

Marina Alcolea

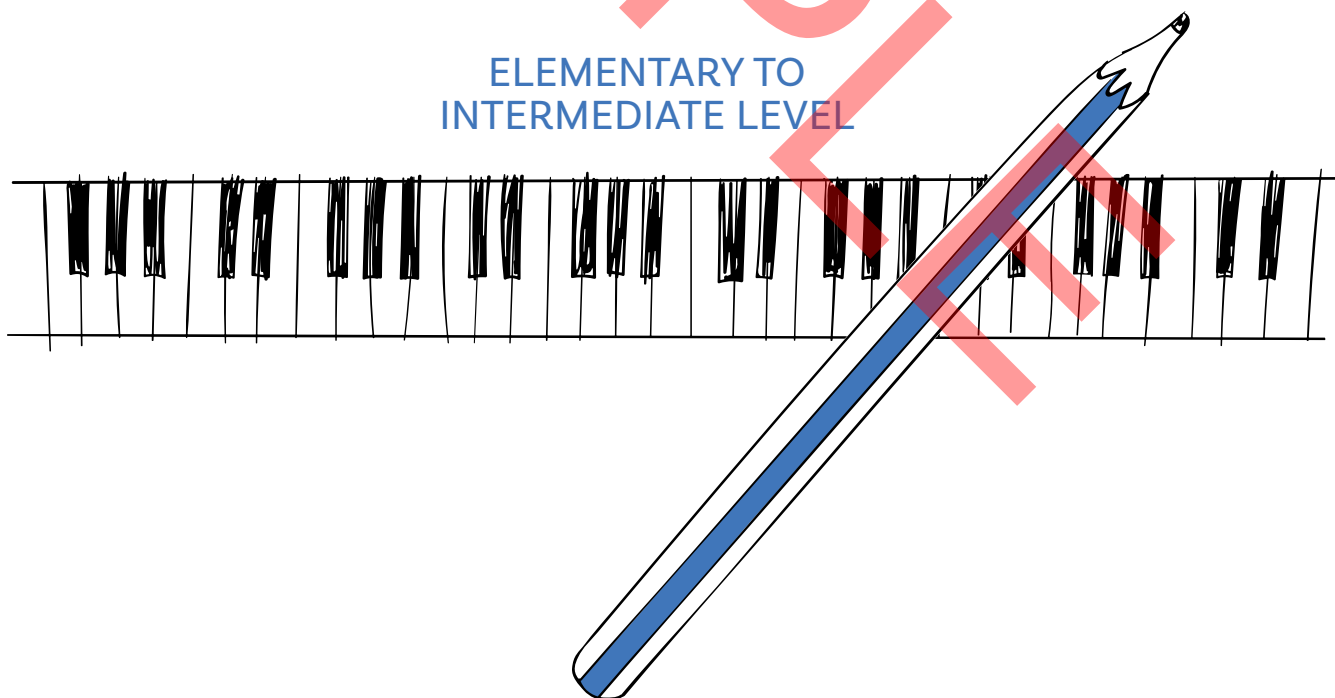
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# PIANO notebook

## PIANO AU BORD DE L'EAU Piano by the Waterside

12 Pieces for Piano in  
Impressionist Style

ELEMENTARY TO  
INTERMEDIATE LEVEL



A project by Juan Cabeza and Marina Alcolea

# PIANO AU BORD DE L'EAU

## Piano by the Waterside

12 pieces for piano in impressionist style

A musical exploration of reflections, mirrors,  
and symmetries in water

To Elizabeth Swarthout, who, with her talent and expertise, guided me to  
rediscover the delight and magic of music making and to whom I will  
always be deeply grateful.



Piano Notebook is a project created to provide various materials, resources, ideas and activities for piano teachers with elementary and intermediate level students.

Each publication will address a topic related to piano pedagogy. Depending on the topic of each notebook, different materials will be included, such as compositions, improvisations, arrangements, technical exercises, audios, card sheets, theory and rhythm.

It will all be sold in PDF format with a studio license, which will allow teachers who purchase it free and unlimited use with their own students.

