity of their vibrations. The *slower* the vibrations of sonorous bodies, the *lower* the sound. On the contrary the more *rapid* the vibrations the *higher* the sound.

*The intensity* increases or decreases with the amplitude of the vibrations.

*The timbre* depends on the *form* of the vibrations; each timbre gives the vibration an outline — a particular form.

*As for duration*, it is simply the prolongation, greater or less, long, of a given sound.

16. The intimate and harmonious union of all these sound phenomena : long and short, strong and weak, high and low, timbres of all sorts, successive or simultaneous, give birth to *Melody*, *Speech*, *Harmony*, and finally to *Rhythm* without which

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 distinguished by the role they fill in the *sonorous rhythmic movement*; 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* (*κίνησις*, — movement) or *order of rhythmic movement*. This word (*κίνησις*) entered almost always in the Latin or Greek definition of rhythm. In reality it takes in all the “élangs”, 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 necessary 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, principally, to the confusing of these *orders*. The distinctions between the *orders* will be, to the reader, like the clue of Ariadne through our researches into the genesis of rhythm.

## 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 imbue 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) GEVAERT, *op. cit.* II, p. 9.

(2) « τῇ δὴ τῆς κινήσεως τάξει ρυθμὸς ὄνομα εἶη » PLATO, *Leges*, II, 665, A.

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 metricalians 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.

(1) VINCENT D'INDY, *Cours de Composition Musicale*. Paris, Durand, 1902, pp. 20-21.

## 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 Rhythmics 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

Member, 3rd stage.				Member, 3rd stage.			
Incise, 2nd stage.		Incise, 2nd stage.		Inc., 2nd st.		Incise, 2nd stage.	
Simple R. 1st stage.							
Cantáte	Dómino	cánticum	nóvum :	laus éius	ab extrémis	térrae.	

## 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.

It is necessary, then, in order to make time apprehensible, to renew the *ictus* and introduce new divisions into this prolonged undulation. These ictus should be :

*neither too far apart*, for then we could not measure them;

*nor too near together*, (as in the roll of a drum, or in the continuous crepitations of electric bells,) for then we could not distinguish them.

They should be so repeated that the sensation of the first stroke does not fade away before a second stroke, then a third and a fourth, come, in succession, to renew it and *to mark the time*, as it were, on the clock of our senses, as in the case of a second hand of a well regulated watch.

(M.M. ♩ = 144.)

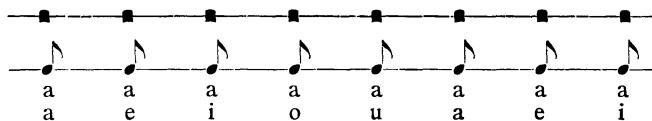


Fig. 4.

30. *Ictus and their power. — The Individual Ictus.* — To these ictus we give the name *individual*, when their effect does not extend beyond the production of a series of *sonorous individualities* — sounds, notes, syllables, — remaining independent of each other, juxtaposed, without any other link between them but that of their succession. These ictus give to each note its existence, its *individuality*, nothing more. We have been obliged to label them very carefully in order to distinguish them from the *rhythmic ictus* of which we shall speak later. (1)

31. *The Elementary or Basic Pulse.* Under the conditions just explained, time moves merely from one individual ictus to the next, from one note to the next, by a series of basic pulses, and is called *elementary* or *simple time*. This fundamental pulse is the unit, the time atom, the basis of the entire rhythmic body, the norm, the standard and the measure of other units in the whole rhythmic ensemble.

(1) See Article 2, P. 50.

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.



Fig. 5.

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.



Fig. 6.

36. The Basic Pulse can be :

doubled : ■■ = ♩ or tripled : ■■■ = ♩.

Fig. 7.

Fig. 8.

but then it becomes a *Composite Pulse*.

## 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.

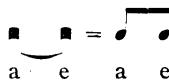


Fig. 9.

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



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:

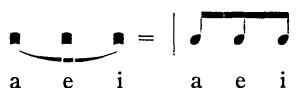


Fig. 11.

b) The *contracted* form:

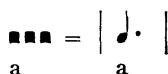


Fig. 12.

c) The *mixed* form:

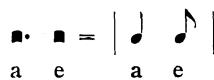
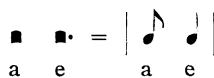


Fig. 13.

The reversal of the preceding form :



*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



*Fig. 15.*

is analyzed in one of the three following ways:



*Fig. 16.*

It is the same for longer groups.

(1) See Footnote, p. 52.

Here again it is only by the principles of rhythm can we that explain why composite pulses must be either duplex or triplex.

44. But by exception, in the course of a phrase, four notes or pulses can be condensed into three. (1)

45. *The ictus of the rhythmic composite pulse.* There is but one *ictus* in the *contracted* form of a composite pulse, whether it be duplex or triplex, because there is but one note. The individual ictus of the 2nd and 3rd pulses melt into the first pulse.

A composite pulse has as many *individual ictus* as there are notes expressed. Thus:

- a) A triplex composite pulse (distinct)  has three individual ictus;
- b) A triplex composite pulse (mixed)  has two individual ictus;
- c) A triplex composite pulse (contracted)  has but one ictus.

But each composite pulse, *in as much as it is composite*, has its group ictus, its *rhythmic ictus*, because each composite pulse is a rhythmic pulse. *This rhythmic group-ictus is placed theoretically, on the first note of the composite pulse.* (2)

46. The notion of the *rhythmic pulse*, whether *basic* or *composite*, is the first that we must grasp in arriving at a knowledge of rhythm.

We must now take up the subject of Rhythm and first of all, *Elementary Rhythm*.

(1) This delicate condensation or enlargement is purely an agogic phenomena and neither metrical nor rhythmical. It corresponds to the *tempo rubato* in modern music represented by the signs : *accel.*, *rit.*, *alarg.*, which suggest a certain freedom of movement without a fundamental change in the relative value of the notes. (Translator's note.)

(2) I shall say nothing here of the nature of this ictus. To understand it, it is necessary to know the delicate mission of this support, this touch in connection with rhythm.

For the moment it is enough to know that there is an *ictus, support rhythmic touch* — strong or weak, it matters little — on the first note of the composite pulse. To proceed further with this subject at present might lead us into error.

## 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

(1) HUGO RIEMANN, *Musik Dynamik*. p. 98.

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 rhythmic 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) On the movement of sounds and its perception, on rhythm that is purely subjective, see P. SOURIAU, *L'Esthétique du mouvement*, p. 136. Félix Alcan, Paris.

## ARTICLE 2. — RHYTHM AND DURATION.

## THE QUANTITATIVE ORDER.

## § I. — Iambic or unequal Rhythm.

*The Élan 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 :

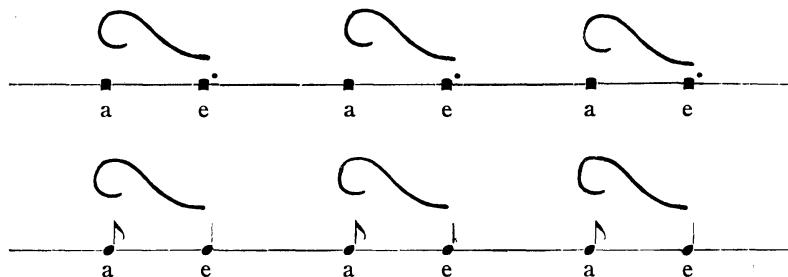
(M.M.  $\text{♪} = \blacksquare = 132$ )

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

(1) At this point, the teacher will require the pupils to sing the above series of notes at a convenient pitch, *recto tono* and on vowel sounds or syllables of his choice. No words should be used for the present. The teacher, by a swift upward curve of the hand, will lift the short note, and will drop his hand in a downward curve at the long note, according to the graphic form indicated above.

In a later chapter on the *Plastic expression of Rhythmic Movement* we have assembled the rules for manual direction of a Gregorian Choir. The teacher should study these rules at once and explain them to his pupils as occasion

have the feeling of an *intimate relation between the short note and the long one.*

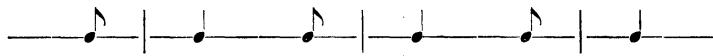
59. What is this relation?

The *short* note seems to us a beginning, a point of departure, an *élan*; 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 *repose*. The repose 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 (u) and a long (—) 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 :



*Fig. 21.*

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



*or*



*Fig. 22.*

offers. Each example, and exercise will be expressed by a curve representing the rhythm graphically. This curve should be reproduced by each pupil with his hand while he sings. Thus he 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:



*Fig. 23.*

and even more so in the following formula:



*Fig. 24.*

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:

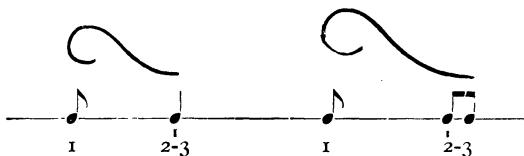


Fig. 25.

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.

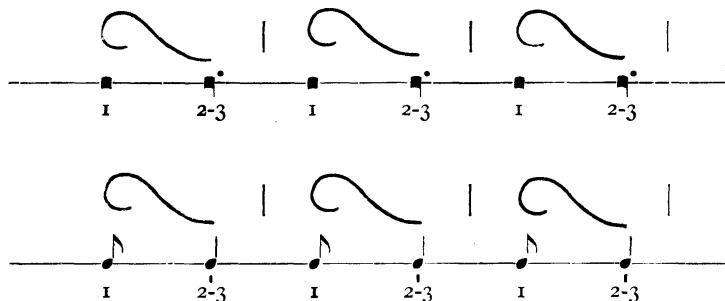


Fig. 26.

(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 *péon* Form (ʊ ʊ ʊ —, céléritás) 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*, (*ἐπισημα*) added to the note on which the repose falls.



Fig. 27.

68. When we use the terms *élan* 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 *élan* 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 *élan*, 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)

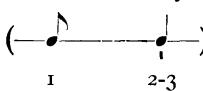
This recourse to the borrowed image or symbol takes nothing whatever from the distinctive reality in the world of sounds; to substitute a low note for a high note in a melody, or vice versa, destroys the melody. To change the normal position of the *élans*

(1) The Stanghetta must not be confused with the bar-lines of measured music for, as we have shown above, 61 (Fig. 21) these rhythms are astride of the measures.

(2) See *Paléographie Musicale*, I, 98; VII, 193.

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 *élan* 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,  
*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 repose.* (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.

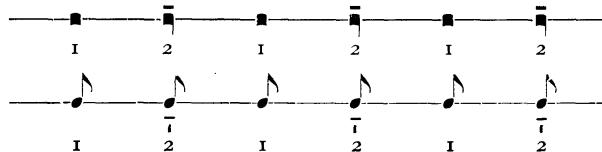
§ 2. — Equal or Spondaic Rhythm.

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?

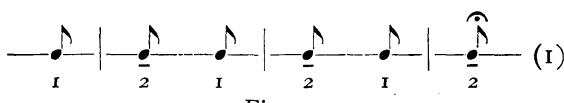


*Fig. 29.*

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.



*Fig. 30.*



*Fig. 31.*

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.

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* :



Fig. 32.

*Iambic rhythms in which the notes are unequal* :

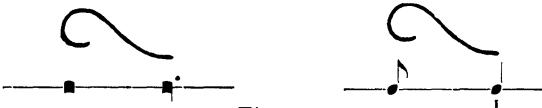


Fig. 33.

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 *élangs* 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 simplication of rhythm even further, and to reduce the two primary forms,

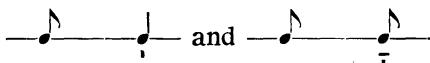


Fig. 34.

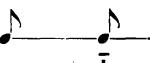


Fig. 35.

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 : “Dom Mocquereau... hat meine Termini” schwer “und” leicht “mit “lourd” und “léger” wörtlich übersetzt, dafür aber im Verlauf seiner eigenen Darstellung die zweifellos viel besseren, *élan* (für Auftakt) und *repos* (für Schwerpunkt) substituiert (S. 172), auf die ihn die antiken Termini *Arsis et Thesis* (Hebung und Senkung [Aufsetzen] des Fusses) gebracht haben. *Elan* und *repos* sind noch viel universeller und philosophisch tiefgründiger, da sie zugleich die Zusammengehörigkeit der beiden Elemente in dieser Folge: *élan-repos* selbstverständlich machen und die gegenteilige Bezeichnung direkt naturwidrig erscheinen lassen.” *Die Musik*, 1903-1904 No. 15, p. 159: *Ein Kapitel von Rhythmus*.

That is to say : “Dom Mocquereau 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 Auftakt) 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.”

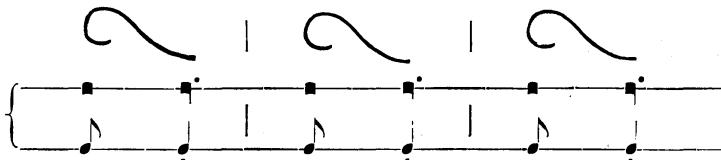


Fig. 36.

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 repose.

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.

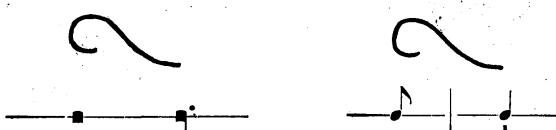


Fig. 37.

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.

phrase members, periods, which all terminate regularly *on the thesis*, that is on the note of repos.

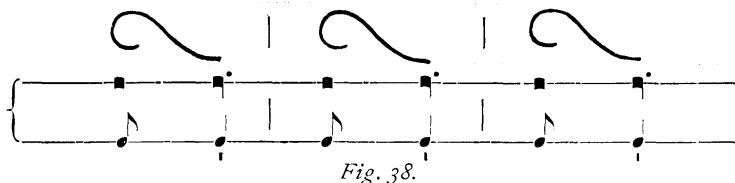


Fig. 38.

The repos, the term, — *mora ultimæ 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.**



Fig. 39.

(1) Cf. ARISTOTLE, *Rhet.*, III, 8.

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

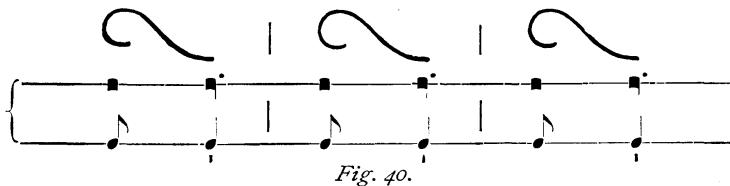


Fig. 40.

Under the heading "Metrics" in his *Dictionary of Music*,

W. H. Riemann treats the Rhythmic Motive A :

Fig. 41.

as simply a modification of Motive B :

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 or 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
2. A constant triplex movement ; } *measured* form
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

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 (*soluta*) or *numerus*:
2. The measured form (*vincta*), 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 melisms 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.

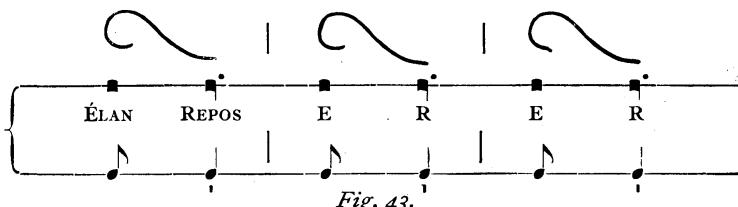
These divisions which we enumerate — and there are others — will suffice to indicate the place which Gregorian rhythm holds in the ensemble of what we might call the geography of rhythm.

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 (solutus)*, 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. *f) Elementary analysis of a succession of simple rhythms.*  
*Its necessity and its nature.* — This analysis it is that we have just made. Its 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 spondaic, 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:



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 palestrinian 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 :

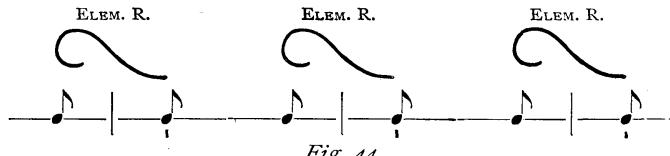


Fig. 44.

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

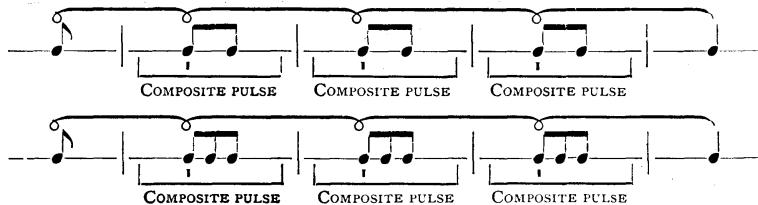


Fig. 45.

This analysis of the musical phrase is called an *analysis according 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 № 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* — (contrasts 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).

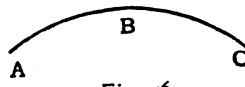


Fig. 46

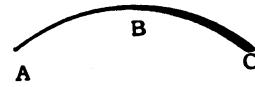


Fig. 47

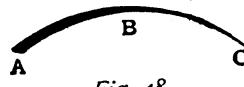


Fig. 48

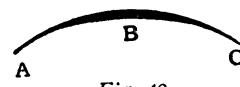


Fig. 49

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 :

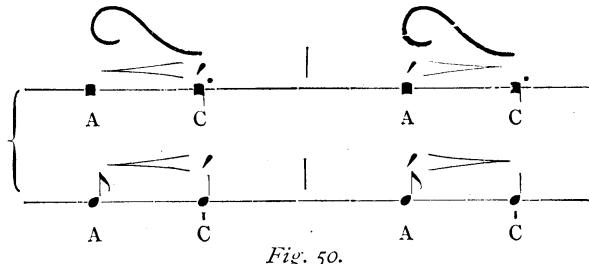


Fig. 50.

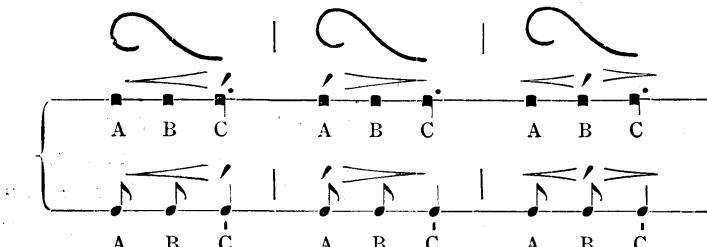


Fig. 51.

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 triple 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: *la, le, li, ma, mo, mu*, etc. No words should be sung for the moment.

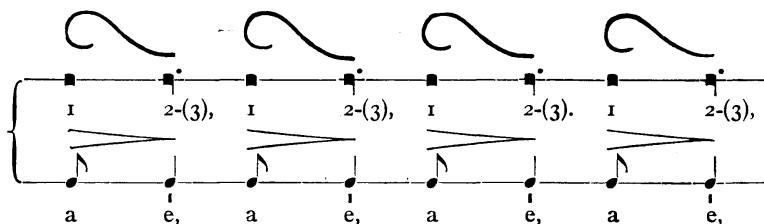
110. *The breath* should be taken after two, three or four rhythmic groups, but always taken from the value of the note that forms the thesis.

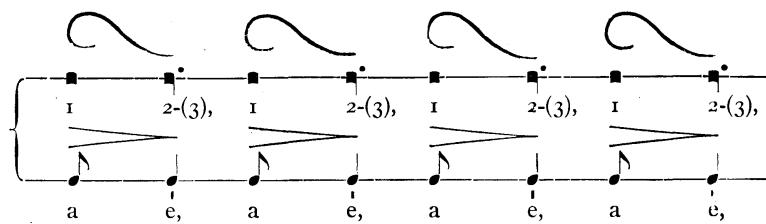
111. *Both notations*, ancient and modern, may be used, but for students accustomed only to modern music, it is better, in the beginning, to use the modern notation.

### EXERCISE I.

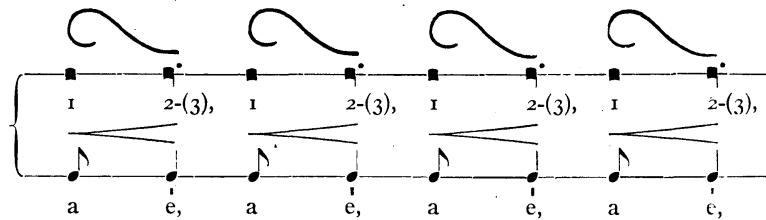
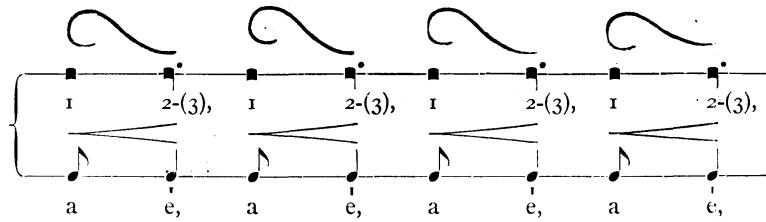
*Simple Rhythm triplex Time, weak Ictus.*

(M.M. ♩ = 132.)

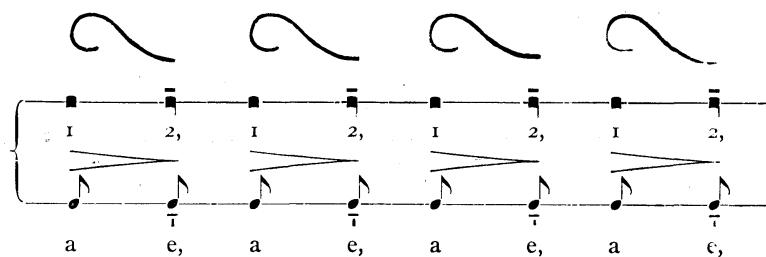


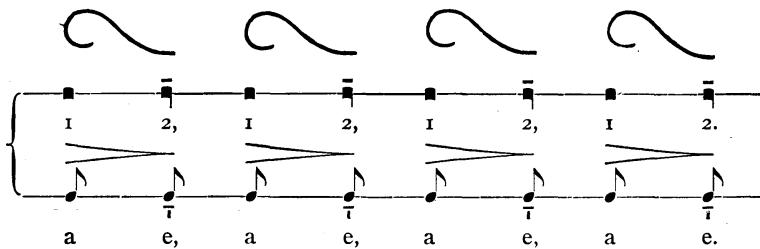


## EXERCISE II.

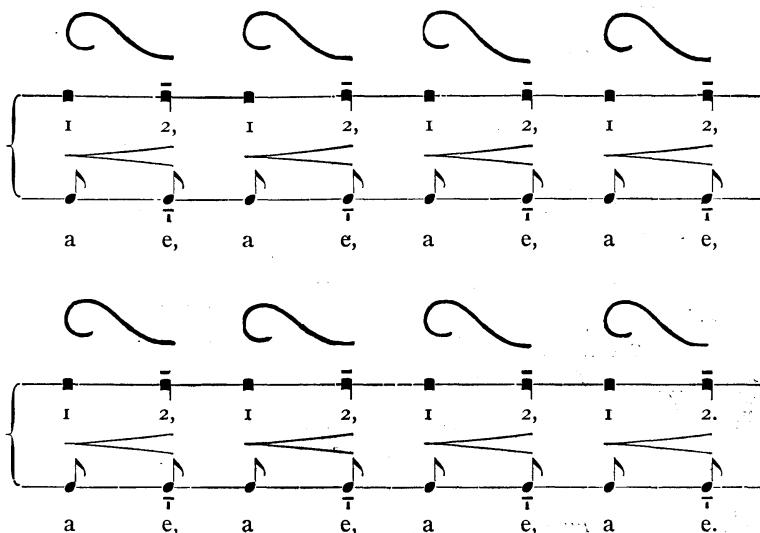
*Simple Rhythm triplex Time, strong Ictus.*(M.M.  $\frac{3}{4}$  = 132.)

## EXERCISE III.

*Simple Rhythm duplex Time, weak Ictus.*(M.M.  $\frac{2}{4}$  = 132.)



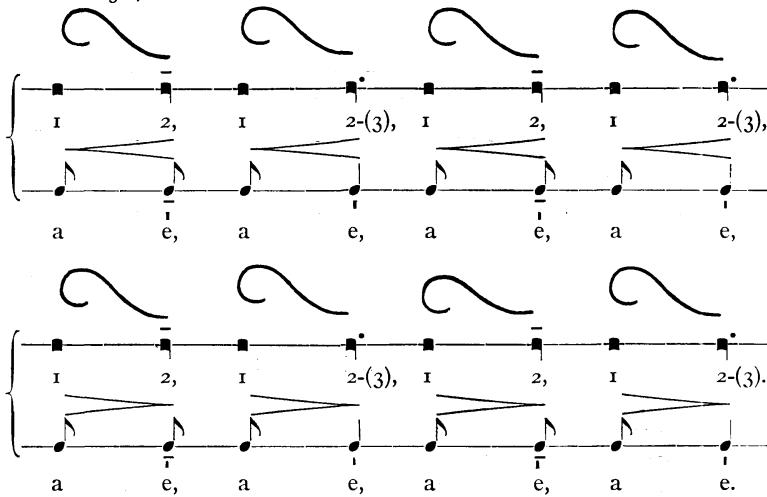
## EXERCISE IV.

*Simple Rhythm duplex Time, strong Ictus.*(M.M.  $\frac{2}{4}$  = 132.)

## EXERCISE V.

*Simple Rhythms. Alteration 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.

(M.M.  $\text{J} = 132.$ )

## ARTICLE 4. — DEVELOPMENT OF SIMPLE RHYTHM. (I)

§ I. — 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).

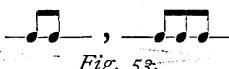
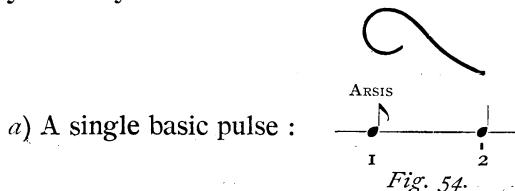


Fig. 53.

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



a) A single basic pulse :

Fig. 54.

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

(2) In vol. II, ch. 13, Dom Mocquereau makes his thought more precise, by using the term *Elementary Rhythm*, for the equal form, and *Simple Rhythm* for the unequal. (Tr.)

b) A duplex composite pulse :

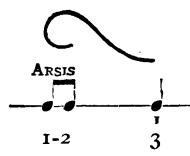


Fig. 55.

c) A triplex composite pulse :

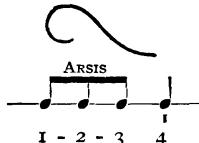


Fig. 56.

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

a) A single basic pulse :

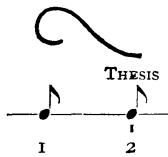


Fig. 57.

b) A duplex composite pulse :



Fig. 58.

c) A triplex composite pulse :

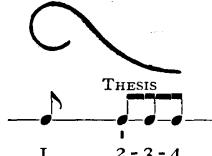


Fig. 59.

115. *Development within both arsis and thesis.*

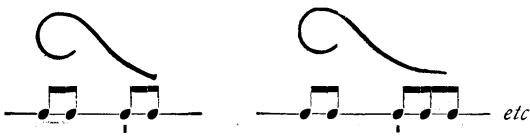


Fig. 60.

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 :

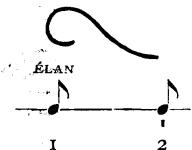
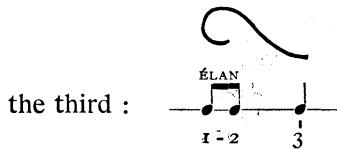


Fig. 61.

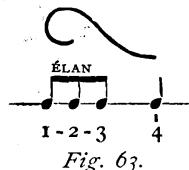
An *élan of ordinary power* gathers up two notes and falls on



the third :

Fig. 62.

An *élan which is still more vigorous and sustained* gathers up



three notes and finds its repose on the fourth :

Fig. 63.

Thus, the grouping of two or three individual pulses so that they make up a *single composite pulse*, arsic 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).

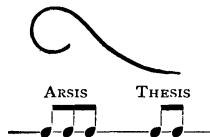
120. The thesis, like the arsis, can be extended over a group of notes, and even be renewed to cover two or three composite pulses, as we shall see in the chapters which deal with *Composite Rhythm* (Nº 135 et seq.).

121. NOTE. In the analysis of rhythm by *composite pulses*, each composite pulse, whether it be duplex or triplex, 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



Fig. 64.

are united intimately within the compass of a single arsis or a



single thesis as the case may be :

Fig. 65.

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

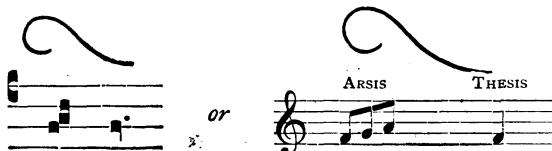


Fig. 66.

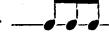
and still clearer when, to melody and rhythm, we add words :



*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  or  can

*Fig. 68.*

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.

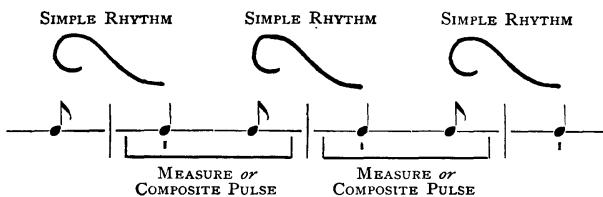


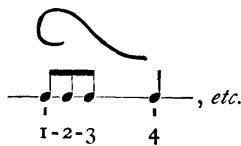
Fig. 69.

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.

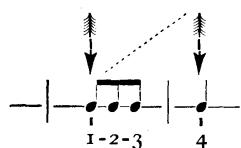
125. *Rhythmic analysis by group pulses.* *The rhythmic analysis by group pulses*, considers the composite pulses, duplex or triplex, as a single pulse, *rhythmically indivisible*. In this form of analysis we indicate by an ictus all the beginnings of the composite pulses; we do not distinguish yet whether, 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



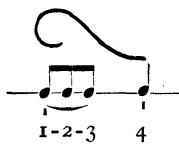
*Fig. 70.*

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



*Fig. 71.*

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



*Fig. 72.*

In this system, therefore, we use the term *rhythmic analysis by group pulses*.

127. This process is inferior to the *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 (No 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 *elementary analysis*, because it realizes the *synthesis of the composite pulses* and renders palpable to us their

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

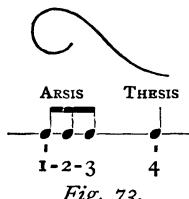


Fig. 73.

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 *rhythmic ictus* loses the *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 :  
*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 *perfect rhythmic analysis*, the composite pulse has the function of a *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)

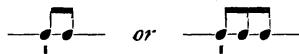


Fig. 74.

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 arsic 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.

