

"LE NOMBRE MUSICAL GRÉGORIEN"

A STUDY OF GREGORIAN MUSICAL RHYTHM

BY
DOM ANDRÉ MOCQUEREAU
OF SOLESMES

VOLUME I - PART I



SOCIETY OF S. JOHN THE EVANGELIST

DESCLÉE & Co.

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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 promoters and their doctrines, thus seriously retarding progress.

In the face of these difficulties, the best minds were in agreement both as to their cause and their obvious remedy. The principal cause was lack of definite rules for the 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 ciceronian prose, is subject to the law: *Sunt quaedam latentes sermonis percussiones 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:

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

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, Aribio, 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 unrhythmical rendering of the Plain Chant before its restoration. ”¹

¹ 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 rhythmic*s 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.

PART ONE.

THE ORIGIN OF RHYTHM

PART ONE.

THE ORIGIN OF RHYTHM.

CHAPTER I.

ARTS OF REPOSE AND ARTS OF MOVEMENT.

ARTICLE 1. — DIVISION OF THE ARTS.

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

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

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

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

2. In the first triad, the *Beautiful*, which is the aim of art, "is realized in the *state of rest, of repose*; its 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. <i>Duration</i> or quantity	{ long sounds
	{ short sounds

(1) ALBERT LAVIGNAC. *La musique et les musiciens*, p. 31.

- | | |
|--|----------------------------------|
| 2nd. <i>Intensity</i> or <i>dynamics</i> | { strong sounds
weak sounds |
| 3rd. <i>Pitch</i> or <i>melody</i> | { high sounds
low sounds |
| 4th. <i>Timbre</i> or phonetic quality | { 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 “*élans*”, 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 δὲ τῆς κινήσεως τάξει ῥυθμὸς 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 metricians 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.	Simple R. 1st stage.	Simple R. 1st stage.	Simple R. 1st stage.	Simple R. 1st stage.	Simple R. 1st 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:

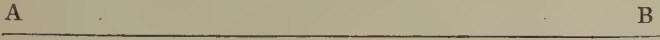


Fig. 1.

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.

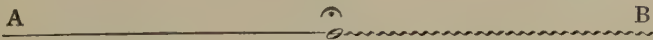


Fig. 3.

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.

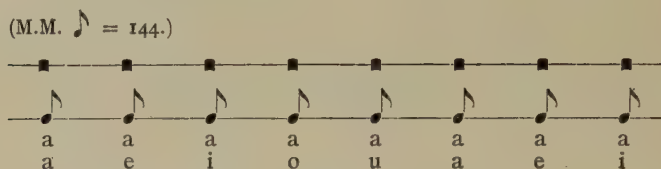


Fig. 4.

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 :

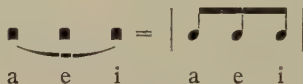


Fig. 11.

b) The *contracted* form :



Fig. 12.

c) The *mixed* form :

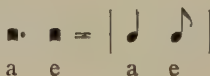


Fig. 13.

The reversal of the preceding form :



Fig. 14.

is not permitted in Gregorian rhythemics. 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 rhythmized, 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.

§ 1. — 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. ♪ = ■ = 132.)

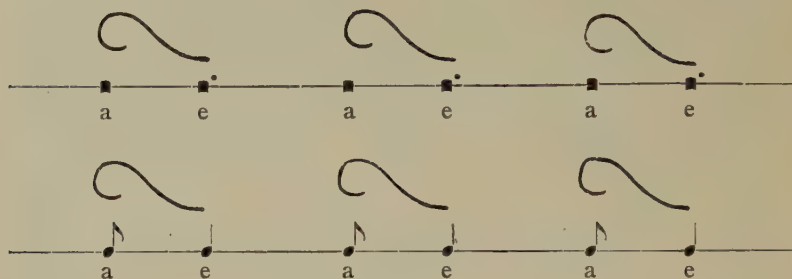


Fig. 20.

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 (○) 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 iambs.”

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

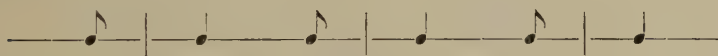


Fig. 21.

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



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:

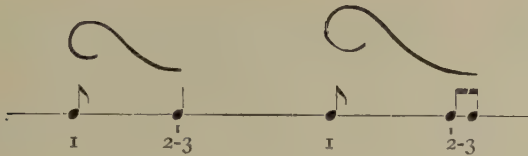


Fig. 25.

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 élan and repos: two in Fig. 25 and three in Figs. 26 and 27.

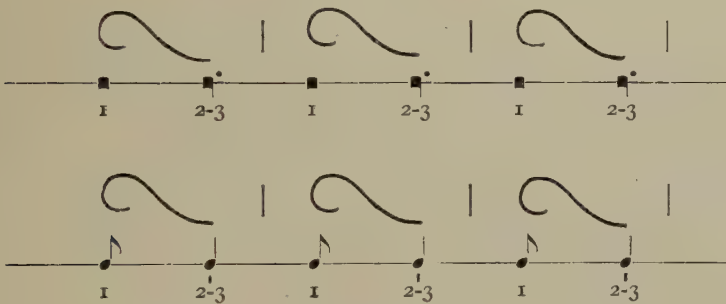


Fig. 26.

(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 *plon* Form (〇 〇 〇 —, *céléritas*) 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*, (ἐπίσημα) 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, 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.

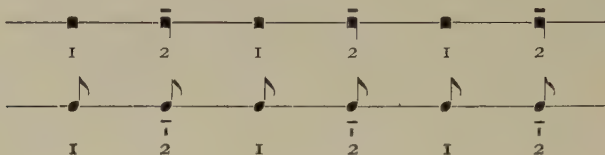


Fig. 30.

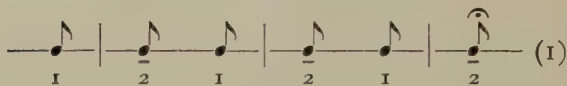


Fig. 31.

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 :

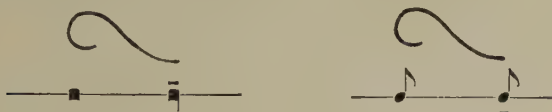


Fig. 32.

Iambic rhythms in which the notes are unequal :

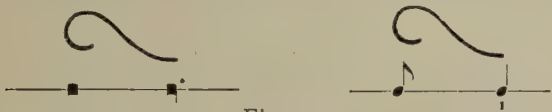


Fig. 33.

