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An analysis and comparison of the original piano duet and the orchestral version of Maurice Ravel's "Ma Mère L'Oye"

D'Accone, Frank A.
Boston University

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Thesis

MAURICE RAVEL

"MA MÈRE L'OYE," CINQ PIÈCES ENFANTINES
AN ANALYSIS AND COMPARISON OF
THE ORIGINAL PIANO DUET
AND
THE VERSION FOR ORCHESTRA

by
Frank A. D'Accone
(B. M., Boston University, 1952)

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Master of Music

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INTRODUCTION

Ravel first wrote these pieces as a suite for piano duet in 1908. They were written for his friend's children, Mimi and Jean Godebski, to whom they were duly dedicated on publication in 1910. They were publicly performed for the first time on April 20th of that year at a concert of the "Société Musicale Independante" at the Salle Gaveau in Paris. The pianists at that performance were Christine Verger, aged six, and Germaine Durany, aged ten.

There were five movements in the original piano version, and they formed a suite of contrasting movements. Each movement was intended to depict, musically, the story which is associated with the title:

I. "Pavane de la Belle au Bois Dormant" (Pavane of the Sleeping Beauty)
II. "Petit Poucet" (Hop o' my Thumb)
III. "Laideronnette, Impératrice des Pagodes" (Laideronnette, Empress of the Pagodas)
IV. "Les Entretiens de la Belle et de la Bête" (The Conversations of Beauty and the Beast)
V. "Le Jardin Féeérique" (The Fairy Garden)

It will be seen from these that the composer intended to create tone pictures suggested by some of the immortal fairy tales which have fed the imaginations of children for many years. Of the five pieces, the first and last bear titles only. "Pavane of the Sleeping Beauty" and "The Fairy Garden"
are both rather brief tone pictures of their subjects. Each of the remaining three pieces bears a few lines of text from some old French fairy tale and attempts rather more detailed delineations. Number two, "Hop o' my Thumb," is introduced on the first page by a quotation from one of the famous "Contes de fée" of Charles Perrault:

"Il croyait trouver aisément son chemin par le moyen de son pain qu'il avait semé partout où il avait passé; mais il fut bien surpris lorsqu'il n'en retrouva une seule miette; les oiseaux étaient venus qui avaient mangé."

"He believed he would easily find his way back by means of his bread crumbs, which he had scattered as he passed along; but to his surprise he could not find a single crumb, for the birds had come and eaten them."

The third number, "Laideronnette, Impératrice des Pagodes" (Little Ugly One, Empress of the Pagodas), bears the following heading from "Le Serpentin Vert" (The Green Serpent) by Madame Marie d'Aulnoy, a seventeenth century writer of fairy tales:

"Elle se déshabilla et se mit dans le bain. Aussi-tôt pagodes et pagodines si mirent à chanter et à jouer des instruments: tels avaient des theorbes faits d'une coquille de noix; tels avaient des violes faites d'un coquille d'amande; car il fallait bien proportionner les instruments à leur taille."

"She undressed and entered the bath. Immediately, the pagodas, male and female, began to sing on various instruments. Some had theorbs, or lutes, made of walnut shells, others had viols made of almond shells. For they were obliged to use instruments proportionate to their shapes and sizes."

The fourth movement, "Les Entretiens de las Belle et de la Bête" (The Conversations of Beauty and the Beast), uses the following quotations from a story by Jeanne Marie Leprince de Beaumont as a preface to the piece.
"Quand je pense à votre bon cœur, vous ne me paraissez pas si laid."
"Oh! dame oui; j'ai le cœur bon, mais je suis un monstre."
"Il y a bien des hommes qui sont plus monstre que vous."
"Si, j'avais de l'esprit, je vous ferais un grand compliment pour vous remercier, mais je ne suis qu'une bête."
"La Belle, voulez-vous être ma femme?"
"Non, la Bête."
"Je meurs content puisque j'ai le plaisir de vous revoir encore une fois."
"Non, ma chère Bête, vous ne mourrez pas: vous vivrez pour devenir mon époux!"
La Bête avait disparu et elle ne vit plus à ses pieds qu'un prince plus beau que l'Amour qui la remerciat d'avoir fini son enchantement.

"When I think how kind-hearted you are, you don't seem so ugly."
"Yes, it is true, I have a kind heart. Still, I am a beast."
"Many men are more beastly than you."
"If I were witty I would think up a fine compliment by way of thanks, but I am only a beast."
"Beauty, will you be my wife?"
"No, Beast!"
"I die happy because I have had the pleasure of seeing you again."
"No, dear beast, you shall not die, you shall live to be my husband."
The Beast vanished and at her feet she saw a prince as beautiful as the God of Love. The Prince thanked her for breaking the spell laid upon him.

The pieces in this piano duet were later used by Ravel with new additional music to form the basis of an orchestral ballet. In its stage adaptation it was given with great success at the Theatre des Arts in Paris in February of 1912 with Madame Jeanne Hugard, of the Opéra, in charge of the ballet and the painter Dréau in charge of scenery and costumes. For this production the composer extended some of the pieces slightly and added a "Prelude and Danse du Rouet."
The present orchestral suite is drawn from this ballet and consists of the original five movements of the piano suite plus the "Prelude and Danse du Rouet" of the orchestral ballet. The orchestral suite in this form was first performed in Paris on January 21, 1912, and introduced to this country by the New York Symphony Society, Walter Damrosch conductor, in Aeolian Hall, New York, on November 8, 1912. The reader is referred to the recording of the suite by L'Orchestre de la Suisse Romande, Ernest Ansermet conductor, on London record number LLP338. This recording was used as a reference in the preparation of this manuscript.

The purpose of this thesis is to illustrate and compare through harmonic, rhythmic, and formal analyses the changes which Ravel made in the transition to orchestra of the piano suite "MA MÈRE L'ÔYE." No attempt has been made to evaluate throughout the entire paper. The first three chapters will deal with either the harmonic, rhythmic, or formal analyses of both versions, and the fourth chapter has been devoted to the orchestration.

I would like to acknowledge my thanks and grateful appreciation to Mr. J. L. Rogers, librarian of the Boston Symphony Orchestra, through whose kind assistance I was able to locate the "Prelude and Danse du Rouet."

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1The published score consists of the five original movements of the piano suite. The "Prelude et Danse de Rouet" is published separately.
CHAPTER I

FORMAL ANALYSIS

In the version for orchestra, several aspects of the formal design have been changed considerably. Since this chapter will serve as an analysis for both the piano and orchestral versions, these changes have been duly noted in the section on each of the movements. By far the greatest change is the addition of the "Prelude" and the "Danse du Rouet." As has been stated previously, these were not included in the original piano version, and the analysis of these added movements will therefore serve only for the orchestral version.

In the original suite, the five movements were played with a pause between each movement. In the orchestral version, the "Prelude" and "Danse du Rouet" are now played first without any pause and then continue, again without pause, into the first movement of the suite proper. The rest of the suite is then played as in the original piano version. One other aspect of the change between the two versions lies in the treatment of the fifth movement of the piano version. "Le Jardin Féerique," which in the piano version is the fifth movement, became in the orchestral version a postlude, an "Apotheosis." While there were no large changes made in the transition of this movement, the character of the piece takes on an added significance in the orchestral version, for now it is made to serve as a sort of coda to the whole suite.
PREFLUE

This movement "tres LENT" is in four four time, which is maintained as a constant metric unit without change. The tonal scheme of the entire movement centers around C major with a shift of the tonality at the end of the movement to the dominant seventh of E flat, the key of the "Danse du Rouet" which follows immediately without pause.

The fifty measures of this movement comprise a free fantasia built on the themes from all the movements of the original piano suite plus two new motives. The first new motive is four measures long and is harmonized only with major and minor triads (Example 1). Against this, in measure three, a hint of the second new motive is given (Example 2). The difference in the character of the two motives is at once apparent: the first motive being in longer note values, while the second has a quickly moving rhythmic pattern. Motive Two is now continued to measure eight and then extended with new rhythmic effects over a V of II pedal to measure thirteen. In measure fourteen, Motive One is brought

\[\text{Example 1}\]

\[\text{Example 2}\]

\(^1\text{No metronome mark is given.}\]
back, but this time as an accompaniment to the motive from the first movement which is introduced in measure sixteen (Example 3). This motive is now continued through measure nineteen. In measure twenty a hint of the theme from the fifth movement of the suite is given, but this is quickly supplanted in the same measure by the theme from the second movement (Example 4). The theme from the second movement is now extended through measure thirty-four, where a hint of the theme from the third movement is used to bring this phrase to a cadence (Example 5). Immediately in measure thirty-five Motive One is reintroduced, this time with a hint of the theme from the fourth movement in the bass (Example 6).
Motive Two is now recapitulated and is extended by means of rhythmic variation to measure fifty-one where the "Danse du Rouet" begins.

The "Prelude" appears to be a free fantasia upon the themes of the five movements of the suite with an added motive or two of new material. The grouping of the motives, however, presents a more complex plan: the two new motives and their extensions are stated in measures one through fifteen and comprise the first section, A; the motives from the five movements comprise the next section, B, measures sixteen through thirty-four; the restatement of the two new motives and their extensions comprise the last section, A', measures thirty-five through fifty. The design of the material is so arranged as to outline a three-part form, A, B, A', and this formal design, as will be illustrated in the succeeding analyses, appears in almost every movement of the original suite.

DANSE DU ROUET

This movement is in a constant six eight time and is marked "ALLEGRO."¹ The tonal scheme of the entire movement

¹ No metronome mark is given.
centers around the key of E flat major and its related keys of G minor and B flat major. There are ninety-nine measures in the movement.

Measures one through six comprise a modulation built on a chromatic ornamentation of the dominant note (B flat). Theme A, in the tonic key, is introduced in measure seven and is extended over a V of III pedal to measure twenty

(Example 7). Measures twenty-one through twenty-three comprise a section similar in nature to the introductory passage in that they are a chromatic ornamentation of the V of III. In measure twenty-four, theme B is introduced over a V of III pedal (Example 8). This theme is nine measures long in its initial presentation; in measure thirty-two, however, it is extended an additional two measures to close in measure thirty-three. In measure thirty-four, theme B is again
stated, this time over a V of V pedal, through measure forty-one. In measure forty-two, the theme is extended, still over a V of V pedal, for six measures to measure forty-seven.

Theme A is now reintroduced in measures forty-eight through sixty-one. Again, as in the previous presentation, it is stated at first in the tonic key and then extended over a V of III pedal. The chromatic ornamentation of the V of III now follows in measures sixty-two through sixty-four. Theme B is now recapitulated in measures sixty-five through seventy-two and, as in the case of the first presentation in the exposition, is extended through measure seventy-four. Measures seventy-five through eighty-two comprise the restatement of this theme which is now extended in measures eighty-three through ninety-nine to form a cadential phrase for the entire movement.