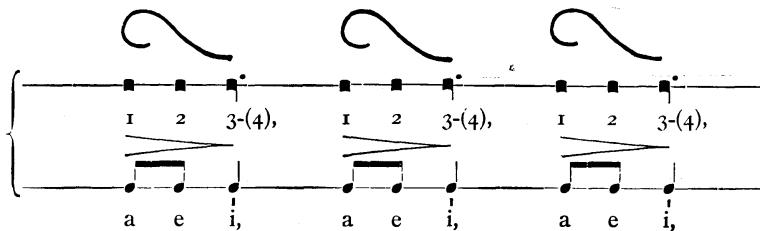
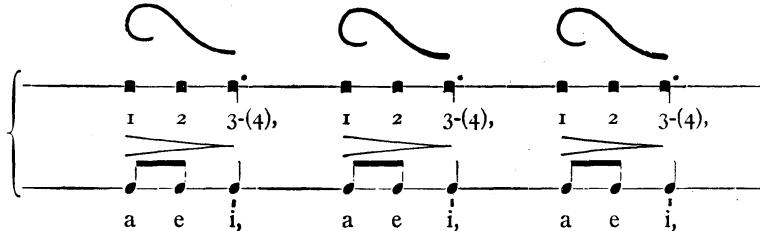
A metrical analysis of the 6/8 measure gives us :



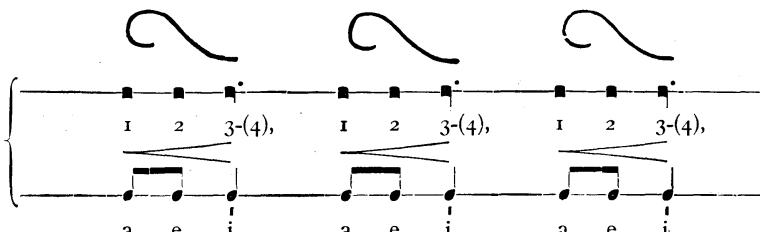
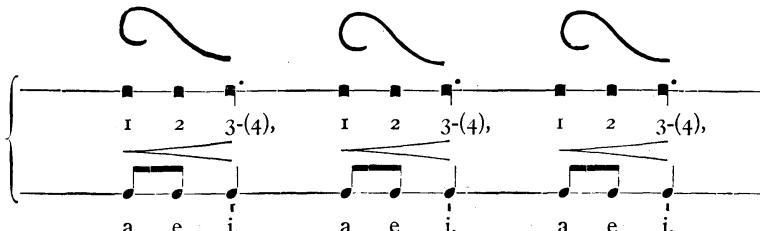
A rhythmical analysis on the contrary gives us :



## EXERCISE VI.

*Simple Rhythm (duplex grouping at arsis), weak ictic ending.*(M.M.  $\frac{A}{4} = 132.$ )

## EXERCISE VII.

*Simple Rhythm (duplex grouping at arsis), strong ictic ending.*(M.M.  $\frac{A}{4} = 132.$ )

## EXERCISE VIII.

*Simple Rhythm (duplex grouping at arsis), weak ictic cadence,  
second pulse of arsis strong.*

(M.M.  $\frac{2}{4}$  = 132.)

a e i,      a e i,      a e i,

a e i,      a e i,      a e i,

## EXERCISE IX.

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

(M.M.  $\frac{3}{4}$  = 132.)

a e i o,      a e i o,      a e i o,

a e i o,      a e i o,      a e i o,

## EXERCISE X.

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

(M.M.  $\frac{2}{4}$  = 132.)

1 2 3 4-(5),    1 2 3 4-(5),    1 2 3 4-(5),  
a e i o,        a e i o,        a e i o,

1 2 3 4-(5),    1 2 3 4-(5),    1 2 3 4-(5).  
a e i o,        a e i o,        a e i o.

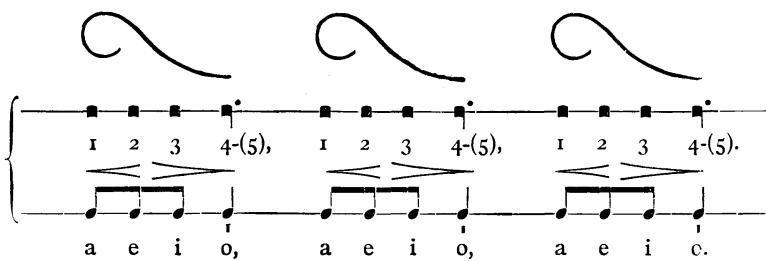
## EXERCISE XI.

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

*2nd and 3rd pulses of arsis strong.*

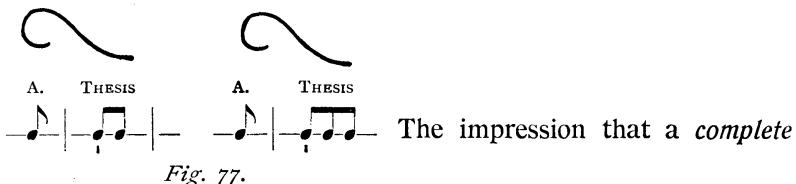
(M.M.  $\frac{2}{4}$  = 132.)

1 2 3 4-(5),    1 2 3 4-(5),    1 2 3 4-(5),  
a e i o,        a e i o,        a e i o,



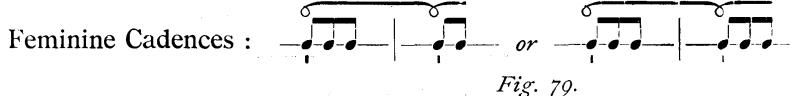
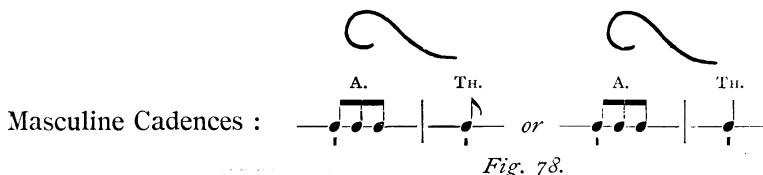
#### § 4. — Feminine or post-ictic Cadences.

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



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*.



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



*Fig. 80.*

a new ictus is needed



*Fig. 81.*

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 :

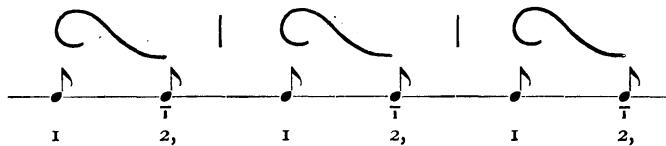


Fig. 82.

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.

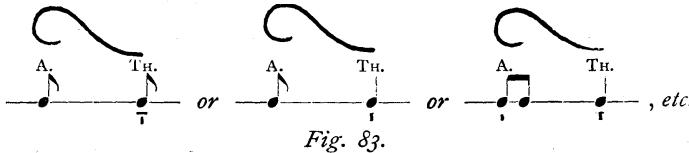


Fig. 83.

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 :

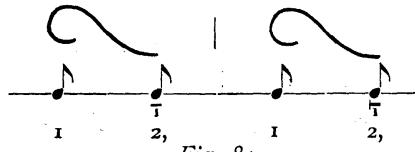


Fig. 84.

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 :

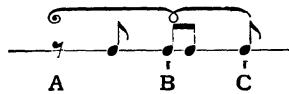


Fig. 85.

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.

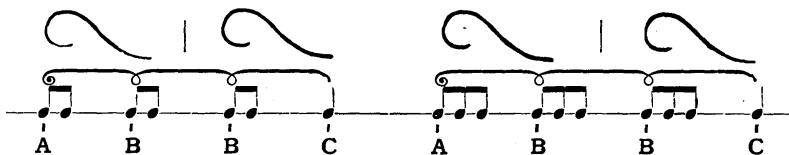


Fig. 86.

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 arsic or thetic character, as we shall see when we approach the study of melodic forms. There are cases when they are incontestably arsic, 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.

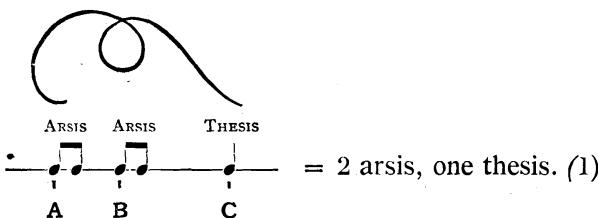


Fig. 87.

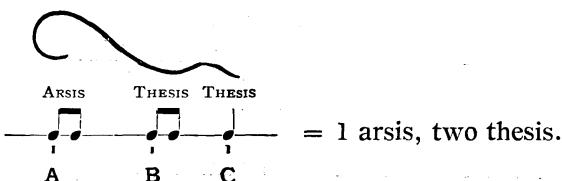


Fig. 88.

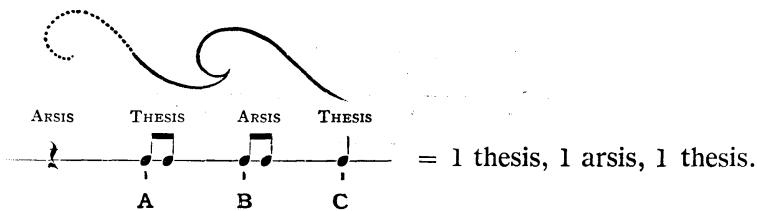


Fig. 89.

In this last example, the first arsis is implied.

(1) To understand clearly the sense and use of these curves, consult Chapter IX, N° 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 :

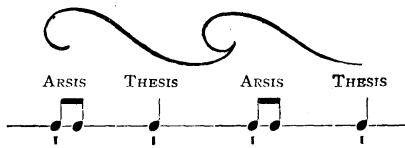


Fig. 90.

or the first rhythm may end with a feminine cadence :

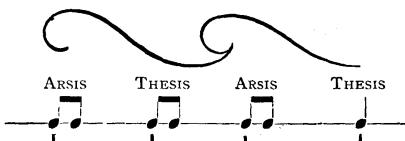


Fig. 91.

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

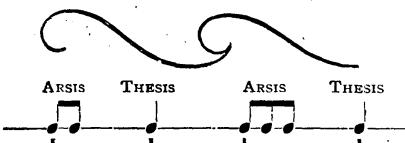


Fig. 92.

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 :

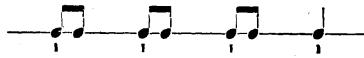


Fig. 93.

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



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 N°. 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.

##### § I. — 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 (N°. 27).

In this example we see the increasing power of rhythm as it enfolds, vivifies and gathers up the fragments into a living phrase.

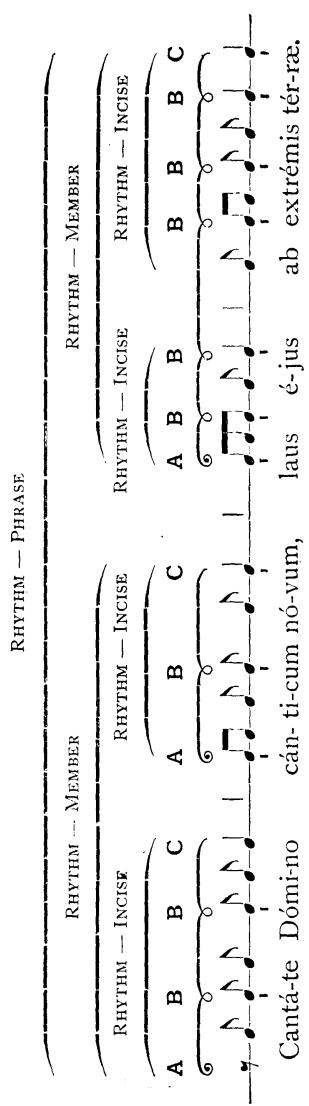


Fig. 95.

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 *kôlon*, 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 rhythmical 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.

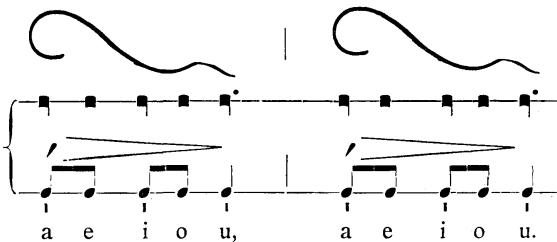
For the moment, these general principles are enough, for their practical application will appear in the study of melody and text.

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

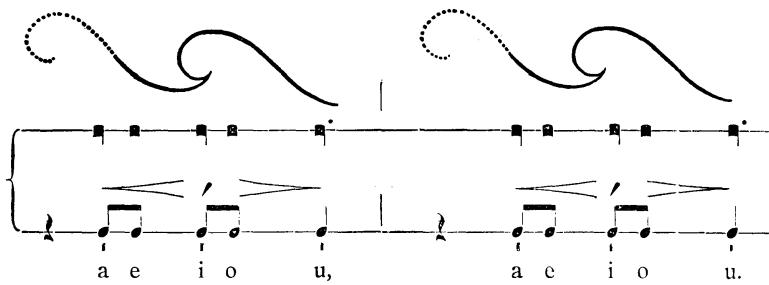
150. The student should read the directions given in No 104 and the following paragraphs before undertaking to sing the exercises which follow.

EXERCISE XII.

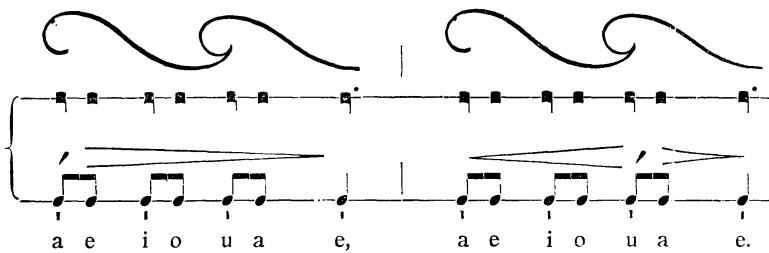
*One arsis, two thesis.*



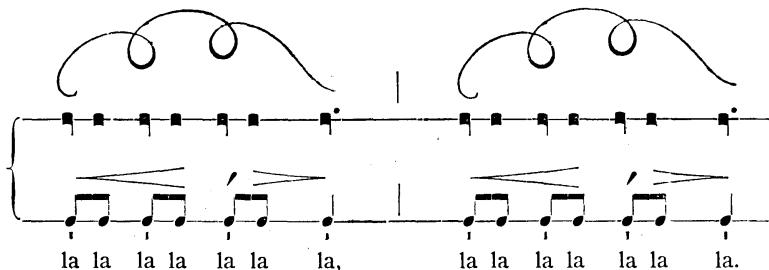
## EXERCISE XIII.

*One thesis, one arsis, one thesis.*

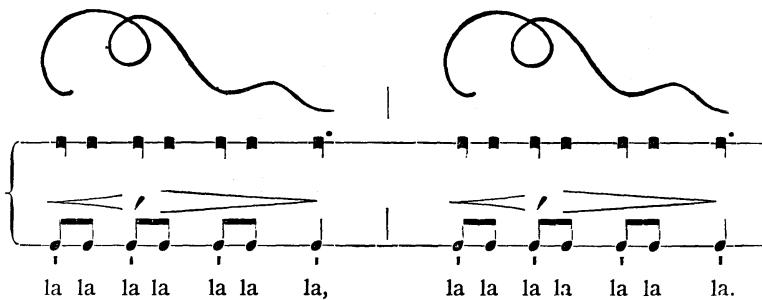
## EXERCISE XIV.

*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) *Paléographie musicale*, VII, p. 261 et ss.

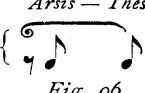
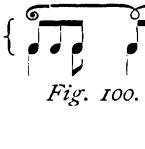
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## CHAPTER VII.

### RHYTHMIC FIGURES IN GREGORIAN CHANT.

#### ARTICLE I. — FIGURES IN SIMPLE RHYTHM.

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

NUMERICAL ORDER	NUMBER OF PULSES.	DIVISION. <i>Arsis — Thesis</i>	
1	2 basic pulses	{ 	1 pulse at the arsis, 1 pulse at the thesis. <i>Fig. 96.</i>
2	3 basic pulses	{ 	1 pulse at the arsis, 2 pulses at the thesis.
3		{ 	2 pulses at the arsis, 1 pulse at the thesis. <i>Fig. 97.</i>
4	4 basic pulses	{ 	2 pulses at the arsis, 2 pulses at the thesis.
5		{ 	1 pulse at the arsis, 3 pulses at the thesis.
6		{ 	3 pulses at the arsis, 1 pulse at the thesis. <i>Fig. 98.</i>
7	5 basic pulses	{ 	3 pulses at the arsis, 2 pulses at the thesis.
8		{ 	2 pulses at the arsis, 3 pulses at the thesis. <i>Fig. 99.</i>
9	6 basic pulses	{ 	3 pulses at the arsis, 3 pulses at the thesis. <i>Fig. 100.</i>

153. The smallest of these rhythms, therefore, comprises *two pulses* and the largest comprises *six*.

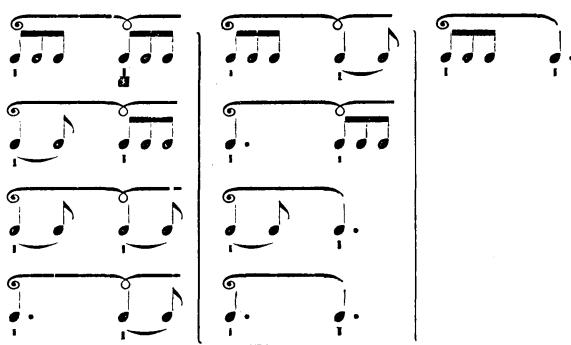
With the same number of basic pulses, however, several different rhythmic designs can be formed according to the position of the thesis.

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.*

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.*

NUMERICAL ORDER	NUMBER OF PULSES	DIVISION
10	4 basic pulses	{  }

*Fig. 102.*

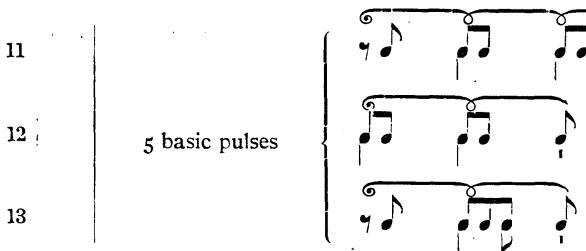


Fig. 103.

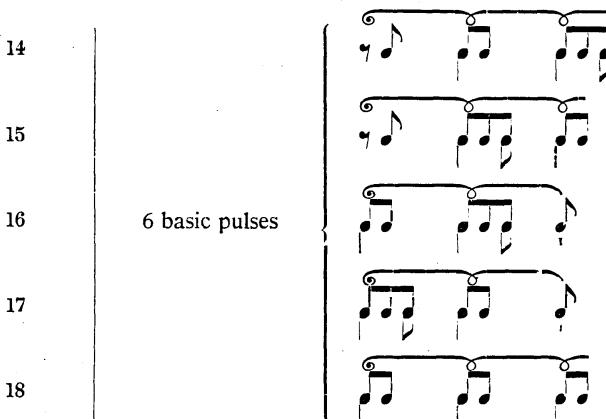


Fig. 104.

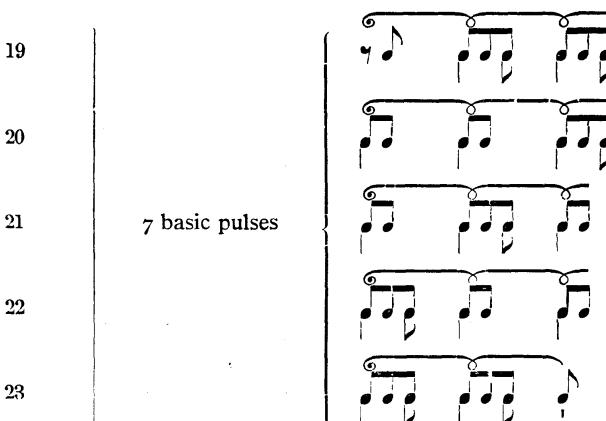


Fig. 105.

24

25

26

8 basic pulses

27

9 basic pulses

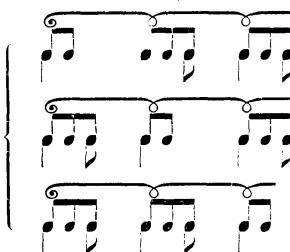


Fig. 106.



Fig. 107.

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.

NUMERICAL ORDER	NUMBER OF PULSES	DIVISION
28	6 basic pulses	{
29	7 basic pulses	{
30	8 basic pulses	{
31	9 basic pulses	{
32	10 basic pulses	{
33	11 basic pulses	{
34	12 basic pulses	{

Fig. 108.

## 158. ARTICLE 4. — RHYTHMS OF FIVE COMPOSITE PULSES.

NUMERICAL ORDER	NUMBER OF PULSES	DIVISION
35	8 basic pulses	{
36	9 basic pulses	{
37	10 basic pulses	{
38	11 basic pulses	{
39	12 basic pulses	{
40	13 basic pulses	{
41	14 basic pulses	{
42	15 basic pulses	{

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.

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.

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## 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.

(1) LIONEL DAURIAC, *Essai sur l'Esprit musical*, p. 59. Paris, Alcan, 1904.

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

(1) Aristoxenus made the same comparison when he wrote : “The voice moves in singing, as the body moves in walking or dancing.” (ARISTOXENUS, *Rhythm. Elem.*, edit. Feussner, III.)

(2) H. CHAIGNET, *Le principe de la Science du Beau*, p. 588.

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 wavering 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.

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 élangs 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* (*arsis*) 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 *arsis*, 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 *arsis* and *thesis* have come down to us. We call the beginning of a rhythmic movement *arsis* and the end of the movement we call *thesis*.

When *poetry* or *music* were performed without dancing, the terms *arsis* and *thesis* were not modified; for the rhythm still corresponded to bodily movements of rise and fall made by the coryphæi, 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.

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## CHAPTER IX.

### PLASTIC EXPRESSION OR CHIRONOMY 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* (*χειρ*, 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. Hucbald 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-

(1) Quoted by RIEMANN : *Les éléments de l'Esthétique musicale*, French edition, p. 203.

(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 choregraphic 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*

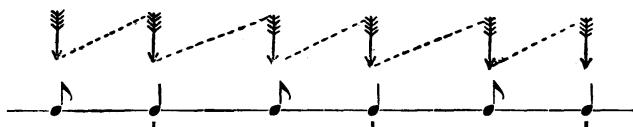


Fig. 110.

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*:

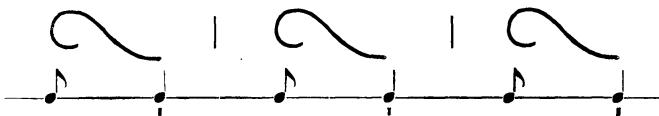


Fig. 111.

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.

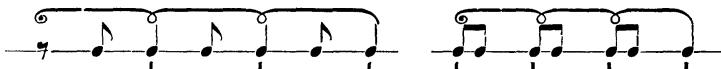
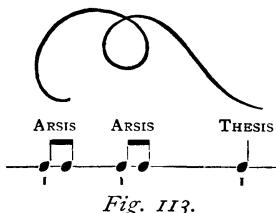


Fig. 112.

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.

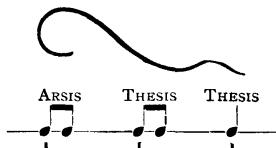
181. d) When the director's hand indicates each rhythmic ictus but follows, also, all the rises and falls, the arses and theses of the composite pulses, then we have *a rhythmic chironomy of phrase members*.

1. Two arses, one thesis.



*Fig. III3.*

2. One arsis, two theses.



*Fig. III4.*

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 choir-master.

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

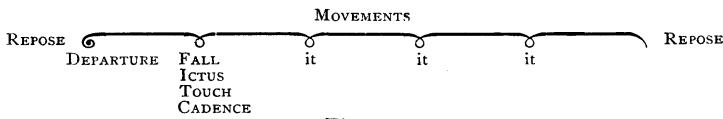
##### § I. Movement in space.

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 :

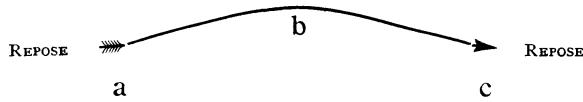
A ball on the ground is in a state of repose, but if the stroke of a club lifts it, projecting it forward and upward, the ball is set in motion by this stroke. It springs up, describes a curve and then drops; but the very point at which it touches the ground, this "ictus" that marks its fall, is also 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.*

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.*

- 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 (ictus) 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.

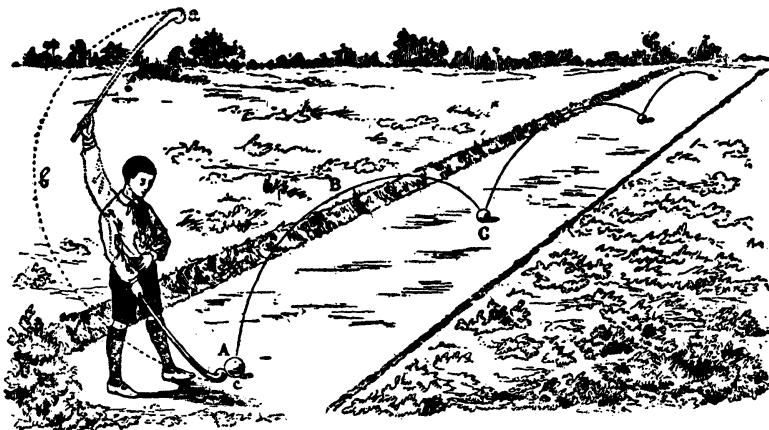


Fig. 117.

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.

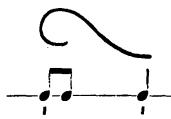
This point:  $\left(\frac{A}{c}\right)$  unites two movements and can be considered, according to the point of view, either as an ending of the movement of the club or beginning of the movement of the ball, since *the arrival of the first and the beginning of the second are simultaneous*. In other words, 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 (139).

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.



*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:

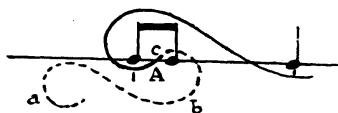


Fig. 119.

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).

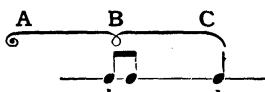


Fig. 120.

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.

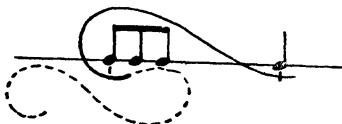


Fig. 121.

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*.

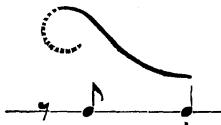


Fig. 122.

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

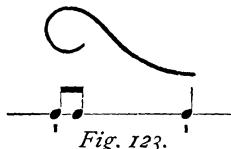


Fig. 123.

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

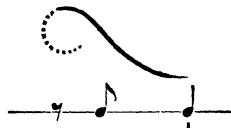


Fig. 124.

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.

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

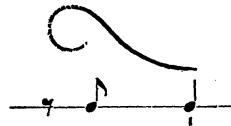


Fig. 126.

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 rhythmic 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.

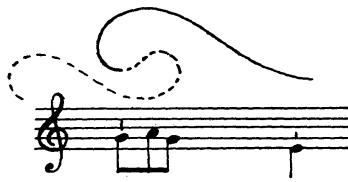


Fig. 127.

(1) This phenomenon, so common in modern music, is thus described by Matthias Lussy : "A rhythm can begin or end on any beat of the measure, whether strong or weak; indeed it may begin on any part or fraction of a beat. It is only the final rhythm that must end, necessarily, on the beginning of a beat". M. LUSSY, *Traité de l'expression musicale*, p. 22-23. Paris, 1874.

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.



Fig. 128.

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.

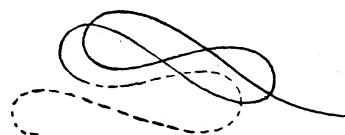


Fig. 129.

The student should practise this gesture, rhythmically, until it is perfect.

#### ARTICLE 4. — COMPOSITE GESTURES.

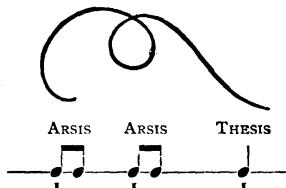
202. *Simple gestures* having been made clear, we can consider *composite gestures*. We shall no longer speak of the preliminary *motive gesture*, which is always implied.

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



*Fig. 130.*

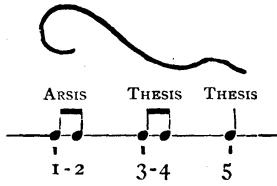
the double arsis is shown by the same curve repeated, the second rising higher than the first.



*Fig. 131.*

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.*

After the arsis (note 1-2) the hand curves downward on the first thesis (3), rises gently on note 4 and glides smoothly along



# GREGORIAN CHIRONOMY <sup>(1)</sup>

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Can-lá-te Dó-mi-no, cán-ti-cum nó-vum, láus é-jus, ab ex-tré-mis té-ræ.

member I      member II      member III      member IV

---

## Rhythmic Analysis by Phrase Members.

Member I : Three arses - One thesis.

Member II : One arsis - Two theses.

Member III : One arsis - Two theses.

Member IV : One arsis - Three theses.

The dynamic flow of the whole phrase is indicated by the sign of crescendo and diminuendo.

The general accent, the climax of the whole phrase is marked by a sign over the accented syllable of the word "canticum".

<sup>(1)</sup> Although this melody has been altered slightly in the Vatican version, we have preferred to retain the form used by Dom Mocquereau in 1907. The correct version will be found in the "Nombre Musical Grégorien", Volume II, Page 600 - with the chironomy adapted to the changes in question. (Tr.)

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.

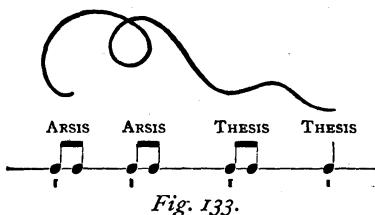


Fig. 133.

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).

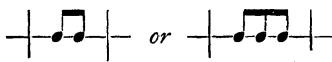


Fig. 134.

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

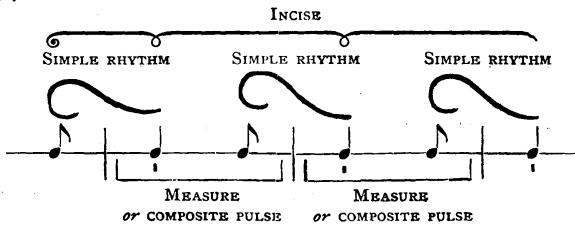


Fig. 135.

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.

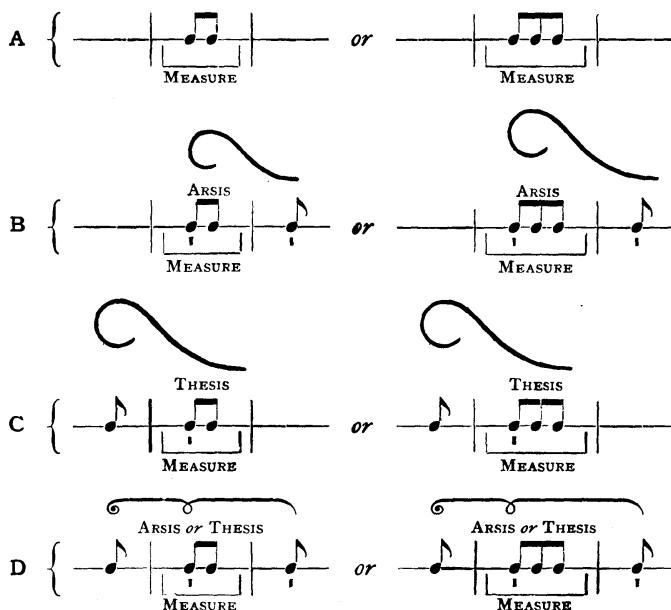


Fig. 136.

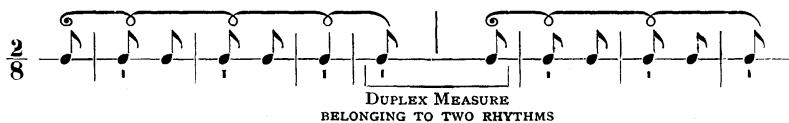
In line B, the rhythm gives it the character of an *élan*, an arsis, a beginning.

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 as 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.*

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*.

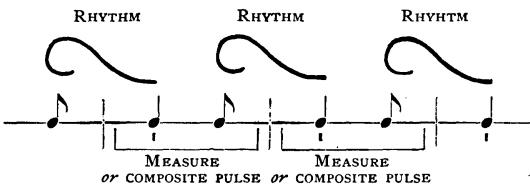
Rhythm can do what it likes with the measures ; it can unite or separate the elements at will, and all this quite simply and naturally.

#### 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.*

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 into 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 *periodical 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 :

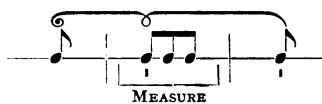
- a) A strong first beat, or downbeat, a metrical ictus;
- b) which recurs every two or every three pulses;
- c) and which must appear at equal distances from each other. Of these three traits, only the second can stand before the light of facts, and, even so, must be transformed and re-stated.

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.



*Fig. 139.*

a) 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.

b) 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 baldly and stripped of all artifice, since movement is a form of expression which is understood by every living being" (1). 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.

(1) GEVAERT, *Histoire et théorie de la Musique de l'antiquité*, II, p. 118.

## CHAPTER XI.

### SYNCOPATION.

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 :



Fig. 140.

would be syncopated if presented as follows :



Fig. 141.

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.

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 is 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).

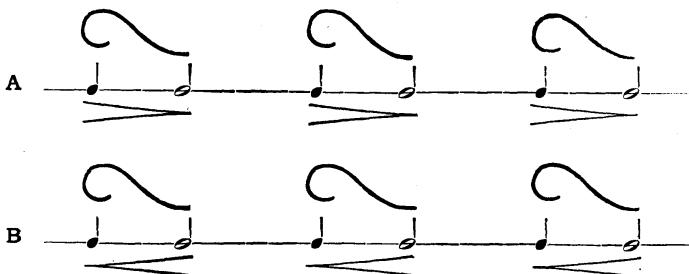


Fig. 142.