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 *élans* and *repos* are most troubled and complex, which is frequently the case in the music of Palestrina and, above all, in modern music. In the Gregorian melodies, this confusion is never found.

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

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

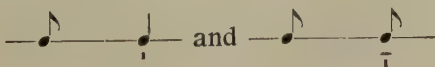


Fig. 34.

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. *Élan* 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."

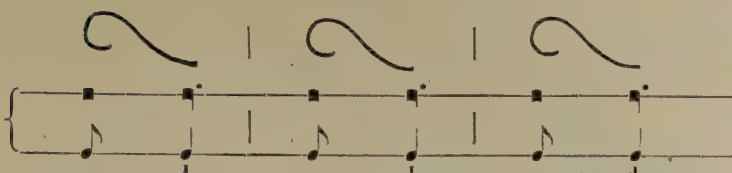


Fig. 36.

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.*

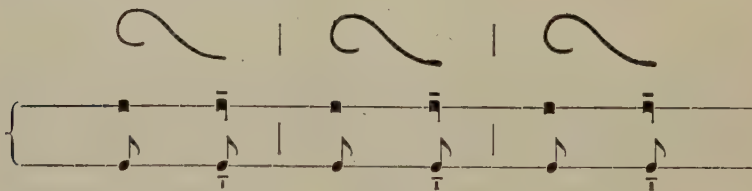


Fig. 39.

(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.

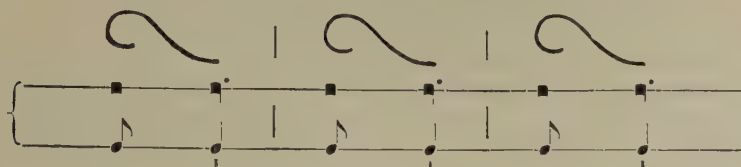


Fig. 40.

Under the heading “Metrics” in his *Dictionary of Music*,

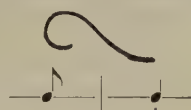
W. H. Riemann treats the Rhythmic Motive A : 

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. It consists in neglecting for the moment the study of the greater rhythmic divisions, phrases, members, incises, in order to concentrate our attention on the infinitesimal degrees of the rhythm: elementary rhythm, with its *élan* and its *repos*. This analysis takes into account only the smallest elements of rhythm, it dissects them, so to speak, in order to study and verify the anatomic construction. It considers each rhythm, iambic or 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:

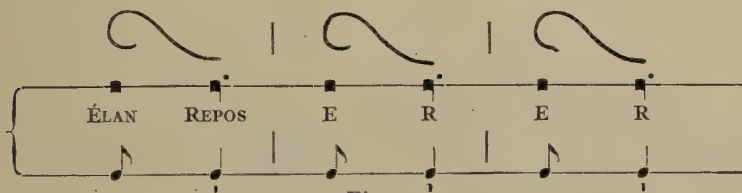


Fig. 43.

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

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

(1) In modern and in palestinian music we know without hesitation the place of each rhythmic ictus.

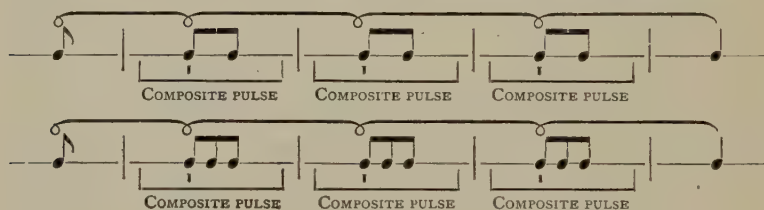
for the realization of the artist's ideal. Therefore this dissecting of the melody bone by bone, rhythm by rhythm until the smallest elements are reached, should be relegated to the realm of theoretic analysis.

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

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



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



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 N° 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).

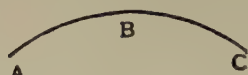


Fig. 46

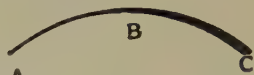


Fig. 47

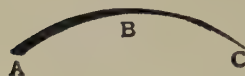


Fig. 48



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:

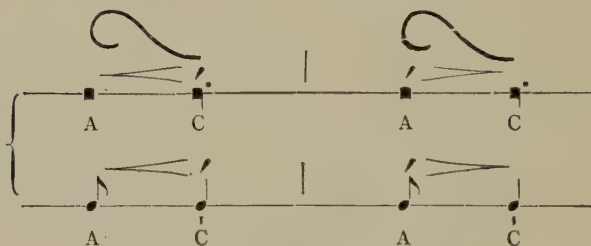


Fig. 50.

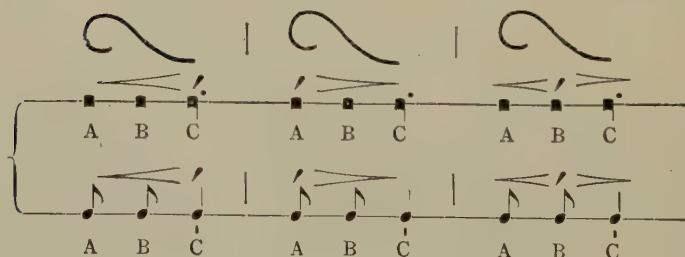


Fig. 51.

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 triplex groups :



Fig. 52.

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

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

§ 4. — Simple Rhythms, duplex and triplex.

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

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

When the note has been sounded on the piano or the harmonium, the teacher will exact a neat but gentle attack, a perfectly true tone, firmness without any tremolo or unsteadiness, evenness of time values, a calm and quiet progression from one

note to the next, without any jerks or sudden explosions of sound in the *crescendo* and *diminuendo*; finally, a great gentleness combined with a perfect clearness and neatness throughout.

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

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

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

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

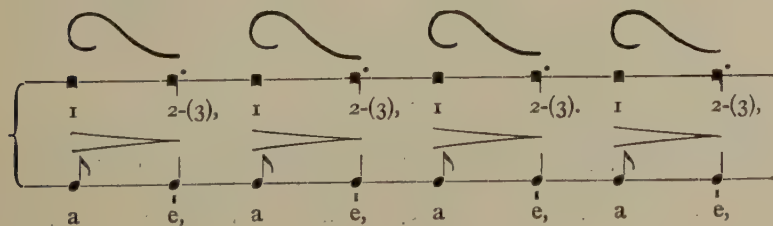
110. *The breath* should be taken after two, three or four rhythmic groups, but always taken from the value of the note that forms the thesis.