The formal design of this movement is easily recognizable: the introduction, theme A, theme B and extensions form the first section; the recapitulation of themes A and B (with extensions) and the cadential phrase form the second section. The form is now seen to be one of a binary nature: A, A'. The formal design of this movement is significant in that it is the only one of its kind in the entire suite.
Danse du Rouet

A

1-18
chromatic introduction
theme A and Extension

21-24
chromatic
interlude

31-34
theme B and extension

A'

49
theme A and Extension

62-65
chromatic
interlude

72-75
theme B and extension

83-89
theme B
and extension
"PAVANE DE LA BELLE AU BOIS DORMANT"

In this movement no formal changes have been made in the transition from piano duet to orchestral ballet. In both versions the themes are presented in the same order, and the length of the movement has remained the same—twenty measures. The movement is in a regular four-four time and is marked "LENT," M.M. \( \frac{\dot{}}{\dot{}\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\dot{\do
second phrase picks up the dominant feeling of the first phrase and thus brings the first eight measures to a cadence in the tonic, both themes may be thought of as a single phrase, in which case the second four-measure phrase becomes an extension of the first theme proper. Thus the two phrases may be thought of as one single theme comprised of two phrases, or they may be stated separately as themes A and B. The third phrase, or theme C, begins on the last beat of measure eight and continues through measure twelve (Example 11). (Again, the theme is four measures long.) This time, however, the tonality is based on the relative major, C. The melodic as well as the rhythmic material is very closely akin to that found in the first two themes. Immediately in measure thirteen the first phrase, or theme A, is repeated melodically; this time, however, the harmonies have been changed: the theme is now presented over a sub-dominant pedal with an added inner pedal and new rhythmic counterpoint. An exact recapitulation of theme B now follows from measures seventeen through twenty, and this dominant pedal phrase serves as a sort of cadence for the entire movement.

The formal design of this movement is one which involves no complexities and is quite easily traced. The first two four-measure phrases may be considered as the first section of the work. Of the next eight measures, the first four
are definitely part of the middle section in view of the contrapuntal treatment and the frequent harmonic changes; the next four measures serve a dual function: they continue the kinetic nature of the middle section harmonically but are based melodically on the opening phrase. The last four measures are a direct continuation of this melodic recapitulation. It is interesting to note that the overlapping nature of this middle section is implemented by the fact that it is the only continuous eight-measure phrase in the whole piece.
Pavane de la belle au bois dormant

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"PETIT POUCET"

In the transition from piano duet to orchestral ballet, no changes have been made in the formal aspects of this movement. In both versions the themes are presented in the same order, and the length of the movement has remained the same—seventy-nine measures. The movement is in two-four time and is marked "TRES MODERE," M.M. \( \frac{3}{4} = 66 \). There are many changes in the time signature from measure to measure; the opening measures of the movement attest to this: two four, three four, four four, five four, three four, two four, etc; these frequent metric changes show Ravel's freedom from the rigidity of a fixed measure line and are an indication of the flexibility of his phrases. The tonal scheme of the entire movement centers around the key of C, the melodic, harmonic, and natural forms of the minor scale being used interchangeably. The tonality also makes a transition to the related keys of the relative major, E flat and B flat, while there are pedal point sections built on the related harmonies of the dominat (G) and the supertonic (D, the dominant of the dominant).

The movement begins with a four-measure introduction built in moving eighth notes on the melodic minor scale of C; this is the most characteristic feature of the entire movement, as it is present in practically every measure and serves as a very stable unifying device for the entire piece.
(Example 12). Theme A begins on the last one and one-half beats of measure four and continues through to measure eight. It is centered around C minor and utilizes the ascending and descending eighth note scale passage as an accompaniment (Example 13). On measure nine a literal repetition of theme A begins, but this is interrupted by a measure of extended melody, and the phrase immediately assumes the character of a bridge which leads to the next theme in the following measure. Theme B is in the key of the relative major, E flat, and also has the eighth note scale passage as an accompaniment (Example 14). Theme B is carried from measure twelve through measure twenty-two. Immediately in measure twenty-three there is a return to the first two measures of theme A, and these are again repeated (measures twenty-three through twenty-six) over a dominant pedal (G). As in the case of the first two themes, the eighth note passage is used as an accompaniment. On measure twenty-eight a rising sequential pattern begins, obviously derived from theme A. The eighth
note accompaniment is still used, and the sequence is built over a continuation of the dominant pedal which was used in the previous measure.

In measure thirty-two a development like section based on themes A and B melodically is introduced, but Ravel subtly refutes the developmental character of this section by basing it on a firm C minor tonality. This is a case of overlapping, the reverse of what was found in the first movement.¹ There the melody was repeated, but the harmony was developmental in nature. Here the melody is developmental, but the harmony suggests a tonal recapitulation (Example 15). Measures thirty-eight and thirty-nine are like the introduction, as they contain only the characteristic eighth note figure. In measure forty a recapitulation of theme B begins, but this time it has been transposed to the key of A flat major. As in its previous presentation, the eighth note figure is used as an accompaniment. Theme B ends on measure fifty, and immediately in measure fifty-one there is repetition of the development section of theme A, but now over a V or V pedal. On the last measure of the rising sequence, the pedal returns to the dominant (G), thus preparing the way for the recapitulation of theme A in C minor. Theme A is now presented again

¹See page 10.
in its original four-measure phrase, but this time it is extended for two additional measures and is thus extended to measure sixty-six. A coda built from the rhythmic, harmonic, and melodic features now follows on measure sixty-seven (Example 16). It is built over a subdominant pedal (F) for six measures and over a tonic pedal for the two final measures. Immediately on measure seventy-three there is a return to the eighth note scale passage figure which had been previously used in the introduction and is now used as a closing, cadential pattern, and the movement ends on the tonic chord with a raised third.

The formal outline will become clear if we consider the tonal arrangement of the sections: Theme A is in the tonic key of C minor and is followed immediately by theme B in the relative major, E flat, the mediant key; a development of theme A follows based on a dominant pedal; the melodic line now continues as it did in the development, but the harmony becomes C minor again; this is followed by theme B in A♭, the submediant key; the A♭ tonality acts as a neapolitan to the dominant by way of V of V, which then resolves to the tonic and a recapitulation of theme A; the coda reaffirms the C minor tonality.
Petit Poucet

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- Rising sequence built From A |
- Development of A and B

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17
"LAIDERONNETTE, IMPÉRATRICE DES PAGODES"

In the transition from piano duet to orchestral ballet, two extremely significant changes in the formal design have been made. They are not changes which are made in separate measures but changes which involve one whole area each time. The changes are extensions of a phrase which in the original version was only four measures long, while in the orchestral version the phrase is now eight measures long whenever it appears. These additions are made to round out the phrases which come at the end of each section and serve to bring these sections to a cadence. These changes are as follows.

The piano version contains one hundred and ninety-six measures, while the orchestral version contains two hundred and four measures. (This results from the two added four-measure phrases.) The first change occurs in measure sixty-three of both versions. As can be seen from the example of the piano version (Example 17), measure sixty-three then leads to one more measure of this characteristic rhythmic figure before cadencing the section in measure sixty-five. In the orchestral version (Example 18), a significant addition is made at this point: measure sixty-three has been made to be like measure sixty-one, and measure sixty-four now becomes like measure sixty-two; measure sixty-five of the
The orchestral version now becomes measure sixty-four of the piano version, and this measure is repeated three times (measures sixty-six through sixty-eight). Thus measure sixty-five of the piano version is now measure sixty-nine of the orchestral version.

The next formal change also occurs in a like manner; in the recapitulation of this section, the change is made exactly as indicated above. (In addition, however, it serves to close the entire movement rather than the one section of the work.) The change now occurs in measure one hundred and ninety-two of the piano version or measure one hundred and ninety-six of the orchestral version. The same substitution and repetition of measures occurs as in the previous section, and the orchestral version ends with eight added measures.

The movement is in two-four time and is marked "MOUV'T. DE MARCHE," M.M. \( \frac{3}{4} = 116 \). Tonally, the movement centers around the pentatonic scale on F sharp. This movement readily identifies Ravel as an impressionist in its nebulous tonality. It cannot be said to be wholly built on the F sharp pentatonic scale, as the middle section centers around the same five tones but with D sharp as its center rather than F sharp. The pentatonic scale of F sharp, however, is the predominant tonality, and this is further evidenced by the
transition the music makes to C sharp major, the dominant.

The movement begins with an introduction of eight measures (Example 19), and these outline the pentatonic scale of F sharp in a characteristic rhythmic accompaniment which pervades the whole movement. Theme One now follows on measure nine; it is built from the notes of the F sharp pentatonic scale and harmonized with these same notes (Example 20).

The theme ends on the first beat of measure sixteen, but immediately on the second beat begins a literal repetition (Example 21). Again, the theme is eight measures long, but this time it comes to a cadence on the dominant (C sharp).

A short interlude, of a rhythmic nature, now follows built on the C sharp chord (measures twenty-five through thirty-one). The second theme now enters in measure thirty-two
(Example 22). It is a six-measure phrase built on the dominant pedal and clearly related rhythmically and melodically to the first theme. The third theme now follows in measure thirty-eight (Example 23). It is a four-measure theme again built on the dominant pedal. Immediately in measure forty-two the third theme is repeated, and then on measure forty-six the last two measures of this theme are used to extend the phrase for nine additional measures. A glissando encompassing two octaves, in measure fifty-five, leads to the fourth theme. The theme is ten measures long and is built on the f sharp pentatonic scale. Again, its harmonic, rhythmic, and melodic material is very closely akin to theme One (Example 24). The theme serves as a sort of cadential figure
for this entire section, which closes at this point on measure sixty-five of the piano version, measure sixty-nine of the orchestral version. As will be shown later, because of the close relationship of the four themes, the group of themes may be thought of as one section. Measure sixty-five of the piano version or measure sixty-nine of the orchestral version is an overlapping measure in that it contains the final note of the fourth theme and begins the fifth theme. Theme five is a thirteen-measure phrase and ends on measure seventy-seven of the piano version and measure eighty-three of the orchestral version (Example 25). In its first presentation it is played in a single line without harmonization.

This is an example of the hazy and nebulous character of impressionistic tonality: the theme may be thought of as being built on the f sharp pentatonic scale of the d sharp pentatonic scale. The theme begins on an f sharp but ends on a d sharp. For this reason its tonality is hard to determine until the appearance of a rhythmic motive built on d sharp in the bass in measures seventy-seven of the piano version, measure eighty-one of the orchestral version. In every case, however, it is to be noticed that although the tonality is purposely kept indecisive, this indecisiveness exists within logical limits. In the example above both f sharp and d sharp
stand in the last analysis in the relationship of a key and its relative, and thus the line of demarcation between these keys is not so great as would be implied by the term "vague." (For purposes of clarification, the measures will henceforth be referred to in the numerical order of the piano version.)