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.

221. The shock resulting from the syncopation, however, can be more or less violent. In a composition where the first pulse of each measure is strongly and regularly marked with a dynamic pressure, the effect of the syncopation will be correspondingly violent; all the more so if this stress be thrown back upon the previous up-beat or arsic pulse of the rhythm, as is customary in such cases. Then, to the rhythmic upheaval which already shocks the ear, there is added a harsh dynamic jerk which reinforces the chaotic effect already produced by the rhythmic upheaval. On the other hand, when the rhythmic flow is free from dynamic beats and regular stress; when the up-beat is relatively strong and the downbeat, relatively delicate, as is the case in the compositions of Palestrina and Josquin de Près, syncopation takes on another aspect. It remains a rhythmic anomaly but nothing

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 :

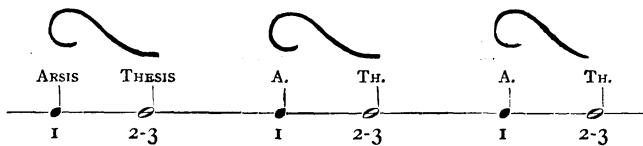


Fig. 143.

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

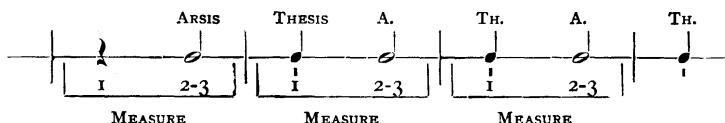


Fig. 144.

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 :

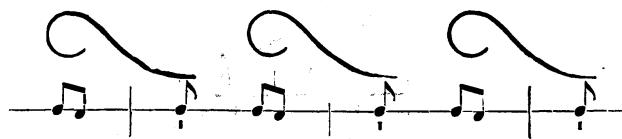


Fig. 145.

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.

instead of :

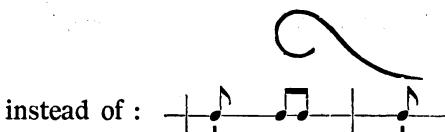
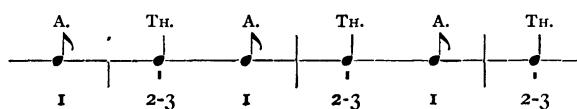


Fig. 147.

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 :



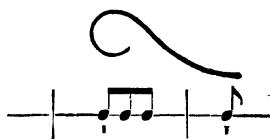
or :



Fig. 148.

namely : one pulse at the arsis and two at the thesis.

In composite time, we can have the following arrangement :



*Fig. 149.*

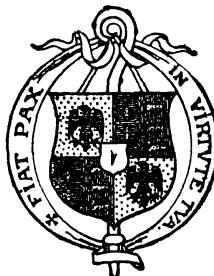
provided that the three individual pulses shall form a single *composite* or *group-pulse*.

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*  
VOLUME I - PART II

*ENGLISH TRANSLATION BY AILEEN TONE*



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## PART II.

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### MELODY.

#### ITS APPLICATION TO RHYTHM.

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## 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 rhythmic 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)* v, a grave followed by an acute.

5. — The meaning of these grammatical accents, from the very beginning, was merely *melodic* (See *Paléographie 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 : Rōmă =  $\hat{\text{R}}\ddot{\text{o}}\text{m}\ddot{\text{a}}$  =  $\overset{\wedge}{\text{R}}\text{o}\text{m}\ddot{\text{a}}$ .

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 *quilisma*, 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 :

which became in the neumatic notation :

1 Acute . . . .	(Fig. 5)	/	. Virga
2 Grave . . . .	6	＼	. Grave accent or Punctum
3 Circumflex . . . .	7	＾	. Clivis
4 Anticircumflex . . . .	8	▼	. Podatus
5 Long . . . .	9	—	. Rhythmic sign : Episema
6 Short . . . .	10	◦	.
7 Apostropha . . . .	11	⌚	. Strophicus
8 Hyphen . . . .	12	˘	.
9 Hypodiastole . . . .	13	˘˘	.
10 Daseia . . . .	14	˘˘˘	{ Signs for breathing in the
11 Psile . . . .	15	˘˘˘˘	{ Daseian notation

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 *psile* 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 *clivis* : (*Fig. 18*) 

The *anticircumflex* (a grave plus an acute accent) became the *pes* or *podatus* : (*Fig. 19*) 

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 :*

<i>Torculus</i> ( <i>torquere</i> , to twist)	( <i>Fig. 20</i> ) 	<i>Grave, acute, grave</i>
<i>Porrectus</i> (extended)?	( <i>Fig. 21</i> ) 	<i>acute, grave, acute</i>
<i>Scandicus</i> ( <i>scandere</i> , to ascend)	( <i>Fig. 22</i> ) 	<i>grave, grave, acute</i>
<i>Climacus</i> ( $\lambda\lambda\tilde{\iota}\mu\alpha\xi$ , ladder)	( <i>Fig. 23</i> ) 	<i>acute, grave, grave</i>
	etc., etc., etc.	

(1) *Nombré 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* (*χειρ*, hand; *νόμος*, 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 :

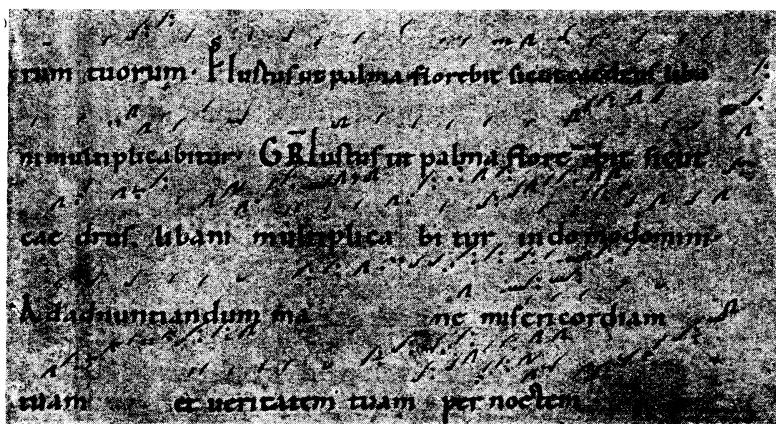


Fig. 24. Zurich. Cant. Library, N. 71. Gradual of Rheinau, Switzerland, fol. 26, XIth century. Neum-accents.

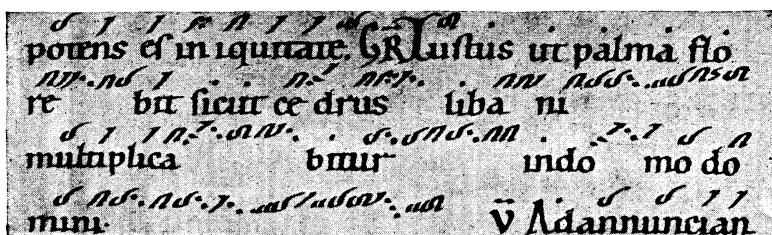


Fig. 24a. Zurich. Cant. Library, N. 55. Gradual from the neighbourhood of Rheinau, fol. 8, XIIIth Century. Neum-accents.

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.

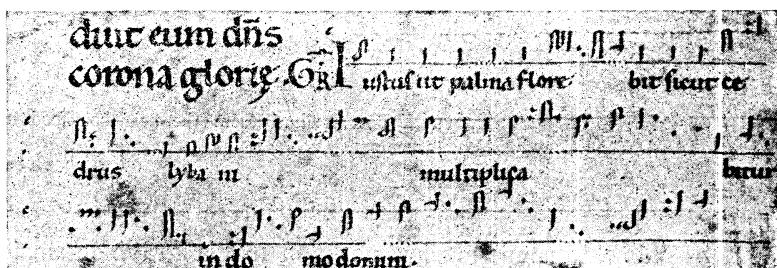
they required a master's interpretation; he had to sing the melody and show by example what the writing itself could not sufficiently indicate. The pupil had to listen and *commit to memory*, with infinite patience, all the Gregorian melodies of the liturgical year. The neumatic accents served only to 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 (*διαστήματα*, 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.

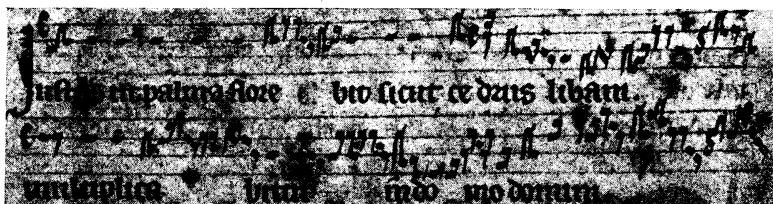
13. — Finally the invention of the clefs (II, 131) brought notation to its perfection (1). When the neum-accents, slightly modified, were placed on the staff, it became an easy matter to read the intervals.

14-15. — Examples of diastematic notation.



*Fig. 25. London, British Museum, Add. MS. 18031-2. Missale plenarium of Stavelot fol. 213v, XIIIth century. Neum-accents on lines.*

(1) See *Paleographie Musicale*, Diastematic notation, Vol. I, p. 122 et seq.



*Fig. 26.* London, British Museum, Add. MS. 12194, Gradual of Sarum, fol 102 v, 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, 28 et seq.); also the sign for the quilisma and for the punctum with ictus (1).

#### A. Single notes.

Name	Form	Transcription
1 { PUNCTUM SQUARE FORM		
2 { PUNCTUM WITH ICTUS		
3 { PUNCTUM DIAMOND-SHAPE		
4 { THE SAME WITH ICTUS		

(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.

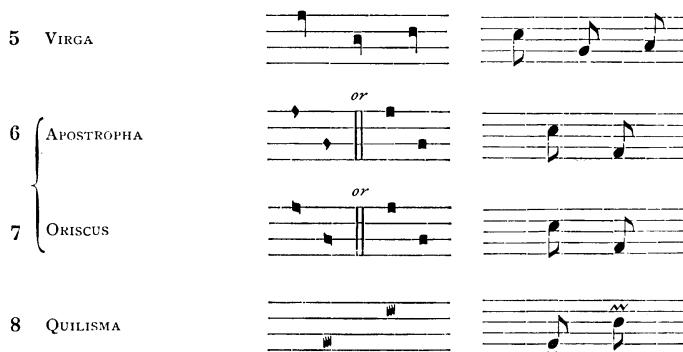


Fig. 27.

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

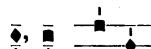


Fig. 28.

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.

Name	Form	Transcription
9. PES or PODATUS		
10. CLIVIS		

Fig. 29.

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

b) The *bivirga* or double virga may also be classed with the neums of two notes.



Fig. 30.

c) To these, and to all the neums which follow, dots and the vertical episema can be added; also a horizontal episema which indicates a slight ritardando on the note or group of notes covered by the line.

Name	Form	Transcription	Name	Form	Transcription
PES WITH DOT			CLIVIS WITH DOT		
PES WITH 2 DOTS			CLIVIS WITH 2 DOTS		
PES LENGTHENED AGOGICALLY			CLIVIS LENGTHENED AGOGICALLY		
			CLIVIS WITH EPISEMA		

Fig. 31.

## EXERCISE II.

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

20. — C. Neums of three notes.

Name	Form	Transcription
11. PORRECTUS		
12. TORCULUS		

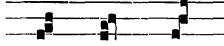
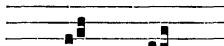
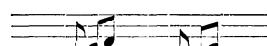
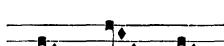
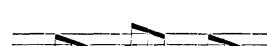
Name	Form	Transcription
13. SCANDICUS		
14. SALICUS		
15. CLIMACUS		

Fig. 32.

NOTE. — *a*) When the *scandicus* ends with a virga, the last note usually carries the rhythmic ictus.



Fig. 33.

*b*) The *scandicus* and the *climacus* can be made up of four, five, or even more notes.



Fig. 34.

*c*) The first two notes of the *salicus* are sometimes at the same pitch.

### EXERCISE III.

21. — Look up and name the various neums of three notes.

22. — *D*. Neums of four notes and more.

Hitherto, each neum has had a simple name. Longer neums than these are given *composite* names. Each one is given the

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*.

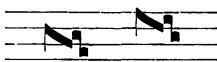
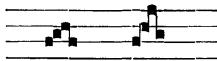
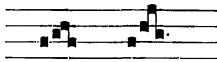
Name	Form	Transcription
16. PORRECTORUS FLEXUS		
17. SCANDICUS FLEXUS		
18. SALICUS FLEXUS		

Fig. 35.

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*.

Name	Form	Transcription
19. TORCULUS RESUPINUS		
20. CLIMACUS RESUPINUS		

Fig. 36.

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*.

When there are two *punctums*, the term is *subbipunctis*.

Name	Form	Transcription
21. PES SUBBIPUNCTIS		
22. PORRECTORUS SUBBIPUNCTIS		
23. SCANDICUS SUBBIPUNCTIS		

Fig. 37.

When there are three, the term is *subtripunctis*.

Name	Form	Transcription
24. PES SUBTRIPUNCTIS		
25. PORRECTORUS SUBTRIPUNCTIS		

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.

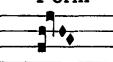
Name	Form	Transcription
1. PES AND CLIMACUS UNITE TO FORM A SCANDICUS SUBBIPUNCTIS		

Fig. 41.

2. PODATUS AND CLIVIS UNITED		
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Fig. 42.

3. CLIVIS AND PODATUS UNITED		
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Fig. 43.

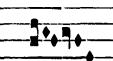
4. PES SUBBIPUNCTIS AND CLIMACUS UNITED		
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Fig. 44.

Name	Form	Transcription
5. CLIMACUS AND CLIMACUS RESUPINUS UNITED		
<i>Fig. 45.</i>		
6. TORCULUS AND PODATUS UNITED		
<i>Fig. 46.</i>		
7. CLIVIS AND PORRECTUS UNITED		
<i>Fig. 47.</i>		
8. TORCULUS AND PES SURTRIPUNCTIS UNITED		
<i>Fig. 48.</i>		
9. CLIVIS, CLIMACUS AND PODATUS UNITED OR PORRECTUS SUBBIPUNCTIS AND PODATUS UNITED		
<i>Fig. 49.</i>		
10. PODATUS SUBBIPUNCTIS, CLIMACUS AND CLIVIS UNITED		
<i>Fig. 50.</i>		
10. PODATUS SUBBIPUNCTIS, CLIMACUS AND CLIVIS UNITED		
<i>Fig. 51.</i>		

## EXERCISE IV.

25. — Look up and name the various neums given above. Written exercises are also recommended.

## § 3. — Liquescent Neums.

26. — The form of the above neums is slightly modified when they are set to particular combinations of vowels and consonants, the pronunciation of which requires great delicacy (1). At the

(1) The execution of these neums will be described in Part III. For the moment, we are considering only the *graphic form* and the *name* of each neum.

moment of transition from one syllable to another, these *semi-vocal* or *liquefiant* sounds are used and are indicated as follows in the notation :

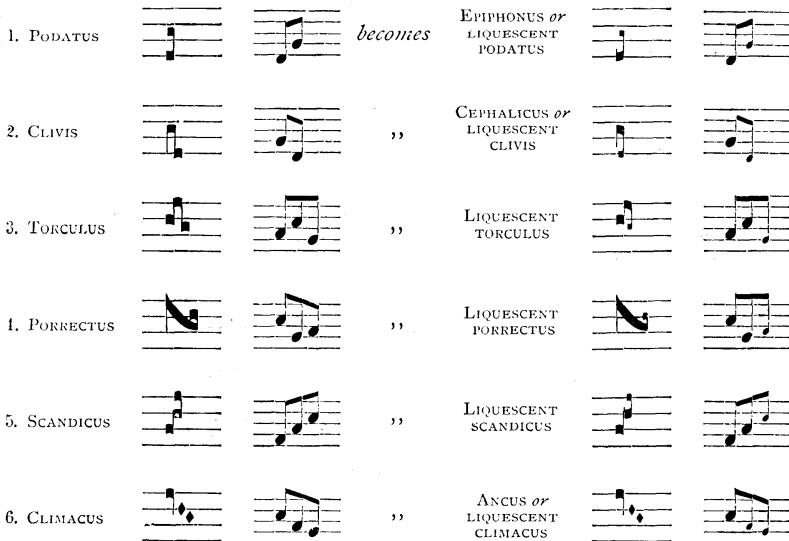


Fig. 52.

## EXERCISE V.

27. — Look up and name the various liquefiant 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.

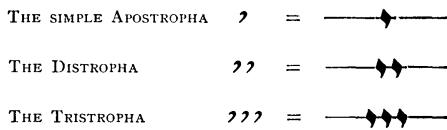
## § I. — The Apostropha in neumatic Notation.

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 dextera, 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 :



*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* ⚡, 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 dextera* (⌚) — 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.

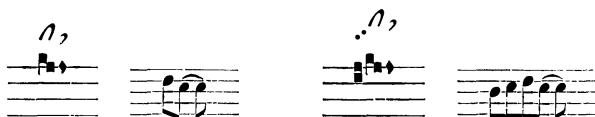


Fig. 56.

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.

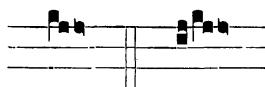


Fig. 57.

35. — The *distropha* (Fig. 58) —————. The *stropha* may be repeated, and is then called a *distropha* or *bistropha* :

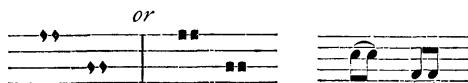


Fig. 58.

(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.

The *distropha* is rarely found alone or set to a syllable (1), the bivirga being used in such cases.

36. — The *tristropha* (*Fig. 61*) —♦♦♦—. When the strophe is repeated three times it is known as a *tristropha*.

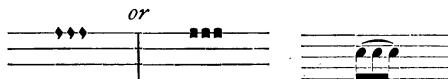


Fig. 62.

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.



Fig. 63.

Sometimes the tristropha is found in the following form :



Fig. 64.

37. — Repetition of the distropha and tristropha. These neums can be repeated as follows :

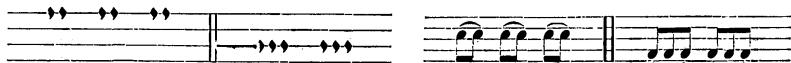


Fig. 65.

(1) Examples are found occasionally, however, thus :



Fig. 66.

or can be combined with other notes and neums :



Fig. 66.

### § 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.

	A	B	C
PRESSUS-CLIVIS :	ℳ	=	ℳℳ
PRESSUS-PORRECTUS :	ℳℳ	=	ℳℳ
PRESSUS-CLIMACUS :	ℳℳ	=	ℳℳ

Fig. 67.

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) ℳ was often written thus (Fig. 69) ↗ or ↘ of which the exact transcription on the staff is :



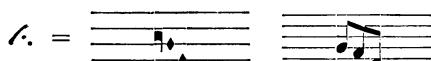
Fig. 69.

In practice, it is equivalent to :



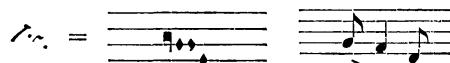
*Fig. 71.*

41. — When the writers wished to double the second note of a *climacus* :



*Fig. 72.*

they added an apostropha to that note, while preserving the original form of the neum,



*Fig. 73.*

or a sign very similar to the apostropha and clearly derived from it.

Sometimes the group was divided and written thus :



*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 :

PRESSUS FORMED BY A PODATUS + CLIVIS



PRESSUS FORMED BY A CLIVIS + CLIVIS



PRESSUS FORMED BY A CLIMACUS + CLIVIS



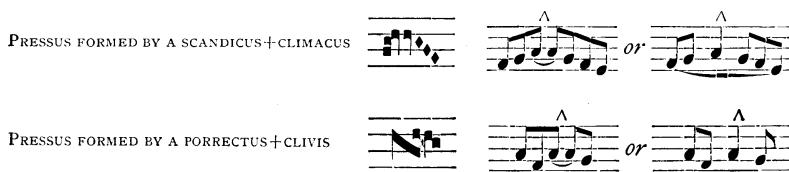


Fig. 75.

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).

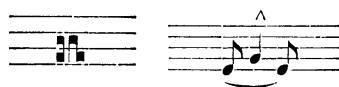


Fig. 76.

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* , 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 *ὅρος*, 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) . The other editions represent it by a square note : (Fig. 78)

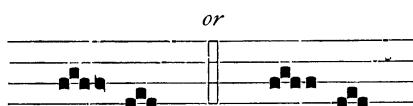


Fig. 79.

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*) 

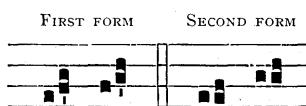
#### a. The *salicus* of three notes.

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.



*Fig. 83.*

#### b. The *salicus* of four notes.

47. — Usually, this salicus ascends by intervals of a second, and is written as follows :



*Fig. 84.*

c. The *salicus* of five notes.

48. — This form is very rare. It follows the same progression as the form given above.



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.

QUILISMA-PODATUS =

QUILISMA-TORCULUS =

Fig. 86.

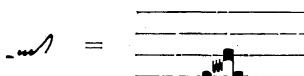
50. — The quilisma is always the central note of a rising melodic figure. It never stands alone in modern Gregorian notation, but is always preceded by a note or neum which has the character of a support or starting-point for the whole ascending movement. The rising melody includes the note of the quilisma itself and continues beyond it.

The support or starting-point may be a single note:

NEUM COMPOSED OF: PUNCTUM + QUILISMA-PODATUS

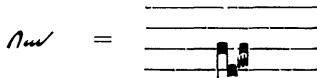


NEUM COMPOSED OF: PUNCTUM + QUILISMA-TORCULUS

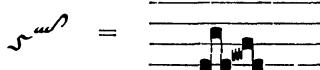


or it may be a neum :

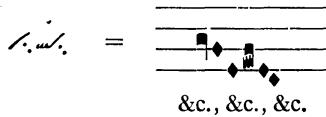
NEUM COMPOSED OF : CLIVIS+QUILISMA-PODATUS



NEUM COMPOSED OF : TORCULUS+QUILISMA-TORCULUS



NEUM COMPOSED OF : CLIMACUS+QUILISMA-PES SUBBIPUNCTIS



*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.

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(1) See *Paléographie Musicale*, Vol. II, *Préface*. The Gradual *Justus ut palma*, reproduced from manuscripts, in facsimile, taken from more than two hundred antiphonaries of various origins, from the IXth. to the XVIIth. centuries.

## 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-

(1) See *Paléographie Musicale*, Vol. II, p. 16.

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 to 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 Verceil (No. 186), 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, there 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.

(1) See "The Gregorian Rhythmic Tradition in relation to the Quilisma", *Rassegna Gregoriana*. June-July, 1906, p. 226-251.

(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.).

§ I. — 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. 93).

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. 88) □. There is a delicate pressure on the first note which is slightly lengthened by means of the horizontal episema.

73. *The pes quassus* ✓, from *quatio*, to shake or strike (1). 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.



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 :



Osténde

Fig. 90.

(1) The *pes quassus* is thus represented in the oldest German MSS., as well as in those of St. Gall, Monza, Bobbio, etc. Certain charts of more modern neums, Wolfenbuttel, Ottobeuern, Leipzig, XIth-XIIth centuries, give the form ✓, like a *quilisma* with two little hooks. In fact this form of the *pes quassus* is very like the *quilisma* in MSS., of German origin, as for example the British Museum Ms. 24680, in which the *quilisma* itself always has three hooks. This similarity has been the cause of several mistakes, and will be made the subject of special study elsewhere.

The *podatus quadratus* (*flexus liquescens*), appears below, and above it we see the *podatus quassus* with the word *vel*, indicating that either one of the two renderings may be chosen. In both these neums the first note was slightly lengthened, but the *pes quassus* must have been sung in some way unknown to us today. Until further light appears on the subject, however, we may render the two neums in the same way, that is by slightly emphasizing and sustaining the first note.

75. The fact that the first note of the *podatus* should be lengthened in each case is confirmed by the evidence of the letter  $\varpi = \text{tenete}$ , which is often written above this note (See II, 93). To this length, we must sometimes add intensity, since the letter  $f = \text{forte}$  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 retardando 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* :

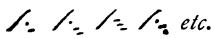


Fig. 93.

and we find the *punctum planum* used as follows :

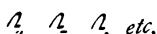


Fig. 94.

79. The *clivis* is rarely altered in its essential outline, but rhythmic indications are expressed by means of additional signs.

### 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* (ἐπισημαῖνω, 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, verticle 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 *clavis π*, 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 :



Fig. 95.

84. The *episema* is attached to the *grave accent (punctum)*:

a) At the end of the *punctum planum* :

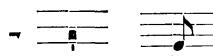


Fig. 96.

b) At the base of the down-stroke in the *clivis* :  $\alpha$

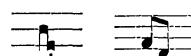


Fig. 97.

c) At the base of the downstroke in the *torculus* :  $\alpha$

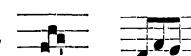


Fig. 98.

d) And in the same manner for the composite neums :  $\alpha.$   $\alpha.$

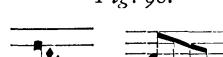


Fig. 99.

85. The influence of the *episema* does not extend further than the note to which it is joined. In the following *clivis*  $\pi$ , only the

first note, the *virga*, is lengthened, and carries the ictus. But in a *clivis* such as this:  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 *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 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 *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 *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

(1) See PERTZ, *Monumenta Germaniae historica*, Vol. II, p. 103.

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.

#### 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 :

A rise in pitch :	$\{ \begin{matrix} a & - Ut altius elevetur admonet. \\ l & - Levare neumam. \\ f & - Sursum scandere. \\ g & - Ut in gutture garruletur gradatim. \end{matrix} \}$
A fall in pitch :	$\{ \begin{matrix} d & - Ut deprimatur. \\ u & - Jusum vel inferius insinuat. \end{matrix} \}$
Unison :	$\{ \begin{matrix} e & - Ut equaliter sonetur. \end{matrix} \}$

#### SECOND SYSTEM.

##### The seven rhythmic Letters.

92. These letters fall into three classes :

Prolongation :	$\{ \begin{matrix} \tau & - Trahere vel tenere. \\ x & - Exspectare. \\ m & - Mediocriter moderari melodiam. \end{matrix} \}$
Acceleration :	$\{ \begin{matrix} c & - Ut cito vel celeriter dicatur. \\ [f] & - Statim] (See II. 114). \end{matrix} \}$
Intensity :	$\{ \begin{matrix} p & - Pressionem vel perfectionem significat. \\ f & - Ut cum fragore feriatur. \\ k & - Clange significat. \end{matrix} \}$

93. *Prolongation.* The  $\tau$  signifies a holding of the voice and is used interchangeably with the *episema* : the *clivis*  $\tilde{n}$  with a  $\tau$  is often found instead of the *clivis* with episema  $\pi$ , and vice versa.

(1) These texts are all published in the *Paléographie Musicale*, Vol. IV, p. 10.

There are gradations in the lengthening of the note in question, for the  $\prec$  may double its value. The  $\prec$  is also equivalent to the  $\times$  which has the same meaning exactly.

94. As a rule, however, the  $\times$  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  $m$  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  $e$  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  $e$  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  $e$  cancels the effect of the *episema* or the  $\prec$  (*tenete*). In these cases, the  $e$  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  $e$  may be compared to the use of the *natural*  $\natural$  which cancels an *accidental*  $\flat$  and restores the note in question to its normal pitch (1).

99. Thus neither meaning of the  $e$  — positive or negative — changes the fundamental value of the notes or groups; whereas the  $\prec$  (*tenete*), and the *episema* can double the value of a note

(1) See D. BARALLI, *Rassegna Gregoriana*, February 1906, col. 66 et seq.

occasionally and, in consequence, can modify the skeleton of the rhythm and the function of a note within the rhythm. The  $\epsilon$  has no such power, nor does it ever reduce a note to half its value. The  $\epsilon$ , 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  $\epsilon$  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  $\epsilon$  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  $\prec$ : (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  $\epsilon$  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  $\epsilon$  as simply indicating an agogic shade of animation, the problem is solved and the apparent contradiction vanishes. The case of the  $\prec$  is different. Its influence on the rhythm is greater; moreover it has an equivalent in the *episema* in the manuscripts without letters, whereas the  $\epsilon$  has no equivalent in such manuscripts. The same is true of the melodic letters:  $\alpha$ ,  $\iota$ ,  $\tau$ , and  $\epsilon$ . 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  $\epsilon$  in the realm of rhythm.

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 *p̄* 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. *t̄* — Ut *bene extollatur, vel gravetur, vel teneatur.*

*v̄* — *Valde.*

*m̄* — *Mediocriter.*

107. The meaning of the letter *t̄* is perfectly clear. We find : *t̄l = bene levare; t̄t = bene teneatur, etc.*

108. The letter *v̄ = valde*, is rarely used. It is equivalent to *t̄*.  
*v̄v = iusum, inferius valde.*

109. The letter *m̄*, already found in the second system, is often joined to other letters, thus : *a m̄ = altius medicriter; c m̄ = celeriter medicriter; i m̄ = inferius medicriter; t m̄ = tenete medicriter.* 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).

(1) See *Palæographie Musicale*, Vol. IV, p. 15.

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 group:



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:



Fig. 103.

When this is the case, all the neums are accelerated or retarded. In the following example:



Fig. 104.

the letter *e* = *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)

, first note light (*celeriter*), second note lengthened by the *episema*.

*Climacus* (Fig. 106)

, 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

where all the notes are sung more slowly; the *scandicus* (Fig. 107)

where the four *punctum planum* with their *episema* are sung slowly and emphasized; the *climacus* (Fig. 108)

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:

*eo* = *conjugatur* — slurred.

- leñ* = *leniter* — softly.  
*moll* = *molliter* — delicately, softly;  
*fid* = *fideliter* — accurately(?) or  
*fidenter* — boldly(?)  
*siml* = *simul* — together.  
     = *similiter* — similarly.  
*perf* = *perfecte* — perfectly.  
*¶* = *statim*, *strictim*, *stringe* — immediately, without a pause  
     (equivalent to *c* = *celeriter*).

### ARTICLE 3. THE METZ RHYTHMIC SIGNS.

115. Like those of the St. Gall school, the rhythmic signs in use in the Metz MSS. comprise rhythmic signs proper, and letters.

#### § I. — The rhythmic Signs proper.

116. The Metz notation indicates the rhythm only by modifying the usual neumatic forms, the additions in use at St. Gall being unknown (II-80). Instead of the *episema*, the outline of the neum is modified or a letter added, answering the same purpose. (See 121 et seq.).

117. As in the writing of St. Gall, there are ordinary neums and lengthened neums:

	ORDINARY NEUMS.	LENGTHENED NEUMS.
PUNCTUM	•	~
CLIVIS	˥	˥ or ˥
PODATUS	˩	˩
TORCULUS	˨	˨ or ˨
CLIMACUS	⋮ or ⋮	⋮

Fig. 109.

118. A comparison with the St. Gall manuscripts gives us the value of the lengthened neums: the ordinary neums of the Metz school correspond exactly to the ordinary neums of St. Gall, while

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)

Fall :  $\flat$  = *humiliter* (corresponding to the *jusum* of the St. Gall MSS.)

Unison :  $\text{eq}'$  = *equaliter*.

Other letters are used in the Metz manuscripts which seem to have a *melodic* meaning, but further researches must be made before definite conclusions can be formed.

#### SECOND SYSTEM.

##### The rhythmic Letters of Metz.

123. They are as follows :

Prolongation :	$\begin{cases} \text{—} \\ \text{—}\text{—} \end{cases}$ = <i>tenete</i> . $\text{a}$ = <i>auge, augete, ample</i> .
Acceleration :	$\begin{cases} \text{c} \\ \text{n} \\ \text{n—} \\ \text{nL} \\ \text{nL—} \end{cases}$ = <i>cito, celerius, celeriter</i> . $\begin{cases} \text{n} \\ \text{n—} \\ \text{nL} \\ \text{nL—} \end{cases}$ = <i>naturaliter</i> .