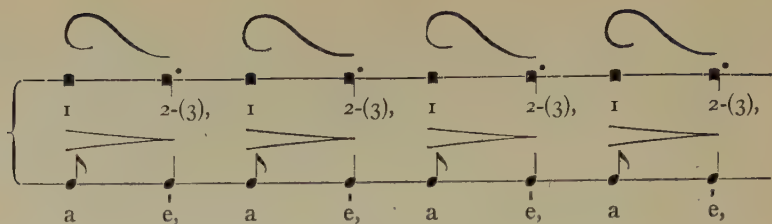
111. *Both notations*, ancient and modern, may be used, but for students accustomed only to modern music, it is better, in the beginning, to use the modern notation.

EXERCISE I.

Simple Rhythm triplex Time, weak Ictus.

(M.M. ♪ = 132.)

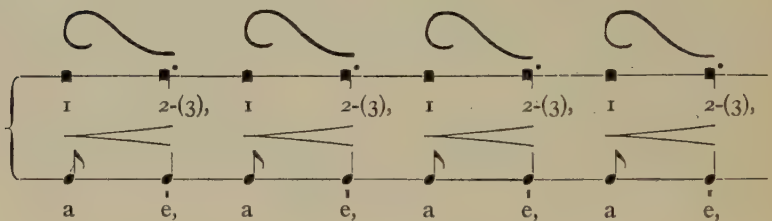
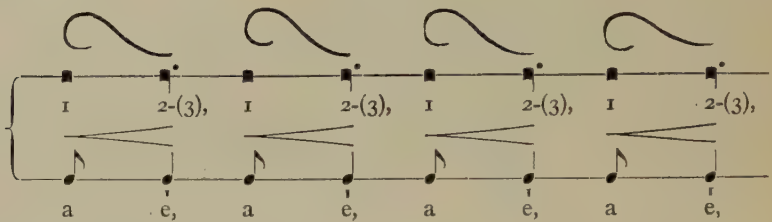




EXERCISE II.

Simple Rhythm triplex Time, strong Ictus.

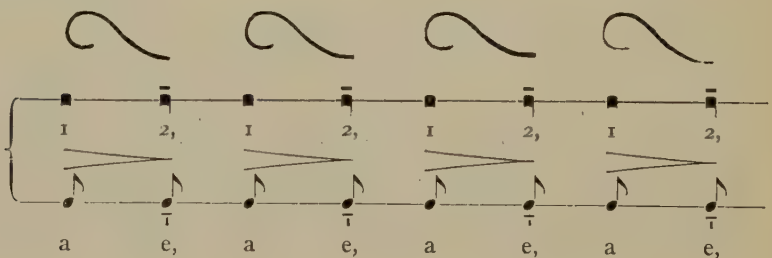
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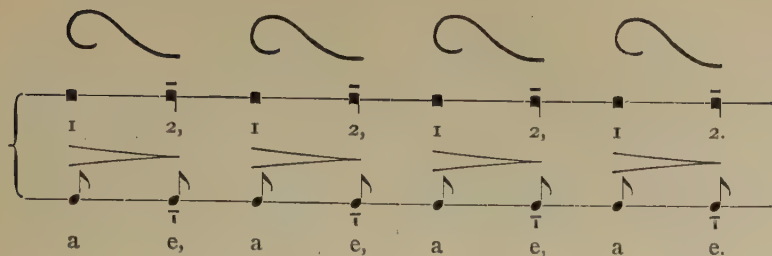


EXERCISE III.

Simple Rhythm duplex Time, weak Ictus.

(M.M. ♩ = 132.)

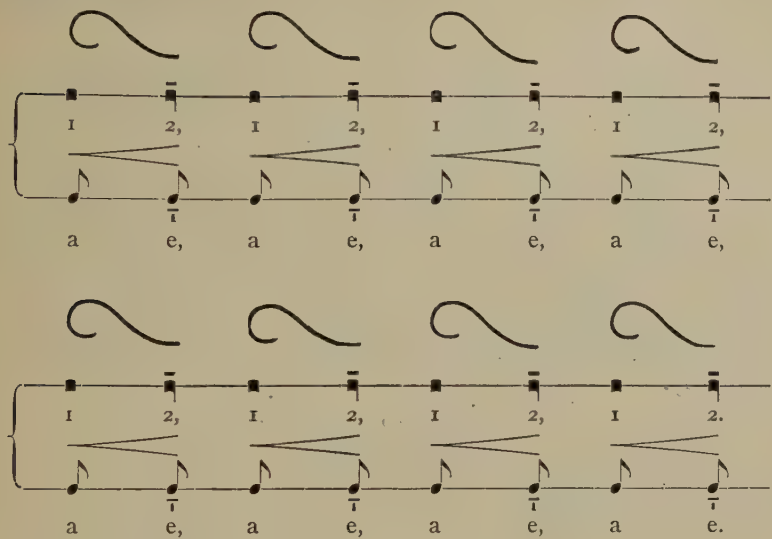




EXERCISE IV.

Simple Rhythm duplex Time, strong Ictus.

(M.M. ♩ = 132.)

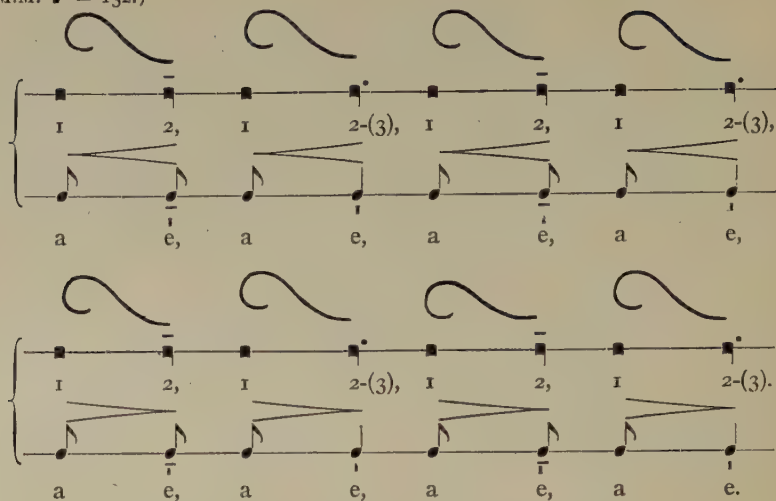


EXERCISE V.