Juan Cabeza

# Contents

Introduction .....	4
About mirror symmetry .....	5
About symmetrically inverted notation .....	6
Mirror symmetry in piano technique .....	7
Teaching and Performance Notes .....	8
Glossary of French Terms .....	14
La Harpe d'eau <i>Water Harp</i> .....	17
Les Vagues berceuses <i>Swaying Waves</i> .....	18
Colosses de glace <i>Ice Titans</i> .....	19
Le Chant de l'eau <i>The Song of Water</i> .....	20
La Fontaine à vœux <i>Fountain of Wishes</i> .....	22
Reflets d'eau <i>Water Reflections</i> .....	24
Refractions d'eau <i>Water Refractions</i> .....	25
Lac miroir <i>Mirror Lake</i> .....	26
Gare sous la pluie <i>Train Station In the Rain</i> .....	28
La Fureur des torrents <i>Furious Torrents</i> .....	30
Néréides <i>Nereids</i> .....	32
Miroir d'eau <i>Water Mirror</i> .....	35

# 3

## PIANO

### notebook

Welcome to this world of music, mirrors and water.

My intention in uniting these three concepts is to awaken the imagination of young students. To invite them to let themselves be carried beyond the notes into an evocative world of reflections and water, with impressionistic sonorities.

The pieces in this Notebook are structurally simple, based on simple patterns, but sophisticated to the ear.

Some of the pieces explore mirror symmetry or inverted symmetry. This symmetry challenges students to gain a new perspective through which they can improve their knowledge of the piano.

This collection of pieces is designed for students from elementary to intermediate level.

I hope that both students and teachers will enjoy discovering these pieces as much as I have enjoyed writing them.

Marina Alcolea

Acknowledgements:

*Thanks to Juan Cabeza for trusting me and for his vision without which this Piano Notebook would not have been possible.*

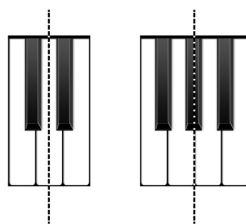
*Thanks also to Luis Ortega for his suggestions, his support at all times and for his constant intellectual challenge.*

# About mirror symmetry

We already know that our hands are symmetrical.

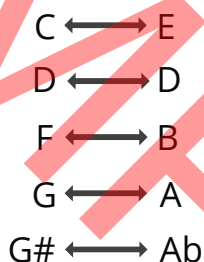
The piano keyboard is also symmetrical although this may not be apparent to everyone as we are not used to seeing it that way. To understand it, we have to pay attention to the axis of symmetry.

The axis of symmetry passes through D and G#/Ab:



In relation to these axes, C and E are a mirror image of each other and D is a mirror image of itself.

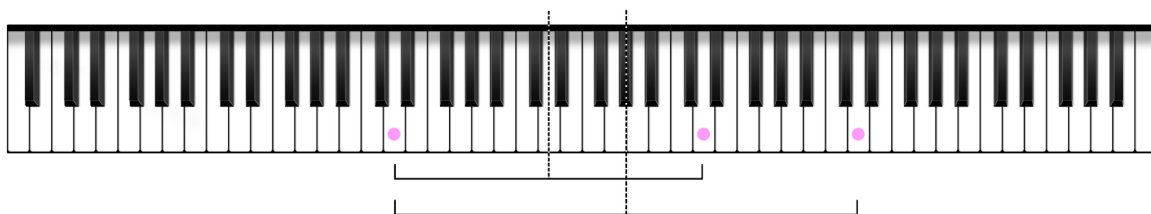
F and B are also mirror images of each other and G and A as well. G#/Ab is a mirror image of itself.



Sharps and flats also change. Sharps are mirrored as flats and flats as sharps. For example, C# mirrors Eb, F# mirrors Bb, etc.

These correspondences are true for all axes of symmetry and in all octaves of the piano.

To change from one axis of symmetry to the other one hand needs to move to the upper or lower octave. I call this *modulation of the symmetry axis* or *mirror modulation*.



When changing an octave in one hand, the symmetry axis changes

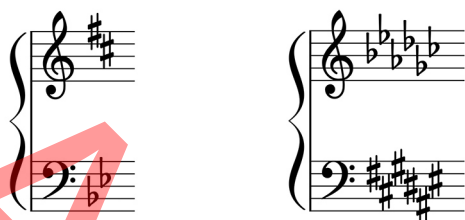
# Also symmetrically inverted notation

Symmetrically inverted notation is used to make it easier for the interpreter to understand the mirror symmetry.