On measure seventy-nine, the sixth theme appears; it is most like theme five, but cannot be said to be a repetition of the previous theme, as it contains new intervals in certain parts of the phrase (Example 26). The theme is accompanied by the rhythmic motive on d sharp which appeared in measure seventy-seven. Theme six continues to measure eighty-nine, which is another overlapping measure in that it ends theme six while theme five begins again in a literal repetition. Theme five now begins a literal canon two measures after its appearance in measure ninety-one. The theme now continues to measure one hundred and fourteen. Immediately on measure one hundred and fifteen, theme seven appears.
(Example 27); it is built on the dominant pedal of d sharp and is extended through measure one hundred and thirty-three, where the rhythmic motive on d sharp and theme six appear once again. In the recapitulation of the first section which follows, theme five with an extension is played simultaneously with theme one. In measure one hundred and thirty-eight, a literal melodic recapitulation of theme one appears; the accompaniment has been changed to allow theme five to appear as an accompaniment figure, while the tonality now centers around the pentatonic scale of d sharp rather than f sharp. Again this is a case of overlapping functions: the tonality d sharp of the middle section is retained, emphasized further by the use of theme five from the middle section, but the melody of theme one is recapitulated above this harmony.

As in the first presentation, the theme is eight measures long and ends on the first beat of measure one hundred and forty-five. A literal repetition beginning on the second beat of this measure now follows. Again, the theme is extended to close on the dominant, while at the same time theme five is extended to close with it on measure one hundred and fifty-three. Again, as in the first presentation, a rhythmic section built on the dominant (C sharp) now follows for eight measures to measure one hundred and sixty. In the literal recapitulation which follows, themes two, three, and four are presented in their original order of appearance without any changes whatsoever. As in the case of the earlier transition of theme four from the piano version to the orchestral
version, an extra four measures have been added, emphasizing the cadential character of this theme.

The form of this movement becomes quite apparent immediately upon examination. The first four themes, all closely related melodically, rhythmically, and harmonically, comprise the first section (A). This section is based on the tonality of F sharp. Themes five, six, and seven, again related melodically, rhythmically, and harmonically, comprise the second section (B) in the key of D sharp. The exact recapitulation of the first four themes again comprises the last section (A) with the subtle overlapping mentioned above. Thus the movement emerges as an overall three part form: A B A, with each section containing three or more individual themes.
Laideronnette, Imperatrice des Pagodes

A

1 \ 9 \ 16 \ 24 \ 31 \ 38 \ 42 \ 65

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<th>24</th>
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<th>42</th>
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<td>theme I Repeated</td>
<td>interlude</td>
<td>theme II</td>
<td>theme III</td>
<td>theme III and theme IV</td>
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B

65 \ 78 \ 89 \ 105 \ 131 \ 138

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<td>theme IV in canon</td>
<td>theme VII</td>
<td>theme VI</td>
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A'

134 \ 141 \ 153 \ 161 \ 167 \ 174 \ 196

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<td>theme I Repeated</td>
<td>interlude</td>
<td>theme II</td>
<td>theme III</td>
<td>theme III and theme IV</td>
<td>extension</td>
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<tr>
<td>theme II in bass</td>
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"LES ENTRETIENS DE LA BELLE ET DE LA BÊTE"

In the transition from piano duet to orchestral ballet, one significant change has been made in the formal design of this movement. The entire movement has been faithfully adapted for orchestra except for this one change: In the piano version the repetition of theme B begins in measure fifty-nine, while in the orchestral version measure fifty-nine becomes a measure of rest, and the repetition of this theme begins in measure sixty. This, of course, leaves the orchestral version one measure behind the piano version for the rest of the movement. There is no apparent reason for this one measure of rest unless it may be necessary in the working out of the ballet. (For purposes of clarification, the measures will henceforth be referred to in the numerical order of the piano version.)

The movement is in three-four time and is marked "MOUV. DE VALSE TRES MODERE," M.M. \( \cdot \) = 50. The entire movement centers tonally around the key of F major. The first theme (A), measures one through forty-eight, is based on a single theme which is introduced after one measure of waltz rhythm and modulates twice from the tonic key (Lydian Mode on F) to the dominant (C)—the first time in measures one through twenty-three and the second time in measures twenty-four through forty-eight (Example 28). The length of this theme is a good example of the skill of Ravel in spinning out his motives to form an overall continuity remarkable for
its freedom.

The second theme (B) (Example 29) now follows treated sequentially. In measures forty-nine through fifty-eight, theme B is presented in E and is repeated in measures fifty-nine through sixty-eight in F♯.

Measures sixty-nine through seventy-six comprise a section built on the melodic-rhythmic elements of theme A (Example 30).

In measure seventy-seven this theme, theme A', is repeated a minor seventh lower on a G♯ pedal. In measure eighty-four another theme reminiscent of theme A, theme A², appears (Example 31); it is a four-measure phrase and is built on the
dominant pedal of E flat. In measure eighty-nine a repetition of theme A^2 begins, again on the B flat pedal; this time, however, it is extended to include material from theme B. A section of chords in rising sequence, again taken from theme A, follows and this leads to a recapitulation of theme A in measure one hundred and seven. Theme A is now recapitulated melodically from measures one hundred and six through one hundred and twenty-seven. This time it has been treated differently: a new harmonization is used employing the rhythmic and harmonic features of theme B, and now it is much more kinetic than in its initial presentation. A section reminiscent of theme A^2 follows in measure one hundred and twenty-eight through one hundred and thirty-five. Although this phrase is not an exact duplication of theme A^2, it approximates that theme in its length and melodic structures. As in the case of the first presentation of this theme, it is repeated melodically a fourth higher over an E flat pedal (measures one hundred and thirty-two through one hundred and thirty-five) and is then extended to include a rising sequence of chords built from the melodic and rhythmic elements of themes A and B. In measure one hundred and forty-seven, theme B is introduced, this time as a melody
instead of a bass and in a register five octaves higher than in its first statement. This phrase is now extended for six measures over the subdominant and dominant harmonies (measures one hundred and forty-seven through one hundred and fifty-eight). A restatement of theme A now follows; again, it is built over a tonic pedal which includes some rhythmic features of theme B. Immediately in measure one hundred and sixty-six, a rising arpeggio on the augmented sixth (German Form, inharmonically spelled as a dominant seventh) is superimposed over a tonic pedal to emphasize the tonic cadence in measure one hundred and seventy-one.

Here again Ravel has presented a movement which illustrates the fact that his forms arise from the nature of his material and are not forced into commonly accepted molds.

The overall plan emerges as a three-part form but with subtleties of motivic treatment which makes such a conventional analysis totally inadequate. The first section, measures one through forty-eight, is relatively static, since it is based on the tonic and the dominant of the key. The second section, measures forty-nine through one hundred and five, features theme B and begins to move harmonically by means of sequential treatment. This section also includes references to theme A in altered forms. The third section, measures one hundred and six through one hundred and fifty-eight, is only a recapitulation melodically. Harmonically this section has a great many modulations which emphasize the kinetic quality of the music and act as a kind of
development. The harmony begins to clarify itself only in measures one hundred and forty-seven through one hundred and fifty-eight, which are based on the subdominant and dominant harmonies of F and the recapitulation of the main tonic harmony does not appear until measures one hundred and fifty-nine through one hundred and seventy-one, a coda in effect.
Les Entretiens de la Belle et de la Bête

A

Theme A

24

Theme A Repeated and extended

45

B

49

theme B and extension

59

Theme B and extension

69

Theme A1 and extension

77

Theme A1 and extension

85

Theme A2 and extension

87

Theme A2 and extension

105

A1

106

Theme A with Theme B in Bass

128

Theme A2 with Extension

132

Theme A2 with Extension

144

Theme B with Extension

157

Theme A and cadential phrase
In the transition from piano duet to orchestral ballet, several aspects of the formal design have been changed in this movement. The most significant change is the last: the original piano version contains fifty-five measures; the movement ends on the C major chord in the fifty-fifth measure. The chord is held for two beats, and there is a quarter note rest on the third beat. In the orchestral version this has been changed so that the C major chord of the fifty-fifth measure is held for the three beats of the measure and tied to the first beat of the added measure, measure fifty-six. Thus the orchestral version contains an extra measure, but one which does not change any of the previous design (Example 32). The other change occurs in measures fifty through fifty-five. In the original piano version the bass line is in a pattern of two eighth notes plus one half note, while in the orchestral version the bass line has been changed to one dotted half note for each measure (Example 33).
The movement is in three-four time and is marked "LENT ET GRAVE," M.M. \( \text{j} = 56. \) The tonal scheme of the piece centers around C major with a strong shift of tonality in the middle section to E.

The principal theme, A, is a thirteen-measure phrase which begins in the tonic and comes to a cadence on the dominant (G) (Example 34). In measure fourteen a rising melodic line is introduced, and this will be called Episode I (Example 35). Episode I is later used as a cadential figure,
but in this presentation is used as a bridge to the next main section. Theme B centers, for the most part, around the tonality of E (measures twenty-three through forty-five). The first phrase in this section, measures three through thirty, presents a melodic line which is obviously related rhythmically to the main theme (Example 36). Its modality wavers between the Phrygian and Mixolydian modes on E. Measures twenty-nine and thirty, the last two measures of Theme B, are a literal transposition of measure twenty-three a fifth lower but here extended an extra measure. This section ends with a harmonic return to the dominant of C major but with a continuation of melodic material from theme B. A sort of recapitulation of theme A now follows in measure forty-six (Example 37). Actually this cannot be a strict recapitulation of the theme because it only approximates theme A in its rhythms and especially in its harmonization. This phrase is continued for only four measures, and then the rising sequence of Episode I is again introduced in measure forty-four and continues through to measure fifty and the final tonic.
harmony. This passage (measures fifty through fifty-five) is also built from the rhythmic figuration of the main theme and is stated over a tonic pedal to end the movement.

The overall plan of this final movement again approximates a three-part form, although the thematic material of each section is rhythmically related. The first section, measures one through thirteen, begins in the tonic harmony and modulates to the dominant. This is followed by a transition to the second section, which is built basically on the tonality of E and centers around that tonality until its final measures which prepare the way for a restatement harmonically of the main tonality (C major). The last section emphasizes the tonic harmony, although the thematic material used is slightly varied and rearranged.
Le Jardin Feèrique

1  
Theme A

13  
Episode I

24
Theme B and extensions

39

40  50  
Theme A  Episode II  Coda
CHAPTER II
HARMONIC ANALYSIS

Since no harmonic changes are made in the transition from piano duet to orchestral suite, this chapter will serve as a basis for both versions. If any new lines appear, they are used not to change the original harmonies of the piano version but are, rather, a confirmation of the implications of the harmonies in the original version. These changes are usually a result of doublings due to the orchestration and either involve added pedal, trills, appogiaturas, or glissandos.