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

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

(M.M. ♩ = 132.)



ARTICLE 4. — DEVELOPMENT OF SIMPLE RHYTHM. (1)

§ 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 :

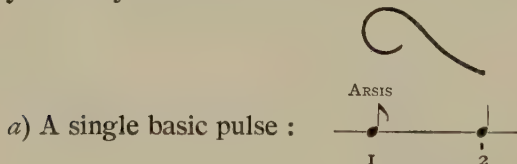
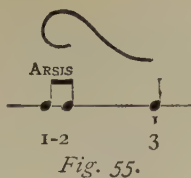


Fig. 54.

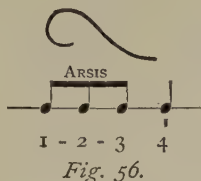
(1) Or, more exactly, the development of the time element within the Simple Rhythm. (Tr.)

(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 :

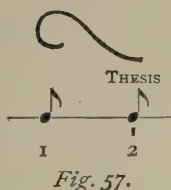


c) A triplex composite pulse :

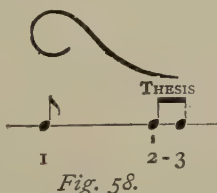


114. *Development within the thesis.* — The thesis of a simple rhythm may contain :

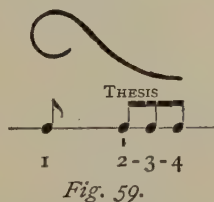
a) A single basic pulse :



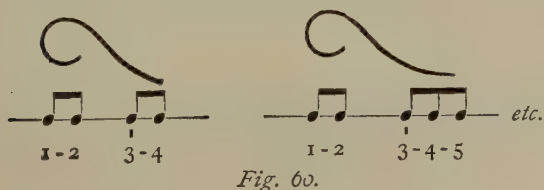
b) A duplex composite pulse :



c) A triplex composite pulse :



115. *Development within both arsis and thesis.*



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 :

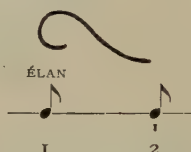


Fig. 61.

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

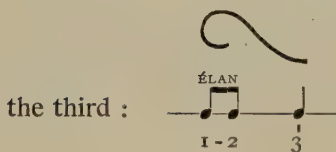


Fig. 62.

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

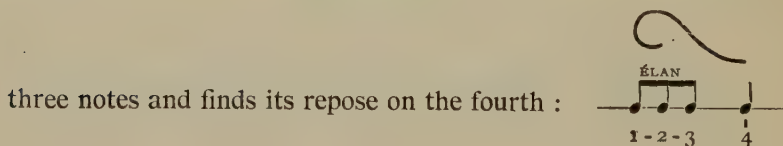


Fig. 63.

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).

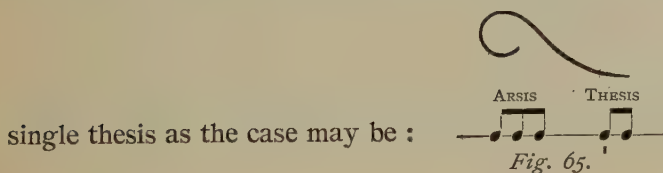
120. The thesis, like the arsis, can be extended over a group of notes, and even be renewed to cover two or three composite pulses, as we shall see in the chapters which deal with *Composite Rhythm* (N° 135 et seq.).

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

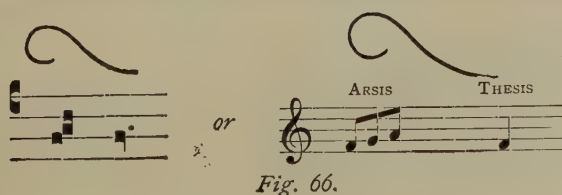


Fig. 64.

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



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



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

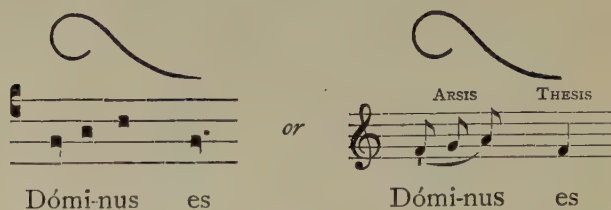




Fig. 67.

§ 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.

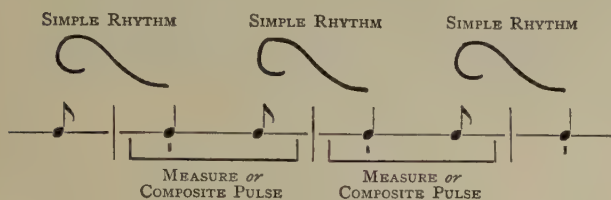


Fig. 69.

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

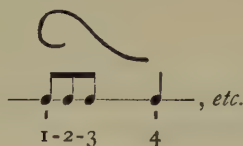


Fig. 70.

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 :

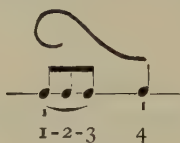


Fig. 72.

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 (N^o 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 élan 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 rhythmized, by *élan* and *repos* :

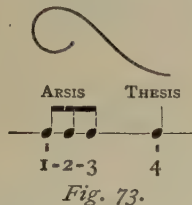


Fig. 73.

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)

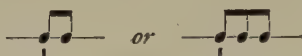


Fig. 74.

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

It is the thesis of a preceeding 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 (N^o 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 :

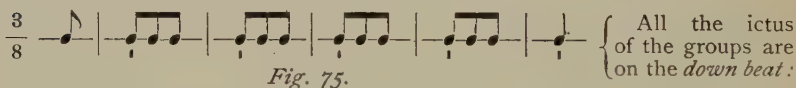


Fig. 75.

A *rhythmical analysis* on the contrary gives us :

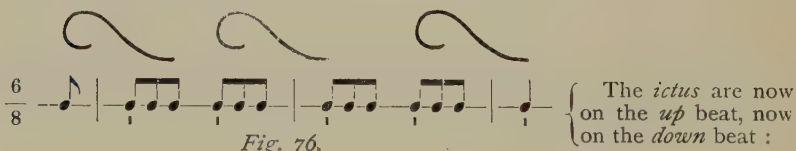


Fig. 76.