124. *Prolongation.* The  $\text{—}$  indicates that a sound must be prolonged in the Metz writing as in that of St. Gall. But in the Metz manuscripts we find another letter which is equivalent :  $\text{a}$  = *augete ample*, (meaning *augmented*) and these two signs, the  $\text{a}$  and the  $\text{—}$ , are found precisely above those neums which are lengthened in the manuscripts of St. Gall.



Fig. 110.

This complete agreement between the two schools suggests that the letter  $\alpha$  indicates *length*, and might well stand for the word: *auge, augete* or ample.

125. *Celeriter, naturaliter,* Notker's letter  $\epsilon$  (*celeriter*) occurs in the Laon manuscript 239 but an  $n$  is often used as equivalent. The two letters,  $n$  and  $\epsilon$  always correspond to notes and neums which, in the St. Gall writing, were normal or else were marked with a  $\epsilon$ . 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  $l$  ( $n_l$ ) or else by a  $-$  ( $n-$ ). In the codex No. 91 of Angers the  $n$  is never used alone but always with the  $l$  ( $n_l$ ), and once we find an  $n_l-$ . 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  $\alpha$  (*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  $\epsilon$  and the  $n$  in manuscript 239 of Laon, is a fresh proof of the true significance of  $\epsilon$  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  $\epsilon$  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  $\epsilon$  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  $\epsilon = celeriter$ , 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 :  
- b) The *perpendicular episema* above or below a note :   
- c) The *horizontal episema* over a note :    or neum :     

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 solfeggi* and the study of intervals.

## ARTICLE 1. THE READING OF NOTES ON THE STAFF.

## § I. — 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.

*Fig. III.*

*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 =  is usually on the fourth line (1), but occasionally it is found on the second and third :

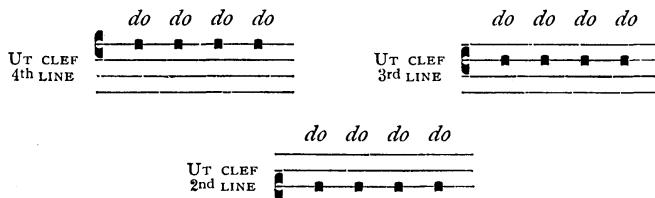


Fig. 112.

The *ut* clef at the beginning of a line shows that the note *ut*, or *do*, occurs on that line.

2. The *fa* clef  usually occurs on the third line :



Fig. 115.

(1) The numbering of the lines begins from the bottom :

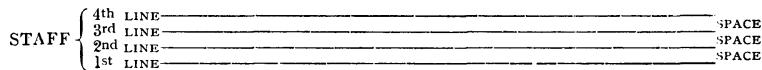


Fig. 113.

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.

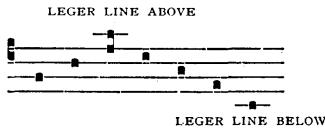


Fig. 114.

sometimes on the fourth line:



Fig. 116.

occasionally on the second line:



Fig. 117.

133. In modern notation the *sol* clef only is used and it is placed on the second line of a five line staff:



Fig. 118.

### § 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*.

UT queant laxis RESONARE fibris  
MIRA gestorum FAMuli tuorum  
SOLVE polluti LABii reatum  
sancte ioannes.

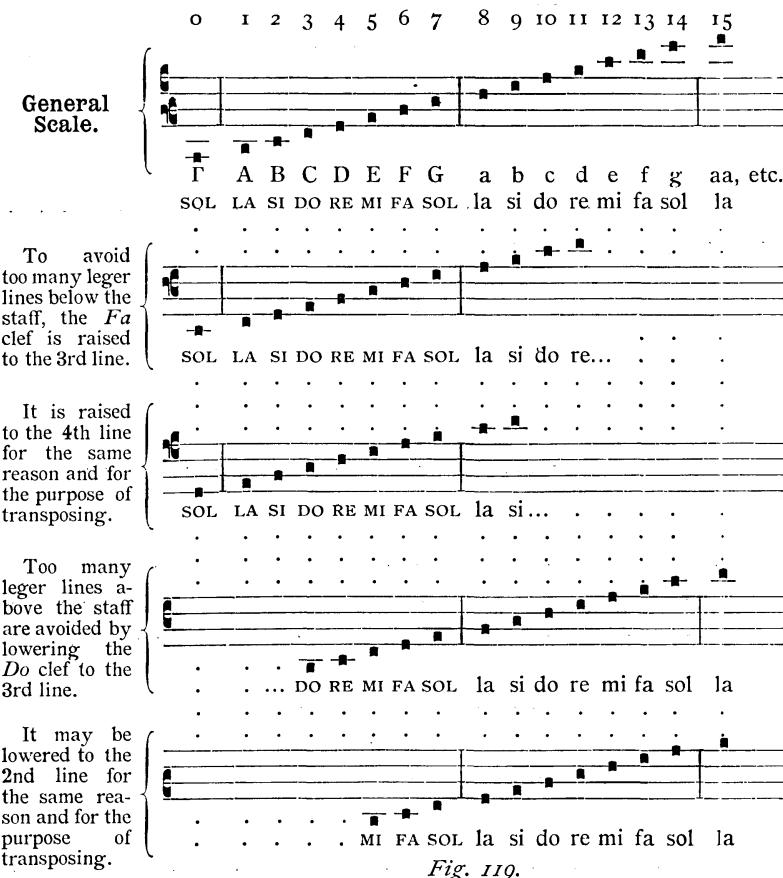
*Ut.* This syllable has been replaced by *do* since the seventeenth century, when it appears to have been introduced by G. M. Bononcini 1673 (1). The *ut* may be retained in the chant provided the *u* be pronounced like the Italian "u" and the English "oo".

*Si.* 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*.

of the concluding words of the hymn quoted above : *Sancte Ioannes* (1).

135. *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.



136. The notes marked 2 and 9 in the above diagram, and called *si*, may be lowered a semitone when they occur in the course of a melody. Thus the complete scale in use to-day has two possible forms of the note *si* in every octave, and the sign used to show the lowering of the pitch is the *flat*.

(1) RIEMANN, *ibid.* Art. *Bobisation*.

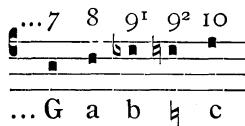


Fig. 120.

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 :

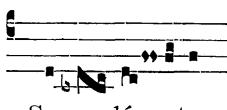


Fig. 121.

they wrote



Fig. 122.

NOTE. The flat sign is cancelled by the natural ♯ 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 ascending or descending passages, a rule which the early writers expressed thus : “*Utrumque ∫ ♯ 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.



Fig. 123.

The dotted note is represented in modern notation by a quarter note (I. 38).

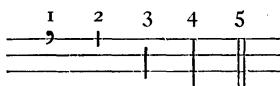
140. 2. The *horizontal episema* over a note  lengthens it slightly (agogically).

141. 3. The *perpendicular episema*  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.



*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* (*duplicis 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 solfeggi*, the students will name the notes in certain passages of the Graduale or Antiphonale. We suggest the following order of exercises :

- Ut* Clef. 4th line : *Kyrie fons bonitatis*, etc.  
 » » 3rd line : *Credo No. III.* or *Vidi aquam*, etc.  
 » » 2nd line : *Asperges me* (7th mode) Offert. *In virtute*.  
*Fa* Clef. 3rd line : *Agnus Dei X*; *Gloria in excelsis XI*;  
                           *Sanctus XI*, (Vatican Edition).  
 » » 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.

### § 1. — 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.

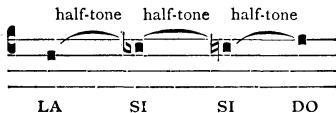


Fig. 127.

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 *conunct 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*  $\sharp$ , a tone and a semitone, and a diminished second : *do*  $\sharp$ , *re*  $\flat$ , which, on a tempered instrument, becomes an identical sound.

*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, ô, 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.

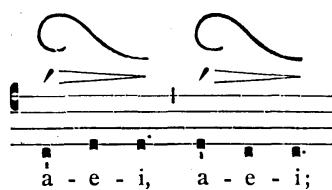
*General rule :* The intensity increases as the melody rises and decreases as it falls. This is the natural process.

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 discentibus debent, et ab *initio* *infantes* eadem aequalitatis sive numerositatis disciplina informare, *inter cantandum aliqua pedum manuunve, vel qualibet alia percussione numerum 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.

a) *Decrescendo* movement :



*Fig. 128.*

b) *Crescendo* movement :



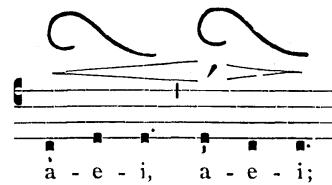
*Fig. 129.*

c) Combined *Crescendo*  
and *Decrescendo* movement :



*Fig. 130.*

d) Combination of all the  
above movements :



*Fig. 131.*

In the last example, two simple rhythms are linked together in a short phrase-member by means of a single dynamic movement, first *crescendo*, then *decrescendo*, culminating on the *arsis* of the last rhythm. In short, the teacher should strive to give his students a complete control over the distribution of dynamics in

singing and thus he will arrive at a sense of the phrase even at first sight of a melody.

156. CHIRONOMY 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.*

157. *Rhythmic Analysis. Simple Rhythms.*

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).

a) Design of the first eight incises: one arsis (duplex group), two theses (duplex group); *diminishing intensity*.



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*.

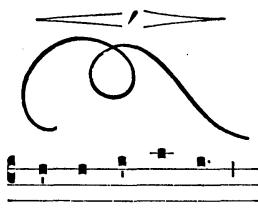
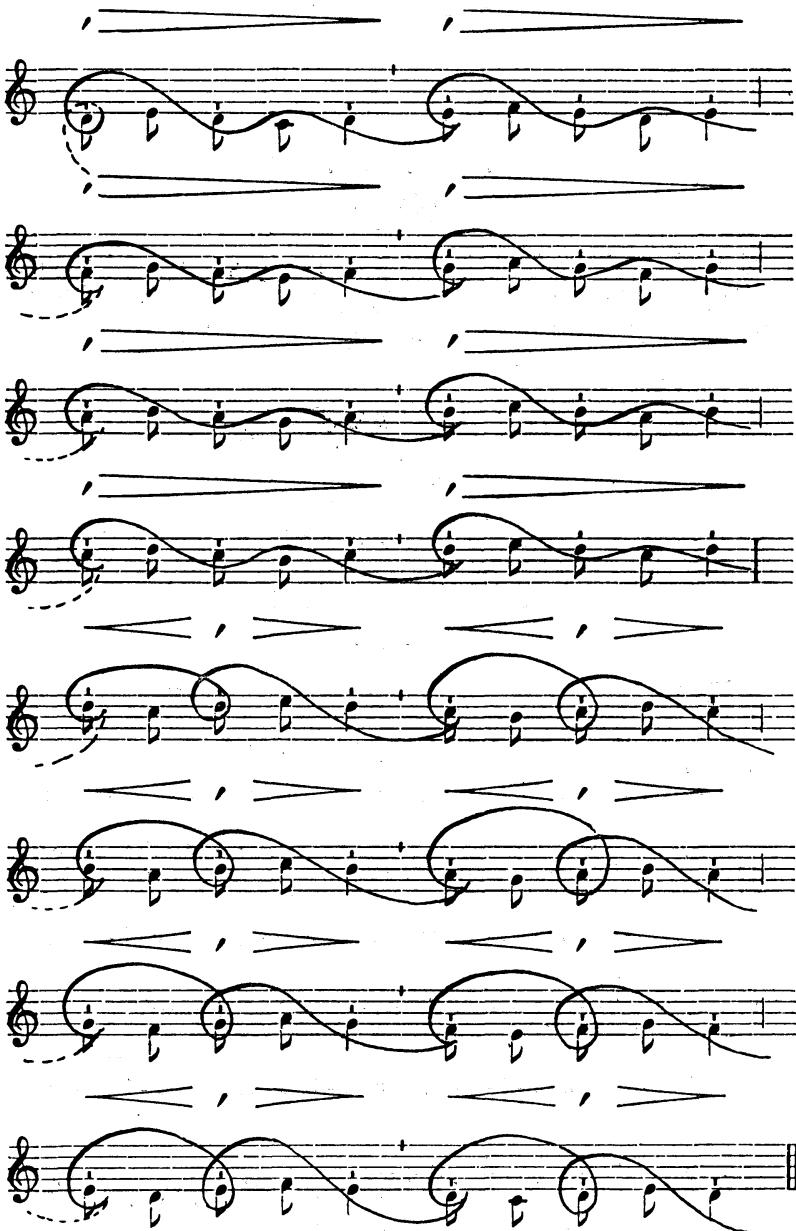


Fig. 133.

The musical score consists of four identical staves, each with a key signature of one sharp (F#) and a common time signature. The staves are separated by vertical bar lines. Below each staff, the lyrics "a - e - i - o - u," are repeated four times. The music features eighth-note patterns with various rests and dynamic markings like 'f' (fortissimo) and 'p' (pianissimo).

a - e - i - o - u, a - e - i - o - u; a - e - i - o - u, a - e - i - o - u;  
 a - e - i - o - u, a - e - i - o - u; a - e - i - o - u, a - e - i - o - u;  
 a - e - i - o - u, a - e - i - o - u; a - e - i - o - u, a - e - i - o - u;  
 a - e - i - o - u, a - e - i - o - u; a - e - i - o - u, a - e - i - o - u.

*The same exercises transcribed in modern notation :*



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 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 arsic 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.*

160. Gregorian music is characterized by the freedom of its rhythm (I. 85-89), in which the duplex and triplex composite pulses succeed one another harmoniously. The student must learn to appreciate this supple and unfettered movement. With this end in view the following exercise is given.

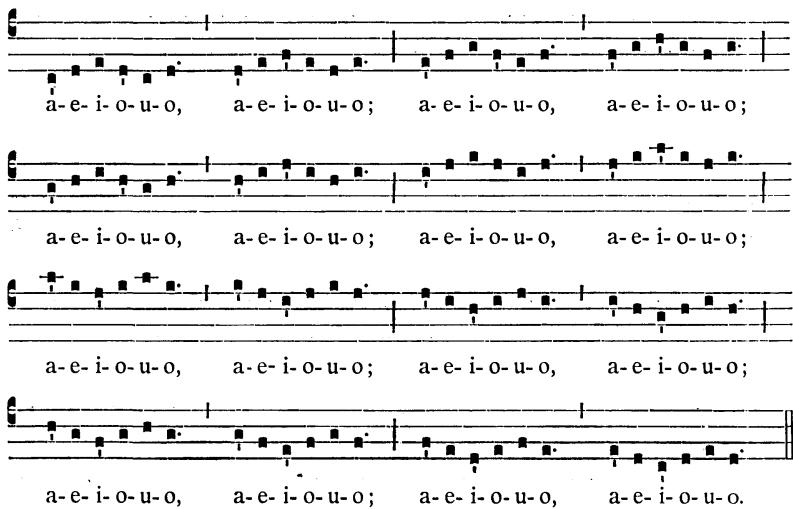
##### 161. *Rhythmic analysis.* Musical free rhythm.

Incises : 1, 3, 5, 7 — One arsis, triplex, two theses, duplex.

Incises : 2, 4, 6, 8 — Two arses, one duplex, the other triplex; one thesis, duplex.

Incises : Nos. 9 and 10 with those that follow : One arsis duplex, two theses (one triplex, the other duplex).

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.



*The above transcribed in modern notation :*

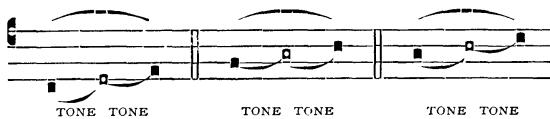
A modern musical transcription consisting of five staves of music. Each staff begins with a treble clef and a common time signature. The music features eighth-note patterns and includes fermatas (dots over notes) and slurs. The first staff has a single fermata over the last note. The second staff has two fermatas, one over the first note and one over the last note. The third staff has two fermatas, one over the first note and one over the last note. The fourth staff has two fermatas, one over the first note and one over the last note. The fifth staff has a single fermata over the last note.



§ 3. — Intervals of a Third.

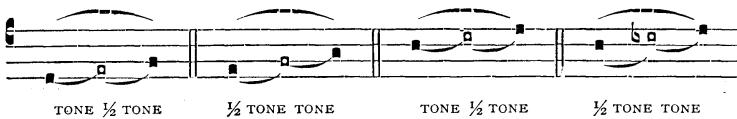
162. An interval which covers a distance of two seconds is called a *third*.

163. The *major third* is composed of *two whole tones*.



*Fig. 134.*

The *minor third* is composed of *one tone and a half-tone*.



*Fig. 135.*

EXERCISE XII.

*Intervals of a Third. 1.*

164. *Rhythmic analysis.* Simple rhythms (I. 112-113), one arsis (triplex), one thesis (duplex).

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.

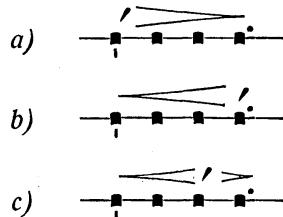


Fig. 136.

A musical score consisting of four staves of music. Each staff has four vertical stems. The lyrics "a - e - i - o" are repeated four times across the staves, corresponding to the four notes in each measure. The music is in common time, with quarter notes and eighth notes.

*The above transcribed in modern notation :*

A musical score consisting of four staves of music. Each staff has four vertical stems. The music is in common time, with quarter notes and eighth notes. A continuous wavy line is drawn underneath each staff, indicating the pitch contour of the melody.

## 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.

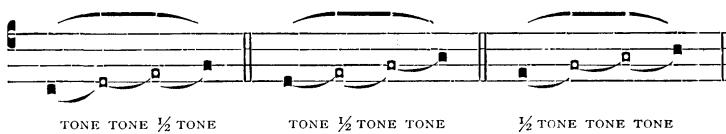
*The above transcribed in modern notation:*



§ 4. — Intervals of a Fourth.

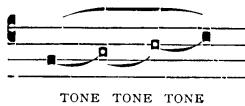
166. When two notes are four degrees apart, the interval is called a *fourth*.

167. The *perfect fourth* is made up of two tones and a half-tone :



*Fig. 137.*

The *augmented fourth* is made up of three full tones, hence it is also known as a *Tritone*:



*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:

Member      
$$\left\{ \begin{array}{l} \text{1st. rhythm; a composite rhythm: made up of two} \\ \text{arses, (triplex and duplex) and one thesis (duplex).} \\ \text{2nd. rhythm: a simple rhythm: one arsis and one} \\ \text{thesis — both duplex.} \end{array} \right.$$

*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.

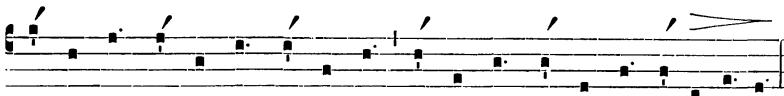
*The above transcribed in modern notation.*

#### EXERCISE XV.

##### *Study of Fourths. 2.*

169. *Rhythmic analysis.* *Simple rhythm* : one arsis, one thesis (both duplex groups).

The last rhythm is *composite* : one arsis, two theses, all duplex. The intensity is the same as in II. 155, except in the last rhythm.



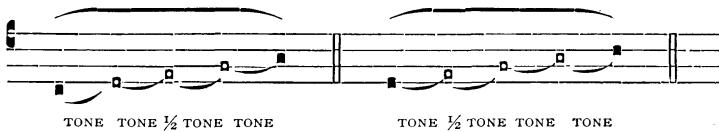
*The above transcribed in modern notation.*



### § 5. -- Intervals of a Fifth.

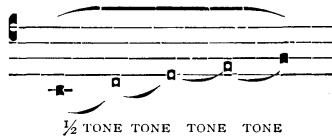
170. When two notes are five degrees apart, the interval is called a fifth.

171. The *perfect fifth*, practically the only one used in Gregorian chant, consists of *three tones and one half-tone*. Ex :



*Fig. 139.*

The *diminished fifth* consists of *two tones and two half-tones*, but is rarely, if ever, found in pure Gregorian chant.



*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.

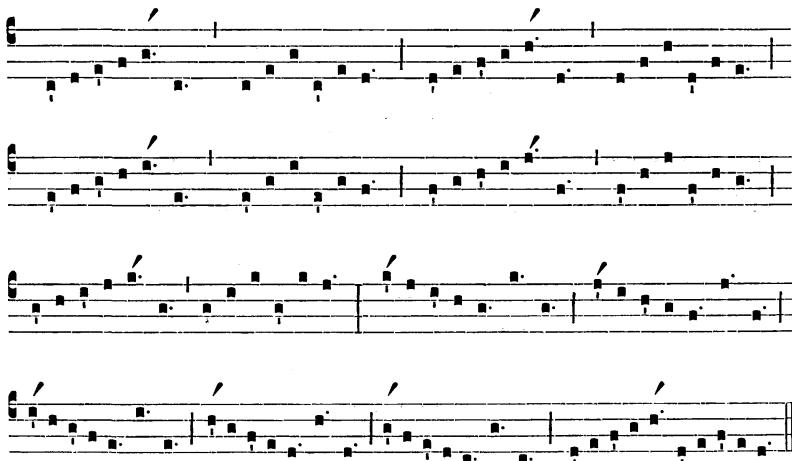
Member { 1st. incise : composite rhythm; three arses and one thesis (all duplex).  
           2nd. incise : composite rhythm; one arsis, triplex, and two theses, duplex.

*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.

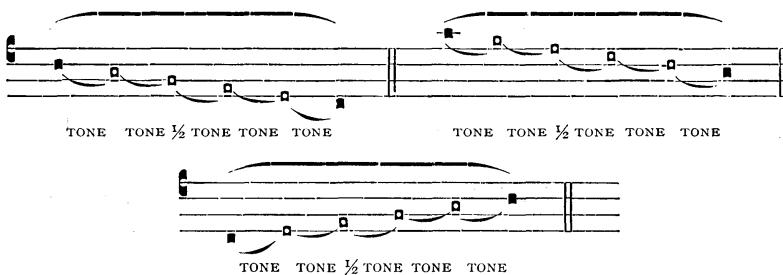


Fig. 141.

The minor sixth is still more rare: it consists of three tones and two half-tones.

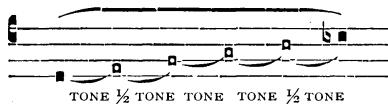


Fig. 142.

175. *Sixths* being so rarely used, exercises on this interval are not necessary.

### § 7. — Intervals of a Seventh.

176. The *seventh* is never used in Gregorian chant, though it is sometimes found in mediaeval melodies, as in the Alleluia *Salve Virgo*.



Fig. 143.

### § 8. — Intervals of an Octave.

177. When two notes are *eight degrees* apart, the interval between them is called an *octave*.



Fig. 144.

No interval larger than an octave is found in the liturgical melodies.

## CHAPTER IV.

### THE MODES.

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 MODES.

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 chooses 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 - mifa - sol - la - sido - 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 regula quæ de omni cantu in fine dijudicat”. (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.

## 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*.

## § I. — Primitive Division of the Scale into Four Modes.

185. The theorists of ancient times count four main divisions 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 :

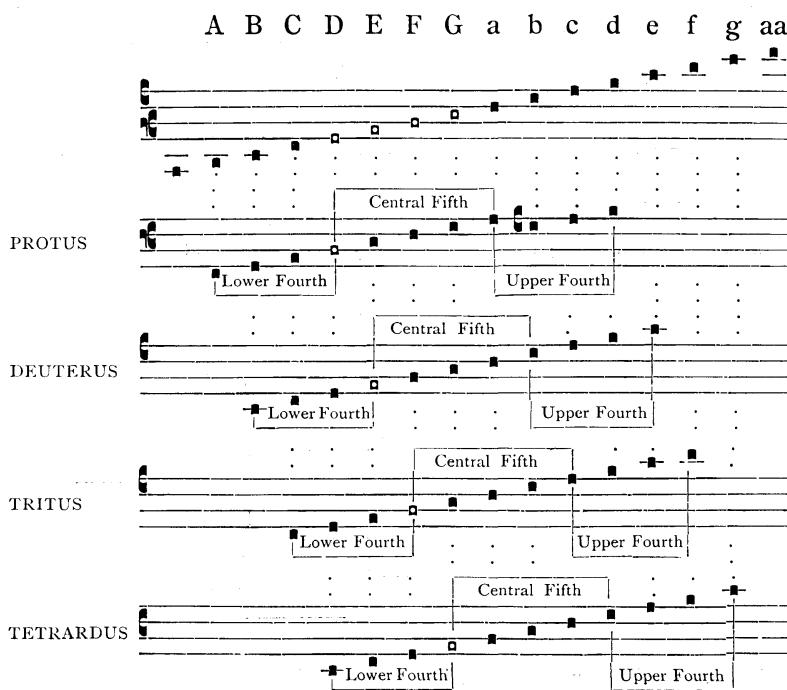


Fig. 145.

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:

	OLD TERMINOLOGY	PRESENT TERMINOLOGY
PROTUS	{ HIGH MELODIES	PROTUS AUTHENTIC
	{ LOW MELODIES	PROTUS PLAGAL

(1) M. (Magister) "Hi quatuor (modi) autem dividuntur in octo. — D. (Discipulus) Quare? — M. Propter elevatos et humiles cantus". ODO, Gerb. Script. I, p. 258.

	OLD TERMINOLOGY		PRESENT TERMINOLOGY		
DEUTERUS	HIGH MELODIES	DEUTERUS AUTHENTIC	3 <sup>rd</sup> Mode	Common Fifth	Fourth
	LOW MELODIES	DEUTERUS PLAGAL	4 <sup>th</sup> Mode	Common Fifth	Fourth
TRITUS	HIGH MELODIES	TRITUS AUTHENTIC	5 <sup>th</sup> Mode	Common Fifth	Fourth
	LOW MELODIES	TRITUS PLAGAL	6 <sup>th</sup> Mode	Common Fifth	Fourth
TETRARDUS	HIGH MELODIES	TETRARDUS AUTHENTIC	7 <sup>th</sup> Mode	Common Fifth	Fourth
	LOW MELODIES	TETRARDUS AUTHENTIC	8 <sup>th</sup> Mode	Common Fifth	Fourth

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 und 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:

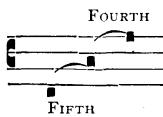
	<i>Final</i>	<i>Dominant</i>
1st mode	<i>re</i>	<i>la</i>
3rd mode	<i>mi</i>	<i>si [do]</i>
5th mode	<i>fa</i>	<i>do</i>
7th mode	<i>sol</i>	<i>re</i>

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

(1) “Sane secundam nonam  $\sharp$  ideo 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. 260.

of the mode, but especially because it tends, by an interval of a fourth, toward *mi*, the highest note of the mode."



*Fig. 147.*

195. *The plagal modes.* Two of these have their dominant a third above their final:

	Final	Dominant
Second Mode:	<i>re</i>	<i>fa</i>
Sixth Mode:	<i>fa</i>	<i>la</i>

and the other two, a fourth above the final:

	Final	Dominant
Fourth Mode:	<i>mi</i>	<i>la</i>
Eighth Mode:	<i>sol</i>	<i>do</i>

196. The finals and dominants of the modes may be memorised as follows:

Modes :	1	2	3	4	5	6	7	8
Finals :	<i>re - re</i> ,	<i>mi - mi</i> ,	<i>fa - fa</i> ,	<i>sol - sol</i>				
Dominants :	<i>la - fa</i> ,	<i>do - la</i> ,	<i>do - la</i> ,	<i>re - do</i>				

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.

Mode I	Mode VIII
<i>Re mi fa sol la si do re</i>	<i>Re mi fa sol la si do re</i>

198. *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 an 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 imperfectionem”. Another writer says: “quia semitonii imperfectio non patitur fieri descensum competentem” (3). Another writer adds: “Sed si descendit, potest as *D* grave (*re*), ut dictum est, attin gere” (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.

199. *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.

(1) GERB. Script. II, p. 50, it. III, p. 101.

(2) Memineris quod... toni authenti vix a suo fine plus una voce descendant. Ex quibus authentus tritus (fifth mode) rarissime id facere propter subjectam semitonii imperfectionem videtur. GERB. Script. II, p. 13.

(3) COUSSEMAKER. Script. II, p. 438.

(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.

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.

		LOWER FOURTH FINAL	CENTRAL FIFTH	UPPER FOURTH
PROTUS : MODES I ET II	{ Normal : Transposed :	la   si   do   re   mi   fa   sol   la   si   do   re            	½ t.      ½ t.      ½ t.	do      re      mi      fa      sol      la      si      do      re      mi      fa            
DEUTERUS : MODES III ET IV	{ Normal : Transposed :	do      re      mi      fa      sol      la      si      do      re      mi      fa            	½ t.      ½ t.      ½ t.	sol      la      si      do      re      mi      fa      sol      la      si      do
TRITUS : MODES V ET VI	{ Normal : Transposed :	si      do      re      mi      fa      sol      la      si      do      re      mi            	½ t.      ½ t.      ½ t.	fa      sol      la      si      do      re      mi      fa      sol      la      si

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.

## 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, 33). 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 Tarente*, 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 plaudatur ”. (GUIDO D'AREZZO, Microl. Ch. XV; and other texts.)

Now in metrical feet, there are two fundamental values :

The *short* or indivisible elementary pulse (◦).

The *long* pulse (-) 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 :      ■ = ♫

A *long* note worth double the value of the  
short note,      ■. = ♪ 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 (- u u) produced almost the effect of trochees (- u)" (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

(1) "Sit in hoc quoque aliquid fortasse momenti, quod et longis longiores, et brevibus sunt breviores syllabae; ut, quamvis neque plus duobus temporibus, neque uno minus habere videantur (ideoque in metris omnes breves longaeque inter se obsessae sunt pares), lateat tamen nescio quid, quod supersit aut desit..." QUINTILLIAN. *Instit. orat.* IX, 4.

(2) L. LALOY, *Aristoxène*, p. 293.

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 ( $\cup$ ), 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*  $\cdot = \blacksquare$  mean a short note  $\text{♪}$ ?

and their *virga*  $/ = \boxed{\square}$  mean a long note  $\text{♩}$ ?

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 (II, 67 et seq.).

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).

Pru-déntes vír-gi-nés aptá-te lámpa-des vestras; ecce sponsus ve-nit,  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

ex-i- te óbvi- am e- i.  
 21 22 23 24 25 26 27 28

Fig. 149.

(1) *Paléographie Musicale*, Second Series, Vol. I, p. 384.

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).

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 *clavis* (No. 19). The neum begins with a *virga (la)*, a note which is lower than the *si* preceding it; but the *clavis* 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 sames 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

Di- es sancti- fi-cá-tus il-lú- xit no- bis :  
 Hic est di-sci-pulus il- le,

## Recitation B



## Recitation C

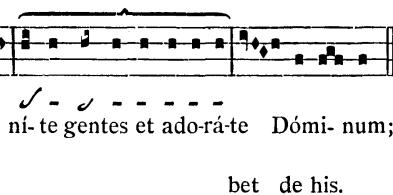


Fig. 150.

*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 Ry.Beginning of the Vy.

## Recitation D



## Recitation E

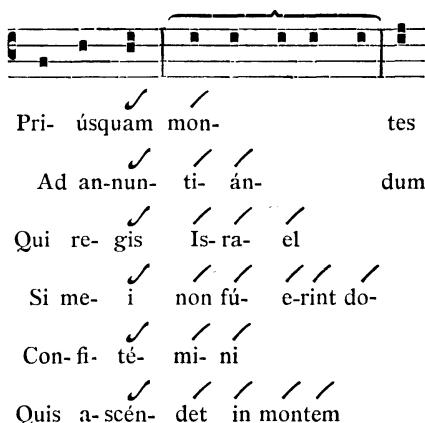


Fig. 151.

*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      te  
 » Dñe refúgium...      a ge- ne-ra- ti-      ó-      ne  
 » Nimis...      ni- mis confor-      tá-      tus est  
 » Ab occúltis...      et ab a- li-      é-      nis  
 » Justus...      mul- ti- pli-      cá-      bitur  
 » Exsultábunt...      lae- ta-      bún-      tur  
 » Ne avértas...      quó- ni- am      trí-      bulor

### Recitation G

R. G. Tecum...      an-te lu-      cí-      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 *Virgas*.

### 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...      V. Propter quod De-us ex-al-tá-vit il-lum  
 » Ecce sacérdos... V. Non est in-vén-tus sí-mi-lis il-li  
 » Exiit...              V. Sed sic e-um vo-lo ma-né-re

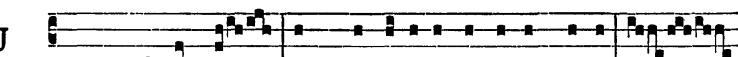
#### Recitation I

R. G. Propitius esto...      V. Ad-ju-va nos De-us sa-lu-tá-ris no-ster

Fig. 153.