A more detailed analysis of each movement will be found in the scores which are attached to this thesis. This chapter will attempt to outline the major harmonic progressions in each of the movements. In any instance where more than one interpretation is possible, the alternate analysis has been given. In dealing with a work of this sort, one which is elusive in its harmonic character, the function of the harmonies assumes the greater importance than any other factor involved in an analysis of a conventional work. While outlining the harmonic progressions in detail in this chapter, the writer has also attempted to illustrate the particular details of the Impressionistic harmonic style. Typical Impressionistic devices such as the use of the pentatonic

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1These changes are duly recorded in the other analytical chapters of this thesis as well as in the orchestral score.
scale and its harmonies, the simultaneous use of two forms of the same chord, the constant wavering and shifting of tonalities, the enharmonic spelling of chords to obscure their real functions, the full harmonization of ornaments which in the classic or romantic styles would have been left unharmonized, the use of minor dominant tonalities, and the Impressionistic approach to polytonality have all been discussed in the order of their appearance.

It is my firm conviction that in a work of this sort the function of the chords involved is of primary importance. In dealing with contemporary harmony, the theorist must attempt to discover the underlying basic progressions which are often veiled in enharmonic or other guises. "We must not miss the forest for the trees" probably more than any other rule emphasizes the attitude with which a theorist must approach an harmonic analysis of a work in this style.
"PRELUDE"

The tonality of this movement centers around C major and its related keys. In the final measures of the movement, the harmony makes a quick modulation to the dominant seventh chord of E flat major, thus preparing the tonality of the next movement. The first motive is harmonized by the V, VI, and I triads. The second motive, which is a single melodic line, is at first presented in G over a dominant base but then repeated in C along with the harmonic repetition of motive one. In the rhythmically varied passage which follows, the harmony is built on V9 of II, first in its major and then in its minor form (measures eight through thirteen). In the restatement of motive one in measures fourteen through seventeen, the harmonies are now changed to III, V of VII, to VI. This is a literal transposition of the opening measures a third lower. The motive from movement one is now presented over the primary triads of C major and their secondary dominants (measures sixteen through nineteen). The motive from movement two is harmonized in the primary triads of C major and reaches a cadence on the dominant in measure twenty-two. Motive one is now recapitulated, again transposed a third lower than the original presentation. In the recapitulation of motive two which follows, a typical Impressionistic device is utilized: the motive is repeated over a V of VI pedal, each time in a different key; first the motive is presented in C, then in E flat, and finally in A (Example 38).
This would seem to be an evidence of polytonality, which indeed it is, but by enharmonic change the three keys are all seen to be various forms of the dominant harmony on the V of VI chord. This section, utilizing a repetition of these harmonic progressions, is continued from measure thirty-seven through measure forty-six. In measure forty-seven the bass line now shifts to the dominant seventh chord of E flat, while the horns continue reiterating the second motive in the three keys mentioned above. Again, this is evidence of polytonality in its initial appearance, but by enharmonic change the three keys again form various forms of this dominant seventh chord.
"DANSE DU ROUET"

In this movement the main tonal center is E flat major and the related keys of G minor and B flat major. The introductory passage is built exclusively around the dominant note, B flat. The entire six measures are but an harmonic contrapuntal ornamentation of this note. In Example 39 below, the B flat is ornamented by the simultaneous sounding of an A flat. The A natural auxilliary note which follows is in turn ornamented by the simultaneous sounding of a G natural. The chromatic figure which follows is again an ornamentation of the dominant note. The entire section is played above a trill (again ornamented in seconds) on B flat.

Theme A is now presented in the tonic key and is harmonized by chords from the relative minor and by secondary dominants of that tonality. Towards the end of this theme, a V of III
pedal appears in the bass, and this is extended to include the first presentation of theme B (measures nineteen through thirty-three). In the harmonization of theme B, a typical impressionistic chord, that of the augmented eleventh, is used—in this case in the relationship of $V_{11}$ of VI (Example 40).

In the repetition of theme B, the melodic line is again recapitulated for two measures in G minor, but in measure thirty-six makes a shift in tonality to F minor. This time the theme is presented over a $V_{11}$ harmony. In the recapitulation of theme A which follows, the harmonization is identical with the first presentation of this theme. Again, in the closing measures of this theme (measures fifty-eight through sixty-four), a $V$ of VI is employed. Theme B is now recapitulated, but the $V$ of VI is not extended; instead, a dominant pedal is introduced, and the theme and accompanying harmonies are in that key. In the repetition of this theme,
the melodic line is presented in B flat but this time over a IV pedal for two measures, followed by a V of V pedal for two measures, followed by a V pedal for two measures (measures seventy-five through eighty). Again, this is a polytonal section in that various chords of the mode are superimposed above these pedals. In measure eighty-one, while theme B is extended, a B flat pedal is introduced: this prepares the way for the cadential phrase which is harmonized by the primary triads of the mode and concludes the movement on the tonic chord in measure ninety-nine.
"PAVANE DE LA BELLE AU BOIS DORMANT"

In this movement no harmonic changes have been made in the transition from piano duet to orchestral suite.

The entire piece centers around the aeolian modality on A, with a brief transition to the relative major (C) in the middle section. The Impressionistic predilection for modal harmonies rather than tonal harmonies is shown in the harmonization of the first theme (Example 41). Theme A, measures one through four, is harmonized with modal chords, and comes to a cadence on the dominant root, tripled, in measure four. Theme B is built on a dominant pedal, and the cadence is in the traditional V-I pattern; here the Impressionistic use of minor dominant tonalities rather than the major is displayed. Theme C is in the relative major and is harmonized with the chords from that tonality. In the last measure of this phrase, over a tonic pedal, a c sharp and a c natural are introduced. This use of major-minor forms of the same chord in the same measure was later utilized by Stravinsky, who carried the process one step further by sounding them simultaneously. With the appearance of the c sharp, the
modality takes on a tonal implication, for the measure now serves in the capacity of a dominant of the subdominant and thus prepares the way for the recapitulation of theme A, which is the same melodically but now harmonized over a subdominant pedal. As in its first presentation, theme A closes on the dominant root, tripled. Theme B is now restated in its original harmonization over the dominant pedal, and the cadence of the entire movement is on the a minor chord.
"PETIT POUCET"

In the transition to orchestra, one addition to the original harmonic lines has been made in measures fifty-two and fifty-four; against the dominant of the dominant pedal a c natural repeated in both measures has been given to the solo flute. This does not, however, change the functions of the original harmonies because the added note is merely the seventh of the chord and since the chord resolves to a dominant harmony in the next measure, this seventh is immediately resolved.

The introductory figure is built from the ascending melodic minor scale of the principal key, c minor. Theme A is also presented in the key of c minor and is harmonized by these ascending and descending thirds, thus forming the primary triads of the scale. In measure ten a modulation is effected to the key of the relative major, E flat, and the second theme is presented in that key (Example 42). In the presentation of this theme, the impressionistic predilection for wavering tonalities and quickly shifting tonal centers is displayed. The theme is clearly in the key of the relative
major for the first five measures, but with the introduction of a g pedal, the tonality of the phrase begins wavering between this key and the minor. In the rising sequence built over the dominant (G) pedal which follows, major and minor forms of the same chord are used in the same measure (twenty-seven), and the impressionist's preference for minor rather than major dominant tonalities manifests itself. The whole sequence wavers between the use of both these forms of the same chord. The development section, utilizing both themes, now follows in the original tonic key of c minor and is harmonized with the primary triads of that mode. The introductory figure is then stated again in c minor; this time, however, it leads to a restatement of theme B in the related key of A flat major and is harmonized with the IV, V, and VI chords of that key. The IV chord of a flat is now used as a pivot chord in measure fifty because it now becomes the Neapolitan chord in c minor and leads directly to the dominant of the dominant. Again, in the recapitulation of the rising sequence which follows on the dominant of the dominant pedal, the use of major and minor forms of the same chord is displayed (Example 43). This is followed in measure sixty by a recapitulation of theme A in c minor. Measures sixty-seven through seventy-four comprise a coda, and it is
built in the traditional classic manner over a subdominant pedal, with various forms of the subdominant harmony in the upper voices. The introductory figure is once again introduced, still in c minor, and closes the movement on the major form of the c chord in measure seventy-nine.
"LAIDERONNETTE, IMPÉRATRICE DES PAGODES"

In this movement no changes have been made in the harmonies as a result of the orchestration. In the two formal changes which occur as a result of extended phrases, the extensions in both instances merely repeat the same harmonies and do not present any new harmonic implications.

The entire movement is centered around the pentatonic scales of f sharp and d sharp, with a long modulation to the tonality of the dominant, c sharp. The first theme is built entirely on the pentatonic scale of f sharp, and the extensive use of this pentatonic scale is a typical Impressionistic device (Example 44). Towards the end of the phrase the harmony begins a modulation by means of the dominant of the dominant to the tonality of c sharp (the dominant). The next two themes are harmonized very simply between the tonic and the dominant chords. In the extension of theme three

1There is a striking similarity between the melodic and harmonic material of this movement and the "Pagodes" from the "Estampes" of Debussy published in 1903, five years before the publication of this work.
which follows, a very subtle harmonic device is used. A repeated ostinato figure in the upper voice remains unresolved while the lower line effects a modulation back to the key of f sharp (Example 45). This ostinato, so subtle in its procedure, veils the delicate harmonies and shifting of tonalities.

Theme four is now presented in the pentatonic scale on f sharp, and as in the case of the previous melodies, is very simply harmonized by the tonic and dominant chords. It is in this theme that the added measures of the orchestral version occur, and the new material simply continues the use of these harmonies while extending the melodic line. Theme five is now presented, and this theme may be said to represent a common impressionistic type of melody writing, for it wavers constantly between the tonalities of f sharp and d sharp before finally settling on the new tonality of d sharp.
Themes five and six are now presented over a d sharp pedal, and utilize only the notes of the d sharp pentatonic scale in both melody and harmony. Theme seven is now presented over a double pedal: the dominant note (a sharp) in the bass and the five of five chord in the inner voices. Here another typical Impressionistic device is used: Notes which in traditional harmony would be treated as melodic ornaments are now fully harmonized (Example 47).

In the example above the appogiatura a sharp is treated as a complete six-four chord and resolves to another six-four chord on G sharp. This chord is actually a VII chord but functions as a dominant harmony, thus keeping the original dominant pedal idea. The use of successive six-four chords maintains an harmonic vagueness which allows the horizontalization of the chord C# E G# (VII) to appear in the bass. The final G sharp becomes again the V of V pedal with which we began.