EXERCISE VI.

Simple Rhythm (duplex grouping at arsis), weak ictic ending.

(M.M. ♩ = 132.)

Exercise VI consists of two rows of three measures each. Each measure contains a wavy line above a staff with three notes (I, 2, 3-(4)) and a vocal line below with notes 'a', 'e', 'i,'. The notes are connected by slurs.

EXERCISE VII.

Simple Rhythm (duplex grouping at arsis), strong ictic ending.

(M.M. ♩ = 132.)

Exercise VII consists of two rows of three measures each. Each measure contains a wavy line above a staff with three notes (I, 2, 3-(4)) and a vocal line below with notes 'a', 'e', 'i,'. The notes are connected by slurs.

EXERCISE VIII.

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

(M.M. ♩ = 132.)

Exercise VIII consists of two systems, each containing three measures. Each measure is represented by a staff with a wavy line above it. Below the staff, the numbers 1, 2, and 3-(4) are written, followed by the vowels a, e, and i. The first system is as follows:

Measure	Numbers	Vowels
1	1 2 3-(4)	a e i
2	1 2 3-(4)	a e i
3	1 2 3-(4)	a e i

The second system is identical to the first.

EXERCISE IX.

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

(M.M. ♩ = 132.)

Exercise IX consists of two systems, each containing three measures. Each measure is represented by a staff with a wavy line above it. Below the staff, the numbers 1, 2, 3, and 4-(5) are written, followed by the vowels a, e, i, and o. The first system is as follows:

Measure	Numbers	Vowels
1	1 2 3 4-(5)	a e i o
2	1 2 3 4-(5)	a e i o
3	1 2 3 4-(5)	a e i o

The second system is identical to the first.

EXERCISE X.

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

(M.M. ♩ = 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.

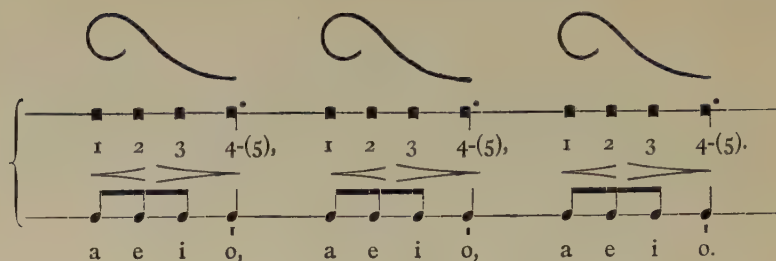
Simple Rhythm (triplex grouping at arsis), weak ictic cadence.

2nd and 3rd pulses of arsis strong.

(M.M. ♩ = 132.)

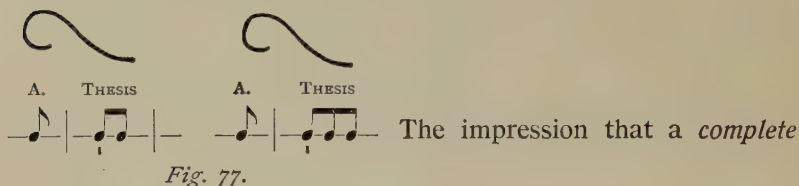
1 2 3 4-(5), 1 2 3 4-(5), 1 2 3 4-(5),

a e i o, a e i o, a e i o,



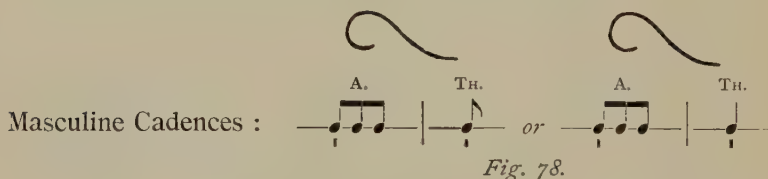
§ 4. — Feminine or post-ictic Cadences.

132. The thesis, whether duplex or triplex, is inconclusive when its *form* is *distinct* (N^o 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 (N^{os} 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 :

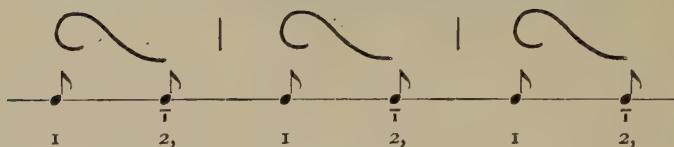


Fig. 82.

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 (N° 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.

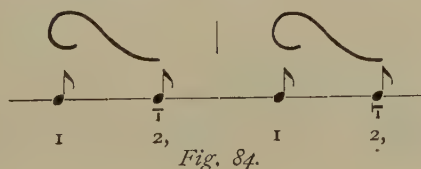


When the thesis has been reached, the movement ends, since the thesis is the place of alighting and of rest.

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 :



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.

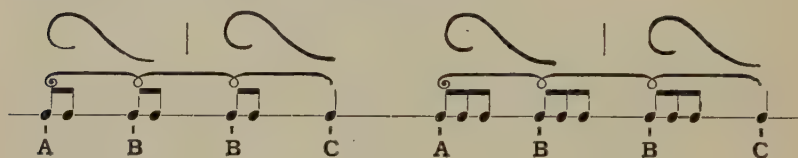


Fig. 86.

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.

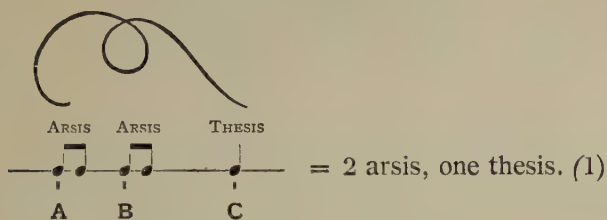


Fig. 87.

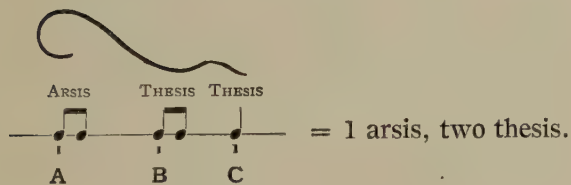


Fig. 88.