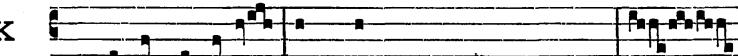
In the examples H and I, we have two intonations which lead up to the same recitation tone, and both, by an ascending progression. The reciting tone at the summit of this melodic progression is always indicated by a series of *virgas*.

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.

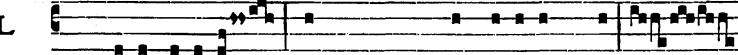
J      

Rg. G. *Vindica...* ¶ Po-su- é- runt mortá-li- a servó-rum tu- ó-rum

» *In Deo...* ¶ Ante Dó- mi- num      clamá-vi

K      

Rg. G. *Bonum est...* ¶ Ad annunti- án- dum ma- ne

L      

Rg. G. *Locus iste...* ¶ De-us cu-i ad- stat      Ange-ló-rum cho-rus

Fig. 154.

These three intonations begin, like the preceding ones, on *fa* below the reciting tone, but they rise higher, reaching *mi* before dropping back to the reciting tone, *do*, which is indicated, in all such cases, by a series of *punctums* instead of *virgas*. The use of these *dots* or *punctums*, as we see them here, replacing the *virgas*, is the most striking proof that the difference between these signs is neither one of rhythm nor of duration, but that the melodic context alone determines the use of the one sign or the other.

229. It is thus that similar passages of recitation are written in all the best manuscripts. Other documents which are good are less precisely written and show less care and discernment in the exact use of the *punctum* and the *virga*. This fact is easily explained: passages of this sort offered no practical difficulties since there was no rhythmic difference of value between the two signs; the scribes, therefore, felt free to take liberties with the notation, knowing that the rhythm of the chant would be

unaffected. This free interchange of signs is but a further proof of their *rhythmic equivalence*.

§ 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:



*Fig. 155.*

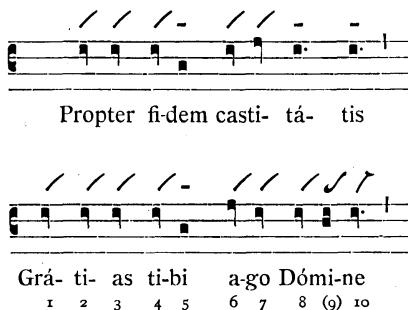
The melodic cadence of these antiphons is altered slightly when the last word of the text is a proparoxytone.

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, 219).

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.

In the first member, see Nos. 8, 9, 10.



*Fig. 156.*

and in the fourth, Nos. 7, 8 and 9.



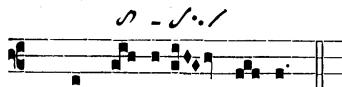
*Fig. 157.*

#### § 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.*

St. G. 339.

Com. *Jerúsalem* ... a De- o tu- o.

Eins. 121.



... 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:

Rg. G. *Tóllite*.

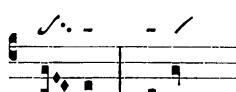
Eins. 121.



cor- de

Off. *Benedixisti*.

Eins. 121.



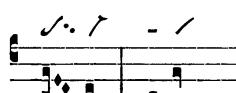
tu- am; aver-tisti

St. G. 359.



cor- de

St. G. 339.



tu- am; aver-tisti

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*.

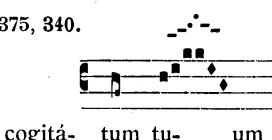
237. The following manuscripts of the St. Gall school show three different ways of writing the first two notes of the group over the syllable, *tu*:

Ry. G. *Jacta*.

St. G. 359, 339.



Eins. 121 — St. G. 376, 375, 340.



Bamb. lit. 6.



*Fig. 161.*

Line 1: a *podatus*.

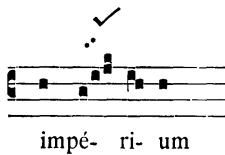
Line 2: two *punctums*.

Line 3: two *virgas*.

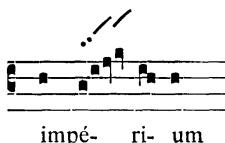
238. Another example of the same kind: a *podatus* replaced by two *virgas*.

Introït. *Puer.*

Eins. 121.



St. G. 339.



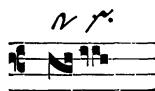
*Fig. 162.*

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:



*Fig. 163.*

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*.

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*.

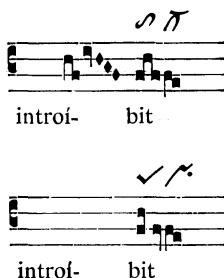


Fig. 164.

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:

Rg. G. *Qui sedes.*

Eins. 121.

et ve-ni.

St. G. 359.

Vercelli 124.

et ve-ni.

Fig. 165.

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.)

The figure consists of seven musical staves, each with a bracket below it indicating the corresponding text. The staves are arranged in two columns: the first column contains staves A, B, and C; the second column contains staves D, E, F, and G. The text below each staff is as follows:

- Staff A: súsci-tas
- Staff B: effu-si- óne
- Staff C: Je-su Christo
- Staff D: amó-re
- Staff E: testimó-ni o
- Staff F: atque cu-ram
- Staff G: sacra me-ru- ísses

Fig. 166.

**§ 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 *Paléographie 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 :

Alle-lú-ia.

Di- es

sancti- fi-cá-tus illúxit no- bis, ve-

ní-te gentes et ado-rá-te Dómi- num, qui- a hódi- e descén-

dit lux ma- gna super terram.

Fig. 167.

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:

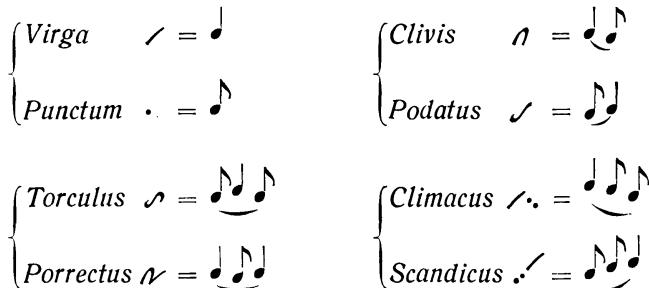


Fig. 168.

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 Pl. 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 *episema* 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 modifications 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 individuality 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.

254. It follows that we must know the laws which govern the structure of the various neums and be familiar with their characteristics before attempting to read, sing or rhythm them. These laws pertain to the neum itself apart from the literary text to which it may be attached, apart from the melismatic context which may surround it. These fundamental laws we propose to explain, since they are as indispensable to the correct singing of Gregorian chant as are the laws of correct pronunciation and accentuation to the study of a spoken language.

255. Lest we be misunderstood on this point, we must add that the *word* in language and the *neum* in music are individuals of a highly sociable nature. They exist only to meet, associate and combine in phrases — musical or literary. The neums, in so doing, become flexible and lend themselves to certain transformations and modifications which bring the individual neum into a closer relation with its surroundings in the phrase, fitting it more intimately into the general melodic and rhythmic scheme. But these changes are superficial ones. For the moment, our attention should be confined to the *single neum* considered apart from any context, with the rules which govern its execution.

256. When this knowledge of the neums shall have been acquired theoretically and practically, then we can study the exercises for the formation of the voice. These are necessary after the exercises of mere solfeggio and before attempting to combine words with melody, as will be done in Part III of this work. Meanwhile, in order that this first approach to neums and their rhythm be as simple as possible, we limit the study to first principles : the individual neums, their rhythmic subdivisions and the succession of the groups. All this will lay a solid foundation for a later study of text with music, which study, for the moment, would be too great a tax on the attention of the student.

## § 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*.



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.

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,



Fig. 172.

*b)* after the neum.

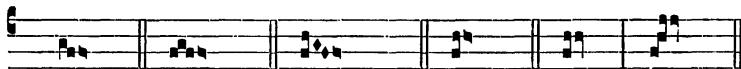


Fig. 173.

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.



Fig. 174.

3. By the addition of two dots, one dot after each note of the *podatus* and *clivis*. Such cadences close members and phrases.



Fig. 175.

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).



Fig. 176.

c) All notes lengthened by an *oriscus* (See Chapter X for the execution of this neum).



Fig. 177.

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.



Fig. 178.

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 :



Fig. 179.

*Do*, the first note of the *climacus*, has no rhythmic ictus since the note *si*, immediately preceding, bears the ictus. The reason why the ictus falls on the *si*, 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 :



Fig. 180.

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.

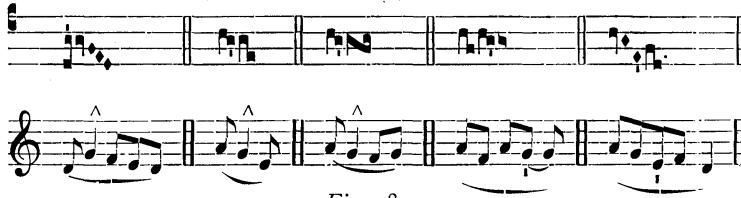


Fig. 181.

*Exception d)*: The *salicus* in its first form (II, 46), has the ictus on the second note of the neum.



Fig. 182.

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).



Fig. 183.

b) When it is at the end of a neum (Fig. 184).



Fig. 184.

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).

#### § 4. — Fundamental Distinction between Rhythm-Neums and Time-Neums.

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 ictic 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 *élangs* and *repos* when the neum is longer and forms a composite rhythm).

The following are all simple rhythm-neums :

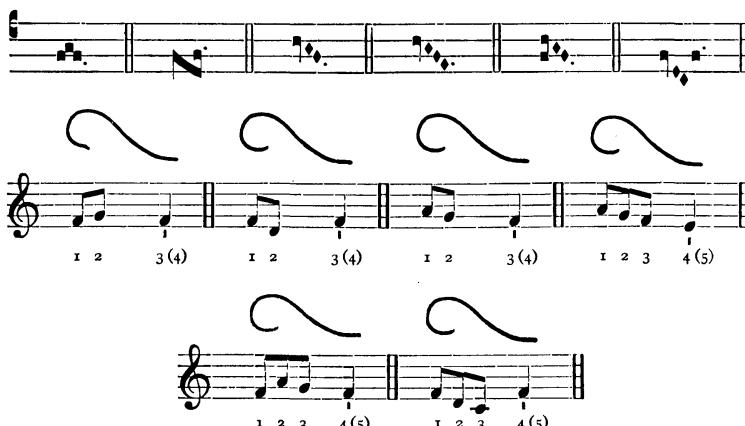


Fig. 185.

Such rhythms belong at the close of an incise, member or phrase. Thus : {

Allelú-ia.  
in æ-térnum

Allelú-ia.  
in æ-térnum

Fig. 186.

The *torculus* in the above examples are both *rhythm-neums*.

269. b) The final ictus or touch may coincide with a short note at the end of the neum:



Fig. 187.

Neums such as these are *rhythm-neums*, but they occur only in the middle of an incise, member or phrase and must be followed by other notes or neums with which they are connected so intimately as to form, with them, a *composite pulse*. This second type of *rhythm-neum* assumes the linking of neums among themselves and therefore this type will be treated later (II, 323).

#### B. Time-Neums.

270. A *time-neum* (or *measure-neum*) is one which has no rhythmic ictus on the last note.

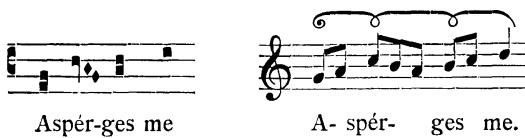


Fig. 188.

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.



Fig. 189.

271. A *time-neum* cannot give the impression of a definite ending; it is always "post-ictic" (I, 132-134). It calls for

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 arsic or thetic 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.

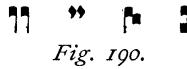
## ARTICLE 2.

### 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).

#### § I. — 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 *clivis* 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 *thetic touch* of the rhythm. The following are rhythmic designs of such neums :

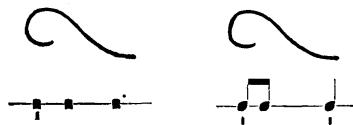


Fig. 194.



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

## EXERCISE XVII.

Rhythm-Neums of three Notes forming Groups  
of four Pulses. I.

I. Mode.



*The above in modern notation.*

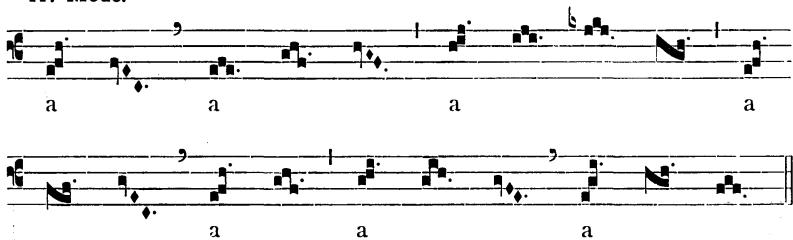


as vocal exercises and practise them faithfully. *It is only by going over them again and again*, even after the pupils have acquired a certain art, that the grace and flow of the voice will be maintained and a good and edifying interpretation of Gregorian chant will be made possible.

## 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.

The rhythmic design follows :

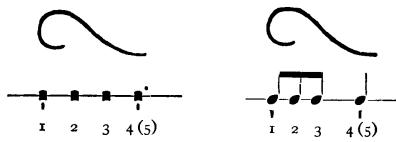


Fig. 196.

(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.

##### II. Mode.

*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.

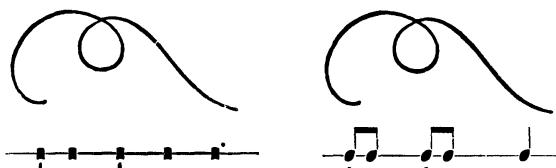


*The above in modern notation.*



§ 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

a a a a

B

a a a

C

a a a a

D

a a a a

E

a a a

*The above in modern notation.*

A

B

C



The following explanation should be read before singing the above exercise.

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 :

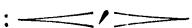
- a) *Initial ictus* : on the first note of the neum (II, 263).
- b) *Final thetic ictus* : on the long note at the end (II 262 a).
- c) *Ictus of subdivision* : on the third note of the neum. It can be placed nowhere else, since two rhythmic ictus cannot fall on consecutive pulses (I, 84).

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 : 

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.



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).



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 :



*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.

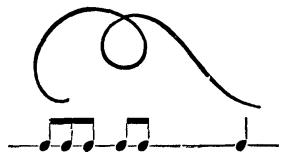
Line E : Two rhythmic analyses are possible according to the place given the principal accent :

a) When it is placed on the first note of the neum : *one arsis, two theses*.

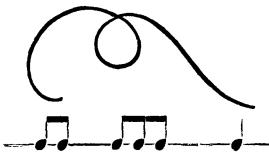
b) When it is placed on the third note : *two arses, one thesis*.

#### § 5. — Rhythm-Neums of six Notes forming Groups of seven basic Pulses.

284. This neum may be subdivided in two ways :



*and*

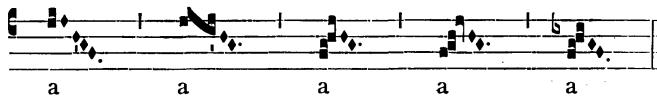


*Fig. 202.*

## EXERCISE XXIII.

Rhythm-Neums of six Notes forming Groups  
of seven Pulses.

VI. Mode.

*The above in modern notation :*

The explanation already given for neums of five notes, applies exactly to those of six. They should be repeated until the rhythm has been assimilated in form and feeling.

## § 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- | ficáti- | o*, nor : *justificáti | o*, but simply : *justificátió* 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 :



This is what we mean by a *rhythmic notation*, in contrast to the *metric notation* which follows :



*Fig. 203.*

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.

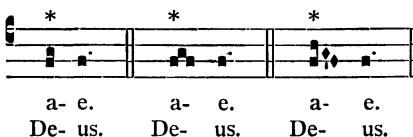
#### ISOLATED TIME NEUMS AND THEIR RENDERING.

##### § I. — The Time-Neum.

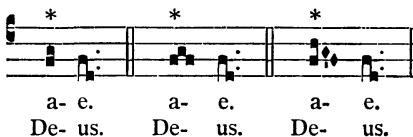
287. A neum becomes a *composite pulse* or *time-neum* when its last note does not carry a *rhythmic ictus* (II, 270). Such a neum cannot terminate a rhythm because it lacks an *ictic thesis*. It calls for at least another note to follow upon which the rhythm may rest. Consequently, even though theoretically, *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. 204.*



*Fig. 205.*

All neums marked with an asterisk are *time-neums*.

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.

All neums marked with an asterisk are *time-neums*. The last example (two *climaxus*) 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.

*The above in modern notation :*

The image shows four staves of musical notation in modern notation. Each staff has a treble clef and a common time signature. The notes are represented by vertical stems with horizontal dashes indicating pitch. Below each staff, the lyrics "a-e," are written under each measure. The notation consists of four measures per staff, with a repeat sign and a double bar line at the end of the fourth measure of the third staff.

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.

V. Mode.

The image shows musical notation for Exercise XXV in V. Mode. The notation is in common time with a treble clef. The top staff contains six measures of the lyrics "a-e," followed by a repeat sign and a double bar line. The bottom staff contains two measures of the lyrics "a-e."

*The above in modern notation.*

a — e, a — e, a — e, a — e,  
 <, >, <, >  
 a — e, a — e, a — e.

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.

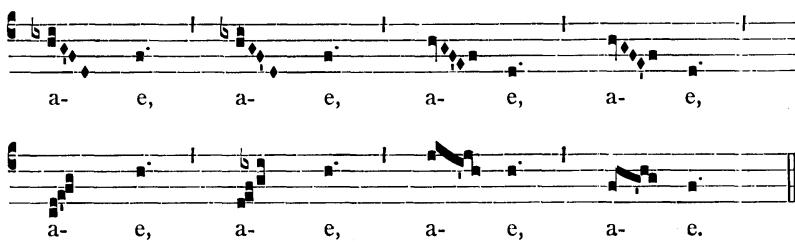
The following exercises will provide practical experience in singing the various rhythmic combinations which can occur with time-neums of five notes.

#### EXERCISE XXVI.

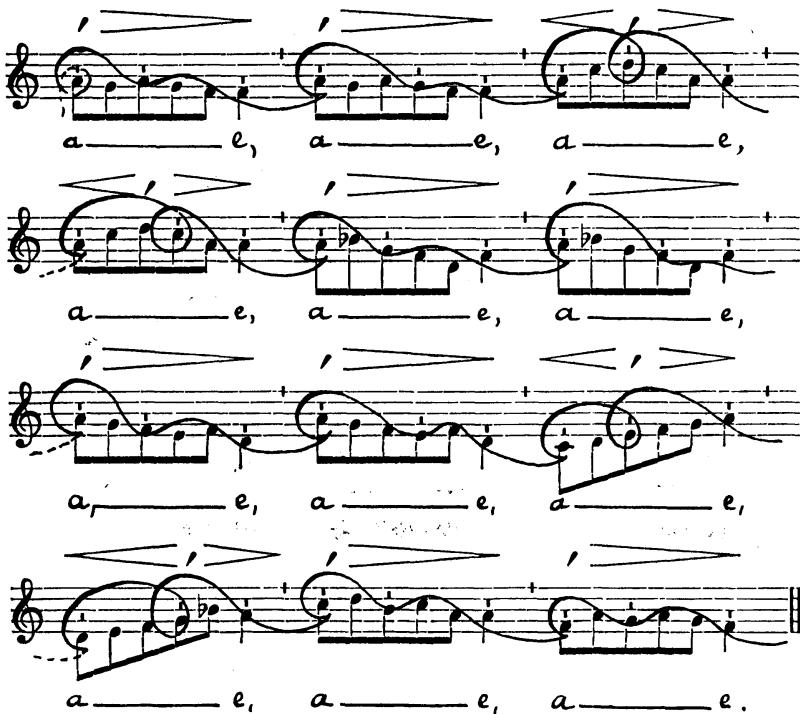
##### Time-Neums of five Notes.

VI. Mode.

a- e, a- e, a- e, a- e,



*The above in modern notation.*



292. — Time-neums of six notes can be grouped as follows :

a) two triplex composite pulses :



*Fig. 207.*

b) three duplex composite pulses :



*Fig. 208.*

These neums being rarely found in Gregorian chant it is unnecessary to embody them in an exercise.

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## 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 fulfil 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 Instituta Patrum* contain some suggestions on this new aspect of the neums : "Caveamus etiam ne neumas *conjunctas* nimia morositate (*disjungamus*) vel *disjunctas* inepta velocitate *conjugamus*". (GERBERT, *Script.* I. p. 7). (1).

(1) Here are several other texts dealing with the cohesion or distinction of notes and neums :

HUCBALD? *Music. Enchir.* Gerb. *Script.* I, p. 183<sup>b</sup>) : « Observandum quoque dico distinctionum rationem, id est, ut scias quid cohaerere conveniat, quid disjungi. »

ODO? (Gerb. *Script.* I, p. 275<sup>b</sup>) : « Ad cantandi scientiam nosse quibus modis ad se invicem voces jungantur, summa utilitas est. »

ARIBONUS? (Gerb. *Script.* II, p. 217<sup>a</sup>) : « Arctius est scribendi et neumandi distinctio, donec ad finem appropinquet. Juxta finem autem dissipetur scriptura cum neumis, ut cantori sit indicium praedictae tarditatis. »

St. BERNARD? *Tractatus de ratione cantandi antiphonarium. Supplementum Patrum*, J. Hommey, p. 7 : « Dignum siquidem est ut qui tenent regulae veritatem, praetermissis aliorum dispensationibus habeant etiam rectam canendi scientiam, repudiatis eorum licentiis, qui similitudinem magis quam naturam

295. In the rendering of neums, therefore, we must recognize at the very outset that certain neums are intimately *joined*, while on the contrary, certain others are detached, *disjoined*. The expressions *morositate* and *velocitate* indicate how in practice, we are to join or disjoin our neums. For when a series of joined neums are awkwardly disjoined in practice by being sung too slowly, the remedy is to sing them without slowing down, in an unbroken, normal *tempo*. On the other hand, when neums that should be disjoined are awkwardly joined by rapidity and crowding, the remedy is to sing them with a *ritardando*, a true *mora vocis*. In order to produce its full disjoining effect, this *mora vocis* should be heard on the last notes of the neum, especially on the very last note of all.

Other theoretical writers use much the same expressions. We reserve these texts for the third part of this book wherein we treat of the Gregorian phrase with text and music.

296. Does the notation of the ancient manuscripts reflect the instructions of the *Instituta Patrum* is a question we may well ask. Does it show us clearly where there is junction and where, disjunction? The answer would have been in the affirmative had the scribes followed the advice of St. Bernard who echoed the tradition on this point; the neumatic notation would have been almost sufficient : "Praemunitos autem volumus, he says, eos maxime qui libros notaturi sunt, ne notulas, vel *conjunctas disjungant*, vel *conjugant disjunctas*".

This text gives a fairly good description of the type of writing recommended to the copyists for indicating the junction or disjunction of notes and neums. The junction was to be represented by writing several notes united graphically in a single

in cantibus attendentes, *cohaerentia disjungunt et conjungunt opposita*; sique omnia confundentes, cantum prout libet, non prout licet, incipiunt et terminant, deponunt et elevant, componunt et ordinant.»

Id. p. 9 : « Praemunitos autem esse volumus, eos maxime qui libros notaturi sunt, ne notulas, vel *conjunctas disjungant*, vel *conjugant disjunctas*; quia per hujusmodi variationem gravis cantuum potest oriri dissimilitudo.»

See also *Tractatus de ratione cantandi Graduale*, p. 27 : « Sicut notatores antiphonariorum praemunivimus, ita et eos qui gradualia notaturi sunt præ-munimus, et hos et illos obsecramus, et obtestamur, ne notulas *conjunctas disjungant*, vel *conjugant 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 359 and 339; also Einsiedeln 121. In addition to these published codices, we shall refer to those of St. Gall 376, 375 and 340; 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<sup>o</sup> By simple juxtaposition.
- 2<sup>o</sup> By linking.
- 3<sup>o</sup> 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:**

A musical score for piano, featuring four staves of music. The top staff uses a treble clef and includes three sets of markings with asterisks (\*). The second staff uses a bass clef and also includes three sets of markings with asterisks (\*). The third staff uses a treble clef and includes two sets of markings with asterisks (\* \*). The bottom staff uses a bass clef and includes two sets of markings with asterisks (\* \*), followed by a wedge-shaped symbol (^).

*Fig. 209.*

The time-neums (marked with an asterisk) are united to the following neums by mere graphic juxtaposition.

### Examples with words:

\* \* \*

\* \* \* \*

Aspér-ges me.      Vi-di a-quam.

A- spér- ges me.      Vi- di a- quam.

*Fig. 210.*

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  $\frac{12}{8}$  time, for instance, give some idea of the correct rendering of these Gregorian time-neums.

A musical score for 'The Star-Spangled Banner' in G major, 12/8 time. The score consists of two staves of music. The first staff begins with a whole note followed by a dotted half note. The second staff begins with a quarter note followed by a eighth note. The music continues with a series of eighth notes and sixteenth notes.

*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 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

Dómi-ne

St. Gall MSS.  
Tract. *Qui regis*  
Sab. IV. Temp.  
Adventus

inténde

Fig. 212.

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.

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 :

$\textcircled{c}$  = *celeriter*.

$\textcircled{f}$  = *statim*.

$\textcircled{n}$  = *conjungatur*.

$\textcircled{n}$  = *naturaliter*. (peculiar to the Metz notation).

All the signs and letters listed above can be relied upon.

309. The use of the letter  $\textcircled{c}$  = *celeriter*.

Often we find the passage given under Fig. 212 written as follows :

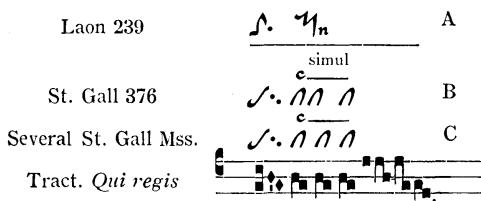


Fig. 213.

The  $\textcircled{c}$  = *celeriter* over the three *clivis* in lines B and C, shows that the three neums are closely united.

The *simul* = *together*, written over the  $\textcircled{c}$  (Line B) only emphasises the  $\textcircled{c}$  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  $\textcircled{n}$  = *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  $\textcircled{n}$  is found at the end of the first neum, also, (the *pes subbipunctis*) in the Laon manuscript of the Tract *De Profundis*.

311. The use of the abbreviation : = *statim*.

Laon 239

St. Gall 375

R. G. Timebunt

et vi-dé-bi- tur

Fig. 214.

In reading these neums, the question might arise once more: should there be a *mora vocis* after the *climaxus do-la-sol*? or after the *clivis do-la*? The St. Gall manuscripts prove the contrary. There can be no pause after the *climaxus*, because:

- a) the *punctums* are short.
- b) the neum is marked with a « which apparently applies to the whole of it, and especially because,
- c) the abbreviation  $\#$  = *statim* immediately follows the neum.

For the same reasons, a *mora vocis* is forbidden after the *clivis do-la*: no sign of length appears; the neum is surmounted by the letter «; the sign *statim* connects the neum directly with the notes that follow.

312. This interpretation is substantiated by the Laon manuscript which gives the same indications. The reader will remember, in examining the *climaxus*, that the sign  $\wedge$  at the base of this neum is to be interpreted as explicitly *long* only when it is accompanied by a  $\#$  or other equivalent sign of length. As for the *clivis*, it is followed by the letter « which equals the *statim* of the St. Gall manuscripts.

313. Another example of the use of  $\#$  = *statim*.

Laon 239

St. Gall MSS.

Tract. Comovisti

Sa-  
fúgi-ant na

Fig. 215.

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,  $\textcircled{z}$ , abbreviation for *conunctim*, will be discussed later (II, 419).

#### EXERCISE XXVII.

##### Neums united by simple Juxtaposition. I.

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 :

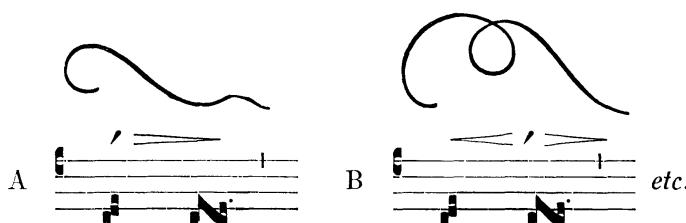


Fig. 216.

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.

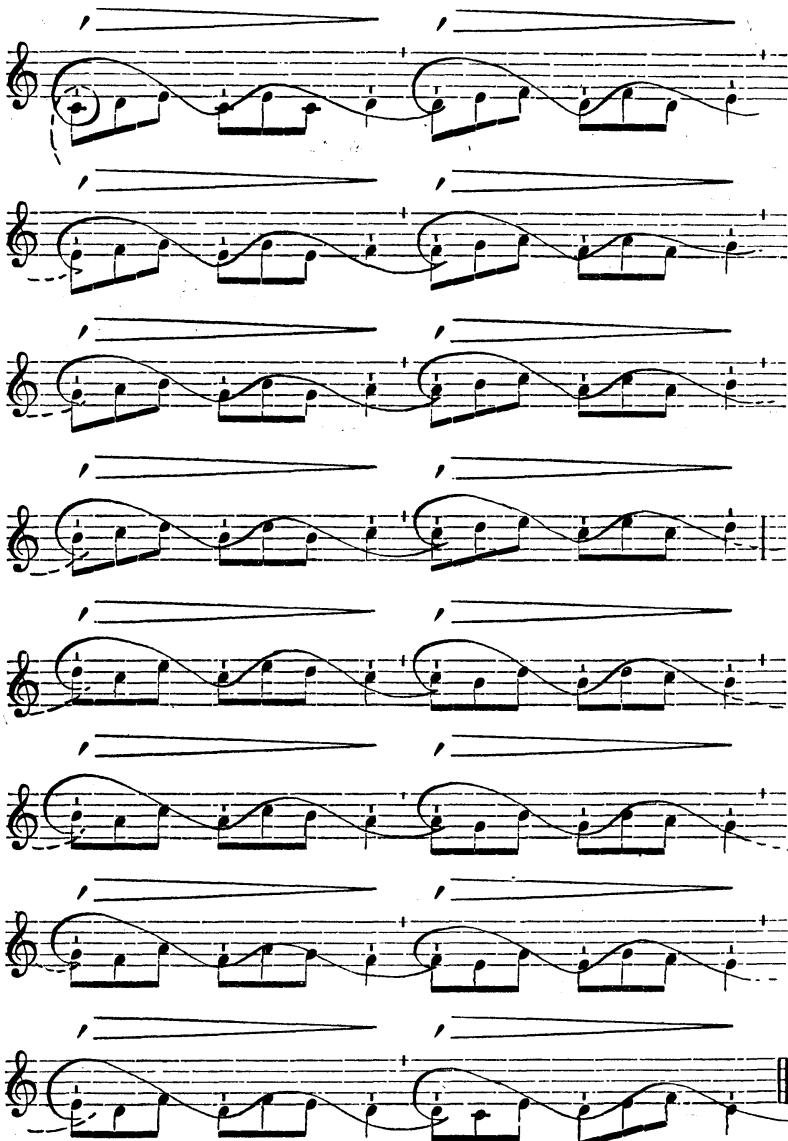
Throughout the exercise, the first neum is a triplex composite pulse which is joined to the following one by *juxtaposition*.

In singing the exercise, various vowels should be used according to the needs of the pupils.

#### I. Mode.

The image displays three staves of Gregorian chant notation in I. Mode. The notation is based on square neumes on four-line red staves. Below each staff, the vowel 'a' is repeated six times under each group of neumes. The first staff shows a continuous sequence of six groups of three neumes each. The second staff begins with a group of three neumes followed by a single neume, then a group of three neumes followed by a single neume, and so on. The third staff begins with a group of three neumes followed by a single neume, then a group of three neumes followed by a single neume, and ends with a final group of three neumes.