In the restatement of theme six which follows, the tonic pedal is once again introduced. In the recapitulation of theme one which follows, another subtle harmonic device is used. Theme one is directly restated melodically, but
theme six and the d sharp pedal are now used as an accompaniment, thereby changing the original tonality. Because of the similarity of the tones of both pentatonic scales (f and d sharp), this modulation is most readily affected. In the recapitulation of themes two, three, and four which follow, the exact harmonization of the exposition is used, and the movement comes to a cadence on the pentatonic chord cluster of f sharp.
Since no harmonic changes have been made in the transition from piano duet to orchestral suite, this chapter will serve as an analysis for both versions. In this movement Ravel presents all the subtleties and complexities of his Impressionistic art and veils the linear implications of his progressions with horizontal sequences. In the development section, the elusive character of the enharmonic progressions sometimes seems to defy analysis, but if we are to use the late romantic attitude of quickly shifting tonalities by means of enharmonically spelled chords, we may arrive at an analysis which is both coherent and logical.

The first section, comprising the main theme\(^1\) and its extensions (measures one through forty-eight), is harmonized primarily with the tonic and dominant chords, although other basic triads of the scale are used. The section makes a modulation to the dominant and closes on that chord in measure forty-eight.

As in a classic or romantic movement, the development section which follows is comprised of rapid harmonic changes and quickly shifting tonalities. As will be illustrated, whole sections of this development are built on chromatic lines which sometimes outline a whole tone scale, or in other instances outline the tones of a single chord linearly in the

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\(^1\)This main theme bears a striking resemblance to the first "Gymnopédie" of Eric Satie.
bass (horizontalization) which determines the harmonic function clearly but are blurred by the superimposition of other chords in the superstructure.

A glance at the following example will help illustrate the elusive character of the harmonic progressions throughout this entire section (Example 48). The chords, taken as such,
progressions, for in the resolution of this dominant chord of E, the tonic now becomes blurred by the superimposition of the notes of the chord of the eleventh, and these in turn outline the notes of the whole tone scale. In the next ten measures which follow, the same sequence is carried out in identical fashion over the progression V - I in f sharp (measures fifty-nine through sixty-eight). Here again an augmented triad on f is revealed, but as in the case of the previous phrase, the first four measures are seen to be the enharmonic spelling of the dominant seventh chord (with raised fifth) in f sharp and progress logically to that note in the pedal of the next six measures. Again the tonic pedal is blurred by the superimposition of the tones of the eleventh chord which outline the whole tone scale.

In the following phrase theme A' is presented over a tonic pedal (f sharp) harmonized with the chords of the major-minor tonalities of that key. In the last three measures of this phrase (measures seventy-four through seventy-six), the V 4/2 of E is now outlined (Example 49). The chord, however,
makes a deceptive resolution to a new tonic on g sharp, and the entire phrase is now repeated transposed to this new tonality. As in the previous case, theme A' is harmonized with the chords of the major-minor tonalities of g sharp, and in the last three measures of the phrase (measures eighty-two through eighty-four), the dominant four two of f sharp is now outlined. Again this chord does not resolve directly to its tonic (in this case f sharp) but now makes a deceptive resolution to the V 7 of VI and a cadence on that chord (measures eighty-five through eighty-eight). As is illustrated in the example below (Example 50), the enharmonic spellings of all chords are given, thus obscuring the real function of the progressions. This harmonic scheme is now spelled V7 - I in e flat minor rather than d sharp minor. In the next four measures (eighty-nine through ninety-two), the same process is repeated in the key of g flat. The process is now extended to reiterate the same progression (V - I) in b flat; however, the four-measure phrase is now reduced to two measures. The process is further extended in the next two measures and outlines the same progression in d flat (measures ninety-three through ninety-four and measures ninety-five through ninety-
six). This time, however, the chord of c sharp, the dominant seventh of f sharp (g flat enharmonically) is stressed for nine measures in rising sequence of chord tones and passing tones and serves in a double capacity as a pivot chord, for it is the V7 of f sharp and in this spelling is enharmonic with the chord of the augmented sixth in f major, to which it resolves in the next measure (Example 51). Upon examination of the preceding progressions, the harmonic logic becomes immediately apparent: the minor seventh chord on e flat (e flat, g flat, b flat, d flat) has been outlined in the bass. When the last progression (d flat) in the sequence has been reached, it immediately takes on the function of a dominant seventh chord in f sharp and in that capacity serves as a link to the recapitulation which follows in the original tonic key of f. Measures one hundred and six through one hundred and twenty-seven comprise a direct melodic recapitulation of theme A and its extensions. Along with the melodic recapitulation, however, the rhythmic motive of the development section is introduced, and this superimposes new harmonic implications against the original melody. The first eight measures
(one hundred and six through one hundred and twelve) of the phrase are now seen to be in the key of f sharp minor because of the linear implications brought about by the rhythmic figure in the bass. Enharmonically, the bass now spells out the dominant (with raised fifth) of f sharp and then resolves to f sharp in measure one hundred and seven (Example 52). This time the factor of bi-tonality is involved: the main melodic line is recapitulated in F major, while the bass line and the accompanying lines outline f sharp minor. This is the case in the harmonization of the rest of this theme which follows: measures one hundred and thirteen through one hundred and sixteen enharmonically spell out the progression V - I in b, measures one hundred and seventeen through one hundred and twenty the progression V - I in d, measures one hundred and twenty-one through one hundred and twenty-two the progression II - V in e. In the section which now follows, theme A still continues in its original setting (measures one hundred and twenty-three through one hundred and twenty-seven) and is then followed by the presentation of theme A² (measures one hundred and twenty-eight through one hundred and thirty-five) which is now in the key of b flat. Against this section, in the bass line, the notes of the supertonic chord in b flat
are outlined for eleven measures. Again, as in previous situations, the linear implications of the bass line are in one key (b flat) and form a logical progression, while the upper harmonies, in this instance, outline the notes of the dominant seventh chord of a flat. Both harmony and bass, however, resolve logically in measure one hundred and thirty-six to the dominant chord of b flat. A section somewhat like a development section now follows. In quickly rising sequences the progressions V to flat VI in b flat (measures one hundred and thirty-six through one hundred and thirty-seven), the progression II to V in d (measures one hundred thirty-eight through one hundred thirty-nine), and a rising line outlining the chord of the dominant seventh in f sharp (measures one hundred and forty through one hundred and forty-four). As in the previous case, the dominant seventh in f sharp is used enharmonically as the augmented sixth chord in f major.\(^1\)

Measure one hundred and forty-five is a measure of rests, while measure one hundred and forty-six contains a rising glissando to the original tonic note of f.

In measure one hundred and forty-seven, the augmented sixth chord resolves to the tonic six four in F major. A successive series of secondary dominants now follows: V of VI to V of II to V of V to V (measures one hundred and forty-seven through one hundred and fifty-eight). Theme A is now recapitulated over a tonic pedal while the inner harmonies

\(^1\)See Example 51, page 58.
outline the bi-tonal progressions of V of VI to VI, diminished seventh of II to diminished seventh of V (measures one hundred and fifty-nine through one hundred and sixty-five) (Example 53). The closing cadential pattern is also bi-tonal, since

the rising arpeggio of the augmented sixth chord (enharmonically spelled as a V7) is superimposed over the tonic pedal (Example 54). The movement comes to rest on the tonic chord in measures one hundred and seventy through one hundred and seventy-one.
In this last movement several changes have been made in the orchestral version, but these do not affect the harmonic scheme to any great extent. The glissandos of the cadential pattern have been extended another octave, and these do not bring about any change in harmony. In the same cadential pattern, measures fifty through fifty-three, the rhythmic pattern of the original is retained but is doubled and ornamented by the first and second violins. The ornamentation of this melodic line in no way affects the basic harmonic progression of the original version, as the ornamentation is in the nature of non-chord tones on the weak parts of the beats. The chorale-like harmonization of this movement affords a most revealing glance at some typical Impressionistic harmonic devices such as successive triads in descending or ascending thirds, bi-tonality, and use of interchange of mode.

The first theme is harmonized in the chords of the subdominant and dominant harmonies along with the simplest triads in root position to effect a half cadence in measure thirteen. Episode I is presented in its entirety over a subdominant pedal and comes to a cadence on an e minor (III) chord. Immediately a typical Impressionistic device is employed. The thematic material of this second section is first harmonized in the minor and then shifted immediately with the same melody to a harmonization in the Mixolydian mode on e, thereby effecting a harmonization with major
chords (Example 55). The Impressionist's predilection for the medieval modes is also illustrated in this example. The harmonization of this development section is for the most part with tonic and dominant chords. In the continuation of this section several other Impressionistic devices are displayed: the preference for minor rather than major dominant chords, the harmonization of a line in successive triads, and the constant shifting of modalities (measures thirty-one through thirty-four) (Example 56).

In the final measures of this middle section, by use of interchange of mode upon the same melodic line, a modulation is made to the dominant of the original tonic, preparing the tonality for a restatement of the material of the first
section. Again the chorale-like melody is harmonized in seventh and ninth chords along with the simplest triads in root position. As in the previous presentation, Episode I is again harmonized in triads over a subdominant pedal, but now a new line has been added, and a bitonal section results.

In this phrase the melody has been harmonized with subdominant chords over a subdominant pedal while another pedal outlining the tonic harmony has been superimposed above the original pedal (Example 57). The cadential pattern, over a tonic pedal and harmonized by tonic and subdominant harmonies now follows, and the movement ends on the C major triad.
CHAPTER III
RHYTHMIC ANALYSIS

Paul Hindemith in his manual "Elementary Training for Musicians"¹ states several principles to use as a basis for rhythmic analysis. The problem in dealing with rhythm lies mainly in the fact that certain elements of rhythm are measurable, and other elements are difficult to explain except on a psychological basis. Among the measurable factors of rhythm are (a) the duration of a composition and (b) the tempo. Those factors of rhythm which contribute to the overall form of a composition are, however, only possible to observe but impossible to formulate as laws. This does not in any way detract from their validity; it means only that the principles are yet to be formulated. One did not fail to observe the forces of gravity before it was stated as a law by Newton. Among these factors are (a) the texture of a composition and (b) the relative proportions of the sections of a work. Several indications of these factors have already been made in the chapter on form² and the reader is referred especially to the graphs of formal analysis³ which attempt, among other things, to show the proportions of these works.

Hindemith states further that the following three

²Pages 1-37.
³Pages 7, 8, 12, 17, 26, 32, 37.
factors are of especial significance in any rhythmic analysis:
(a) Repetition (re-use of one constituent part of the formal
entity on the same pitch level or in transposition), (b) Var-
iation (changing some of the elements of the constituent
parts either melodically or harmonically), (c) Change (one
constituent part gives place to an entirely different one).