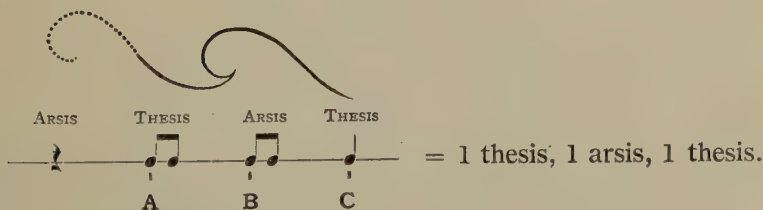


Fig. 89.

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 :

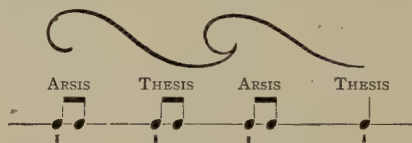


Fig. 91.

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

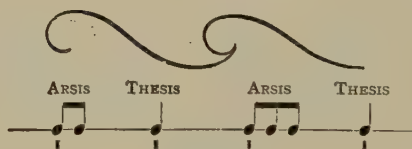


Fig. 92.

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^o. 172, Exercise XVI).

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

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

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

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

As illustration let us use the text of the antiphon already quoted (N^o. 27).

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

RHYTHM — MEMBER

RHYTHM — INCISE

RHYTHM — MEMBER

RHYTHM — INCISE

RHYTHM — INCISE

RHYTHM — MEMBER

A B C

A B C

A B C

Cantá-te Dómi-no

cán-ti-cum nó-vum,

laus é-jus

ab extrémis tér-rae.

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.

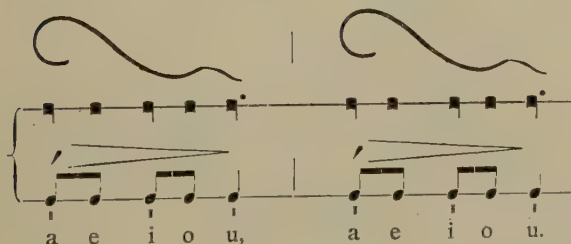
For the moment, these general principles are enough, for their practical application will appear in the study of melody and text.

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

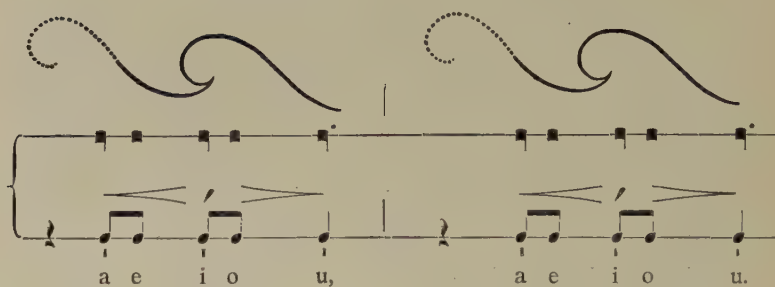
150. The student should read the directions given in No 104 and the following paragraphs before undertaking to sing the exercises which follow.

EXERCISE XII.

One arsis, two thesis.



EXERCISE XIII.

One thesis, one arsis, one thesis.

EXERCISE XIV.

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

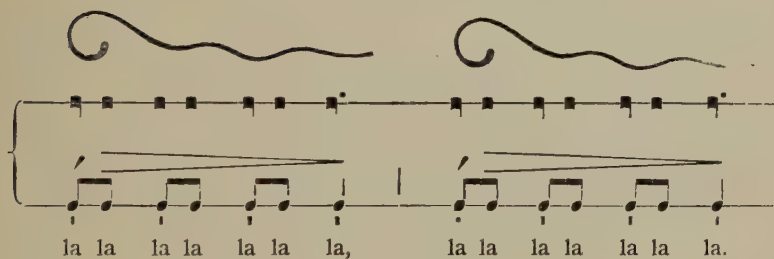
EXERCISE XV.

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.

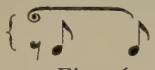

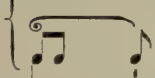
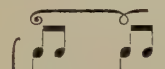
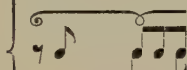
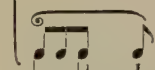
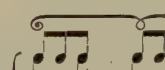
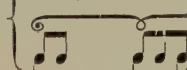

(2) *Paléographie musicale*, VII, p. 261 et ss.

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	 <p>1 pulse at the arsis, 1 pulse at the thesis.</p> <p style="text-align: center;"><i>Fig. 96.</i></p>
2	3 basic pulses	 <p>1 pulse at the arsis, 2 pulses at the thesis.</p>
3		 <p>2 pulses at the arsis, 1 pulse at the thesis.</p> <p style="text-align: center;"><i>Fig. 97.</i></p>
4	4 basic pulses	 <p>2 pulses at the arsis, 2 pulses at the thesis.</p>
5		 <p>1 pulse at the arsis, 3 pulses at the thesis.</p>
6		 <p>3 pulses at the arsis, 1 pulse at the thesis.</p> <p style="text-align: center;"><i>Fig. 98.</i></p>
7	5 basic pulses	 <p>3 pulses at the arsis, 2 pulses at the thesis.</p>
8		 <p>2 pulses at the arsis, 3 pulses at the thesis.</p> <p style="text-align: center;"><i>Fig. 99.</i></p>
9	6 basic pulses	 <p>3 pulses at the arsis, 3 pulses at the thesis.</p> <p style="text-align: center;"><i>Fig. 100.</i></p>

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 :

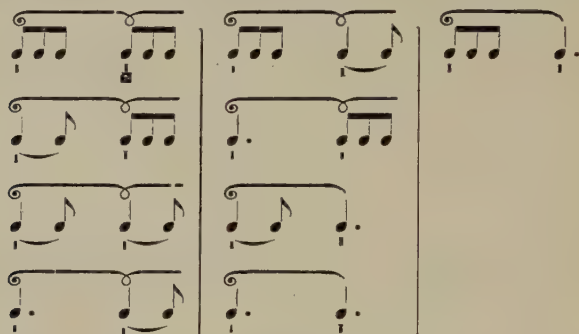


Fig. 101.

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.










11	5 basic pulses	{			
12					
13					

Fig. 103.
















14	6 basic pulses	{			
15					
16					
17					
18					

Fig. 104.
