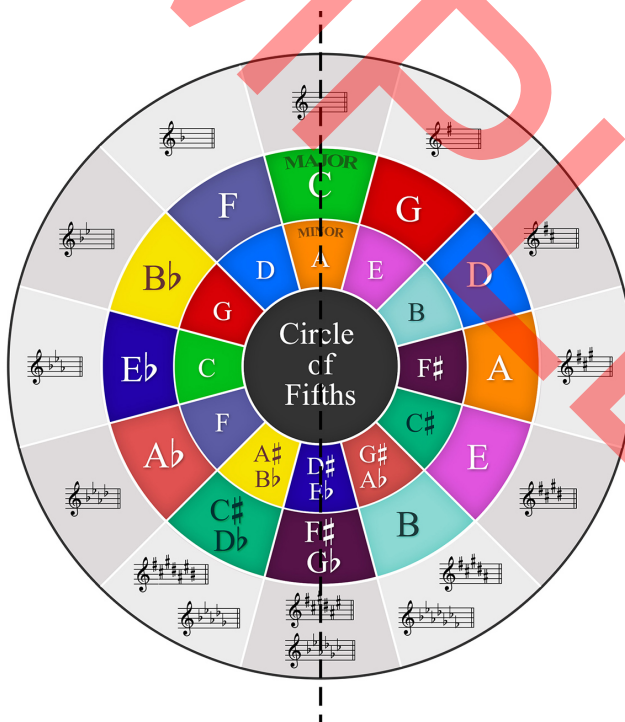
This form of notation is a way of writing the score in which one of the staves is written in a standard way and the other is written symmetrically inverted, using the correspondences already explained.

When the use of key signature is required, it is also inverted.

In that case there will be as many flats in one staff as sharps in the other, or vice versa.



We can clearly see the correspondences between key signatures in the circle of fifths. Imagining a central vertical axis we see that the key signatures on the right mirror those on the left and vice versa.



IMPORTANT: Inverted notation is not used to read both staves at the same time, but to draw attention to the symmetry system used and thus deduce one hand from the other.

# Mirror symmetry in piano technique

Symmetrical movements are the simplest and most natural movements we can perform. As our body is symmetrical, it has a deep intuitive intelligence to perform them.

It is therefore very beneficial to take advantage of this facility for symmetry in favor of technical development on the piano.

The method consists of practicing a difficult or troublesome passage by inverting it in the opposite hand. It can be done with hands together or by alternating them.

EXAMPLE: *Chopin, Etude Op. 25 - No. 2*

The image displays two staves of musical notation for Chopin's Etude Op. 25 - No. 2. The top staff is in treble clef, marked 'Presto' and 'p molto legato', featuring a series of eighth notes with two triplets. The bottom staff, labeled 'Inverted example', is in bass clef and shows the same melodic line transposed and mirrored. Both staves include a large red watermark that reads 'STANDARD' diagonally across the page.

This serves to improve technique when one hand has a level of skill that the other does not yet match. The proprioceptive sensations of one hand guide the development of the other. In this way, both are developed in a balanced way.

Mirror symmetry also creates a very solid foundation for the development of movement. Symmetrical movements create a bridge that interconnects both hemispheres of the brain. This interconnectivity is the basis for new and more complex future coordination.



# Teaching and Performance Notes

## La Harpe d'eau (Water Harp)

A piece conceived for beginner students and ideal for teaching by rote. It is based on black key patterns. Some of the elements it presents are: crossing hands, and clusters as well as movements and gestures in mirror symmetry in the form of question and answer (mm. 1-4) but also in strict symmetry (mm. 9-12). It develops the sense of the musical phrase and the confidence to move through the keyboard.

## Les Vagues berceuses (Swaying Waves)

This piece explores the whole-tone hexatonic scale. It is a symmetrical scale that exists in only two positions. Children are fascinated by the sonority of this scale.

It is written on a single staff for both hands. The direction of the note stems indicates which hand should play.

The student learns to maintain continuity in long phrases and in the alternation of hands. The fingering 321 or 123 favors, due to the different lengths of these fingers, the learning of the in-and-out motions of the forearm, resulting in wider and more fluid gestures.

I recommend shaping well the arcs of movement in the changes of direction of the melody.

You can imagine that the musical phrases are like waves that come and go to try to take the listener through this experience. At first the waves move quietly, but by the end of the piece they become more agitated and playful.

## Colosses de glace (Ice Titans)

It is not a piece for beginners but can be taught by rote thanks to its structural simplicity.

The elements that are combined are: fifths that connect from hand to hand, contrary motion and big leaps.

When the student has learned the first two phrases based on fifths F#-C# and E-B he or she can be shown that these two positions are maintained throughout the piece. The only thing that changes is the first fifth of each phrase, but this in turn changes the sound perception of the whole phrase.