The following analysis has been made using these fac-
tors as a basis for the investigation of the material. Since
there are no changes made in the rhythmic configurations of
the original piano version in the transition to orchestra,
this chapter will serve as an analysis for both versions.
"PRELUDE"

In this introductory movement the three principles of rhythmic integration have been utilized. In the first section comprising the two motives new to this movement, the rhythmic figuration of both motives is governed by the principle of change: Motive one utilizes half, quarter, and eighth notes while motive two is made up of thirty-second, sixteenth, and eighth notes. (See Examples 58 and 59.) Both motives are distinctly different in their melodic as well as rhythmic structure. In this section motive two is varied considerably, and this variation accounts for the extension of this phrase through measure thirteen. In measure fourteen motive one is repeated and extended, but now the principle of change becomes apparent. The rhythm as well as the melodies of the main themes from the five movements of the suite are now presented: the rhythmic pattern of theme B of the first movement is introduced in measures sixteen and seventeen. The rhythmic pattern from the bass line of theme A of the fifth movement is introduced in measure twenty, also in unaltered form (Example 60).
The rhythmic pattern of theme A of the second movement is now stated in measures twenty-three through twenty-four (Example 61) and then varied through measure thirty-four where a hint of theme six of the third movement is presented in the bass (Example 62). The rhythmic pattern of motive one is reintroduced, but this time an accompaniment of the rhythmic pattern of motive one of the fourth movement, in variation, is presented along with it in measure thirty-six (Example 63). Motive two is reintroduced and repeated in measures thirty-seven and thirty-eight. The principle of variation is used exclusively in the section which follows; motive two is augmented in measures forty-one through fifty to prepare for the rhythmic figurations of the next movement which follows immediately.

Since the prelude is made up of material from the original suite, observations on the rhythmic nature of the material will be found in the succeeding sections.
The rhythmic pattern of the introduction is significant, since it is used throughout the entire movement in an accompanying role (Example 64). It is varied only in that it may be placed on different beats, but, for the most part, its figuration is always six sixteenth notes. The rhythmic pattern of theme A is to be found in the first measure of this theme (Example 65). The pattern displayed in this measure accounts for almost every measure of the theme. The repetition of this figure, however, avoids monotony in the different intervallic structure of each measure. The principle of change is used in the construction of the rhythmic pattern of theme B (Example 66). It is in no way related to the pattern of theme A. In the extension of the theme which follows, the second measure of this theme is used as a basis for the rhythmic variation which follows. In some instances the pattern of six eighth notes is varied to include a dotted quarter, six sixteenths, or a dotted half.

In the recapitulation which follows, the principle of repetition is used exclusively in that each theme is restated
exactly as in the exposition.

The rhythmic treatment of this movement is fairly regular in its patterns, an obvious result of the fact that it is a dance. Thus the phrases are more square cut than in the rest of the suite. The effects are due more to the nervous rhythmic patterns than to the formal organization of the material.
"PAVANE DE LA BELL AU BOIS DORMANT"

By the repetition of the initial rhythm of the main melodic lines, Ravel has created a design which satisfies all the formal principles of unity. This rhythmic design is present in either of its forms (Examples 67A and B) in every measure of the piece save the measures which serve as cadence points. This rhythmic figure is confined primarily to the melodic line and is present in each of the three main themes. Occasionally the rhythm of this pattern is varied as in Example 68 below, but for the most part, it remains in either one of its two forms. In this movement the principle of variation has been utilized to the utmost capacity, for here is a design which is mono-rhythmic in its conception and yet avoids any monotonous repetitions. In this instance of variation, the same rhythmic shape of one motive has been retained throughout the entire movement, but each time it is presented with a new melodic outline and new harmonic implications. All three themes employ these initial rhythmic figures but are all constructed with different melodic intervals and are all harmonized in a different fashion. Even in the restatement of theme A, the harmonies have been changed. Theme B is exactly recapitulated, and thus the principle of
repetition is also used. This is done by using one entire section of the design on the same pitch level as before.

The use of these two principles of variation and repetition immensely aid the construction of a concise form and are instrumental in achieving the basic principles of unity which are always present in any work of art.

The rhythmic motion of this movement is so similar throughout that one has to listen for other types of treatment in order to distinguish the sectioning of the movement. The divisions are indicated by Ravel in a very simple manner: the second phrase (Example 68) is distinguished from the first (Example 67) by a change into a higher register. The third phrase is impressed upon the ear by the change in texture from homophonic to contrapuntal and is subtly connected to the following phrase by the continuous eighth note motion in the melody. However, the sense of cadence is introduced by the long held A in the bass after a succession of quarter notes. The impact of this contradiction between the continuing motion in the upper parts and the retarding motion in the bass serves to prepare our ears for a return to the main melodic material which is, however, harmonized in a different fashion. This reharmonization is also given a subtle rhythmic variation which differentiates it further from the initial statement of the theme. The first phrase of four measures seems to break down into a 1-1-2 measure use of the motivic material. In the restatement of the phrase, it seems to be
a continuous four-measure unit because of the propelling impulse of the final eighth note on the last part of each of the measures. The final phrase balances the second phrase by its treatment in the higher registers and the piece ends on a cadence on the third beat of the measure.
"PETIT POUCE ET"

Ravel has utilized the principles of variation and repetition exclusively in this movement. Repetition is by far the most important method used here in achieving formal unity.

The characteristic rhythm of the introductory figure is used throughout the entire movement as an accompaniment figure and is present in practically every measure (Example 69). The regular recurrence of these successive eighth notes in no way produces a monotonous regularity for, as is shown in the example, the signature of the bar line is changed quite often and thus varies the accented beats of the measures. The rhythm of the first theme is actually a variation of the basic rhythm of the introductory figure (Example 70).

Instead of continuing the basic structure of the introductory figure the composer, in this instance, has modified the original figure by varying the second and fourth measures. This principle of variation is also apparent in the construction of the second theme. Again the basic rhythmic structure has been utilized with but slight modifications. This theme is an outgrowth of the rhythmically varied pattern of the first theme as well as the original structure of the introductory
One other instance of repetition lies in the rising sequence, built at first over the V pedal and later in its restatement over the V of V pedal. In both instances the sequential pattern is obviously derived from the first three notes (rhythmic pattern) of the first theme which in turn was derived from the original introductory pattern (Example 72).

In the cadential section which closes the piece, the characteristic rhythmic pattern of the introduction is once again introduced, and the repetition of this figure thus serves as a unifying element for both the introduction and ending as well as the entire movement.

The interesting feature of the rhythmic treatment of this movement lies in the fact that for all its seventy-nine measures, it moves continuously in eighth notes above which the various thematic motives are introduced. These thematic materials begin on different parts of the beat—sometimes on the second half of the fourth beat in a $\frac{5}{4}$ measure, sometimes on the second half of the first beat in a $\frac{3}{4}$ measure, and sometimes right on the beat. This nonpredictable entrance of the chief melodic figures has the effect of commanding the listener's attention because he is never certain as to when an important change will occur. This element of the
unexpected is carried out also in the different measure and
phrase lengths as indicated by the changing time signatures
and thus creates again a subtle exposition of the composer's
material. The divisions of the piece are further indicated
by the use of pedal points which have the effect psychologi­
cally of retarding the motion; and at the climax of the
piece, the one deviation from the constant eighth note move­
ment, the triplets in measure thirty-four, has the effect of
propelling the movement forward so that the motion can con­
tinue. Other rhythmic features which intrude on the motoric
eighth note motion are found in measures fifty-one through
fifty-four and are called to the listener's attention by be­
ing placed in a much higher register than the rest of the
composition, and the slowing-up effect of the dotted quarters
and eighth note motion of measure sixty-seven through seventy­
six superimposed above the constant eighth note pattern.
"LAIDERONNETTE, IMPÉRATRICE DES PAGODES"

In this movement Ravel has utilized all three of the principles of rhythmic integration: Repetition, Variation, and Change. In the first section comprising the introductory phrase and the first four themes, the principles of variation and repetition are used exclusively. The initial figure of the introduction is used throughout this first section as an accompaniment figure and is hardly ever varied (Example 73). Theme one is comprised of sixteenth and eighth notes and forms a particular pattern of its own (Example 74). If we examine the first bar of theme two, it is seen to be the same as the first bar of theme one, only this time in retrograde. The rhythmic pattern of this theme is thus closely related to the pattern of theme one (Example 75).

The principle of variation is again used in the third theme which is a regrouping of the note values found in the first theme. This is also the case in the structure of the rhythmic pattern of the fourth theme. Again the initial note values have been varied (Example 76).
In the slower note section which follows, the principle of change has been utilized. The pattern of sixteenth and eighth notes in rapid motion now gives way to three themes in slower motion (quarter and half notes). Theme five is the basis for the rhythmic structure in this section (Example 77). It is comprised of half and quarter notes.

An examination of theme six (Example 78) shows a rhythmic as well as a melodic variation of theme five. The quarter note motion in this case varies the initial rhythm of theme five. The same is true of theme seven, which is but another rhythmic variation of theme five (Example 79). Here the use of quarter note triplets varies the original rhythmic impulse.

In the recapitulation there are no changes made in the rhythmic figuration of the themes so that the previous analysis of the exposition will serve as an analysis for this section; thus the principle of repetition is now used in completing the movement.
This movement is again distinguished by rhythmic
touches which in their subtlety help distinctively in clari-
fying the form. For example, cadential sections are often
accompanied by the introduction of longer note values even
when as in measures forty-six through fifty-five the original
sixteenth note motion is retained in the upper part. The
tempo does not change at all, but the effect of retardation
is introduced through these longer notes. New thematic mate-
rial will often be prepared by a change in rhythmic pattern-
as, for example, the transition section, measures twenty-five
through twenty-nine. Even when an entire section, as the
middle section of this movement, is written in practically
the same kind of note values, a distinction is made in the
accompaniment pattern. This middle section would be longer
in feeling if it were not for these slight rhythmic touches.
For instance, the first half of this section uses the follow-
ing rhythmic accompaniment (measure forty-seven) (Example 80):

The second half varies this accompaniment in the following
manner (Example 81). There is a distinct relationship be-
tween these two accompaniment figures because they both

feature a syncopation, but the impact of the one which begins
on a downbeat is quite different from the other, which begins
with the very active rest.
Ravel seems to sense instinctively when a slight variation of a rhythmic figure will heighten the effect he intends. He is thus able in the second half of this middle section to continue the constant rhythmic motion as in the first but to highlight it by an occasional triplet figure.

It is also significant to note how Ravel treats a melodic figure which is not the usual Western European type of melody. The opening theme of this movement is pentatonic and revolves on its own axis within a narrow range rather than the usual western theme which is built on a series of rising and falling curves. In order to avoid a sense of monotony in a melody of this "wheel" type, Ravel very cleverly sees to it that the reiterated high note of this line falls on a different part of the beat each time it occurs. This is a type of treatment which obviously influenced Stravinsky.
"LES ENTRETIENS DE LA BELLE ET DE LA BÊTE"

In this movement all three principles of rhythmic integration are used with equal prominence. The initial rhythmic pattern of theme A is treated in such a manner that it creates one long extended phrase by the use of rhythmic as well as melodic variation (Example 82). In the second theme a new rhythmic pattern is introduced, and the principle of change is now apparent (Example 83). This new rhythmic pattern is now varied in the development section along with a variation of the original theme. In this case, the dotted half note tied to a half note has been shortened to a half note to which the triplet eighth notes are now attached. In the course of the development, this figure is again varied to form a rising sequence with a repetition of the original rhythmic motive of theme A (Example 84). The rhythmic patterns of themes A¹ and A² are also seen to be a variation on the original pattern of theme A (Examples 86A and B).
In the following section a direct rhythmic repetition of motive one is used as a melody rather than a bass and is then varied as it leads to a restatement of theme A. Theme A is now repeated in its original form, but the principle of variation again manifests itself in the accompaniment figure which is now a variation on the main rhythmic motive but in a diminished form. The movement ends with an elongation of the initial rhythmic figure of theme A over a tonic pedal. This is again a utilization of the principal of variation.