*The above in modern notation.*



EXERCISE XXVIII.

Neums united by simple Juxtaposition. 2.

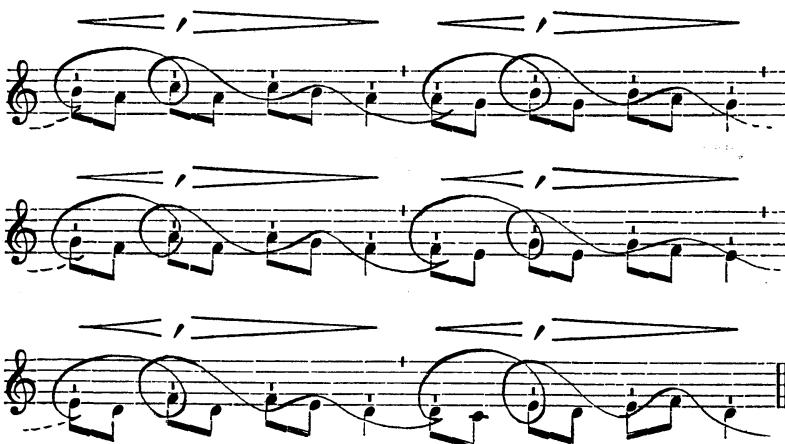
321. The intervals are the same as those of the preceding exercise but the rhythm is different. The incises may be accented

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.

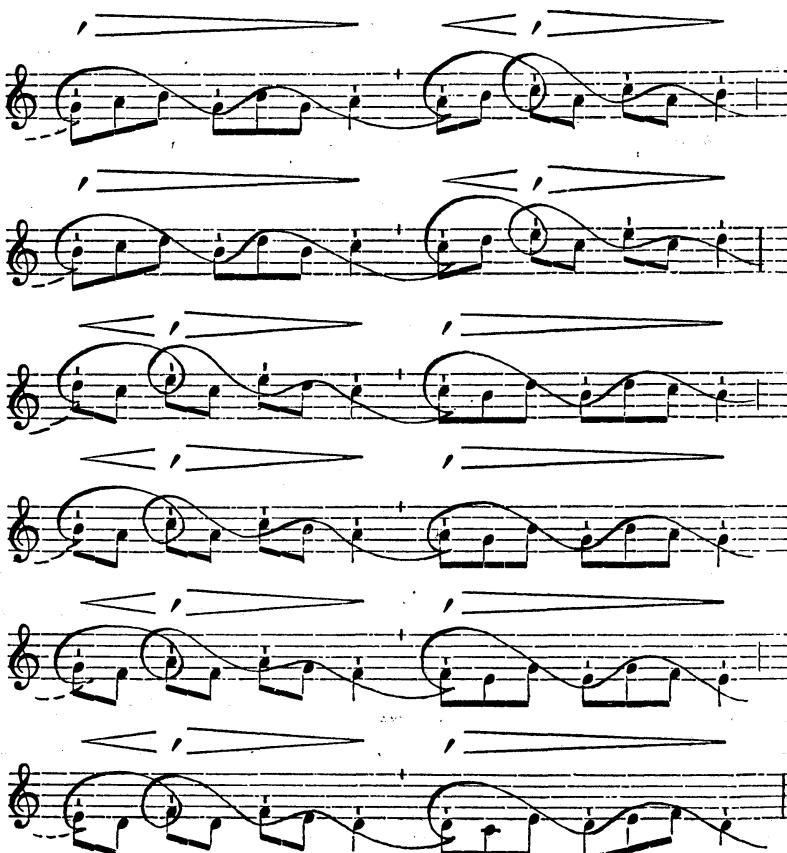
322. This exercise is a combination of the two preceding ones and is intended to familiarize the pupil with *free musical rhythm*, the rhythm of Gregorian chant.

## 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 :

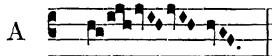


Fig. 217.

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 :



Fig. 218.

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 :

Metz MSS.	
St. Gall MSS.	
C Rg. G. Mode V.	

Fig. 219.

326. The St. Gall notation is clear on this point; each neum save the first must be treated as a *rhythm-neum*:

The *punctum planum* 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 *•* (*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*  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* () 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.

327. The Metz notation agrees with that of St. Gall: the *clivis* is long; so is the *torculus* which has the letter *•* (*auge te*) 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.

328. 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*.



*Fig. 220.*

Moreover, each rhythm would have two ictus: the initial arsic ictus on the first note of the neum, and the final thetic ictus on the last note of the same neum.

329. 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.

330. The difficulty could be solved by doubling the thetic note :



Fig. 221.

but this length would be excessive, because the final note of the *climax* (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 *climax*, 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).

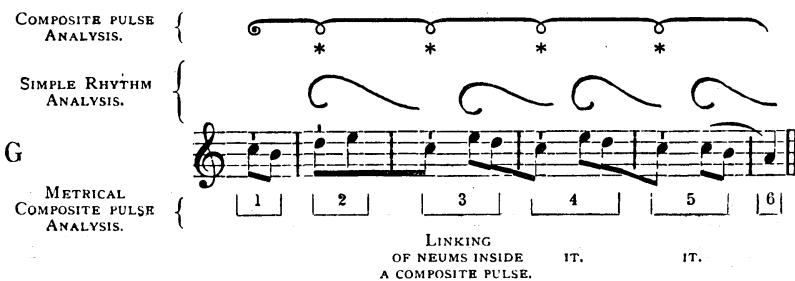
331. The clear Gregorian notation of this passage is manifestly the following :



Fig. 222.

The ictus which has been suppressed on the first note of the *climacus* falls back upon the last note of the preceding neum. We have, in this case, an example of that *rhythmic fusion* between thesis and arsis with which we are already familiar (I. 139-141). The result is the *linking together these neums*, a linking which takes place *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:



*Fig. 223.*

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 *thetic* ictus of one rhythm and the *arsic* 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 *first* note of the triplex group being the *last* note of one neum, while the other two notes are taken from the neum that follows. This is what is meant by the *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 rhythemics. 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.

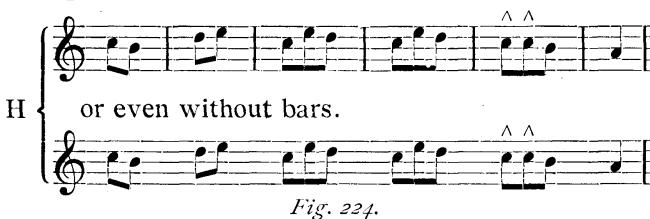
The analysis and diagram will aid the reader to understand the rule given already (II. 264), namely :

« The first note of a neum can have no rhythmic ictus when the basic pulse which immediately precedes that neum has either an *episema* 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. *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 « measures »?



*Fig. 224.*

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 *rhythmic grouping*, so sought after in the Gregorian notation, and substituting a *metrical grouping* (time-groups); thus contributing to a rendering that will be more *metrical* than *rhythrical*, 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.



Fig. 225.

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:

a) in two neums :

*✓.*

A musical staff in G clef shows four measures. Each measure contains two neums. The first measure has a single vertical bar line. The second measure has a vertical bar line after the first neum. The third measure has a vertical bar line after the first neum. The fourth measure has a vertical bar line after the first neum. The neums are represented by small vertical strokes or dots.



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 :



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*:



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 *torculus*, the Italian manuscripts give a *do* at this point, thereby producing a *pressus*:



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 resu-*  
*pina*: St. Gall MSS.



b) in two neums: St. Gall

MSS. 375 and 340, the  
latter without the *c*.



c) in three neums: Monza

Ms. and Novalesa Ms.



Fig. 230.

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

(1) Manuscripts in staff notation of Italian derivation as well as these from other countries do more than merely *link* the neums: they *fuse* them by means of a *pressus* at this point (See infra: *Fusion of Neums*):

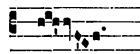
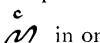
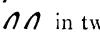


Fig. 231.

This use of the *pressus* makes it imperative to group the notes two by two.

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 Hartker, that incomparable master of notation, so scrupulously exact in every detail, took liberties of this kind on every page of his Antiphoner (See *Paléog. Mus. Series II. Vol. I.*). In the Verses of the Responsorial psalmody, 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:

 in one neum only, with or without *c*, more than 60 times.  
 in two neums, with or without *c*, more than 40 times.

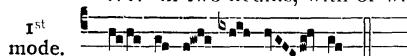
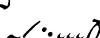
1<sup>st</sup> mode.   
 a e i o u.

Fig. 232.

 in two neums, about 40 times.  
 in one neum only, about 25 times.

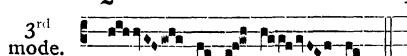
3<sup>rd</sup> mode.   
 a e i o u.

Fig. 233.

 in two neums, about 50 times.  
 in one neum only, about 35 times.

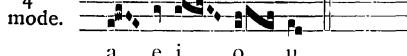
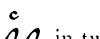
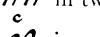
4<sup>th</sup> mode.   
 a e i o u.

Fig. 234.

 in two neums, with or without *c*, about 25 times.  
 in one neum only, with or without *c*, about 20 times.

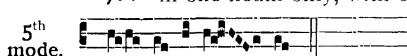
5<sup>th</sup> mode.   
 a e i o u.

Fig. 235.

 in two neums, with or without *episema*, over 80 times.  
 in one neum only, over 40 times.

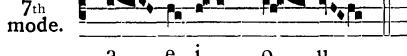
7<sup>th</sup> mode.   
 a e i o u.

Fig. 236.

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 :

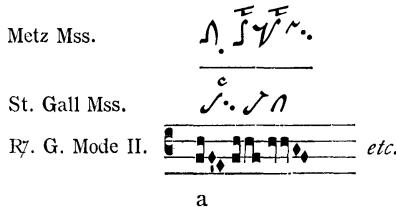


Fig. 237.

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;

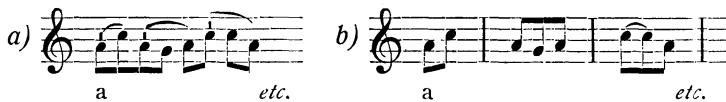


Fig. 238.

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:



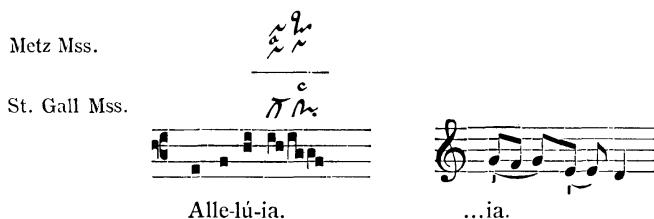
*Fig. 239.*

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:



*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:



ia.

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 239		
St. Gall MSS.		
Mode II. Tract,	me-	in-i-
	us.	quo

Fig. 242.

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. 243.

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.

The image contains three staves of musical notation. The top two staves are identical, showing a series of neums (short vertical stems with horizontal strokes) separated by vertical bar lines. The bottom staff is labeled "Effect." and shows the same series of neums, but the second note of each pair is modified with a horizontal stroke through its stem, indicating it is part of a longer note (the fusion of the two notes). Vertical bar lines group the notes into measures.

*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.

354. 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).

355. A dot after a note is the sign of disjunction in our editions.

Example :



*Fig. 245.*

Exercises Nos. XVII, XVIII, XIX, XX, XXI, XXII, XXIII, are all examples of the *distinction* between neums.

356. 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.

*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.

*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.

359. 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 principal means of disjunction.

## § 2. — Disjunction of Neums in the Manuscripts.

360. 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.

361. 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).



*Fig. 246.*

(1) Paléogr. Music. Series I, Vol. 7, p. 294 *et seq.*

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 episema or ictic note at the end of a neum.* It has been shown that neither the *episema* 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 *episema* merely expresses a rhythmic point of support. When, however, the more trustworthy manuscripts use this *episema* 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 episema* 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:



Fig. 247.

The episema 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  $\text{--}$  (*tenete*) to the last note of Neum B.

364. Nevertheless, the rhythmic signs lack precision and sometimes lend themselves to several interpretations. For instance:

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:

Fig. 249.

## 2) Junction of all the neums.



If we consult the St. Gall notation only, both interpretations are plausible; but a close study of the melody itself (which entails considerations which cannot fully be explained here) leads us to prefer the first, namely, *disjunction* of the neums, as in Fig. 249. As a practical matter, a choice must be made. A chorus of twenty, thirty, fifty voices must sing in unison, an organist must accompany the singing, step by step, and must know the place of the various rhythmic ictus in order to choose his chords. Our rhythmic notation with *mora* dots and ictus clearly indicated, supplies the definite guide which was lacking in the ancient neumatic notation, or which was suggested in such a vague manner that a master was required to transmit the rhythm to the singers.

365. The *rhythmic letters* help us somewhat in these difficult cases, but their meaning is not always as clear as we could wish. Each problem should be studied separately, and we can give the student only a few general ideas at this time, regarding the value of these letters to the rhythmist, with the need of prudence and precision in their use:

366. 1. First of all the student must clearly *recognise the letter itself*, being careful to distinguish between *s* = *sursum* and *f*; between *f*  $\nearrow$  = *sursum tenete*, and *f*  $\neq$  = *statim*; being careful not to confuse an episema above a clivis  $\pi$  for a  $\epsilon$  = *celeriter*, etc. etc.

2. The student must examine the *position of the letter* and determine whether it applies to one note of a neum only, to the entire neum, or to a whole series of neums.

3. Next, the relation between the rhythmic signs and the qualifying letters must be studied, where both systems are employed, for in the light of the equivalents that result, each system becomes clear. They are mutually enlightening.

4. Finally, for each melodic phrase, the rhythmic signs and letters of the various families of manuscripts must be consulted

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:  $\text{τ}$ ,  $\alpha$  and  $\times$ .

The  $\text{τ} = \text{tenete}$  (common to the manuscripts of St. Gall and Metz) and the letter  $\alpha = \text{augeate}$  (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  $\times = \text{expecta}$ , 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 *mora vocis*. It is the converse of the sign  $\# = \text{statim}$ , which indicates, infallibly, a junction of neums.

Often the letter  $\times$  is used to explain and define the meaning of others letters, the  $\text{τ}$  and  $\alpha$  of the Metz manuscripts. For example:

368. Example A. — Introit *Aqua sapientiae*.

Laon 239.

St. Gall. 376 and Einsied. 121.

Intr. *Aqua sapientiae*.



*Fig. 251.*

The letter  $\times$  which appears below the last note of the *torculus* (*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 *episema* (late note of the *torculus*) and lengthens it considerably.

The letter  $\text{τ} = \text{tenete}$  (Laon Ms.) indicates a disjunction at this same point by means of a *mora vocis*. The letter  $\text{τ}$  as it is used in the Laon manuscript, does not always indicate a double note, but when the  $\text{τ}$  of Laon corresponds to an  $\times$  of St. Gall, we may double the value of the note in question, without hesitation.

369. — Example B. — Gradual *Ex Sion*.

Laon 239.

St. Gall MSS.

Grad. *Ex Sion*.

ordinavé-runt

Fig. 252.

The letter  $\times$  which appears after the first *pes subbipunctis* (*trigon*) is found in Bamberg lit. 6 only. The letter  $\times$  is found joined to the second *pes subbipunctis* in the manuscripts of Bamberg lit. 6, St. Gall 359, and Einsiedl. 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  $\alpha$  = *augete* 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  $\times$  at the end of the *first incise* belongs to the Bamberg manuscript (lit. 6); the Laon manuscript confirms this interpretation by a letter  $\alpha$  applied to the last note of the neum.

The letter  $\times$  at the end of the *third incise* is found in three manuscripts: Bamberg lit. 6, St. Gall. 375 and Einsiedeln 121. Whereas the Laon manuscript gives merely two long punctums at this point.

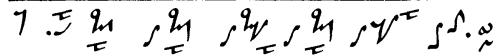
After the double bar, the rhythm of the *pes subbipunctis* is uncertain, as is the case with this same neum in Fig. 252. However, the *augeate* of the Laon manuscript indicates a distinct broadening out on the last notes. Should we assume that a doubling of the *do* is intended? The absence of an  $\times$  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.

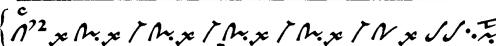
371. Example D. — Gradual *Specie tua*.

Paris, Bibl.  
Mazarine 384.



Laon 239.



St. Gall 359. — 340. — 376. — Eins. 121. — Bamberg. lit. 6. 

Ry. G.   
*Specie tua*  
et mansu-e-tudi-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  $\times$  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  $\times$  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  $\times$  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  $\prec$  *tenete* is attached to the last note of each neum (1).

(1) The notation of this melisma is taken from the Grad-Resp. *Respicie*, 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 *junction* 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.

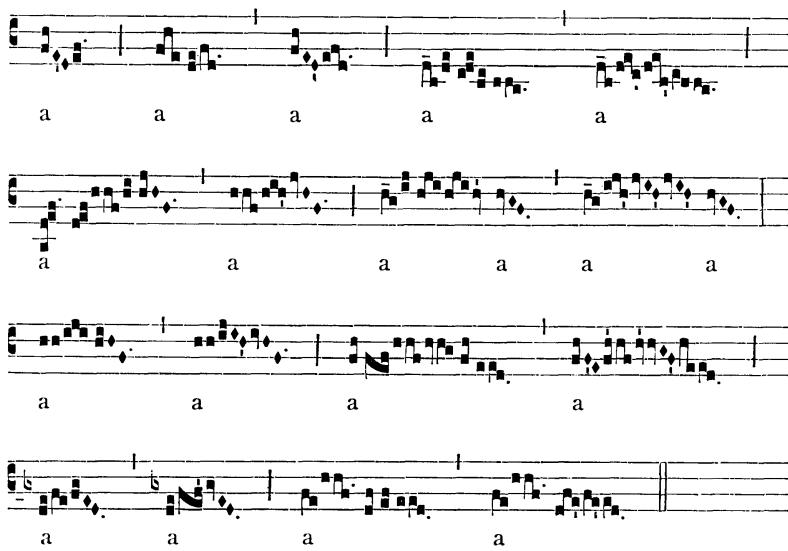
#### EXERCISE XXX.

##### 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.



*The above in modern notation.*

The image shows a single staff of modern musical notation. The staff begins with a G clef, followed by a common time signature. It contains five measures of music. The notation uses standard note heads and stems. Grace notes are indicated by small note heads placed before main note heads. Slurs are used to group notes together, corresponding to the 'a' markings in the neumatic notation above. The music consists of eighth-note patterns.

The image displays four staves of musical notation, likely for a wind instrument, arranged vertically. Each staff begins with a treble clef and a key signature of one sharp (F#). The music consists of eighth-note patterns connected by slurs. Performance markings are present above the staves:

- Top staff:** A short vertical brace on the left, followed by a horizontal line ending in a downward-pointing triangle, then a small upward-pointing triangle, and finally a vertical line ending in an upward-pointing triangle.
- Second staff:** A short vertical brace on the left, followed by a horizontal line ending in a downward-pointing triangle, then a small upward-pointing triangle, and finally a horizontal line ending in a downward-pointing triangle.
- Third staff:** A short vertical brace on the left, followed by a horizontal line ending in a downward-pointing triangle, then a horizontal line ending in a downward-pointing triangle, and finally a horizontal line ending in an upward-pointing triangle.
- Bottom staff:** A short vertical brace on the left, followed by a horizontal line ending in a downward-pointing triangle, then a horizontal line ending in a downward-pointing triangle, and finally a horizontal line ending in an upward-pointing triangle.



## CHAPTER VIII.

### STUDY AND EXECUTION OF THE APOSTROPHA-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 ~
- b) Pressus-major ↗

*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 /) *Fig. 257*, or with *episema* (↗) *Fig. 258*;  
An *apostropha-pressus* (~) *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 *clavis* the first note of which is doubled in value, making three pulses in all.



Fig. 260.

378. The *pressus-minor* (*Fig. 255<sup>a</sup>*) 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 :

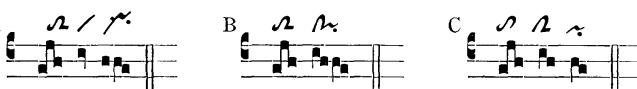


Fig. 261.

(1) The expression “*pressus accentus*” was already known to the ancient grammarians; it is used by Probus and by Audax :

KEIL. *Grammatici latini*, IV. PROBUS, *Instituta artium*, p. 116, “...si quidem ab hac vite his vel ab his vitibus presso accentu pronuntiatur, at vero ab hac vite his vel ab his vitibus acuto accentu tenuantur...”

KEIL. *Gramm. lat.* VII. AUDAX, p. 353. “Praepositionibus quot accentus accidentunt? Tres : productus, *pressus* et acutus quos competentibus praepositionibus adnotabimus... Quare hoc monemus, quod, quando *ante* cum casu suo et *presso accentu* pronuntiatur, praepositio nuncupatur...»

379. As evidence in support of this quantitative and dynamic identity of the two figures, the fact is significant that the two Romanian letters *c* and *f* were used alternately and with their usual meaning, on each of the two types of pressus.

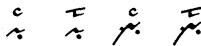


Fig. 262.

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.

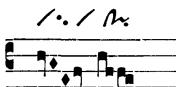
A careful examination of the best manuscripts of the school of St. Gall (St. Gall 359, 339, 375, Einsiedeln 121, etc.) brings out the fact :

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,



Analysis of the square Notation :

TWO CLIVIS MAKING A PRESSUS.

TORCULUS, PRESSUS AND PUNCTUM.



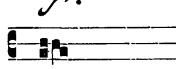
TORCULUS AND CLIVIS MAKING  
A PRESSUS.

PES SUBBIPUNCTIS, PRESSUS AND  
PUNCTUM.



PES SUBBIPUNCTIS AND CLIVIS  
MAKING A PRESSUS.

PES, PRESSUS AND PUNCTUM.



PES AND CLIVIS MAKING A PRESSUS.

Fig. 263.

It is of little consequence that the *apostropha-pressus* be or be not united graphically to the preceding note for we find the two forms used indifferently as follows :



Fig. 264.

We may conclude :

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 *mi* is *higher* by a third than the *do* of the preceding *clivis*.



B. — The *pressus-major* on *la* is *lower* than the *si* of the preceding *podatus*.



Fig. 265.

This precise use of the two forms of the pressus could be illustrated by innumerable examples.

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<sup>nd</sup> Mode.

Ý. Video... et Je-sum stan- tem

Intr. *Os Justi.*

medi-tá- bi-tur

Fig. 266.

## 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 *Romanian 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.

The equivalences 1 and 2 explain each other. The *clivis 1* 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.

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.

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  $\pi$ , 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  $\pi\pi$ . 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.

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*.

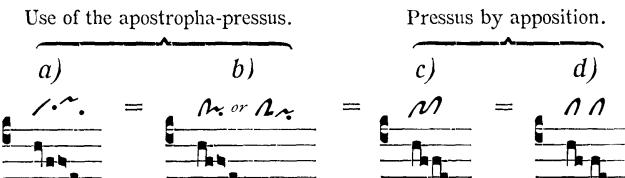


Fig. 270.

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.

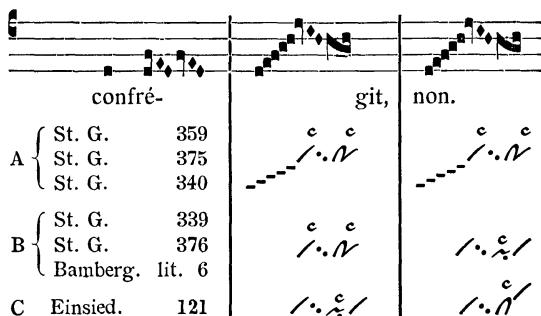
c) *Clivis and clivis forming a pressus.* Here, the two *clivis* are drawn with a single stroke of the pen.

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.

389. *Fourth equivalence. Pressus on the third note of a climacus. Apposition of a punctum and a virga; of a climacus and a porrectus.*

First example:

Grad. R $\gamma$ . *Gloriosus and Inveni.*



*Fig. 271.*

In examining the column *Gloriosus*, 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 Gradual Resp. *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 *Gloriosus*, and the *pressus* form for the *Inveni*; whereas Einsiedeln, group C, chooses the *pressus* for the *Gloriosus* 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.*

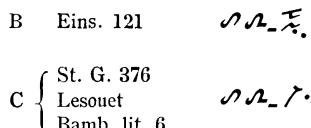
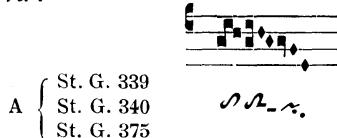
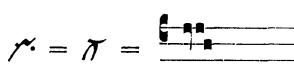


Fig. 272.

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* apposed to the last punctum of the preceding neum.

391. So far, the effect of fusion has been produced as follows :

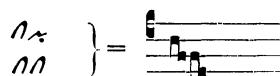
First equivalence : between the *virga*  
and the *pressus* :



Second equivalence : between two *virga*  
and a *pressus* :



Third equivalence : between the second  
note of a *clavis* or grave accent and  
the *pressus* :  
or between a grave accent and a *virga* :



Fourth equivalence : between the *punctum*  
and the *virga* :  
between the *punctum* and the *pressus* :

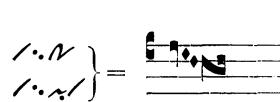


Fig. 273.

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 :



Fig. 274.

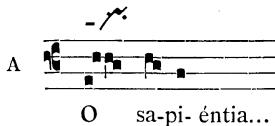
Presumptive evidence points to an affirmative answer:

- a) Theoretically, a graphic separation does not preclude fusion;
- b) As a matter of fact, the second equivalence // 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.*

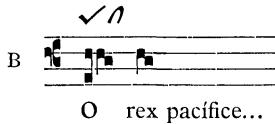
First example : Intonation of the great "O" Antiphons of Advent. The Ms. of Monza 12/75, F. 108-109, gives thirteen antiphons of this type, the first ten of which are written as follows :



O sa-pi- éntia...

*Fig. 275.*

The last three, thus :

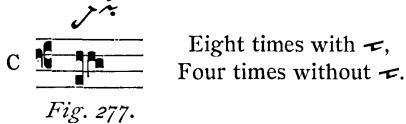


O rex pacifice...

*Fig. 276.*

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" :



Eight times with  $\text{F}^{\#}$ ,  
Four times without  $\text{F}^{\#}$ .

*Fig. 277.*

On page 339 of the same Antiphonal, we find a fourth notation used for the intonation of the antiphon *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).

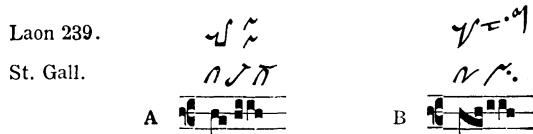
394. Second example. *A cadence from the Tracts of the 2<sup>nd</sup> Mode.*

Fig. 278.

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 :



Fig. 279.

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  $\text{--}$  (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. 359. Eins. 121.

Ry. G. *Inveni.*



*Fig. 280.*

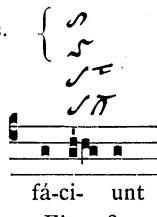
397. *Seventh equivalence.* This is one which occurs frequently: a *torculus* replaces a *pes* and *clivis* that form a *pressus*; once more, by fusion of the two virga.

First example: Communion: *Video.*

Several MSS.

Eins. 121.

St. G. 339.



*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 *quilisma-torculus*.

Several MSS.

Bamberg.

The MSS. of St. G.

All. 8<sup>th</sup> mode.



*Fig. 282.*

The commentary on Fig. 281 applies perfectly to this new example.

399. *Eighth equivalence. The fusion of one porrectus with another.*

A { Eins. 121, and all the St. G. MSS.  
Com. *Tu puer...*

pa-rá- re vi- as e- jus

B { Eins. 121, and all the St. G. MSS.  
All. *¶. Inveni...*  
» *¶. Hic est...*

ser- pérhí- vum 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 :

Offert. *Elegent. ¶. Positis.*

Eins. 121.  
St. G. 339, 376, 340, 375       $\pi$        $\sqrt{1} \text{--}$   
and Bamb. lit. 6.



Dómine Jesu ...ne stá- 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. Elegent. ¶. Viderunt.*

All the MSS. of St. G.  
use the *pressus*



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*.



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.

¶¶. All. of the 2<sup>nd</sup> mode:



Fig. 287.

All the MSS. of St. G.

$\ddot{\text{v}}\ddot{\text{v}}$ . All. of the 8<sup>th</sup> mode:

Dñus regná- vit

Fig. 288.

All the MSS. of St. G.

Com. *Revelabitur* and *Viderunt*:

... sa-lu- tá- re

Fig. 289.

## 403. 2. To a Trigon-præbipunctis.

All the MSS. of St. G.

Ry. Grad. *Speciosus*:

Fig. 290.

All the MSS. of St. G.

Offert. *Reges Tharsis*:

... reges A- ra- bum

Fig. 291.

## 404. 3. To a Pressus

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*.

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.

Thus, in reality, there are two authentic forms of writing for indicating the *pressus*:

a) The *pressus-major* or *pressus-minor*.

b) *Apposition*.

The latter is the only form which is used in the square notation.

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 episematic 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.



*Fig. 294.*

The MSS. of St. Gall use merely an episema on the *sol*, while Laon uses the letter *a* = *augeate* 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.

	St. Gall	Laon 239	Vercelli 186	B. M. Egerton 857	Cambrai Monza Ivrée	Aquitanian Mss.
1						
2						
3						

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  $\alpha$  = *augeate*.

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-accents*, 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.

St. Gall.

Allel. *Laudate pueri.*

Episematic reading.

Pressus.

The figure contains four musical examples labeled A, B, C, and D. 
 Example A shows a neumatic line for 'Allel. Laudate pueri.' followed by a bracketed 'Episematic reading' and a bracketed 'Pressus.' 
 Example B shows a neumatic line for 'Allel. Laudate pueri.' followed by a bracketed 'Episematic reading' and a bracketed 'Pressus.' 
 Example C shows a neumatic line for 'Allel. Laudate pueri.' followed by a bracketed 'Episematic reading' and a bracketed 'Pressus.' 
 Example D shows a neumatic line for 'Allel. Laudate pueri.' followed by a bracketed 'Episematic reading' and a bracketed 'Pressus.' 
 The notation consists of vertical stems with horizontal strokes above them, representing different ways of marking the same musical interval.

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 239.

The image shows three staves of musical notation. 
 - Staff A (Laon 239) starts with a long note (a) followed by a short note (r). Below it is a staff for St. Gall with a similar pattern. 
 - Staff B (Com. *Exsultavit.*) shows a long note (a) followed by a short note (r), with the text "et occúr-sus e-ius." below. 
 - Staff C shows a long note (a) followed by a short note (r), with the text "e-ius." below. 
 - Below the staves, the labels »» B and »» C are aligned under their respective staves.

Fig. 297.

All the manuscripts of St. Gall place an *episema* on *sol*, and Laon adds an  $\alpha$  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 *episema* of St. Gall and of the  $\alpha$  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 *episema* of St. Gall and the *pressus* having been established clearly, two practical consequences follow :

1. The Romanian *episema* 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 :



Fig. 298.

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.



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 :



Fig. 300.

See the *re* in the following melisma :



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*.

§ 2. — The Romanian Abbreviation  $\text{c}\ddot{\text{o}}$  = *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 “ $\text{c}\ddot{\text{o}}$ ” signifying *conjunction* 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*  $\text{c}\ddot{\text{o}}$  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) *Clivis* and *clivis* forming a *pressus*.

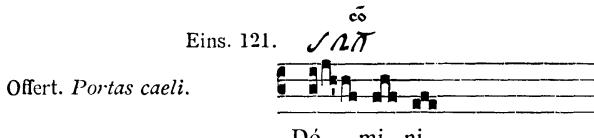


Fig. 303.

b) *Torculus* and *clivis* forming a *pressus*.

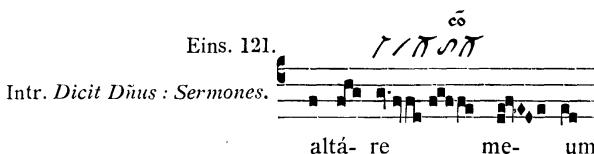


Fig. 304.

c) *Torculus* and *clivis* forming a *pressus*.