19	7 basic pulses	{			
20					
21					
22					
23					

Fig. 105.

24	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">8 basic pulses</div> <div style="display: inline-block; vertical-align: middle; font-size: 3em;">}</div> </div>	
25		
26		

Fig. 106.

27	<div style="display: inline-block; vertical-align: middle;">9 basic pulses</div> <div style="display: inline-block; vertical-align: middle; font-size: 3em;">{</div>	
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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	<div style="display: inline-block; vertical-align: middle;">{</div>
29	7 basic pulses	<div style="display: inline-block; vertical-align: middle;">{</div>
30	8 basic pulses	<div style="display: inline-block; vertical-align: middle;">{</div>
31	9 basic pulses	<div style="display: inline-block; vertical-align: middle;">{</div>
32	10 basic pulses	<div style="display: inline-block; vertical-align: middle;">{</div>
33	11 basic pulses	<div style="display: inline-block; vertical-align: middle;">{</div>
34	12 basic pulses	<div style="display: inline-block; vertical-align: middle;">{</div>

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.

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 élans and repos, he distributes the intensity of sound in its infinite shadings, as a painter distributes his colors; he spreads out the contours of his melody, according to the demands of order, and of just proportion which constitute one of his finest faculties, his esthetic sense. We are already far beyond the mechanical movement of the hammer on the anvil, far beyond the corporal movement of the bird spreading or flapping its wings.

168. *Metrical* force is too often brutal; it represents, in any case, something mechanical or animal; we cannot avoid it entirely since we are made up of body and soul, but let us have as little as possible. Let us be on our guard; for force, in rhythemics, 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 coryphei, the conductor of the chorus who, with the hand or foot, indicated the rhythmic undulations.

171. We have thus gone back to the origin of these two historic terms. We need not complicate matters with later

contradictory meanings that have been attributed to them. Above all, if we are to preserve faithfully their original meaning, we must set them free from any idea of strength or weakness. The words mean : *arsis*, elevation ; *thesis*, fall, nothing more.

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

CHAPTER IX.

PLASTIC EXPRESSION OR 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* (χείρ, 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. 113.

2. One arsis, two theses.

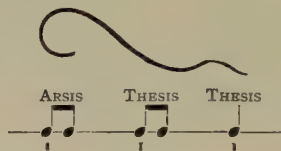


Fig. 114.

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

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

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

Nevertheless, all are possible, all may be useful, even good, even artistic, in certain special cases which we shall indicate, provided they be used with discretion and judgment. It is the

conductor who must choose, among these various forms and systems, the chironomy which will best suit the object he has in mind. He may use each in turn, passing from one system to another according to the needs of his choir, but guided above all, by the feeling and sense of the words, melody and rhythm; and this feeling he must communicate to his choir by the look in his eyes, by the gesture of his hand, so that they become, with him, one mind, one soul, and thus reproduce faithfully the most delicate shades of his thought with art, fidelity and love.

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

§ 1. Movement in space.

185. That we may grasp fully the significance of the gestures of chironomy and their exact concordance with the sound-movements of melody and rhythm, we must form an exact idea regarding the nature of *movement in space*, of *visible movement*. This, in turn, will throw light on the whole subject of rhythmic movement in itself.

186. *Movement* is the ending of a state of repose, of immobility, just as repose is the ending, the stopping of a movement. All *movement* presupposes a preliminary state of repose. It is evident, therefore, that in order to set a material thing in motion, some motive power is required, either external or internal.

187. Let us take a simple example :

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

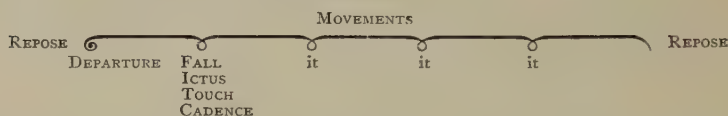


Fig. 115.

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:

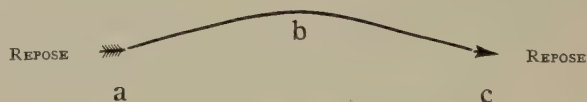


Fig. 116.

- 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.

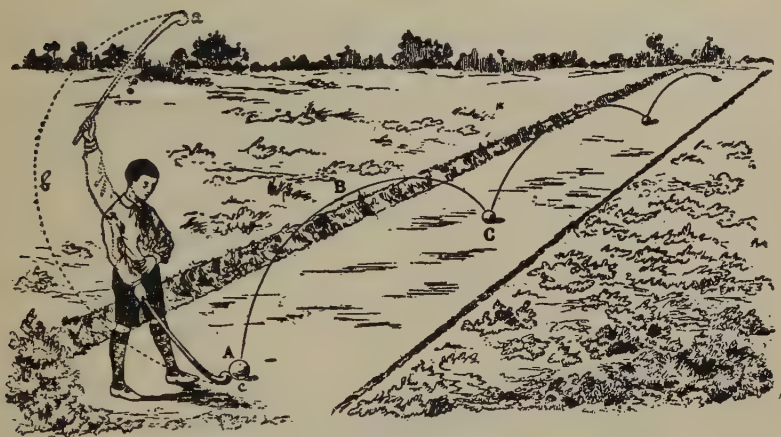


Fig. 117.

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 arsis 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.



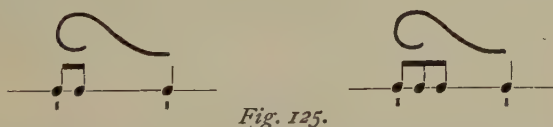
It is really an analogous rhythm with the difference that a note has been omitted at the beginning.



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*.



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



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.

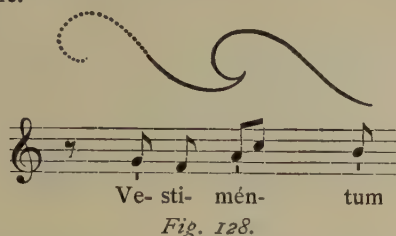


Fig. 128.

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.

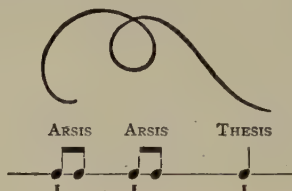


Fig. 131.

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 :

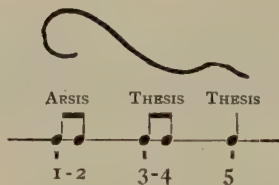


Fig. 132.