In addition to features mentioned in reference to the other movements which are again found here, there are some aspects of rhythmic treatment in this movement which deserve special attention. The long line of the introductory theme has already been mentioned. Part of its length can be explained by the fact that the accompaniment figure is iambic ( ) in nature and thus serves to propel the motion forward each time it occurs. When this iambic rhythm is dropped, as in measures twenty-two and twenty-three, the change is sufficient to establish a sense of cadence.

Slight changes in phrasing are also of significance in the rhythm of this movement. One needs only compare the treatment of the same notes in measures fifty-three and fifty-four (Example 87) with measures fifty-five and fifty-six (Example 88), in which there is a striking difference of effect when the notes displace the barline from the effect they
have when they coincide with it.
"LE JARDIN FÉERIQUE"

In this movement the principles of repetition and variation are used exclusively. The rhythmic pattern outlined in the first two measures of the movement serves as a basis for the entire movement and is used constantly. In the exposition section, or theme A, this pattern is used continuously with little variation. For the most part, it is repeated in almost every other measure but each time with a different interval (Example 89).

Episode I which follows is built exclusively on the same two measures of this theme (Example 90). The pattern is now repeated for six measures but is also varied by a rising melodic sequence and different rhythms in the accompaniment.

In theme B the second measure of the pattern is now freely varied. In place of the three quarter notes, either triplet or eighth note figures are used (Example 91). The first measure of the pattern is kept constant, however, throughout the entire section. A typical example of this can be seen by an analysis of the last six measures of the development.
section. The first four measures of this phrase repeat the pattern of measure one while the last two measures comprise a variation in quarter and eighth notes of measure two (Example 92).

In the restatement of material based on theme A, the same procedure is followed: Measures one and two are stated and then repeated. Immediately Episode I is introduced and, as in its last presentation, is built from the first two measures repeated three times but with a rising melodic sequence and different rhythms in the accompaniment. In the cadential figure which follows (the closing six measures), the pattern is again repeated to end the piece in measure fifty-five.

The treatment of the rhythm in this movement resembles that of the first: Different sections are set off by changes of register; cadential passages are suggested by the use of long notes; movement is propelled forward by syncopation or held back by reiterated harmonies as in measures twenty through twenty-two.
CHAPTER IV
ORCHESTRATION

Ravel's orchestration utilizes primarily the delicate tints and shadings which are made available by the extensive use of the woodwind family. He has refrained from using any of the instruments of the brass family in this work but has made use, rather, of the more subtle colors associated with French Impressionism: the extensive use of the harp, the characteristic use of the string section for effects such as "sur la touche" and parallel "divisi," the soloistic use of every member of the woodwind family, and the extensive use of the various members of the percussion family for melodic as well as rhythmic purposes.

In establishing a basis for an examination of the orchestration, the following questions have been presented: which instrument or group of instruments is featured in presenting the main melodic lines; how are these lines treated when repeated or recapitulated; which instrument or group of instruments has been given the role of the accompanying or supporting lines; are the main melodic lines doubled in the transcription for orchestra, or are they left virtually untouched; are the accompaniments, inner counterpoints, and supporting lines doubled or left in their original presentation; have any of the ranges or placements of the melodic lines been changed as a result of the orchestration? This chapter will attempt to answer these questions.
THE ORCHESTRAL INSTRUMENTS OF THE SUITE ARE AS FOLLOWS:

1 Grande Flute
1 Petite Flute et 2ᵉ Grande Flute
1 Hautbois
1 Cor Anglais et 2ᵉ Hautbois
2 Clarinettes
1 Basson
1 Contrebasson et 2ᵉ Basson

2 Cors en Fa

2 Timbales
Triangle
Cymbales
Grosse-Caisse
Tam-Tam

Xylophone
Jeu de Timbres (à clavier)
Celeste

1 Harpe

Violons I
Violons II
Altos
Violoncelles
Contrebasses
This movement is scored for two flutes, oboe, English horn, two clarinets, two bassoons, two tympani, two horns, xylophone, harp, and string orchestra. In this movement the string section is used in a very limited manner. For the most part, the themes and motives are presented by solo instruments. Only in one instance (measures twenty-three through thirty-four) do the strings alone present a melody. Otherwise, they are confined to playing tremelos outlining the basic harmonies. In the presentation of this melodic line, the phrase is begun by a solo violoncello, taken up by a solo viola, and then played by a solo violin which is later joined (in measure twenty-eight) by the violin tutti. In the later appearances of the string section, the ensemble is again used to outline the basic harmonic progressions.

The first motive is presented in block triads by the flutes and first bassoon. The second motive is presented by the solo horns in unison. It is interesting to note that this motive and its extensions are always presented by the solo horns. The motive from the first movement of the suite proper is now played by the solo flute and continued by the solo oboe. The solo contrabass then presents the motive from the fifth movement. In the restatement of motive one, the solo clarinet and two bassoons are given the thematic material. Again the solo contrabass is given a melodic role in its presentation of the motive of the fourth movement. In
the recapitulation of motive two which follows, the solo horns, as previously stated, are again given the role of presenting the melodic line.

As has been shown, the woodwind family is given prominence in the presentation of the main melodic motives of this movement. The individual stringed instruments are used quite frequently in presenting melodic motives, but for the most part, the string section is used in an accompanying capacity.
"DANSE DU ROUET"

This movement is scored for two flutes, two oboes,\(^1\) two clarinets, two bassoons, two horns, timpani, cymbals, xylophone, glockenspiel, harp, and strings. In this movement the string section is again used primarily in the role of accompaniment. It never presents any of the main melodies and is always assigned the supporting lines. There is only one section in which they are allowed any prominence: in the introduction, which consists of chromatic ornamentation of the dominant note, the first and second violins are given the ornamental figure. For the most part, the string section is not doubled, although, at times, an occasional doubling by one of the wind instruments occurs.

Theme A is presented in the higher registers by the woodwind ensemble. Against this the strings are used in an accompanying role. The second theme in its first appearance is presented by the solo flute; in its repetition the theme is given to two flutes in unison, two oboes, and two clarinets in unison an octave lower. The extension of this theme is now continued by the solo clarinet. In the recapitulation

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\(^1\)One oboe and an English Horn are indicated on the first page of the orchestral score, but the English Horn plays only one note which is the concluding note of the Prelude, and as the movement continues, two oboes are used consistently, and no part is written for the English Horn; thus it is logical to assume that the English Horn player is now the second oboist.
of theme A, the flutes, oboe, and clarinets are again given the presentation of the principal thematic material. In this presentation the bassoons are now given a new counterpoint, and this section accounts for the greater part of their use in this movement. In the recapitulation of theme B which follows, the oboes now play the melody instead of the solo flute used in the initial presentation. In the repetition of this theme, the flutes, oboes, and clarinets are again given the thematic material. As in the exposition, the solo clarinet is used to extend this line which is then played by the oboes and continued by the solo strings to conclude the movement.

The woodwind section is used to present the main melodic material in this movement. The string section is used only as an accompaniment, while the individual string instruments are not used at all in a solo capacity. Percussion effects are scarce in this movement: they are used only to highlight the more important rhythmic patterns.
This movement is scored for two flutes, one oboe, English horn, two clarinets, one bassoon, one horn in F, harp, and strings. One of the features of the orchestral transcription in this movement is the limited use of the entire string section. Only in one instance, the restatement of the second theme (measures seventeen through twenty), do the first violins play the melody. Previously they had not been used throughout the entire movement. The same treatment is given to the second violins and violas, and they are used only three times to play fragments of the supporting lines, and then they are doubled by other instruments. Only once do the second violins play a supporting line by themselves, and that is in the restatement of the second melody by the first violins which was mentioned above. The violas are doubled in their first appearance by the solo horn (measures one through four). In their later appearance they are used momentarily to play a supporting line started by the second violins and then continued by the violoncellos (measures nine through twelve). This time the line is doubled by the English horn. In all the lines played by the string ensemble, the ranges of the various melodies have not been changed in the orchestral version.

The woodwind family, in this movement, has been given prominence in the presentation of all the main themes. Only in the instances noted above were the violins allowed the
presentation of a melody. The first theme is presented in its original register by the solo flute; it is not doubled by any other instrument. The second theme is again presented by the solo flute, while the second flute plays the supporting counterpoint. Both lines are in the original register and are not doubled. The third theme is presented by the solo clarinet in its original register and is not doubled. The restatement of the first theme is again given to the solo flute in its original register, and this leads to the restatement of the second theme by the group of first violins. In each case the themes, save for the last phrase, have been given to solo instruments, and they are not doubled. The oboe and bassoon are used in this movement in a very limited capacity.

The wind instruments, in this movement, present both the main themes and the supporting lines, while the string section is used primarily in an accompanying capacity.
"PETIT POUCET"

This movement has been scored for two flutes, one oboe, English horn, two clarinets, two bassoons, two horns, and strings. Only in the restatement of the rising sequential pattern in measure fifty-three have any changes been made in the music due to the orchestration. Against all the original lines of this phrase, the second violins are given a trill on d'-c', thereby reinforcing the pedal of the contrabasses, while the first violins are given an added glissando covering two octaves from d'-d^2. These additions do not change the nature of the material in any way and are really a confirmation of the implications in the original harmony.

Again, as in the case of the first movement, the woodwind section has been given preeminence in the presentation of the main themes, but this time the strings are also given some importance. However, only in two instances do the strings play the main melodic lines which are doubled soon afterwards. In the first statement of the rising sequential pattern (measure twenty-eight) the melody is distributed between the first and second violins. This section leads to the presentation of the third theme, and here again the first violins are given the melody, but they are doubled by the high woodwinds in octaves. When this theme has finished, the violins cease playing, and the second violins are left to continue the characteristic eighth note scale passage. In the introduction (measures one through four) the first and
second violins were given this particular pattern in the original register and continued it against the presentation of theme A by the solo flute. The figure was then continued by the violas and violoncellos against theme B played by the solo horn. Throughout the entire movement the string section plays this accompanying figure in its original registers, and the lines are never doubled. In the restatement of the rising sequential pattern (measure fifty-three), the second and first violins are given the melodic line, but again they are doubled first by the solo flute, then by the oboe. These passages contain the only doublings which are made in the entire movement.