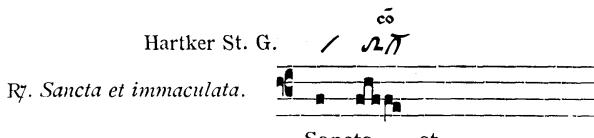


Fig. 305.

The same abbreviation is used when the final *clivis*  $\text{A} \text{ } \text{N}$  *Fig. 306* is replaced by a *pressus-minor*  $\text{A} \text{ } \tilde{\text{N}}$  *Fig. 307*. The following passage is taken from a responsorial versicle of the 2<sup>nd</sup> Mode: in Hartker's Ms. it is found more than fourteen times marked with the sign:  $\tilde{\text{o}}$ .

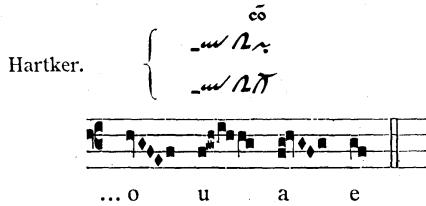


Fig. 308.

420. Here is an example of two *virga* fused by the sign *conjugatur*.

d) *Podatus* and *clivis* forming a *pressus*.



Fig. 309.

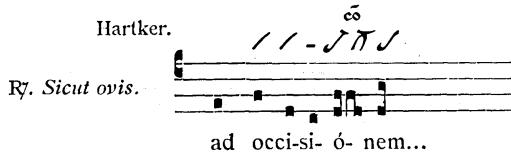


Fig. 310.

e) *Podatus* and *pressus-minor*.

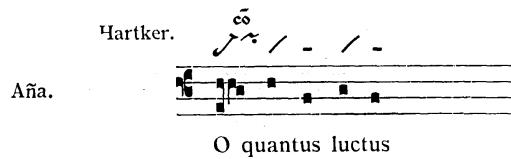
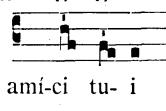


Fig. 311.

### § 3. — The Diaeresis of the Pressus.

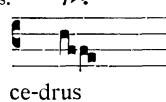
421. There is a feature of Gregorian composition which at first sight seems to contradict all that we have said regarding the fusion of notes. This is the *diaeresis* or disjunction of two neums which form a pressus, an operation which takes place when two syllables of the text have to be assigned to 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.

St. Gall MSS.      

A      

ami-ci tu- i

St. Gall MSS.      

B      

ce-drus

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 :

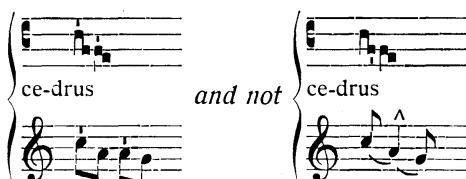


Fig. 313.

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 *Paléographie Musicale*, Vol. IV, p. 35.

A

R<sup>y</sup>. Grad. *Tollite.*

St. Gall.  
Laon 239.

B

R<sup>y</sup>. Grad. *Nimis honorati.*

a-mí- ci tu- i. ... ci tu-

C

R<sup>y</sup>. Grad. *Domine Deus.*

convér- 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  $\pi\pi$  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 specious 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  $\circ$  (*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	
Rg. Grad. A summo.	
B	
Rg. Grad. Dñe Deus.	
Monza.	$\left. \begin{array}{l} a) \\ b) \\ c) \end{array} \right\} \left. \begin{array}{l} \text{a breve} \\ \text{a clivis} \\ \text{a pressus} \end{array} \right\}$

*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.

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.

#### § I. — 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 :

The image shows two musical examples from rhythmic manuscripts. The first example, labeled 'All.' and '2<sup>nd</sup> Mode', shows a neume followed by a 'no-' and a 'bis' sign, with a 'pressus' symbol above the 'bis' sign. The second example, also labeled 'All.' and '4<sup>th</sup> Mode', shows a similar sequence with a 'pressus' symbol above the 'bis' sign. Both examples illustrate how the 'pressus' note attracts the preceding neums.

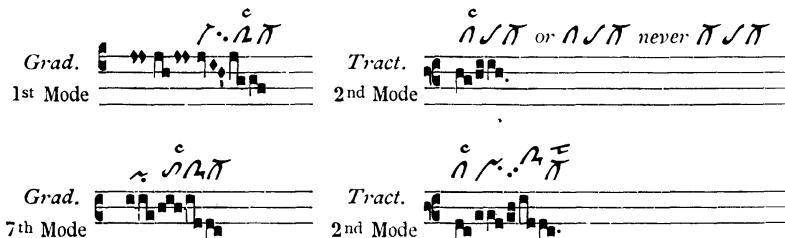


Fig. 317.

This retroactive attraction may affect a single note only, if an important point of support immediately precedes it.

Example :



Alle-lú-ia

Fig. 318.

The first *clavis*, on the syllable *ia* — is marked by an *episema* as well as by a  $\prec$  = *tenete*. Laon MSS. 239 on the other hand writes the neum as a long *clavis*: two long *punctums*, with an  $\bowtie$  = *augeate* 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 :

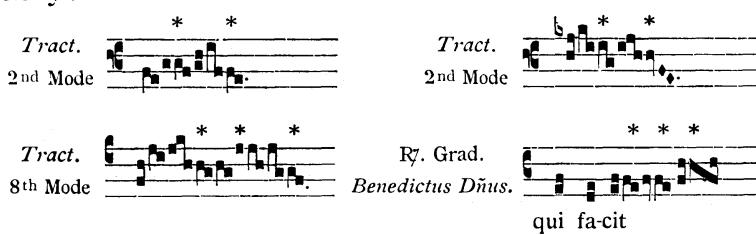


Fig. 319.

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:



Fig. 320.

We need not discuss the *trigon* (∴), 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.



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  $\text{--} = \text{tenete}$ . The Metz school and the Italian school of Como agree with this interpretation. The *episema* over the first note of the *clavis* serves to draw attention to this delicate distinction which otherwise would pass unnoticed.

Here is another example :

Laon 239  
St. Gall  
Offert. *Populum humilem.*

quó-ni- am quis

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 :



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.

Mazarin 384.       $\text{A} \dots \text{A}_\# \text{ } \text{A}^\# \text{ } \text{A}_\# \text{ } \text{A}_\# \text{ } \text{A} \text{ } \text{A}_\#$

A { Laon 239.       $\text{A}^\# \text{ } \text{A}_\# \text{ } \text{A}^\# \text{ } \text{A}^\# \text{ } \text{A}^\# \text{ } \text{A}^\# \text{ } \text{A}^\#$

St. Gall.       $\text{A}''' \text{ } \text{A}'' \text{ } \text{A}''$

Ry. Grad.       $\text{A} \text{ } \text{A} \text{ } \text{A}$

a

Fig. 324.

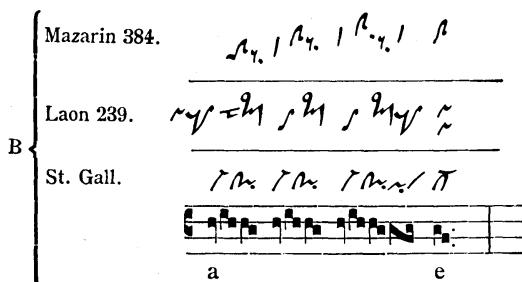


Fig. 325.

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-responsories of the fifth mode: *Specie tua, Diffusa est, Misit Dóminus, 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 *x* which follows each motif in the St. Gall MSS., of which the clearest is St. Gall MSS. 359, which is also the most explicit;

c) Lastly, by the *-* 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.

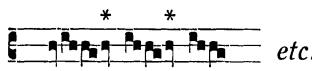


Fig. 326.

The rhythmic letters denoting length —  $\infty$ ,  $\prec$  — also disappear. A few  $\circ = celeriter$  alone remain on the *clavis*, to show that the first note is light. And in Laon MSS. 239 the *clavis* 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.

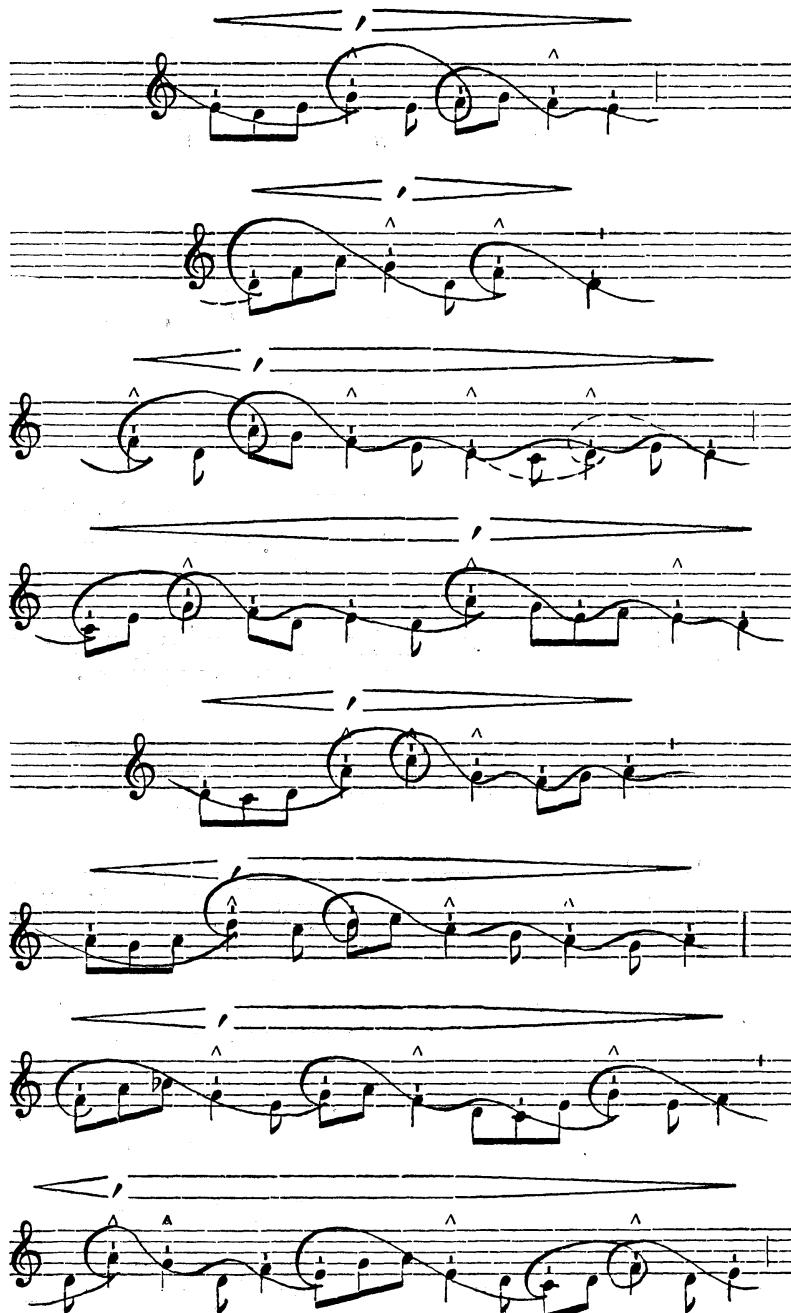
## On the Pressus. I.

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.

*The above in modern notation.*

STUDY AND EXECUTION OF THE APOSTROPHA-PRESSUS. 347





## EXERCISE XXXII.

## On the Pressus. 2.

Mode V.

a      a      a      a      a  
 a      a      a      a      a  
 a      a      a      a      a  
 a      a      a      a      a

*The above in modern notation.*

STUDY AND EXECUTION OF THE APOSTROPHA-PRESSUS. 349





## CHAPTER IX.

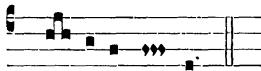
### STUDY AND EXECUTION OF THE STROPHICUS.

437. The single *apostropha* is not used in our books; we find it only in the form of an *apostropha-pressus* (II, Ch. VIII) or of an *apostropha-oriscus*. 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,

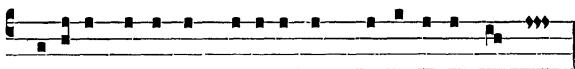


Glória... Spi-rí- tu- i Sancto.

Fig. 327.

he states plainly that this neum must be sung with a threefold repercussion, “*terna gratulabitur vocis percussione*” GERBERT. *Script. I*, p. 56a.

He repeats the same doctrine with greater emphasis for the versicles of third mode Introits: “Versus introituum: *Gloria Patri et Filio et Spiritui Sancto. Sagax cantor sagaciter intende ut,... duobus in locis scilicet in decima sexta syllaba,*

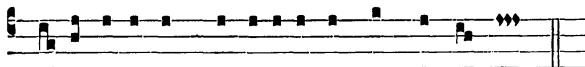


Gló-ri- a Patri et Fí- li- o et Spi- ri- tu- i Sancto :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Fig. 328.

et post *in quarta decima*

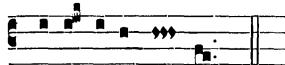


Sic- ut e-rat in princi-pi-o et nunc et semper :  
1 2 3 4 5 6 7 8 9 10 11 12 13 14

*Fig. 329.*

trinum, ad instar manus verberantis, facias celerem ictum''. 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 *tristropha* 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 versicles of seventh mode Introits.



Spi-ri- tu- i Sancto.

*Fig. 330.*

“ Quintadecima (syllaba) terna percussione finietur, scilicet *san*”. GERBERT. *Script.* I, p. 58b.

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).

(1) On the subject of the formation of neums by melodic arsis and thesis, Guido of Arezzo says: “... Motus vocum... fit arsi et thesi, id est, elevatione et depositione: quorum gemino motu, id est arsis et thesis, omnis neuma formatur, praeter *repercussas* aut *simplices*”. GERBERT. *Script.* II, p. 17b.

John Cotton comments as follows on the above passage: “Simplicem autem neumam dicimus virgulam vel punctum; repercussam vero, quam Berno *distrophan* vel *tristrophan* vocat”.

Guido has another passage bearing on the same subject: (GERBERT. *Script.* II, p. 15ab). “Ac summopere caveatur talis neumarum distributio, ut cum neumae tum *ejusdem soni repercussione*, tum duorum aut plurium connexione fiant, semper tamen etc...”

Aribo's comment on this text is as follows (GERBERT. *Script.* II, p. 226b, 227a): “Neumae unius soni fiunt repercussione, cum simplices sunt, id est vel una *virgula* (✓) vel una jacens (-) vel cum duplices (//) aut triplices (///) in *ejusdem soni repercussione*, tum duorum aut plurium connexione fiant, Duorum aut plurium sonorum connexione fiunt 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*.

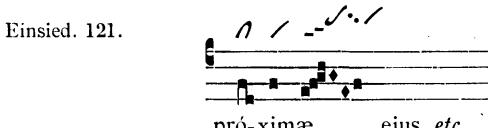
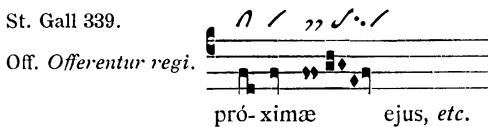
442. Although it is too difficult for the average parish choir, the repercussion of the individual *strophicus* can well be achieved by skilful cantors or by a well-trained choir, and wherever this rendition is possible it should be encouraged. In ancient music this frequent repetition of notes in unison 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

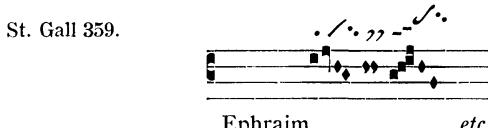
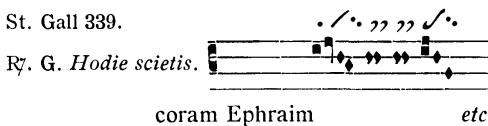
(1) COUSSEMAKER. *Script.* II, p. 305, 308, 309, 311.

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 :



*Fig. 331.*



*Fig. 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

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.

*The above in modern notation.*



## ARTICLE 2.

### REPERCUSSION OF THE DISTROPHIA AND TRISTROPHIA.

449. If the quick, delicate repercussion of each individual *apostropha* in a *strophicus* 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 *strophicus* 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.



*Fig. 333.*

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 *strophicus* 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 :

Tr. *Audi filia.*

Intr. *Exspecta.*

Rg. G. *Diffusa est.*

tu- um...

cor tu- um...

in lá- bi- is...

Fig. 334.

with this difference however, that in the case of the *strophicus* 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 *strophicus*. In order to measure their precise value, the following exercise will be of help:

First sing : instead of   
a- a- a                                    a- a- a

Fig. 335.

Fig. 336.

First sing : instead of   
a- a- a                                    a- a- a

Fig. 337.

Fig. 338.

then gradually diminish the interval of the second, finally eliminate the *si* and sing all the notes at the same pitch.

## EXERCISE XXXIV.

Repercussion of the Distropha and Tristropha.

V. Mode.

a- e, a- e, a- a- e. a- e, a- a- e.  
a- a- a- e, a- a- a- e. a- a.

*The above in modern notation.*

a- e  
a- a- e  
a- a- a- e  
a

## ARTICLE 3.

## COMBINATION OF THE STROPHICUS AND THE VIRGA.

452. The *strophicus* and the *virga* may be combined in two ways:

a) A *virga* preceding the *strophicus*:



Fig. 339.

b) A *virga* between two *strophicus*:

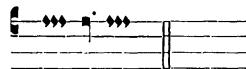


Fig. 340.

### § I. — A Virga preceding a Strophicus.

453. A single *virga* before a *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 *strophicus*.

This lengthening of the *virga* is indicated first of all, in the rhythmic manuscripts.

The St. Gall codices always place an *episema* over a *virga* in this position, and Laon MS. 239 often uses the  $\text{F} = \text{tenete}$ .

Laon 239.

St. Gall.

R $\ddot{\gamma}$ . G.

$\overline{\text{F}} \dots \dots$

$\overline{\text{F}} \text{ '' '' }$

Adjuvá-

bit

Fig. 341.

Laon 239.

St. Gall.

R $\ddot{\gamma}$ . G. 5th mode.

Final Cadence.

$\overline{\text{F}} \dots \text{ q } \text{ }$

$\overline{\text{F}} \text{ '' '' }$

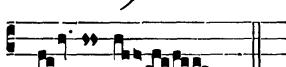


Fig. 342.

Laon 239.

St. Gall.

Intr. *Omnia quae...*

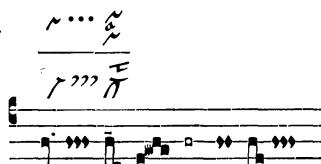
$\overline{\text{F}} \dots$

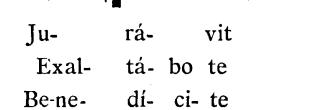
$\overline{\text{F}} \text{ '' '' }$

et fac nobis-cum

Fig. 343.

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.

Laon 239.      

St. Gall.      

Ry. G. Ju- rá- vit  
Ry. G. Exal- tá- bo te  
Ry. G. Be-ne- di- ci- te

Fig. 344.

The first note of the *tristropha* is definitely separated from the preceding *virga*; moreover in the last two examples the *tristropha* is set to an extra syllable. Consequently we may safely assume that the first example, *Juravit*, requires a repercussion of the *tristropha*.

455. Indeed, various types of MSS. from Aquitania, Benevento, Spain and Metz write *mi* instead of *fa* as the first note of this passage.



Ju- rávit  
Be-ne- dícite

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  $\text{—}$  = *tenete* to this punctum in noting the Gradual, *Eripe me*.

## § 2. — A Virga between two Strophicus.

456. A few examples will suffice :

a)

Offert. *Anima nostra.*

... láque- [e e] us... liberá- ti [i i i] sumus

b)

Intr.

Tibi di-xit

c)

Offert.

Reges Tharsis

d)

Offert. *Miki autem.*

... nimis

Fig. 346.

Here again repercussion is necessary, both on the long *virga* and on the *tristropha* 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 :

a-      e

a-      e

Fig. 347.

## EXERCISE XXXV.

## Combination of the Strophicus and the Virga.

V. Mode.

*The above in modern notation.*

## ARTICLE 4.

THE STROPHICUS PRECEDED OR FOLLOWED BY NEUMS  
AT THE SAME PITCH.

458. The following examples will illustrate the cases in point :  
 A. *The strophicus preceded by a neum at the same pitch.*



Fig. 348.

- B. *The strophicus followed by a neum at the same pitch.*

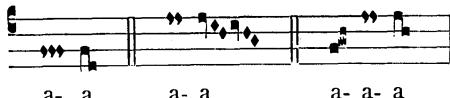


Fig. 349.

C. *The strophicus preceded and followed by neums at the same pitch.*



Fig. 350.

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. 351.

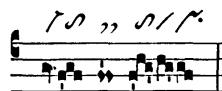
The mere comparison of the two in regard to notation, proves the superiority of the *neum-accents* to the *staff notation* in respect to *rhythmic clearness*. On the one hand, each neum is distinct; its nature and function are obvious; whereas on the other hand, the neums are confused and their component parts can no longer be distinguished.

The following would be an adequate notation :



Ju- rávit

Fig. 352.



a

Fig. 353.

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.**

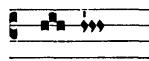


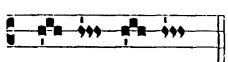
Fig. 354.

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,



ré- gum

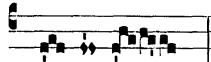
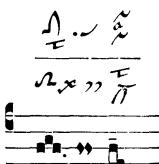


Fig. 356.

Or as a *rhythm-neum*, with a long rhythmic ictus on the last note,

Laon 239.



St. Gall.

R<sup>g</sup>. G. *Anima*.  
R<sup>g</sup>. G. *Fuit*.

no- stra  
ho- mo

Fig. 357.

The *x* and the *episema* which follow the *torculus* in the St. Gall MSS. and the *=* *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.

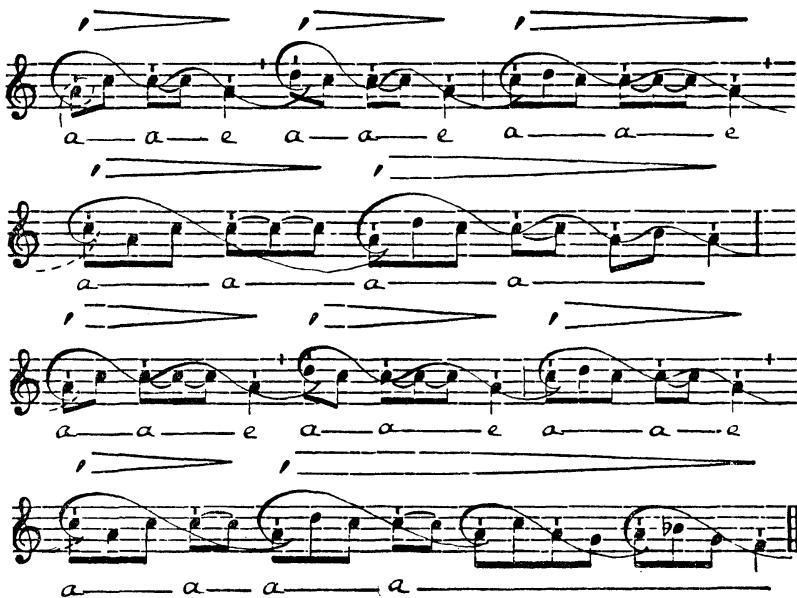
#### EXERCISE XXXVI.

The Strophicus preceded by Neums at the same Pitch.

##### V. Mode.

a- a- e, a- a- e, a- a- e, a- a- a- a.  
a- a- e, a- a- e, a- a- e, a- a- a- a.

*The above in modern notation.*



§ 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.

St. Gall 339.

A    Tr. *Vinea.*

di- lé- cto

B    Tr. *Attende.*

et lo-quar

Fig. 358.

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 *Attende*, 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.*

no- strum

A    Tr. *Vinea.*

di- lé- cto

Fig. 359.

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.

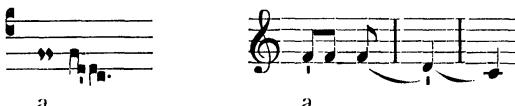
467. In applying the rule formulated in II, 463, we must distinguish the two following cases :

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.*

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.*

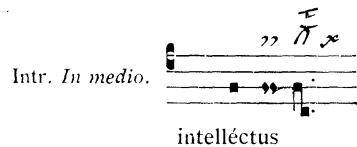
We must see how the two cases are worked out in the manuscripts.

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.*

Laon 239.

St. Gall.

R. G. Sciant.

ut ro-tam

*Fig. 363.*

A long *clivis* before a *quilisma*:

Laon 239.

St. Gall.

Allel. *Inveni*.

Alleluia

*Fig. 364.*

The same before a *bivirga*:

Laon 239.

St. Gall.

R. G. *Benedictus*.

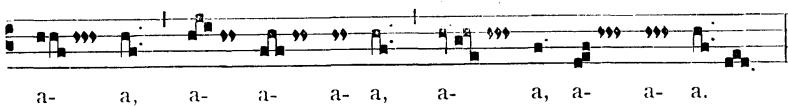
*Fig. 365.*

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.



*The above in modern notation.*

The image displays three staves of modern musical notation. Each staff begins with a treble clef, a key signature of one sharp, and a common time signature. The notation uses black note heads and horizontal stems. Below each staff, the lyrics 'a-' and 'a,' are written, corresponding to the 'a-' and 'a,' in the original square notation.

470. A *strophicus* followed by a note slightly lengthened agogically by means of an *episema*.

Laon 239.

St. Gall.

R̄. G. *Tu es Deus.*

The image shows a single staff of square notation. It features vertical strokes of different heights. Above the staff, there is a symbol consisting of two dots above a diagonal line. Below the staff, the lyrics 'pópulum tu-' and 'um' are written, corresponding to the 'tu-' and 'um' in the original text.

*Fig. 366.*



Fig. 367.



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 *clavis* π. 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*.

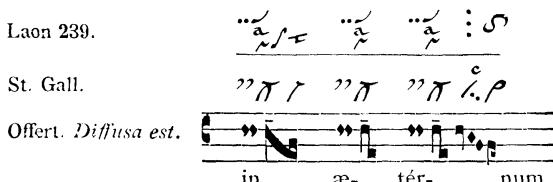


Fig. 369.

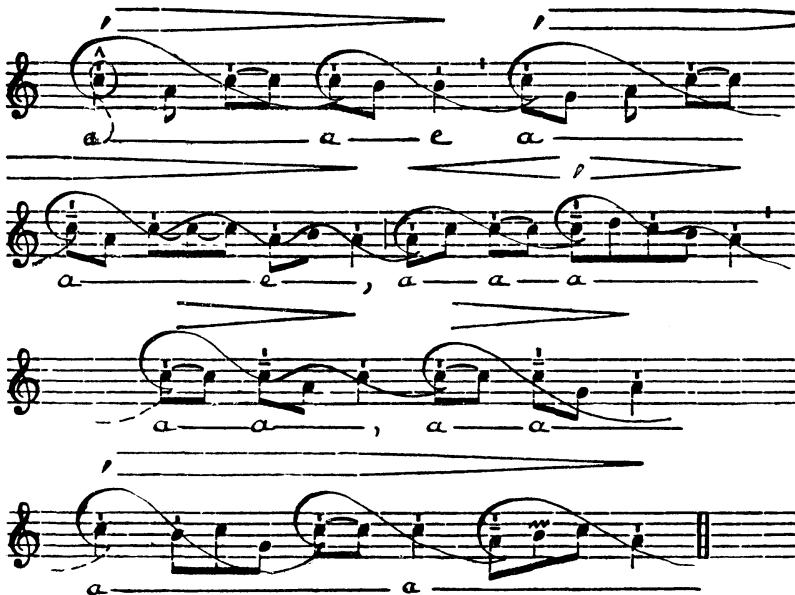
## EXERCISE XXXVIII.

A Strophicus followed by a Note of Repercussion  
lengthened slightly by a rhythmic Episema.

## II. Mode.

a- a- e, a- a- a- e, a- a- a, a- a, a- a,  
a- a.

*The above in modern notation.*



472.—c) A *strophicus* followed by a note of repercussion with a simple rhythmic ictus, indicating a mere touch, gentle and fleeting.

Laon 239.     

St. Gall.     

Tract. 8th mode.     

a

*Fig. 370.*

Laon 239.     

St. Gall.     

Offert. *In virtute.*

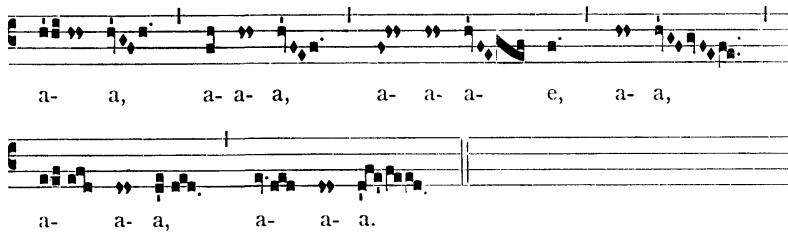
e-      ius

*Fig. 371.*

## EXERCISE XXXIX.

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 touvement rythmique extrêmement délicat*). The St. Gall MSS. usually represent this nuance by the letter  $\circ$  = *celeriter*, while those of Metz use an ordinary neum accompanied frequently by an  $\text{w}$  = *naturaliter*. The neum should be sung legato, lightly and smoothly.

Laon 239.

St. Gall.

Offert. *Justus ut palma.*

Ju- stus



Fig. 372.

St. Gall.

Offert. *Inveni.*

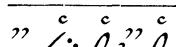
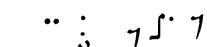
me- a



Fig. 373.

Laon 239.

St. Gall.

Rg. G. *Diffusa est.*

lá-bi- is tu- is

Fig. 374.

Laon 239.

St. Gall.

Comm. *Simile est.*

invén-ta

Fig. 375.

Laon 239.

St. Gall.

Offert. *Diffusa est.*

grá-ti- a lá- bi- is

Fig. 376.

Laon 239.

St. Gall.

Ailie. *Adducentur.*

Fig. 377.

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.

a- a- a- a- a,  
a- a- a- a- a- e,  
a- a- a,  
a.

*The above in modern notation.*



474. To explain in detail the various reasons that have led us to classify this or that particular melody in one or another of these four categories would unduly enlarge the scope of this work. It is sufficient to state that their nature is, first, archeological; secondly, melodic and rhythmic; and finally, aesthetic. When the manuscripts have been examined and studied from each of these standpoints, their meaning becomes manifest and it is possible to classify them accurately. To imagine that each particular case admits of a rigorous classification would be absurd, because the categories overlap, and the decision in these cases becomes a matter of taste. After having studied the best types of notation, after having acquired familiarity with the practical indications furnished by the ancient codices, both master and pupil will need to apply the standards of art, for through their

own artistic application of these principles alone will the melodies be rendered with all grace and skill.

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.

Intr. *Sacerdotes tui.*

The musical notation consists of three staves. The top staff shows a single note with a vertical stroke above it, labeled with a double dot and a vertical bar. The middle staff shows a single note with a vertical stroke above it, labeled with a double dot and a vertical bar. The bottom staff shows a neum consisting of two notes: the first has a vertical stroke above it, and the second has a vertical stroke above it. Below the staves, the lyrics "a-vér- tas" are written.

Fig. 378.

Laon 239.

St. Gall.

Offert. *Diffusa est.*

The musical notation consists of three staves. The top staff shows a single note with a vertical stroke above it, labeled with a double dot and a vertical bar. The middle staff shows a single note with a vertical stroke above it, labeled with a double dot and a vertical bar. The bottom staff shows a neum consisting of two notes: the first has a vertical stroke above it, and the second has a vertical stroke above it. Below the staves, the lyrics "lá- bi- is" are written.

Fig. 379.

Laon 239.

St. Gall.

Intr. *Quasi modo.*

The musical notation consists of three staves. The top staff shows a single note with a vertical stroke above it, labeled with a double dot and a vertical bar. The middle staff shows a single note with a vertical stroke above it, labeled with a double dot and a vertical bar. The bottom staff shows a neum consisting of two notes: the first has a vertical stroke above it, and the second has a vertical stroke above it. Below the staves, the lyrics "alle-lü- ia" are written.

Fig. 380.

Laon 239.

St. Gall.

R̄. G. Sacerdotes ejus.

sa- lutári

Fig. 381.