It is a piece of calm and meditative character. One can imagine that the phrases, which span several octaves from low to high, represent immense glaciers.

## Le Chant de l'eau (The Song of Water)

Evocative piece with a singing melody in the right hand and a soft and calm accompaniment in the left.

From the solitude of the water comes a question, which in the end will have to answer itself. The slow rhythm of the accompaniment invites introspection.

For all those who once enjoyed listening to the murmur of the water.

## La Fontaine à vœux (Fountain of Wishes)

A piece of gentle character with hints of nostalgia and mystery.

The central section and the last chords are written in mirror symmetry so inverted notation is used. In these sections the student may deduce one hand in relation to the other.

Not only are the notes symmetrical. Also, one should pay attention to the symmetry of the arm movements that facilitate playing in the central section.



Symmetrical arm movements

Another challenge that the student will find is the *pianissimo* touch in measures 11 and 12.

## Reflets d'eau (Water Reflections)

Mirror piece of enigmatic sonority. It's not written in strict symmetry since the hands alternate. Symmetry axes also alternate.

Inverted notation is used. In measures 4 and 8 the symmetry axes are played (both hands meet in the same note). When this happens, either hand can be used, or both at the same time.

## Réfractions d'eau (Water Refractions)

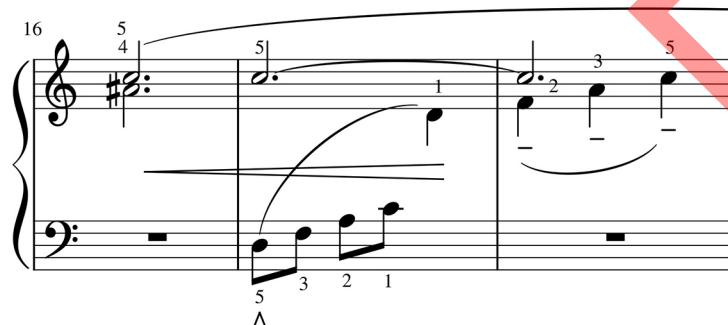
This piece explores the concept of *mirror modulation*, which as we have seen is a change in the axis of symmetry that happens when one hand moves an octave. The axes of symmetry also alternate.

As in the previous piece, when the hands meet in the middle (the symmetry axis) we can use the hand we prefer, or play with both at the same time.

From bar 5 onwards, the hands are arranged in relation to the two symmetry axes at the same time so that their mirrors do not match, but contrary motion is maintained. It creates an effect of two different tonal centers sounding at the same time.

## Lac miroir (Mirror Lake)

Here is another piece written in mirror symmetry and inverted notation. In the central section (mm. 9-20) the use of symmetry is much freer in favor of the melody sung in the right hand. It is also the most expressive section of the piece culminating in measures 16-20. In measures 17-18 there is a real exception to the mirror symmetry.



Exception to the mirror symmetry

## Gare sous la pluie (Train Station In the Rain)

This piece is a warm tribute to the work of my friend Juan Cabeza. Based on *Station 3* from his book *Piano Train Trips*.

A singing melody in the left hand is wrapped by major broken chords in the right hand.

The student should practice well measure 10, as it is the most difficult part of the piece.

## La Fureur des torrents (Furious Torrents)

With a strong and vigorous character, this piece also uses mirror symmetry and inverted notation, except for the measures at the beginning (mm. 1-4) and their recapitulation (mm. 19-22). Even in this section a certain symmetry can be perceived due to the similar distribution of black and white keys in both hands.

As the hands move away from the central axis the sound volume increases. The student can thus explore *forte* and *fortissimo* touch in fast passages.

I recommend practicing well the end of the piece to produce a sudden calm effect.

## Néréides (Nereids)

A sinuous and unpredictable melody unfolds over an accompaniment that shapes the swaying of the waves throughout this piece.

It is a complex piece only in appearance. The melody and the accompaniment interact in a dance of movements and gestures that may look like juggling on the keyboard but can be solved with fluid, easily coordinated movements.

One of the challenges is trying to maintain the continuity of the musical phrase with long note values and the alternation of the hands.

The melody should be brought to life by using a singing tone and making it very expressive.

## Miroir d'eau (Water Mirror)

The last piece in this Notebook is written in mirror symmetry and uses inverted notation.

Don't let the key signature scare you, the complexity of the reading is only apparent, as one hand is deduced from the other.

It is important to learn the basic positions well in order to facilitate learning. Once these patterns become familiar the piece is easy to play.