As has been stated above, the solo flute is given the first theme, the solo horn, the second theme, and the first violins, flute, oboe, and clarinets, the developmental material. In the recapitulation of these themes, the solo horn is again given the second theme, while the solo flute is given the first theme. The woodwind instruments are almost always used in solo capacities; and in only one instance, in the development (measures thirty-two through thirty-seven), does the concerted wind ensemble play together. All of the themes and accompaniments have been kept in their original registers except in the two sections which are doubled an octave lower.
"LAIDERONNETTE, IMPÉRATRICE DES PAGODES"

This movement is scored for the entire orchestra, but as in the case of the two previous movements, the woodwind instruments are assigned the major role while the strings are used in an accompanying capacity and only occasionally doubled by various woodwinds.

As in the previous movements, the solo woodwinds are used to present the main themes. Only in two cases are the themes doubled either by the entire wind section or the whole orchestra.

The introductory measures outlining the pentatonic scale are introduced by the bassoon, horns, and flute and are doubled by the strings "divisi." The first theme is presented by the solo flute both times it appears, the second theme by the solo oboe, and the third theme by the solo flute in its first appearance and by the solo horn in its repetition. The fourth theme is begun by the two flutes doubled by the xylophone in the same register, and in the extension which occurs only in the orchestral version the other members of the wind family, except the bassoon and the celesta, join in the doublings. Theme five is presented by the woodwinds, violas, and harp doubled by the celesta and horns, all in the original register. Theme six is now played by the solo clarinet, and in the canon which follows, the celesta is found taking the second voice. Theme eight is now presented by the solo flute, the strings and harp accompanying. In the
restatement of theme six, both clarinets are given the melody. (Previously a solo clarinet was used.) In the recapitulation which follows, the celesta plays theme one in contrast to its previous presentation by the solo flute. In the repetition of theme one which follows, the solo flute now enters doubled by the celesta in the same octave. As in the exposition, the flute and horn play the second and third themes, while in the fourth theme the same procedure has been followed.

As has been shown in the analysis above, the restatement of themes are sometimes given to different instruments. Only one group of instruments is used in a single capacity: the strings consistently play the accompaniment figures. While doublings among the accompanying lines are most frequent in this movement, the main themes are doubled but rarely. In regard to the original register of the themes and accompaniments, only in the case of some doublings has the register been dropped an octave lower; otherwise, the doublings occur in the same octave, and the original register is preserved.
In this movement Ravel has used the following instruments in the orchestration: two flutes, oboe, two clarinets, one bassoon, one contrabassoon, two horns, timpani, cymbals, snare drum, harp, and strings. As in the case of the previous movements, the string section is used in an accompanying role, while the woodwinds are given the melodic lines. Only in two instances, the rising sequence of chords built from theme A (measures ninety-six through one hundred and six, measures one hundred thirty-nine through one hundred forty-five) and the presentation of theme A² (measures ninety through ninety-four), do they carry the main melodic line. In the case of the rising sequence of chords, they are doubled by the flutes in the same register, while in the presentation of theme A², they play in a solo capacity. In the many cases where the string section plays the accompanying figures, it is almost always doubled by the harp, the horns, the oboe, and the contrabassoon. The individual use of the strings as solo instruments is more frequent than in the previous movement, yet they are never allowed to attain any real prominence in a melodic capacity, since they merely double the other instruments which are playing the same lines at that time.

Theme A and its extensions are presented by the solo clarinet for the first forty-eight measures to the accompaniment of the strings and harp, while the solo oboe and flute
or horns occasionally play a supporting line. Theme B is presented by the contrabassoons in its original register while the strings play the accompanying chords solo. In theme A' (measure sixty-nine) the solo clarinet enters playing against the accompaniment of the strings. In the repetition of this theme which follows, the solo clarinet at first plays the line but is then supplanted by the first violins which are soon doubled by the flutes. In the restatement of theme A which follows, the clarinet is once again given the melody while the solo contrabassoon plays theme B against it. The solo clarinet continues this melody until measure one hundred and twenty-nine, where it is transferred to the solo oboe and then continued by the solo flute, all in the original register. This leads to a restatement of the rising sequence, and this time the flute and oboe are doubled by the first violins in the same register, while the bassoon plays the sequence. A solo violin playing the melody derived from theme B follows in measure one hundred and forty-seven in the original register. This melody is played against the sustained chords of the string section in the original register and leads to the final statement of the main theme. In measure one hundred and sixty, theme A is played by the solo flute and harp which doubles in octaves (at the unison and an octave lower). The closing measures which include the rising arpeggio on the augmented sixth chord are now given to the harp which plays it above the pedal of the flutes, horns, violas, violoncellos, and
contrabasses, while the violins play the entire chord in a dotted quarter note rhythm which was not found in the original piano version.

The clarinet is used as the main solo instrument in this movement. The other members of the woodwind family are not quite so prominent in their solo capacities as in the previous movements. With respect to the transcription, the original register of all the themes and accompaniments have been preserved except for a few sections which double these lines. In most of the doublings the register is either dropped an octave or remains on the same pitch.
This last movement is scored for the entire orchestra. In this movement Ravel departs from the norm of his orchestration in this suite. This is the only movement of the original version in which all the main themes and subordinate material are played by the string section. The movement comes as a refreshing surprise, for previously the strings were never allowed to attain any prominence and were given subordinate roles in almost every movement. Even in the delicate middle section of this movement, where the melodic line becomes light and ethereal, the strings are given preeminence, for here the lines are played by a solo violin and solo viola.

The main theme and its chorale-like accompaniment are presented in their original registers by the string section without contrabasses (measure one through thirteen). Episode I is played by the strings, but here the winds and horns emphasize the melodic material in every other measure by doubling each line of the phrase, and thus all the melodic instruments join in the ensemble to end the episode in measure twenty-two. In the middle section which centers around E, the main melody is given to the solo violin, and this is doubled in the same register by the celesta. The woodwind section now plays the accompanying lines while the rest of the string ensemble rests. The lines played by the winds are doubled by the harp in the same register and harmonized in triads. As the tissitura of this section falls,
it is transferred to the solo viola which is not doubled. The winds and harp continue with the accompanying lines (measure thirty-one). Two measures later the melodic line is given to the solo violin doubled in the same register by the celesta and an octave lower by the solo viola. Episode I follows (measures thirty-six through thirty-nine), and the melody is now given to the flutes and oboe while an accompanying contrapuntal line is distributed between the violas and the second violins and the clarinets, English horn, bassoons, and horns play the rest of the accompaniment doubled by the harp in chords. In the third section the strings again play the melodic line with its chorale-like accompaniment, thereby emphasizing the similarity of this phrase to the main theme (measures forty through forty-three). As in the previous statement of Episode I, the melodic line is given to the strings with the other instruments of the woodwind family playing alternately in every other measure. In the cadential phrase which follows, many changes occur as a result of the orchestration. The melodic line is given to the entire wind and string sections while the harp, celesta, and glockenspiel double the glissandos; the pedal is doubled in the bassoons and contrabasses, while the violoncelli and horns double the insistent rhythmic motive. The entire effect is that of a crescendo. The changes are brought about by rhythmic and melodic variation of the original melodic line played by the violins. At the same time the glissandi which in the original piano version are shorter because of the technical
limitations of the keyboard are now extended in the orchestral version.

A considerable amount of doubling occurs in this movement. The winds are now used in an accompanying capacity while the percussion instruments are used to emphasize the more important rhythmic effects. In the transcription for orchestra, all the melodies and supporting lines and glissandi have been kept in their original registers except in the sections where the lines are doubled, and here the doublings are usually in the same register or an octave lower.
In the transition from piano duet to orchestral suite, Ravel has made only several minor changes in the formal and harmonic schemes of the original movements. By far the greatest change is the addition of the "Prelude et Danse du Rouet" to the formal design of the suite. Because both these additions are played without pause, they comprise both an introduction and first movement in the orchestral version. The first four movements of the original piano suite are now brought in as the second, third, fourth, and fifth movements of the new suite while the original fifth movement serves as a postlude. With the addition of the new movements, a key scheme for the entire suite becomes more logical, since the Prelude and Apotheosis, the first and last movements, are both in the key of C major.

The harmonic style shows, in addition to the obvious traditional usages, several features which are typical of the Impressionists:

1. Chords are clouded by the use of auxiliary tones which sound at the same time as their resolution.

2. Major and minor forms of the same chord are found in close juxtaposition.

3. Notes which in the traditional style are ornamental in nature are now given a full harmonization, thus obscuring the clarity of
their function.

4a. Modal harmonies, especially the minor dominant, are used for fresh effects.

b. Other less common forms of the scale such as the pentatonic are employed.

5. Horizontalization is frequent; i.e., the statement of a simple harmony in a melodic form in the bass which emphasizes the tonal function of the section involved but which blurs it by superimposing other harmonies upon each tone of this basic chord.

6. The indefiniteness of tonality but within definite limitations. For instance, it will be unclear as to whether a key is c minor or Eb major, but this lack of clarity lies within obviously related keys.

7. Bi-tonality occurs usually in its simplest form, i.e., in the relationship of tonic and dominant keys. Many examples of bi-tonality can, however, be more simply explained as extended forms of dominant harmony if one makes the appropriate enharmonic changes.

The treatment of form in Ravel is relatively classic, especially from a tonal point of view. Most of the movements follow a plan of key relationships which are quite traditional. They modulate from the tonic key at the beginning to either the dominant key or the relative key, then continue
with more frequent and more distant modulations and invariably return to the tonic which is often reaffirmed by the use of the subdominant harmony. The thematic material is, however, in a more free manner. Ravel will recapitulate the melodic theme but over a developmental type of harmony, or he will recapitulate the main tonality but treat the melodic material in a developmental fashion. In this respect he resembles the Romanticists. It is therefore easier to analyze the form from a purely tonal point of view and then fit the thematic material into this scheme of things.

Ravel also uses several internal devices to clarify the form:

1. Change of texture from homophonic to polyphonic or vice versa.
2. Change of register.
3. Use of long note values to suggest a slowing up before a cadence.
4. Use of pedal points as another element of retardation.

The orchestration of Ravel in this work is remarkable for the effects it achieves with modest means. In general, the treatment of the instruments is soloistic in nature. In most of the movements the woodwinds are featured as the solo instruments and the strings are given the accompaniment figures. The scoring is transparent without being obvious and in spite of the veritable "tours de force" of orchestration, the effect is not that of virtuosity. In transcribing this
work for orchestra, he has respected the tissitura of the original piano lines, and only rarely are any of them doubled except at the unison. It is obvious that Ravel did not, in his transcription, make a mere orchestral copy of the original piano version. One feels that his approach to the orchestration was fresh and spontaneous, so that the work gives the effect of having been composed in that medium rather than transcribed into it.
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