In all the examples cited above, the first note of the *clivis* that follows the *strophicus* counts as a mere basic pulse in the rhythm, a distinct note but not one which carries a *rhythmic ictus*. This type of repercussion requires a light renewal, since the note of repercussion is on the third pulse of a triplex composite group, as will be seen in the transcription below:

a e

a e

Fig. 382.

477. b) Example of an *oricus* on the second note of the neum following a *strophicus*. Here we anticipate somewhat (cf. Ch. X.).

Laon 239.

St. Gall.

R̄. G. Ecce sacerdos.

Fig. 383.

478. c) Example of a *rhythmic ictus* on the second note of the neum following a *strophicus*.

Laon 239.

St. Gall.

R̄. G. Juravit.

Fig. 384.

The six *apostropha* of the above example are also found grouped as two *tristrophe*,  $\text{m} \text{ m}$ , or even without a break in the series; this plainly proves that each individual apostropha was sung with a distinct *percussion*.

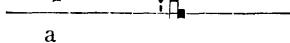
Laon 239.



St. Gall.



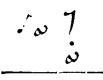
Rg. G. Juravit.



a

Fig. 385.

Laon 239.



St. Gall.

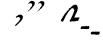
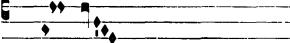
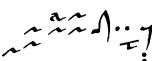
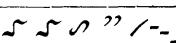
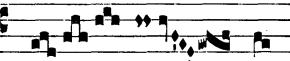
Offert. *Justus ut palma.*

Fig. 386.

Laon 239.



St. Gall.

Rg. G. *Salvum fac.*

Sal-vum fac

Fig. 387.

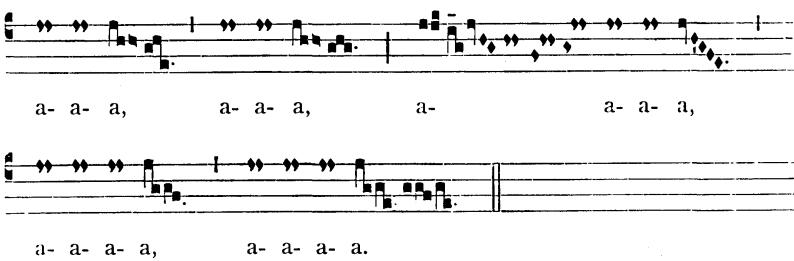
We notice that in the Laon MS. No. 239 the rhythmic *episema* of St. Gall is nearly always expressed by a  $\text{a}$  or an  $\text{a}$ .

## EXERCISE XLI.

**A Strophicus followed by a Note of Repercussion  
without a rhythmic Ictus.**

## III. Mode.

a- a, a- a, a- a- a, a- a-



*The above in modern notation.*

a- a- a,  
a- a- a- a-  
a-  
a- a- a-  
a- a- a- a- a- a-



§ 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.  
R̄. G. Probasti.

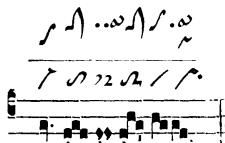


Fig. 388.

Laon 239.  
St. Gall.  
R̄. G. Exaltabo te



Fig. 389.

## ARTICLE 5.

### THE STROPHICUS IMMEDIATELY FOLLOWED BY A QUILISMA.

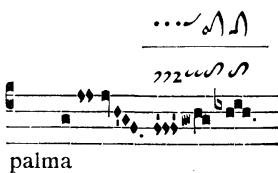
480. A *strophicus* immediately followed by a *quilisma* (cf. Chapter on the *quilisma*).

1. The *Tristropha*. Here, repercussion on the third *apostropha* is obligatory (II, 446).

*Example.*

Vercueil 186.

St. Gall.

Offert. *Justus.*

palma

fig. 390.

481. 2: The *Distropha*. There are two possible interpretations:a) An *ictus* on the first *apostropha*:

Vercueil 186.

St. Gall.

R<sup>g</sup>. G. *Inveni.*

e-

um



e-

um

Fig. 391.

b) An *ictus* on the second *apostropha*:

e-

um



e-

um

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 triplex 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)



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 *quilisma*. 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 *quilisma*: the rhythmic ictus would always fall upon the *apostropha* immediately preceding the *quilisma*.

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 Quilisma. (1)

###### I. Mode.

a-      a,      a-a,      a,      a-      a-      e,      a-      a-a-      e,  
a-a.

*The above in modern notation.*

(1) This exercise should not be sung until the chapter on the *quilisma* has been mastered.



## ARTICLE 6.

THE STROPHICUS 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 *strophicus* 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 *strophicus*. A few examples follow, selected at random :

Offert. *Deus firmarit.*

or- bem...

qui non ...

pa-rá- ta se- des tu- a...

Offert. *Exaltabo te.*

Dómi- ne quo- ni- am...

» nec de- le- ctá- sti

» et saná- sti me.

Fig. 394.

Repercussion of the *strophicus*, 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, *Benedicite*; adoration, in the Offertory, *Deus firmavit*; tender, humble and trustful petition, as in the Introit, *Reminiscere*.

485. The *strophicus* 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 *strophicus* 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 *strophicus*. 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 *strophicus* 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 :

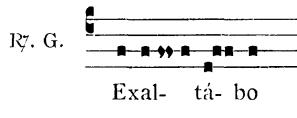


Fig. 395.

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.

## 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.” (1)

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 :

a) R̄. G. *Diffusa est.*



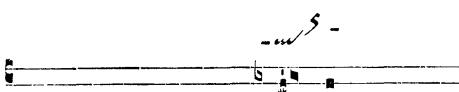
et dedú-cet te

b) Intr. *Vocem.*



us- que

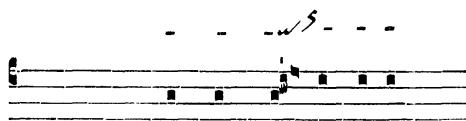
c) Intr. *In medio.*



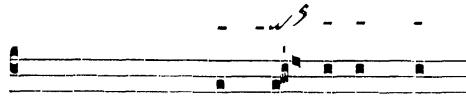
im-plé- vit

(1) DOM SCHUBIGER. *Die Sängerschule von St-Gallen*, p. 8.

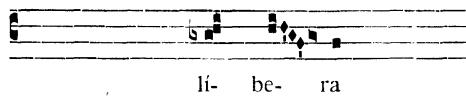
d) Tract. 8th mode.



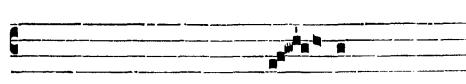
¶. Exspe- cté- tur sic-ut

e) Ant. *Vidi aquam.*

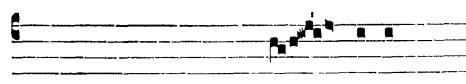
et o-mnes ad quos

f) Rg. G. *Ad Dominum.*

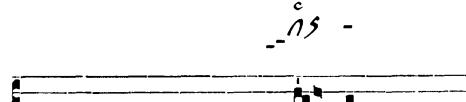
lí- be- ra

g) Off. *Inveni David.*

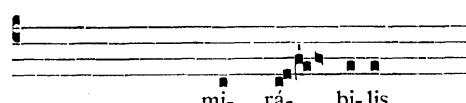
et brá- chi- um

h) Rg. G. *Juravit.*

¶. Dixit Dó- mi-nus

i) Intr. *In virtute.*

et su- per

j) Intr. *Resurrexi.*

mi- rá- bi- lis

etc., etc.

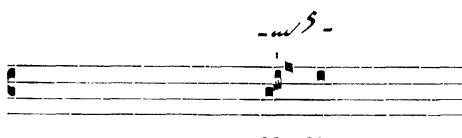
Fig. 396.

489. — Examples of the *oriscus* placed a whole-tone above the preceding note:

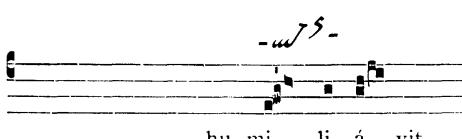
a) Intr. *Loquebar*.



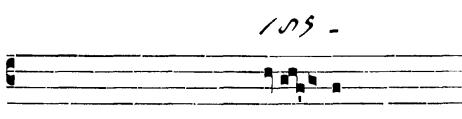
b) Com. *Dicite pussillanimes*.



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.

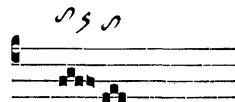
(2) The *oriscus* never occurs alone in modern books, so it will not be discussed here.

§ 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*.



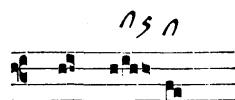
a) Com. *Ecce Dominus.*

il-



b) Rg. G. *Tollite.*

ve-

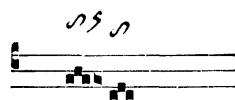


c) Tract. *Domine audiyi.*

umbró-

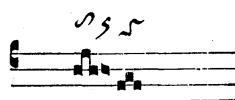
so

B. — The *Oriscus* on *Sol*, *La*, *Ré*.



a) Off. *Confortamini.*

e-



b) Rg. G. *Ex Sion.*

véni-



c) Com. *Dicite.*

confortámi-

ni

Fig. 398.

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 inflection 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*,



a *virga* is used :

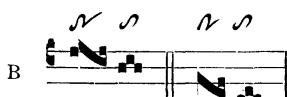


Fig. 399.

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 *N* and *N* 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.



Fig. 400.

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.

##### § I. 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 *clivis* 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 then than now, for the absence of any suggestion of length, even the addition of a positive indication  $\epsilon = celeriter$  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* :

A      \*  
a.

B      \*  
um-bró- so

C      \*  
implé- vit

D      \*  
tau-ró- rum

*Fig. 401.*

504. — 2. It falls — but very rarely — *on the second note after the oriscus.*

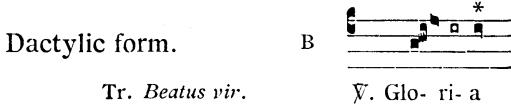
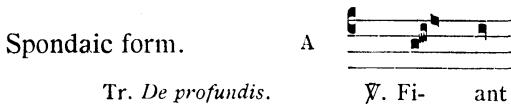
This may happen in two cases :

a) When the *oriscus* is followed by a *salicus*, because the latter neum has its ictus on the second note :



*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 :



*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 :



*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 :



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. (1)



Fig. 406.

(1) 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 *Gaudeteamus*, 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 :

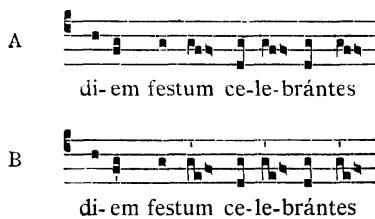


Fig. 407.

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  $\circ = celeriter$  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. A

Off. *Sperent.* Spe- rent

Dactylic form. B

Tract. *Laudate.* confir-má- ta est

Fig. 408.

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*:



Fig. 409.

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 reduced agogically to the value of three* - that is of a triplex composite pulse.

## 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.



(1) Instances of an *oriscus* serving as transition for a syllable in the text will be dealt with in Part 3.

*The above in modern notation.*



c) *Oriscus on the do and on the la.*

V. Mode.

Two staves of musical notation in V. Mode. The top staff shows a series of eighth-note chords, with the letter 'a' placed under the first five notes of each measure. The bottom staff shows a similar pattern of eighth-note chords, also with the letter 'a' placed under the first five notes of each measure. Measures are separated by vertical bar lines.

*The above in modern notation.*



## 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 :



Fig. 410.

The other, in which the first two notes are at the same pitch :



Fig. 411.

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.

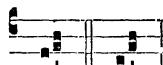


Fig. 413.

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, Vercceil 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* ✓, or by a *pes quassus* ✚.

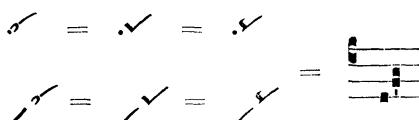


Fig. 414.

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 :

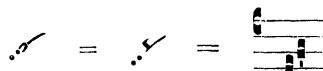


Fig. 415.

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.

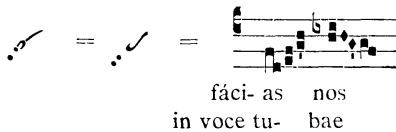


Fig. 416.

516. — The replacing of the *salicus* by an ordinary *scandicus* 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<sup>o</sup> *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.

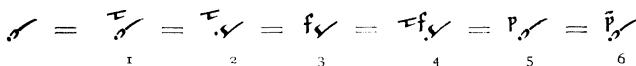


Fig. 417.

The = *tenete* is well-known, and very significant here.

The *f*, rarely found in Romanian manuscripts, occurs more frequently in Bamberg MSS lit. 6. Notker 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 = *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<sup>o</sup> *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 apposed to the note which it lengthens in two ways : By being attached :

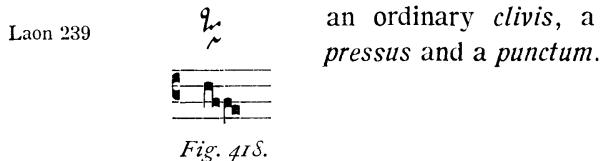


Fig. 418.

Or else separated :

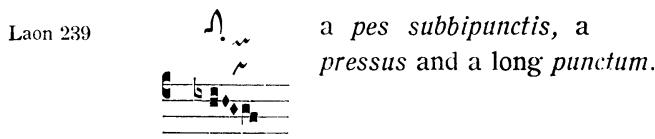


Fig. 419.

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 apposed 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  $\epsilon$  = *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*.

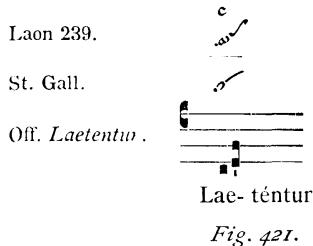


Fig. 421.

We must not be surprised to find the letter  $\epsilon$  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 faultily *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  $\alpha$  = *augeate* to the middle note :



Fig. 422.

thus creating an equivalent, and again confirming the strength and length of the middle note :

Examples :

Laon 239.

St. Gall.

Off. *Deus firmavit.*



Fig. 423.

Laon 239.

St. Gall.

Off. *Tui sunt.*



Fig. 424.

Laon 239.

Einsied. 121.

Rg. G. *Prope est Dominus.*

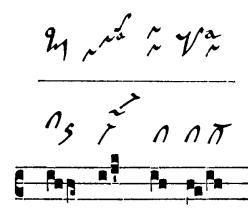


Fig. 425.

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 :

Turin G. V. 20.



Monza C. 12/75.



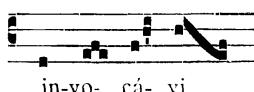
The St. Gall mss et Einsiedl. 121.



Bamberg lit. 6.



Laon 239.

Intr. *Circumdederunt.*

in-vo- cù- vi

Fig. 426.

The Turin and Monza MSS have a *salicus*; St. Gall and Einsiedeln have two long *punctums* and a  $\prec$  = *tenete* over the middle note, as in the earlier example from Laon MSS 239. The latter also has two long *punctums* here with an  $\approx$  = *augeate*; 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 distribution of a neumatic group over several syllables, which normally would be assigned to a single syllable (cf. *Paléographie 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. viii<sup>th</sup> Mode.

The musical example consists of two staves of Gregorian chant notation. The top staff is labeled "Tract. viii<sup>th</sup> Mode." Below the notation, the Latin text is written in two columns. The first column contains "ge-", "et", and "in". The second column contains "ne- rá- ti- o re- ctórum", "ju- stí- ti- a ejus", and "mán- (datis)". The bottom staff is labeled "diaeresis". It also contains two columns of Latin text: "in cor- nu in ló-co ú- beri" and "ví- ne- a". There are vertical braces on both staves grouping the words into pairs. Checkmarks are placed above certain notes, particularly the first note of each pair, indicating a strong or sustained note.

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*.

R7. G. v<sup>th</sup> Mode.

The musical example consists of two staves of Gregorian chant notation. The top staff is labeled "R7. G. v<sup>th</sup> Mode." Below the notation, the Latin text is written in two columns. The first column contains "in" and "sunt". The second column contains "ae- té- rí- num" and "in pa- ce". The bottom staff is labeled "diaeresis". It contains two columns of Latin text: "legem Ex- cél- si". Vertical braces group the words into pairs, and checkmarks are placed above certain notes, indicating a strong or sustained note.

Fig. 428.

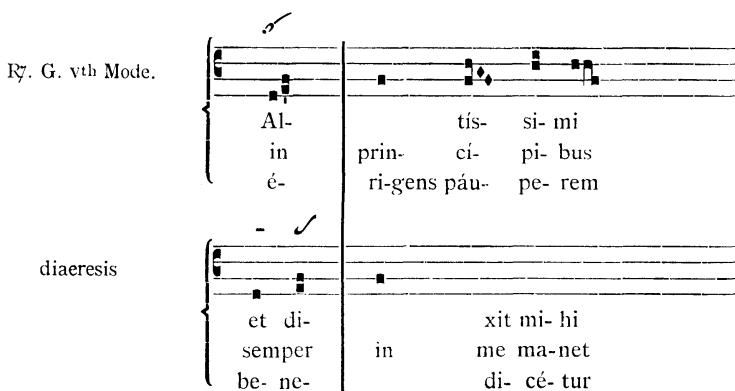


Fig. 429.

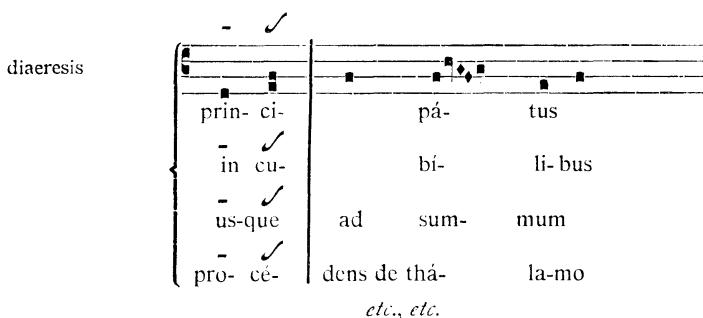
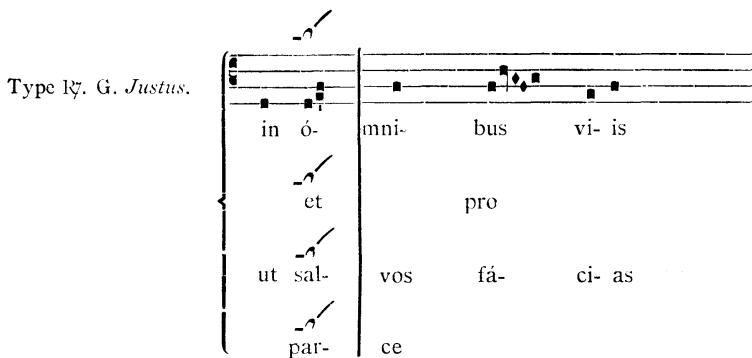


Fig. 430.

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.

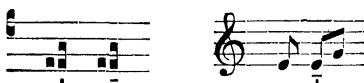


Fig. 431.

- b) or the uniting of the first two notes into one, like the *pressus*.

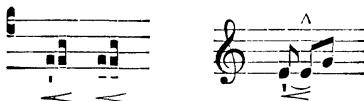


Fig. 432.

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 XLIV.

## On the Two Forms of the Salicus.

## I. Mode.

a      a      a      a      a

a      a      a

*The above in modern notation.*



## CHAPTER XII.

### THE QUILISMA AND ITS RENDERING.

530. — 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.

531. — 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.



Fig. 433.

(1) Exceptions to this rule however are found in the neumatic manuscripts. In Hartker's Antiphonar the *quilisma* is sometimes assigned to a syllable without a supporting note or neum. (Fig. 434 A)

A

Ant. O Oriens...	
et O Clavis...	
O Rex géntium..	
O Gábrihel	

B

--	--

Fig. 434.

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*.



*Fig. 435.*

b) The quilisma between two notes forming a Major third.



*Fig. 436.*

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.

<b>a</b> <i>Off.</i> <i>Ad te levavi.</i>	 irri- de- ant
<b>b</b> <i>R. G.</i> <i>Sciant gentes.</i>	 sti- pulam
<b>c</b> <i>R. G.</i> <i>Miserere mei Deus quoniam in te confidit</i>	 oppró- bri- um
<b>d</b> <i>R. G.</i> <i>Tribulationes.</i>	 necessitáibus me- is
<b>e</b> <i>Off.</i> <i>Sicut in holocaustis.</i>	 et sic- ut
<b>f</b> <i>R. G.</i> <i>Custodi me.</i>	 óculi tu- i

*Fig. 437.*

The *quilisma* is never found between two notes separated by an interval of a fifth.

## ARTICLE 2.

## THE INTERPRETATION OF THE QUILISMA.

532. — We have three sources of information on this point.
- a) Byzantine sources,
  - b) the Latin Authors,
  - c) and lastly the manuscripts.

## § I. — The Byzantine Quilisma.

533. — The origin of this expression is evidently Greek, though its etymology gives us nothing very precise : κυλισμός, 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.

(1) J.-B. REBOURS. *Traité de Psaltique*, p. 11.

(2) FRANCK CHOISY, *L'Hymne du Paléologue et la Musique Byzantine*, *Revue Musicale*; 1907, p. 184 and p. 259.

§ 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.

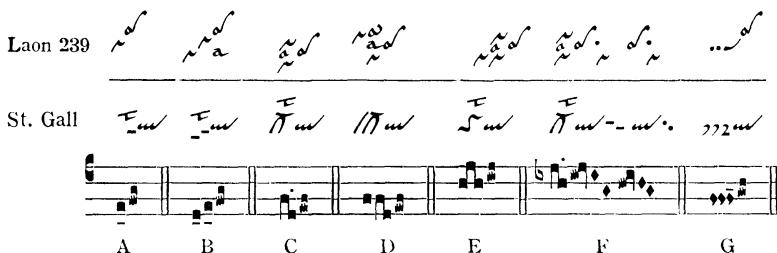


Fig. 438.

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 (Xth 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) Cf. Rassegna Gregoriana, 1906, col. 226 and ss. "La Tradition Grégorienne à propos du Quilisma".

a) A doubled note after a *clivis* :

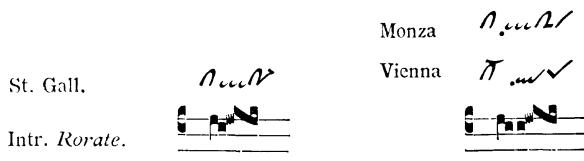


Fig. 439.

b) A doubled note after a *torculus* :

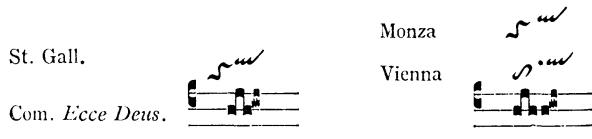


Fig. 440.

In this example Monza does not double the note after the *torculus*, but uses a long *torculus* ~ here.

c) A doubled note after a *climacus* :

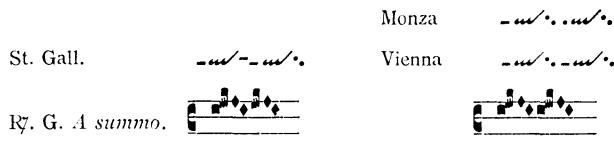


Fig. 441.

Other examples may be seen in the article in the *Rassegna Gregoriana* already quoted.

537. — 3° The *Division* of the neum preceding the *quilisma*.

Another way of indicating the retarding of the notes preceding the *quilisma* is the division or breaking up of the neum preceding it by detaching its last note.

Thus in the Montpellier MSS :

a) an ordinary *clivis* / before a *quilisma* frequently becomes :

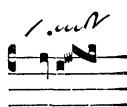


Fig. 442.

b) an ordinary *torculus*  before a *quilisma* becomes :



*Fig. 443.*

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*  or , it always gives two *punctum planum* before a *quilisma* .

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*, l. 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 *quilisma*, 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 *quilisma*.

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).

(1) AURELIAN of RÉOMÉ, 9th century. — “Versus istarum novissimarum partium *tremulam adclivamque* emittunt vocem” Gerb. *Script. I*, p. 47<sup>a</sup>. — “Antiphonarum quatuor sunt hoc in tonodifferentiae, (Authentus Protus) quarum prima haec est : Ant. *Tradent enim vos*, finisque versiculi *tremulam emittit vocem.*” Gerb. *Script. I*, p. 44<sup>b</sup>.

NOTKER, 9th-10th century. — In the letter to Luitpert is the explanation of the Romanian letters g. g = ut in gutture gradatim garruletur genuine gratulatur.

GUIDO D'AREZZO, 11th century. — “De quibus illud est notandum, quod tota pars compresse et notanda et exprimenda est, syllaba vero compressius. Tenor vero, id est, mora ultimae vocis, qui in syllaba quantuluscumque est, amplior in parte, diutissimus vero in distinctione, signum in his divisionibus existit. Sicque opus est ut quasi metricis pedibus cantilena plaudatur, et aliæ voces ab aliis morulam duplo longiorem, vel duplo breviorem, aut *tremulam* habeant, id est, varium tenorem, quem longum aliquotiens litteræ virgula plana apposita significat : ac summopere, caveatur talis neumarum distributio, ut..., etc. Gerb. *Script. II*, p. 14b-15<sup>a</sup>; ed. D. Amelli, p. 35.

ARIBON, 11th century, commenting on the above text, says : “Quod dicit : “aut *tremulam habeant*” puto intelligendum sic esse. Tremula est neuma quam gradatum vel *quilisma* dicimus, quæ longitudinem de qua dicit “*duplo longiorem*” cum subjecta (plana) virgula denotat, sine qua brevitatem, quæ intimatur per hoc quod dicit, “*vel duplo breviorem*” insinuat”. Gerb. *Script. II*, p. 215<sup>b</sup>.

MONACHUS ENGOLISMENSIS, 11th century. De Vita Caroli Magni. — “Omnes Franciæ cantores didicerunt notam Romanam, quam nunc vocant notam Franciscam, excepto quod *tremulas* vel vinnolas, sive collisibiles vel

542. — The least obscure definition of which any practical use can be made, is perhaps that of Bernon's : “ Quilismata quae nos *gradatas neumas dicimus* ”. Aurelian's term “ *adclivam* ” has the same meaning, so that the *quilisma* 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 *quilisma* 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 *quilisma* must be maintained, for this is an ascertained fact.

543. — We have not found anything in the manuscripts to authorize the note before the *quilisma* being interpreted as a sort of *grupetto*.

secabiles voces in cantu non poterant perfecte exprimere Franci”. Monum. Germ. *Script.* IV, 118; ed. Waitz.

BERNONIS AUGENSIS, Tonarius, † 1331. — “ Sæculorum amen. Ant. Amen dico vobis. Hæ antiphonæ licet a finali incipient, tamen quia per *quilismata*, quæ nos *gradatas neumas dicimus*, magis gutturis, quam chordarum vel alicujus instrumenti officio modulantur, potius hujus differentiæ sono, quam principali ipsius authentici promantur modo”. Gerb. *Script.* II, p. 80<sup>a</sup>.

ENGELBERT D'ADMONT, † 1331. — “ Unisonus vero non est aliqua conjunctio vocum, quia non habet arsim et thesim, nec per consequens intervallum vel distantiam, sed est vox tremula, sicut est sonus flatus tubæ vel cornu, et designantur in libris per neumam, quæ vocatur *quilisma*”. Gerb. *Script.* II, b. 319<sup>b</sup>.

JEAN DE MURIS, 14th century. — “ *Quilisma* dicitur curvatio, et continet notulas tres vel plures quandoque ascendens, et iterum descendens, quandoque e contrario.” Gerb. *Script.* III, p. 202 <sup>a-b</sup>.

WALTER ODICTON, 13th-14th century. — “ *Quilisma* dicti ad similitudinem. Quilos enim grece, et *mus* terra, quasi humida terra a receptione aquarum.” Couss. *Script.* I, p. 214<sup>a</sup>.

Cf. The texts quoted by the Rev. Fr. Vivell, *Gregor. Rundschau*, nov. 1905, pp. 162 and ss.

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.

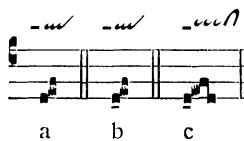
1<sup>o</sup> The note preceding the *quilisma* is always to be slightly lengthened and sustained; it will always take the rhythmic ictus.

545. — 2<sup>o</sup> The *quilisma-note* which is always light, will never have the rhythmic ictus.

546. — 3<sup>o</sup> 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.

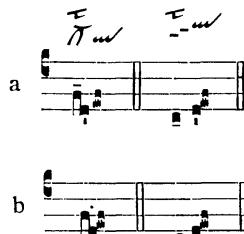
547. — A. *A single note before the quilisma.*



*Fig. 444.*

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.*



*Fig. 445.*

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* :



Fig. 446.

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  $\varpi$  over it. We sometimes find, in like cases, that the *virga* before the *clivis* is doubled :



or what amounts to the same, the *pressus* is used :



Fig. 447.

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*.



Fig. 448.

These three neums, *torculus*, *orrectus*, *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.

The same remark applies to this case: the usual rules are followed.

553. — E. *A strophicus before the quilisma.*

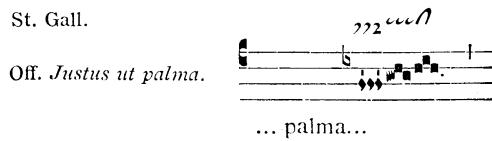


Fig. 450.



Fig. 451.

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.

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.

If the two *strophicus* are united in a single sound, we shall have



Fig. 454.

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*.

a a a a a a a  
a a- e.

*The above in modern notation.*



*Two notes before the quilisma.*

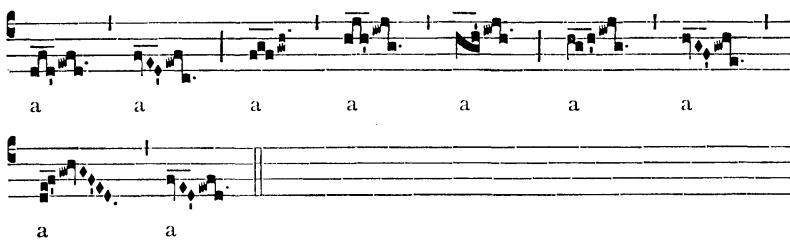


*The above in modern notation.*





Three notes before the *quilisma*.



*The above in modern notation.*



A *strophicus* before the *quilisma*.



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 underline 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

(1) *Le Chant, ses Principes et son Histoire*, par Théophile Lemaire, et Henri Lavoix fils, Paris, Heugel et fils, 1881.

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.”

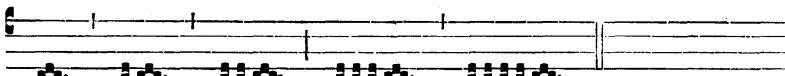
The following exercises should be studied in the order suggested below.

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.

Mode V.

*The same exercise in modern notation.*

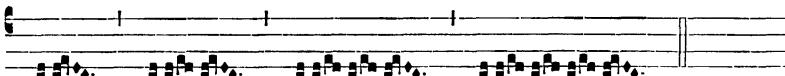
562. — “Begin by studying the first rhythmic figure alone,—the *torculus*—repeating it several times with breath well sustained, so that the notes will be united smoothly without jerk or jar.”

“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.*

A TH A TH + A TH A TH A TH A TH A TH A  
TH A TH A TH A TH A TH A TH A TH

### EXERCISE XLVIII.

Pattern of four notes.

*The same exercise in modern notation.*

A TH A TH TH A TH A TH TH A TH TH A A TH  
A A TH TH A TH TH A TH TH  
A A TH A TH A A TH A TH A A  
TH A TH A TH

### EXERCISE XLIX.

Pattern of five notes.

*The same exercise in modern notation.*

A A A TH TH      A A A TH TH A A TH TH  
A A A TH TH A A TH TH A A TH TH

### EXERCISE L.

Pattern of six notes.

*The same exercise in modern notation.*

A A A TH TH TH A A A TH TH TH A A TH TH TH  
A A A TH TH TH A A A TH TH TH A A TH TH TH

### EXERCISE LI.

Pattern of seven notes.

*The same exercise in modern notation.*

A A A A TH TH TH A A A A TH TH TH A A  
A TH TH TH A A A A TH TH TH A A A A TH TH  
TH A A A TH TH TH

## 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.  $\text{♩} = 152-160$ . 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

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.