Strict symmetry is used except when the hands alternate. There are two real exceptions to this symmetry:

- In the main theme (measure 2) and each time it is repeated throughout the piece
- In the central section (measure 56)

These exceptions are indicated on the score by the symbol (\*).

**Coulant et léger** (♩ = 120)

In the development (mm. 15-34), the hands continue their exploration with kaleidoscopic imitations and reflections that lead to a *mirror modulation* (mm. 21-30) where the main theme is briefly exposed.

The symmetry axis is in G#/Ab throughout the piece and during the modulation it changes to D.

For a better understanding of the structure, it can be helpful to learn the piece by sections and maybe even leave the development part for the end.

In the middle section (mm. 43-62) the hands alternate in short motifs that contrast with the cascade of notes in the previous section. The character becomes more paused and reflective, with melancholic overtones.

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# Glossary of French Terms

French	English
<i>agité</i>	restless
<i>aimable</i>	kind
<i>au début</i>	at first
<i>au mouvement</i>	resume original tempo
<i>calme</i>	calm
<i>capricieux</i>	capricious
<i>cédez</i>	slow down
<i>chanté</i>	singing
<i>coulant</i>	flowing
<i>dehors</i>	restrained tempo
<i>doux</i>	soft
<i>en animant</i>	increasing tempo
<i>en élargissant</i>	slowing down ( <i>allargando</i> )
<i>en pressant</i>	rushing tempo ( <i>stringendo</i> )
<i>en retenant</i>	holding back ( <i>ritenuto</i> )
<i>expressif</i>	expressive
<i>flottant</i>	floating
<i>furieux</i>	furious
<i>hésitant</i>	hesitating
<i>incisif</i>	incisive
<i>jusqu'à la fin</i>	to the end

French	English
<i>léger</i>	light
<i>légèrement</i>	lightly
<i>lent</i>	slow
<i>lointain</i>	distant
<i>m.d. (main droite)</i>	R.H. (right hand)
<i>m.g. (main gauche)</i>	L.H. (left hand)
<i>marqué</i>	marked
<i>modéré</i>	moderate
<i>murmuré</i>	murmured
<i>mystérieux</i>	mysterious
<i>plus</i>	more
<i>premier mouvement</i>	Tempo I
<i>pressez</i>	increase tempo
<i>sans ralentir</i>	without slowing down
<i>soudainement</i>	suddenly
<i>soutenu</i>	sustained
<i>tendre</i>	tender
<i>très</i>	very
<i>un peu</i>	a little
<i>vibrant</i>	vibrant
<i>vif</i>	lively

# PIANO notebook

Piano au bord de l'eau  
Piano by the Waterside



# Le Chant de l'eau (The Song of Water)

**Calme**

*mp*

4 2 1

5 *mp* *très expressif*

*p*

4 2 1

9 *mp*

*p*

4

13 *mf*

5 3 2

3 1

3 1

2 1

# La Fureur des torrents (Furious Torrents)

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Très agité (♩ = 120-140)

*p* marqué

*mf*

*ff* furieux

# Néréides (Nereids)

Marina Alcolea

*très chanté et expressif*

**Léger** (♩ = 72) **mp** m.g.

4

7

10

**p** m.g.

**mf** m.g.

# Miroir d'eau (Water Mirror)

L'exception à la symétrie miroir est  
indiquée par ce symbole (\*)

Marina Alcolea

Coulant et léger (♩ = 120)

The musical score is written for piano in 12/8 time, key of B-flat major. It consists of 12 measures, divided into four systems of two staves each. The tempo/mood is 'Coulant et léger' (Flowing and light) with a quarter note equal to 120 beats per minute. The score includes fingering numbers (1-5) and a mirror symmetry symbol (\*) indicating an exception to the usual mirror symmetry. The piece concludes with a final chord in the right hand and a sustained bass note in the left hand.

9

(\*)

11

13

(\*)

15

*mp*

17

*mf*

The image shows a piano score for a piece in B major, spanning measures 9 to 17. The score is written for piano with treble and bass staves. Measures 9-10 and 13-14 feature a continuous sixteenth-note pattern in both hands, with measure 14 marked with an asterisk (\*). Measures 11-12 and 15-16 show a more complex texture with triplets and sixteenth-note runs. Measure 17 features a triplet of eighth notes in the right hand and a sixteenth-note run in the left hand. A large orange 'SAMPLE' watermark is diagonally across the page.

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