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 ⁽¹⁾

Can-ti-cum no-vum, laus é-jus, ab ex-tré-mis tér-rae.

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".

⁽¹⁾ 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).

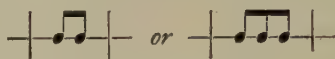


Fig. 134.

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

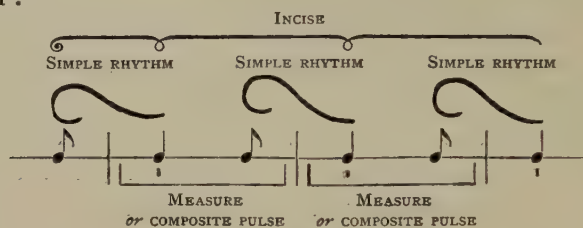


Fig. 135.

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.

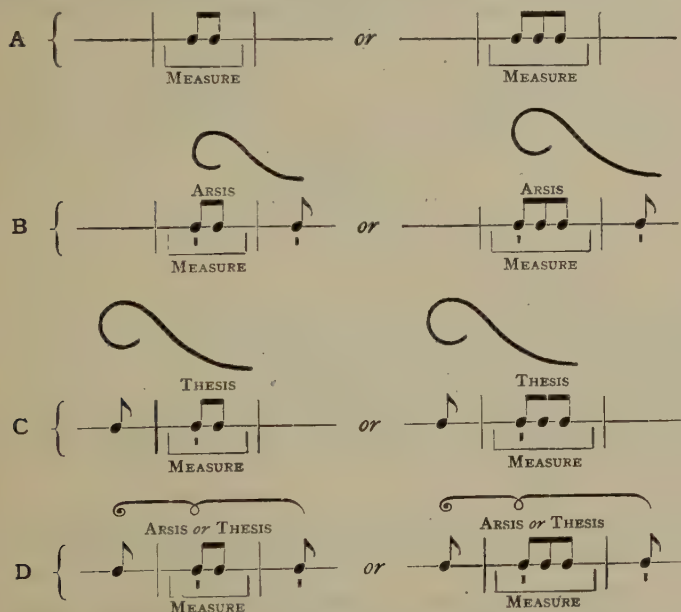


Fig. 136.

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.

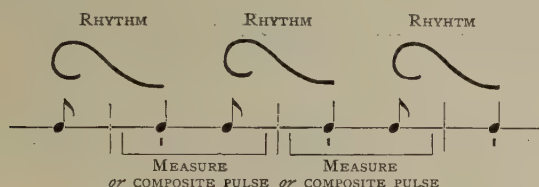


Fig. 138.

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.

SYNCPATION.

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 :

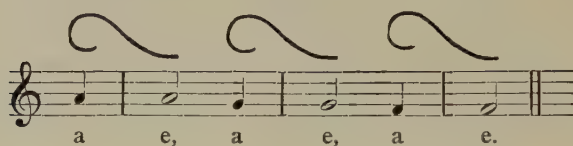


Fig. 140.

would be syncopated if presented as follows :

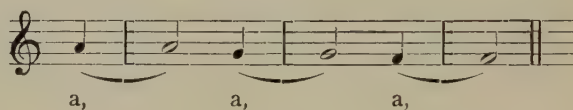


Fig. 141.

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).

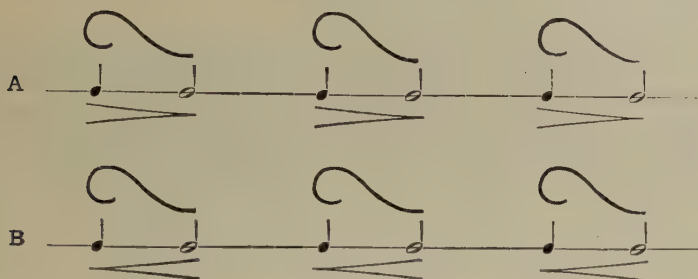


Fig. 142.

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 :

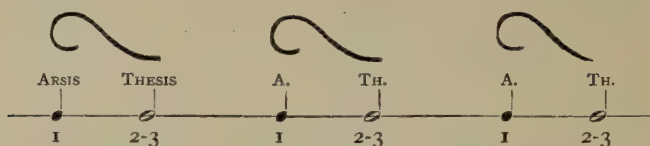


Fig. 143.

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

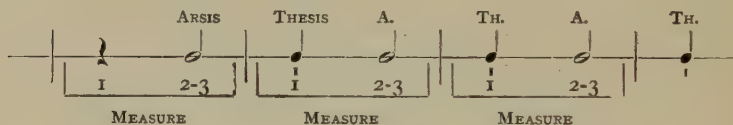


Fig. 144.

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 :

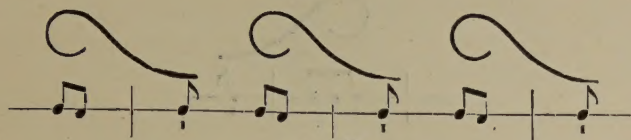


Fig. 145.

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 :

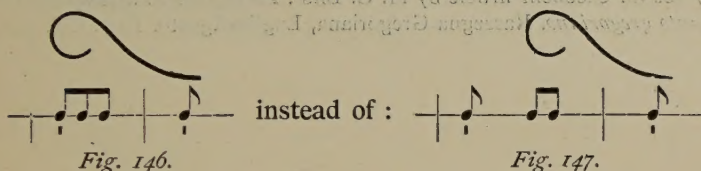
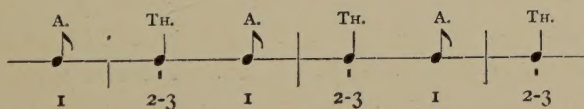


Fig. 146.

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 :

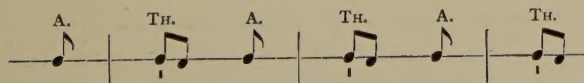


Fig. 148.

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

In composite time, we can have the following arrangement :

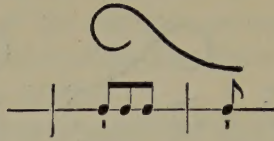


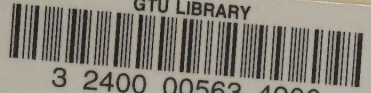
Fig. 149.

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.

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